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An Archaeology of the Fragment: The Transition from the Antique Fragment to the Historical Fragment in French Architecture Between 1750 and 1850

Yusuf Civelek

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Abstract

Although architects before the time of the French Enlightenment often made use of historical forms in their designs, this practice radically changed between the years 1750 and 1850. The fragment itself changed, as did the ways it was used. The transformation of the fragment followed three stages: it changed from the antique, to the elemental, to the historical fragment. Through the course of this transformation, design also changed, it came to be understood as composition. This dissertation describes the history of this transformation in consideration of writings by French author-architects, as well as their designs. It also shows how the new conception of the fragment gave birth to the next stage of architectural history: eclecticism.

Mid eighteenth-century changes in European architecture were prompted by growing familiarity with recent archaeological work especially in Italy, the country of ancient ruins. In France, *antique fragments* were adopted initially as formal and spatial motifs that enriched architectural design by means of picturesque effects, inspired by paintings and Piranesian etchings. Later, these fragments gradually became regular *elements* of architectural composition. Charles Percier and Jean-Nicolas-Louis Durand, two disciples of Boullée, took over his imagery and technique of composing with antique fragments, but relied less than he did on the building's picturesque and sensationalist aspects. Composition in elementary antique fragments underlay the neo-classical architectural education at both the Ecole des Beaux-Arts and the Ecole Polytechnique in the beginning of the nineteenth-century.

In the 1830s, a group of *pensionnaires* argued for freer assembly of architectural elements that would allow diachronic reading of *historical fragments* as opposed to synchronic antique-looking motifs. Architects like Henri Labrouste, Léon Vaudoyer, and Félix Duban preferred imitating the historical progress of architecture over Greco-Roman elements and compositions. Eclecticism taught them that mixture of antithetical things gave birth to something new after a transitory phase. While neo-classical architecture imitated the mature architectural representation of a distant past, eclectic architecture of the romantic-rationalists imitated the immature expressions of the architecture in transition. The buildings of the second group revealed a new problem of representation in architecture, a problem that had begun to emerge already in the architecture of the eighteenth-century: the problem of style, expressed most famously if pathetically in the early nineteenth-century as a question: "in what style shall we build?".

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AN ARCHAEOLOGY OF THE FRAGMENT: THE TRANSITION FROM THE ANTIQUE FRAGMENT TO THE HISTORICAL FRAGMENT IN FRENCH ARCHITECTURE BETWEEN 1750 AND 1850

Yusuf Civelek

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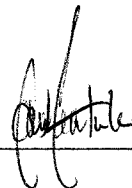of the Requirements for the Degree of Doctor of Philosophy

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David Leatherbarrow

To my parents, Muzaffer and Nesrin.

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ABSTRACT

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Although architects before the time of the French Enlightenment often made use of historical forms in their designs, this practice radically changed between the years 1750 and 1850. The fragment itself changed, as did the ways it was used. The transformation of the fragment followed three stages: it changed from the antique, to the elemental, to the historical fragment. Through the course of this transformation, design also changed, it came to be understood as composition. This dissertation describes the history of this transformation in consideration of writings by French author-architects, as well as their designs. It also shows how the new conception of the fragment gave birth to the next stage of architectural history: eclecticism.

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Introduction

The Focus of the Study

There is a relationship between neo-classical and and historicist trends in architecture. This relationship can be interpreted simply as the reuse of historical forms. Historical forms in the neo-classical period were antique fragments, architectural elements and motifs found among the remains of antiquity. The historical forms in the historicist period were historical fragments, architectural elements and motifs found among the remains of architectural patrimony. The relationship between these two trends is the analysis of the elements of historical buildings, through which the ability to articulate antique fragments in architectural design was transformed into the ability to articulate historical fragments.

This study covers the architectural thinking and production of French architects who studied ancient architecture in Rome between roughly 1750 and 1850. Although the period is long, it is approached from a specific point of view: the transformation of the nature of architectural composition. In any historical epoch buildings have been composed of architectural elements, but the nature of the composition varies in each. Architectural design between the fourteenth and the nineteenth centuries was marked by the composition of the classical elements described by Vitruvius and seen at the antique sites, but always from different points of view.

The interpretation of ancient texts and remnants of classical antiquity in the quattrocento was different from that of in the eighteenth-century, the period of so-called

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neo-classical architecture. In both cases, ruins were the material testimony of classical theory. In the Renaissance, these remnants of Greco-Roman history helped bring the classical "virtues" into architecture, whereas in the neo-classical period, they started to have a value in themselves, as romantic ruins, but this value was devoid of the literary and symbolic depth that humanism had attributed to "virtue," what is more, architectural rhetoric became dominated by a new method of composition in the articulation of the classical elements and motifs. When the architects and theorists of the Romantic revolution of the 1830s expanded the boundaries of architectural history, they named only the historical dimension of the ruins, and saw that alone as relevant to architectural design.

The use of the classical motifs during the Renaissance was different from that of during the Baroque, but this difference became greater in the eighteenth and nineteenth centuries when the use of these motifs, as elements of composition, was spread to a variety of buildings types. It is true that the use of classical motifs persisted throughout the nineteenth-century, but by then they were only elements of architectural composition and their forms alone justified the classicality of compositions. Because an architectural motif is something more than form, one cannot say that the ideas of the Renaissance were alive into the eighteenth and nineteenth centuries. As a result, the word "motif," which is inevitable to use in this study, hides the differences of interpretation. The word "fragment," on the other hand, can be associated with the vestigial, historical, and literary qualities of architectural motifs used in different times, and with different meanings. Gondoin's anatomy theater, for example, has the same motif as Palladio's Teatro

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Olimpico, the ancient theater, but the intention behind using this fragment in an anatomy room was not the revival of ancient virtues that appeared simultaneously in ancient theater, literature and architecture. Similarly, the triumphal arch applied at Alberti's churches is a fragment used for a different motive than the triumphal arch at Vaudoyer's Cathedral of Marseilles.

The second volume of Charles D'Aviler's *Cours d'architecture* (1691) has one of the earliest dictionaries of architectural terms. His sense of the word *"fragment"* is as follows:

> this word means any part of architecture or sculpture found among the ruins, such as a piece of a base, a capital, a cornice, a torso or a limb of a figure, an ancient base-relief, etc. which may also be seen in the pastiches in buildings by the Italians, and in the exhibit rooms of the antiquarians.[1]

D'Aviler tells us that a fragment could be a decorative piece or a collectible object. This meaning of the word fragment as something found and incomplete had not changed much since the seventeenth-century. However, the specific use of the word "fragment" in this study is simply an analogy to its conventional use as residue, remains of a work of art or an artifact, a piece of a text or a poem, anything which does no longer exists in its entirety or, which is not represented in its totality. The meaning of the fragment in this text is thus extended to correspond to an image rather than an object. A new interpretation of the concept was necessary in order to explain the fascination with partial but inspirational images provided by ruins. The fragment is considered here to be an idealized image, a motif that is borrowed without its original content. For this reason, in this text architectural motifs borrowed from classical antiquity are called antique

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fragments because of their somewhat arbitrary articulations in contemporary designs. On the other hand, all other architectural motifs borrowed from the history of architecture in general are called historical fragments, as these new motifs are totally devoid of the sense of contemporaneity that was at least implied by the idealist use of antique fragments.

After this explanation, the focus of this study can be restated as the transition from the use of antique fragments to the use of historical fragments in French architectural design between 1750 and 1850. Neo-classical architecture was born in Italy as an international attitude. With its penchant for the forms and compositions of pure antiquity, it ignored local conditions of architectural design, such as habits of use, climate, culture, etc. Much later, the romantic-rationalist movement was born in France. It made the local conditions of architectural design, which were ignored by neo-classicism, the center of its theory and assumed a new philosophy of history. The transition from the antique fragment found in Rome to the historical fragment found in France was made possible by the elementarization of antique fragments at the end of the eighteenth-century. The elementary-fragments that resulted from this process were classical only in appearance. They still had classical forms but were modern constructs. The next step was to expand the definition of the fragment and give it a historical dimension. It can be said that the historical fragment was born from the antique fragment. The aim of this study is to show how this happened.

The transformation of the antique fragment into its standard elements (elementarization) and its consequences for architectural design occurred roughly between the middle of the eighteenth and the beginning of the nineteenth-century. It will

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be argued that neo-classical architecture owes its affection for antique fragments to the picturesque representation of antiquity, rather than the so-called rationality of the Enlightenment. The works of the French *ruinistes* around Piranesi, such as Jean-Laurent Legeay and Charles-Louis Clérisseau, will be discussed to show the connection of neo-classical architecture to painting. Then, it will be argued that the rational techniques of reconstruction applied by architectural archaeology gradually transformed this romantic engagement into the elementary analysis of ancient architecture. This also led to the transformation of antique fragments into standard elements. The archaeological works of French architects in Rome and elsewhere will be analyzed to show their relevance to architectural design. The transformation of the antique fragments into standard elements will be discussed in its different phases, passing from articulation to incorporation, and finally elementarization. The buildings and designs of Jacques Gondoin, Charles De Wailly, Marie-Joseph Peyre, Etienne-Louis Boullée and Claude-Nicolas Ledoux will be the subject of discussion. Finally, it will be shown that at the turn of the nineteenth-century, the use of antique fragments was methodized by the techniques of de-composition and re-composition, which created elementary-fragments that would be used repetitively in architectural compositions. The methodology of Jean-Nicolas-Louis Durand will be revisited from this point of view.

The next step will be to show how the Ecole des Beaux-Arts adopted the technique of elementary composition. It is usually assumed that composition with elementary-fragments was the invention of Durand, who made it the skeleton of his teaching at the Ecole Polytechnique from 1795 until 1833. However, the origin of the

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method is in the visionary architecture of Boullée, which benefited from the genre of fantastic painting and architectural archaeology of ancient Rome. Boullée's pupils, Charles Percier, Antoine-Laurent-Thomas Vaudoyer, and Louis-Pierre Baltard, encouraged the use of elementary-fragments at the Ecole des Beaux-Arts until the early 1830s. As the secretary of the Academy of Fine Arts, Quatremère de Quincy supported the creation of a design concept based on Roman archaeology. Owing to the similarities between the competition projects of the Ecole, the restorations of the *pensionnaires*, and the "combinations" of Durand, it will be argued that the technique of composition based on elementary historical forms was also present in the anti-classical designs of the celebrated romantic-rationalists who graduated from the Ecole des Beaux-Arts in the 1820s and did archaeology in Rome as *pensionnaires*: Léon Vaudoyer, Henri Labrouste, Félix Duban, and Louis Duc. A few buildings by these architects will be analyzed, and in these analyses it will be shown how these techniques and the emerging historicism created a new attitude in architecture in the 1830s in which the architectural fragments were re-composed to represent historical context.

Existing Historiography

French architecture of the eighteenth-century has been studied in its totality by eminent historians, whereas the architecture of the nineteenth-century has been studied only in fragments. Moreover, the historiographies of these two periods are clearly separated, and there are few studies that treat two periods in continuity. The architecture of the eighteenth-century is believed to have its own profile - the architecture of the Enlightenment, or the age of reason - whereas the nineteenth-century is usually

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considered to be faceless, eclectic. The architectural developments after neo-classicism are difficult to name, and have only vague titles such as romanticism, rationalism, or eclecticism. It is true that the architecture of the nineteenth-century differs from the architecture of the eighteenth-century in many ways. However, there must be a connection and continuation between the neo-classical and post-neoclassical architecture, since sudden and total changes cannot easily happen in architecture.

Allan Braham called his study of the second half of the eighteenth-century the "Architecture of the French Enlightenment." For Emil Kaufmann it was "Architecture in the Age of Reason." Louis Hautecoeur simply called it "Architecture in the Second Part of the Eighteenth-Century." Braham reviewed the buildings, names and events that made the architecture of the Enlightenment, but he did not comment on what all these things led to. Kaufmann had an agenda. He wanted to show the dissolution of the Baroque and the emergence of something new, which would appear more fully in the twentieth-century. However, he ignored the nineteenth-century, as if architecture slept for one century in order to wake up in the next. Hautecoeur, on the other hand, provided a great amount of useful information, but little more than that. For example, he completely ignored the visionary designs on which Kaufmann made the groundbreaking research at around the same time, and never explained the reasons behind events - why things changed, how eclecticism emerged or why classicism ended. Although more recent French historiography is aware of these problems, it has been hesitant to take up the issues as a whole and focusing instead on particular cases or architects, such as Jean-Marie Pérouse de Montclos's works on Boullée and French stereotomy in the eighteenth-

century, Werner Szambien's studies on Durand, and Antoine Picon's studies on the role

of the engineers in the same period. Anthony Vidler's broad studies on the architecture of

French Enlightenment focused on showing the new order of things in various fields of

thought and production, which effected the change in architectural design that Kaufmann

had discussed. However, Vidler did not attempt to show how those developments were

assimilated by architectural design that was tought at the schools and practiced by

architects.

The situation is the same for the French architecture in the nineteenth-century,

which has attracted many American scholars, such as Arthur Drexler, Robin Middleton,

Donald Drew Egbert, David van Zanten, Neil Levine, and Barry Bergdoll. Although all

these studies increased our knowledge of the architecture of the Ecole des Beaux-Arts

and reactions against it, a larger context of the history of architectural design is still

needed to interpret the result of these studies.

For example, if the architecture in the second half of the eighteenth-century is the

architecture of reason, it must be linked to the rationality of the nineteenth-century, on

behalf of which Hautecoeur argued for the works of Labrouste and his friends. Yet, how

can both neo-classical and anti-classical architecture be similarly rational? For

Quatremère de Quincy whose name was synonymous with the Academic establishment,

architecture with historicist tendencies was "romantic." For the "rationalists" like Léonce

Reynaud, who was nothing but a "romantic" for Quatremère, classicism promoted a

totally irrational, out-of-date architecture. One of the prominent exponents of this group,

Léon Vaudoyer claimed that the leading architect of the "age of reason," Ledoux, did

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"bizarreries" in trying to create an *"architecture parlante."* Neil Levine has shown the rationality of Henri Labrouste, whereas David van Zanten and Barry Bergdoll have showed how a rationalist interpretation of historical progress shaped the architecture of Léon Vaudoyer and Félix Duban. Finally, Antoine Picon strove to demonstrate that the engineer's rationality was behind the major changes in architectural design in the same period.

Obviously these architects and historians had different conceptions of rationalism. Moreover, each scholar has looked at the events from a different point of view. Generally speaking, Emil Kaufmann and the American scholars have wanted to locate the eighteenth and nineteenth centuries in the context of the twentieth-century, and they have found clues of twentieth-century rationality in the works of the French architects. French scholars, on the other hand, the like Pérouse de Montclos and Antoine Picon, have a universal sense of rationality that they believe to have been present in French architecture, which surfaced more clearly in the architectural discourse of Laugier. Their efforts, like the efforts of Wolfgang Herrmann and Joseph Rykwert, are directed toward finding the roots of this universal rationalism in the past rather than projecting it to the future. The result is a lack of focus on the period of transition between neo-classical and post-neoclassical architecture.

It can be argued that the rationality of architectural design is a wrong point of departure for the study of this period of transition, since it separates rather than unites. It should not be considered as the center of architectural design, although every artistic production is rationally conceived. This period can be reconsidered within specifically

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architectural paradigms, such as elements, forms, motifs, composition, fragment, history, ruin, etc. In fact, all the arguments about the rationality or irrationality of architectural design depend on the differences between the use of these concepts in the period under discussion. In this study, the key issues of neo-classical and post-neoclassical architectural design will be revisited from this point of view of concepts of architectural design. A summary of this perspective is below.

The Historical Perspective

From the middle of the eighteenth-century on, a penchant for discovering, measuring, and painting the architecture of antiquity seized Europe. The younger architects in particular became emotionally attached to architectural ruins. At around the same time, visual information about the remains of all kinds of ancient buildings invaded the architectural and artistic milieu. These representations created a partial representation of the ancient world, in which picturesque aspects of the ruins predominated and encouraged the use of antique fragments by architects. In France, antique fragments were promoted by the etchings of Giovanni Battista Piranesi and his French followers between the 1740s and 1760s, as well as by the publications of books in the genre of the *voyage pittoresque*. The representation of the picturesque aspects of antique ruins in nature had an impact on the classical architectural theory. These images were associated with nothing but the "effects" of the appearance.

The effects of the antique fragments stemmed from their spatial aspects and their masses, rather than the metaphors or the analogies they had shared with other aspects of the arts and sciences, such as literature, music, or mathematics. Jacques Gondoin

meticulously created a scene made of antique fragments at the Ecole de Chirurgie whose anatomy hall was an ancient theater. In the Comédie Française, Charles De Wailly and Marie-Joseph Peyre forced a circular auditorium onto columns. In these two major neo-classical buildings, the link between the appearances of the antiquity and the building's content was missing. This means that the architectural design was judged rather on the basis of composition. This new interpretation of antique configurations affected the classical principles of proportion, order, and propriety in a negative way, and allowed architectural design to be the synonymous with architectural composition.

Composing buildings with combinations of antique fragments was also encouraged by architectural archaeology that the *pensionnaires* made in Italy and Greece, because it helped to conceive an architecture that was completely classical in its elements. While reconstructing the ancient ruins, the French architects placed themselves in the role of the ancient architects and re-designed the buildings by using a given vocabulary of architectural elements. The creation of the painterly effects of space and mass and the technique of elementary composition were like the two sides of the same coin, two outcomes of a partial recreation of the antiquity. The former was born from the paintings of ruins, architectural caprices and fantasies, and the second from archaeology. The simplification of antique fragments for modern compositions was present in Jacques-François de Neufforge's *Recueil élémentaire* (1757). The idea of creating a mood through the painterly effects of the antique fragments dominated the visionary designs of Etienne-Louis Boullée and Claude-Nicolas Ledoux. Maybe more than Ledoux, Boullée was also the father of compositional method, which his pupil Durand took to extremes.

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In the seventeenth-century, architectural ruin in its natural environment was an occasional theme for painting and especially Italian architects were interested in drawing ruins with the techniques of painters. However, ruins and architectural fantasies really became a shared ambition of the painters and architects around the middle of the eighteenth-century. Among the French, the leading neo-classical architects were also the *ruinistes*, that is to say, they were painters of architecture, and with this title they could even be accepted to the Academy of Painting, as was the case for Charles De Wailly. Jean-Laurent Legeay, Charles-Louis Clérisseau and Etienne-Louis Boullée were all painter-architects who introduced picturesque imagery to their architecture. Boullée was the last of these painter-architects, and in fact it is with his visionary compositions of the 1780s that the love of the ruins ended. After Boullée, elementary compositions would dominate architectural design.

Restoration of ruins as an academic undertaking counterbalanced these painterly efforts. Since Desgodets's groundbreaking research in Rome in the 1670s, the measurement of ruins had practical purposes, such as the determination of acurate proportions. As the eighteenth-century progressed, measurement became simply the means of archaeology, but not its sole purpose. Architectural archaeology emerged as a specialization for the architects, who benefited from government pensions to study in Rome. The purpose of this specialization was to re-discover and register all the elements, configurations, and compositions of Roman architecture, and to educate architects who have this knowledge. Thus, servile imitation of the ancient Rome started, as archaeology

proved to be more efficient than interpreting the principles of Vitruvius and other texts for modern design.

As is usually the case, a historical analysis would underline a specific case that best reveals the direction of the events. Although it is not always possible to pinpoint the end of one thing and the beginning of another, it may be possible to talk about a turning point when the changes effect a transformation. Such a turning point was Durand's teaching at the Ecole Polytechnique, which developed a method of assembling standard fragments on a grid of axes. His method of combining architectural elements and parts depended on the technique of elementary composition, but the elements which are rigorously combined on the plan in fact depended on predetermined parts, which are called here the elementary-fragments, because they were deduced from the antique fragments. The significance of these elementary-fragments is that they were the co-production of the painterly representation of the ruins and the architectural archaeology in Rome.

Durand's work is considered a turning point because his method of composition suggested the separation of the plan and elevations. His method aimed at controlling the process (démarche) of architectural design. Durand's elementary-fragments were made subservient to a grid of axes that constituted a new paradigm for the plan. In these compositions, the galleries, auditoriums, corridors, porticos, colonnades, and all other fragments that were taken from past and contemporary examples were mechanically assembled. However, dressing the plan with an antique garb was a temporary solution for the problem of representation in architecture. Although Durand's classical-looking

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compositions were secured by the constant use of the elementary-fragments, the correspondence between these parts and the abstract plan was still arbitrary. This meant that Durand's method of composition risked opening architectural design to other types of elements - classical, exotic, modern, or simply "historical." This became possible when Durand's technique of elementary composition was adopted by the Ecole des Beaux-Arts, and when some of the graduates of this school adopted historicist and eclectic manners. These historicist tendencies showed that the tendency to decompose architecture into its parts and elements institutionalized the generative role of fragment in architectural design.

The break between the content and form became visible after historical architecture superceded classical architecture. The classical artistic tradition had been brought in France from Italy by the upper classes in the sixteenth-century. With the foundation of the Academies in the seventeenth-century, classicism became the official doctrine of the art and architecture in France. The French elite believed that architecture had flourished in antiquity, decayed during the Middle Ages, and been reborn in the fifteenth-century. This conception of the history of architecture held that classical architecture was independent of other architectures. Romanesque and Gothic, for example, were judged to be antithetical to classical architecture The Renaissance meant the rebirth of the classical antiquity. However, the understanding of history was becoming more comprehensive since the 1810s. This change was signaled by the dialectical understanding of historical change, which emphasized the transitions and the

mixtures of different things. The philosopher Victor Cousin (1792-1867) became the champion of this philosophy in France.

Meanwhile, the idea of architectural patrimony emerged in the nineteenth-century alongside the fascination with history, and it became a major theme or a stage set in the works of Romantic intellectuals, writers, and artists, such as Prosper Mérimée, Victor Hugo, Alexandre Dumas, René Châteaubriand, and Eugène Delacroix. The intricate relationships among history, archaeology, architecture, painting, and literature at this time shows the opposition to the classical understanding of the representation of history in the arts. Victor Hugo criticized classical drama in his Preface to *Cromwell* (1827), and demanded that the plot should take the audience to the time of the event. The architecture students of the time would soon design mixed settings with historical fragments for the sake of the diachronic representation of the architectural history, showing the historical layers of architectural elements. Eighteenth-century romanticism about the mysterious remnants of a past epoch was replaced by deliberate efforts to make history the subject of the work.

The change in the understanding of architectural history was related to the idea of a progressive history, which was strongly associated with Saint-Simonians in the early nineteenth-century. Historical progress was conceived to be a linear phenomenon, but it was also a recurrent transformation. Sharing a similar historicism, the architects intended to imitate a certain age of transformation in order to restart progress, which they believed to have been halted by classicism. They therefore looked at the transitional period of French architecture in the fifteenth and sixteenth centuries. Vaudoyer, Duc, Duban, and

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Labrouste built few but emblematic buildings at the crossroads of the classical and this new progressive understanding of architectural history.

This generation of architects, composed of the resident students (*pensionnaires*) of the French Academy in Rome, found the opportunity to realize their ideas after their return to Paris in important state commissions under the July Monarchy and the Second Empire, such as the Ecole des Beaux-Arts, Conservatoire des Arts et Métiers, Bibliothèque Sainte-Geneviève, Palais de Justice, Bibliothèque Nationale, and the Cathedral of Marseilles. In these buildings, the architects imitated the historical complexity as a response to the problem of representation in architecture. Theirs was neither a purely romantic view, nor strict rationalism, but rather the romantic-rationalist representation of the historical progress of architecture. For Vaudoyer and others antique fragments were meaningful only within the context of other forms. They suggested no method for architectural composition. Architectural plans no longer had a relationship with the forms of the building.

The disappearance of the representation of the building's content developed parallel to the elementarization of architecture. Architectural form was only one of the aspects of the Vitruvian notion of propriety. Neo-classical thinking reduced this concept to the "appropriate character" (*caractère propre*) which conceived of "antique" forms for the appropriate expression of the building. The concentration on architectural effects created by the masses and spatial compositions strengthened this visual sense of propriety. When Durand declared that "appropriate character" was natural result of the architectural composition, he still believed in the representation of the building's content,

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although this content was nothing but its function. However, with the advent of historicist trend in architecture it was seen that Durand's architecture was a utopia; that the plan was not the primary issue of design at all. In the buildings like the Ecole des Beaux-Arts, Conservatoire des Arts et Métiers, Bibliothèque Sainte-Geneviève, and the Cathedral of Marseilles, it can be shown that the architectural surfaces ceased to be the representation of the building. These surfaces, made of historical fragments, became the tools of representing architecture itself. As a result, it can be said that the "appropriate historical context" of the nineteenth-century replaced the eighteenth-century notion of "appropriate character" in architecture.

The phenomenon that links the eighteenth-century to the nineteenth is considered here to be the challenge to architecture of its own history.

[1] Charles Augustine D'Aviler, *Cours d'architecture qui comprend les ordres de Vignole*. (2 vols.; Paris, 1691), II, 596. "*Ce mot se dit de quelque partie d'architecture ou de sculpture, trouvée parmis des ruines, comme d'une base, d'un châpiteau, d'une cornice, d'un torse ou membre de figure, d'un bas-relief antique, etc. ainsi qu'il se voit de postiches aux bâtimens des italiens et dans les cabinets des antiquaries.*"

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1. Neo-classical Composition

1.1. Classical Composition in the Age of Humanism

The question "what is the difference between the architectural composition and the architectural design" requires a biased answer, because the definition of the words composition and design are relative, although they imply drawings. In the eighteenth-century, architectural drawings became the most important means of the transportation of the ideas for architectural compositions. The images in those drawings represented their objects in a specific way that helped the emergence of an architectural attitude called neo-classical. Here, it will be argued that the different genres of drawings which were in the origin of this attitude as the creators of the antique imagery, such as picturesque, fantastic, and archaeological, were shaped by one another. The producers of this antique imagery were the *ruinistes*, Piranesian fantasists, archaeologist-architects, and the publishers of the practical compendiums.

The key object that attracted the attention of all these men was the ancient ruins of the Greco-Roman world. If the romantic consideration of the ruin gave a start to a new attitude in architecture, the most important factor behind the emergence of the Neo-classical design was the concept of composition. The practical use of the Greco-Roman motifs, which were promoted by the images, became possible within the concept of composition as an end in itself. It will be discussed how the architectural composition in France became identical to the combination of the abstracted images of the ancient motifs. Finally, it will be shown that the different genres of the representation of the antiquity – painterly, archaeological, and imaginary – were united in the architectural

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design by two men who had only studied it from the images, namely Boullée and Durand. The argument on the specificity of the Neo-classical compositions requires a quick survey on the use of the Greco-Roman motifs in the Renaissance, when architectural design was far being synonymous with the drawing.

In architectural theory from Vitruvius to Jean-Nicolas Durand, few other issues have been more important or more varied than the regulated assembly of architectural elements. As the author of the first known text on Western architectural theory, Vitruvius inspired others to start from the basic and principal elements of architecture. His notions would be essential for all theory of the Renaissance for many reasons, but especially for his introduction of the concept of the assembly of architectural elements as a category of activity that surpassed the manipulation of materials and techniques of construction. In *De Architectura*, construction, utility and beauty (*firmitas, utilitas and venustas*) are the ultimate objects of architecture, but not its only subject; another six categories, borrowed from rhetoric (*ordinatio, dispositio, eurythmia, symmetria, decor,* and *distributio*), enrich infinitely the domain of architectural theory.[1]

In *De Re Aedificatoria* Leon Battista Alberti kept and developed a similar sense of architectural elements, and reconstituted the theoretical and rhetorical basis of assembly in architecture. An important innovation in Alberti's theory was the notion of "lineaments" which united the Vitruvian concepts of architectural representation (*ortographia, icnographia, scenographia*) in one concept.[2] The theory of lineaments can be construed as giving higher priority to intellectual matters over the relatively simple logic of the assembly of architectural materials.[3] Alberti imagined in the assembly of

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architectural elements the reconstitution of the universal harmony that pervaded nature including the human body. The Renaissance theory of architecture remained loyal to this distinction by also retaining a platonic notion of Idea (form) that was imprisoned in the material, the best examples being Michelangelo's unfinished sculptures and the use of rustic in architecture. In such cases, the relationship between the nature of materials and the techniques of construction was revealed. But such relationships were made by metaphors, and architectural design embodied these metaphors through different aspects of composition: material, sculptural, and functional.

The Renaissance architect's interpretation of the ancient vestiges depended on the assumption that the classical forms corresponded to the classical values – virtue – transmitted by rhetoric, and that justified his compositions. The classical forms were the shapes of these values, which were made comprehensible by means of principles. As the number of architectural treatises increased, so did the illustrations of the architectural elements which started to take an important place in architectural theory, exemplified by Serlio's books on architecture. It can be said that as the discovery of the material remains of Roman architecture was more reflected in the treatises, the image started gaining authority over the word. While this is not at all to say that Renaissance theory was manipulated by archaeology, it can be argued that the gradually increasing dependence on archaeology transformed the classical meaning of imitation in the arts.

The imitation of classical forms became a stylistic trend when archaeology gained a determining role in architecture in the second half of the eighteenth-century. At that time, architects were eager to imitate the compositions of the ancients. The care given by

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the men of letters to the cultural and cultual aspects of the ancient artifacts did not always apply to architects, who approached ancient sites rather opportunistically. For example, Johann Joachim Winckelmann, one of the founders of classical archaeology, pointed out the impact of Greek style on the architectural culture of the Romans by giving an example of a door "*à la Grèque*." Depending on archaeological data, Winckelmann stated that the ancient Greek door lacked hinges and pivoted around a bronze rod driven to it and received by a bronze plate on the threshold. This Greek door opened towards the street. Winckelmann passed on the anecdote that when Valerius, brother of Publicola, obtained the permission during the early Republic to open his door toward the street like the Greeks, his door was the only one in Rome made in this manner.[4] As this story of the Greek door proves, a door is not simply a functional element or a pragmatic construction, but a cultural artifact just like the many other elements of ancient architecture, and that it is not totally dependent on the impositions of the practical concerns. Julien-David Leroy, known for his restorations of the monuments of Greece, may be one of the last architects who still knew well these ancient stories, but even he could put them aside when considering architecture:

> I considered the monuments... under two different points of view which form the natural division of this book in two parts; in the first part, I discussed the historical issues concerning these monuments, and in the second, the architectural issues.[5]

Getting more and more involved with material findings and forgetting their stories, the co-called neo-classical architects failed, despite individual attempts, to reconstitute the link that bound together all the elements for the architects of Renaissance.

In order to make this point clear, it may be useful to discuss shortly the works and theories of two principal actors of Renaissance architecture, Leon Battista Alberti and Andrea Palladio, as the nearly one hundred years between the two may also reflect the consistency as well as change in Renaissance theory. As mentioned above, the humanist architects of the Italian Renaissance rediscovered architectural theory in *De Architectura* of Vitruvius. This rediscovery of a theoretical text on architecture from antiquity paralleled the rediscovery of the material remains of antiquity. Therefore, "the architects' recovery of antiquity took essentially two forms: textual and archaeological."[6] Although creating the link between these two types of recovery, that is, between the interpretation of Vitruvius and the Roman ruins, was not easy in the beginning, as in the case of Francesco di Giorgio Martini who could not for example differentiate properly the Ionic capital from the Doric,[7] the architectural elements of antiquity gained value through this text, which were otherwise exotic decorations of a dead people from a distant time. The stories about the origins of architectural elements in *De Architectura* reintroduced another thing, which was as important as the orders: the notion of metaphor in architectural thought, like in the story of Callimachus' invention of the Corinthian capital, which showed that the imitation of nature was not for the sake of imitation, but there was something beyond the forms of imitation that justified it.[8] Thus, as a tool that bridged between the past and the future, architectural metaphor was essential for the justification of the composition of architectural elements for Renaissance theorists like Alberti. Alberti occasionally shared a story or an anecdote while explaining the value of a principle of composition.[9]

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The power of metaphor in architecture was no different from its use in literary works, just like making a "gesture" was a common attribute of expression made with words, body or architecture. Thus, in their simultaneous reading of texts and buildings, Renaissance humanists and architects also rediscovered the ancient "metaphoric process" of the composition of architectural elements, that is, the *"parlar figurato* (the speaking in figures) of building."[10] This is achieved through the combination of architectural elements into certain "motifs" that visibly communicate ideas. An example to this is Alberti's proposal of the placement of the sarcophagi of Sigismondo Malatesta, Lord of Rimini, and his wife[11] Isotta, under the two smaller arches of the facade for the San Francesco (Tempio Malatestiano) in Rimini - the metaphorical motif here being the "triumph over death." In order to exalt the personality of the financer of the church, "Alberti borrowed from Roman antiquity the motive of the triumphal arch[12] and applied it to the facade," and combined it with a sarcophagus,[13] "as if" under the vault of a catacomb. However, another dimension of the metaphoric process is the application of abstract principles, expressed in geometrical arrangements and therefore less perceptible, representing principles of cosmic harmony. According to Wittkower, artists and architects like Alberti and Leonardo "found and elaborated correlations between the visible and intelligible world... Architecture was regarded by them as a mathematical science which worked with spatial units... Thus they were made to believe that they could re-create the universally valid ratios and expose them pure and absolute, as close to abstract geometry as possible." (3)

The most perfect of all the elements of geometry were circle and square, which were offered eulogies by almost all significant Renaissance artists, from Alberti, Leonardo and Filarete, to Francesco di Giorgio Martini, Serlio and Palladio (3-21). Many centrally planned early Christian buildings constituted for these architects a testimony of the importance of the circle and square in the antiquity. Among such buildings were the Pantheon, Sto. Stefano Rotondo, Sta. Costanza and even the twelfth-century octagonal baptistery in Florence which was thought to be an earlier Roman temple (5). (Fig.1) As a result, the centrally planned temple, representing the divine harmony of the universe, became once again an indispensable motif for the Renaissance architect, like at San Sebastiano in Mantua.[14] Moreover, apart from the geometrical forms, the "number" applied to every composition in order to guarantee the proportions, symmetry, harmony and eurhythmy of the ensemble. Therefore, if Alberti's adaptation of the Hellenistic motif of the broken entablature for San Sebastiano in Mantua was derived from Roman archaeology (the Triumphal Arch of Orange),[15] the motif of the plan of the church as a square with three attached chapels, "their width being half one side of the square,"[16] was a geometrical metaphor for cosmological harmony.[17] Likewise, if the archaeological motif of the entry to Alberti's Santa Maria Novella in Florence was derived from the Pantheon's "singular motive of the two pilasters placed at right angles to the doorway", the cosmological motif of the facade was in the number, which "is related to its main parts in the proportion of one to two, which is in musical terms an octave, and this proportion is repeated in the ratio of the width of the upper storey to that of the lower storey."[18] (Fig.2) Here Alberti adapted the elements of the facade of the twelfth-century church, San Miniato al Monte, or the baptistery of San Giovanni, to harmonize between

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the existing elements and the new, which were framed within the "elements of the entire composition through the rigorous application of number and geometry."[19]

Similarly, in Sant'Andrea in Mantua Alberti combined two ancients motifs together in an "unclassical" way, that of the pediment of the temple and the triumphal arch (that of Titus in Rome or Trajan in Ancona), and also used the motif of the triumphal arch on the inside, where "the big vaulted hall of the nave with the three chapels opening on each side... derives from impressions collected in Roman *thermae* or the Basilica of Constantine" (i.e. Maxentius).[20] The repetition of the same motif at the interior, that is, a combination of the triumphal arch and the temple front (but without the pediment) was also found by Wittkower to be "unclassical," for this kind of decoration had not been used by the Romans. (Fig.3) Yet, Jean Castex's interpretation of the repetition of the facade motif for the rhythmic decoration of the interior as an "announcement" of the interior elements of the wall at the exterior[21] may help to reveal that a very classical attitude is at stake here: a rhetorical style. Roy Eriksen showed that Alberti was influenced by Cicero's style, whereas he suffered from the rather unclear Latin of Vitruvius. According to Eriksen, Alberti learned the rhetorical styles from Cicero who influenced his writing style as well as architectural theory and criticism.[22] Christine Smith showed the elements of rhetorical thinking in Alberti's criticism (in *Profugiorum ab aerumna*) of the cupola of Brunelleschi's Santa Maria del Fiore:

> The first portion... proceeds by pairs of opposites. The first of these, "*grazia*" and "*maiestà*," is barrowed from definitions of the stylistic differences between rhetorical styles... In his next pair of opposites, Alberti transforms these general stylistic principles into terms of architectural description: "grace" becomes "charming slenderness," and "majesty" becomes "robust and full solidity.[23]

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This short quotation may recall for the reader of *De Re Aedificatoria* the many

other rhetorical elements that constitute a sub-text within the text, and let him to see the

relationship between the thought and the act, that is, between the text and the building. At

the Sant'Andrea, a preface/prelude/introduction (entry), a metaphoric reference (temple,

triumph), and a pair of opposites (inside/outside) brings together the classical literary

styles, the architectural theory, the requirements of the liturgy (chapels, procession) and

the chosen elements of classical architecture (Triumphal Arch/"Temple of Peace").

Architectural motifs made in this way may result in unclassical appearances; however,

these appearances remain classical in their essence because of their connections with

literary styles and gestures.

Tavernor interpreted the motif of the facade of Sant'Andrea as the "triumph of

resurrection," given that the building housed the Blood of Christ.[24] He suggested

reasonably and with sufficient proof that Alberti designed only the nave and the chapels,

in the form of the "Etruscan Temple" (*Templum Etruscum*), and that the building was

later given its Latin-cross plan by Giulio Romano.[25] Evidently, the model for the

"Etruscan Temple" described by Alberti was the Basilica of Maxentius, whose three

naves seemed to fit the description of the *Templum Etruscum* by Vitruvius.[26] (Fig.4) The

Basilica of Maxentius was then confused with the adjacent demolished building called

Temple of Peace (*Templum Pacis et Latonae*), which Alberti (I, 8) knew as *Templum

Latona*.[27] Expanding the theses of Krautheimer and Wittkower, Tavernor reinterpreted

the connection between Alberti's identification of the Temple of Peace (i.e. Basilica of

Maxentius) as the "Etruscan Temple" and the church in Mantua. Virgil, a native of

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Mantua, recorded that the city had been founded by Etruscans. The Temple of Peace was built in Rome by Vaspasian "to commemorate the quashing of the Jewish revolt of AD 70, during which Titus, his son, razed the Temple of Jerusalem," which was the archetype for the Christian church, and which, according to Biblical accounts, "had an inner chamber measuring 20x60x30 cubits overall."[28] By applying the same ratio (40x120x60 *braccia* for Sant'Andrea) and adopting the plan of the "Temple of Peace" Alberti puts the church of the Blood of Christ within the tradition of the Temple of Jerusalem, the local context of Etruscans, and the Roman antiquity: form, number, and text overlap.

Alberti's "unclassical" applications of ancient motifs led Wittkower to claim that at this stage of his life the architect "repudiated archaeology and objectivity and used classical architecture as a storehouse which supplied him with the motives for a free and subjective planning of wall architecture."[29] This was the moment when Alberti reduced the forms of the classical elements into traces, or lines, on the wall surfaces. In fact, as is well-known, Alberti's theory introduced the ground-breaking notion of "lineaments" as the medium of architectural design as early as 1450.[30] The theory of *De Re Aedificatoria* appealed rather to intelligence than to imagination, as the book was not concerned at all with visual examples, and was still not much affected by the Roman archaeology that will influence the Serlios and Palladios. That was also why Alberti described "clearly six" abstract elements of architectural design: locality, area, compartition, wall, roof, and opening.[31] The physical elements, on the other hand, comprised every building member, such as vaults, drains, pavements to columns, walls, porticos and so on, which were dispersed throughout the text. These elements were the various forms of embodiment of

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the six abstract elements. For Alberti, the relationship between the abstract elements of design and the building elements was immediate; what he had in mind was the classical notion of perfect beauty that accepted no addition or subtraction. In such an understanding, the requirements of necessity and convenience had to overlap with the geometrical perfection, the preeminence of number, rhetorical style, and the authority of the ancient splendor:

> The entire composition of the members, therefore, must be so well considered, conform so perfectly with the requirements of necessity and convenience, that this or that part should not give as much pleasure separately as their appropriate placing, here or there, in a particular order, situation, conjunction, arrangement, and configuration.[32]

Therefore it would not be implausible to suggest that it was through the guidance of his six abstract notions of architectural elements that Alberti rearticulated the elements from antiquity in his buildings. The *concinnitas* (the classical prerequisite for the achievement of beauty in all rhetorical styles) for which he searched in architectural design had already been achieved by ancient buildings, now mostly in ruins. Using texts, Alberti sought guidance from the Roman ruins for his buildings, and studied their "lineaments" rather than their appearances, as in Sant'Andrea in Mantua or in the Palazzo Rucellai in Florence.

According to Wittkower, Alberti had a great influence on Andrea Palladio, and that for him "Vitruvius revealed the deepest secrets of ancient architecture."[33] Palladio was the master of harmonic composition of the ancient motifs, which he had studied in Rome. The cinquecento saw more rigorous and extensive research in archaeology of ancient Roman architecture, and the architectural ruin began to represent more the

"opacity between the lost object and the contemporary culture."[34] It was a time when imagination was gradually replaced by "an urgency to establish facts, recover the visual context of ancient Rome," for which the medieval genre of *Mirabila urbis* became insufficient.[35] Wittkower stated that it was Palladio who ended the authority of the *Mirabilia urbis* type of books about the ancient Rome with his *L'Antichità dell'alma città di Roma*, accusing the *mirabilia* of being "full of strange lies."[36] Yet, Palladio followed also the example of Bramante, for whom, as in his famous Tempietto, the ancient form constituted a perfect model to imitate. (Fig.5) Payne considered "such blurring of historical boundaries" a "measure of self-confidence."[37] By becoming erudite through reading and doing archaeological research himself, and benefiting from the works of the others like Bramante and Serlio, Palladio became a master of the classical language, gaining confidence which enabled him to place a temple front on the facade of a villa. This was not a pastiche, for the theory of the primitive hut allowed the architect to justify his act by the claim that the motif of the temple front had been derived from the house.

Wittkower related Palladio's attachment to mathematics and geometry to his interpretation of the "virtue" in architecture. He stated that "by associating in the *Quattro Libri* virtue with architecture, Palladio like Barbaro regarded as the particular "virtue" inherent in architecture the possibility of materializing in space the "certain truth" of mathematics."[38] Like Alberti, Palladio depended on numbers in making architectural space, and "took the greatest care in employing harmonic ratios not only inside each single room, but also in the relation of the rooms to each other."[39] As Colin Rowe showed in his famous essay, "The Mathematics of the Ideal Villa," the ratios employed by

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Palladio governed the whole composition, although they were unclear at the facade.[40]

However, Palladio also gave unprecedented importance to the "effects" of mathematical rules for ornamentation imposed by nature. For him architecture spoke the language of nature, the *parlar figurato* of the tectonic elements. Being a master mason and well-versed in classical theory and literature,[41] Palladio was concerned with the tectonic language of architecture, which he found in the order of the elements of ancient Roman buildings, which revealed the laws of nature, like the complicated interlocking orders at the facade of the Palazzo Valmarana, for which he provided an ancient example from Verona.[42] This facade represented the harmony between the tectonic elements and architectural ornamentation. Moreover, the three different scales of the orders neither disturbed one another, nor gave a sense of fragmentation. (Fig.6)

Palladio believed that the classical moldings represented the deformation of architectural members under weight. He thought that by imitating nature architects not only followed the principles of nature but also avoided mistakes. For him, the representation of the tectonic laws of nature through the correct arrangement of the elements became a primary concern. Alina Payne showed that Palladio used rhetorical language to express the universal principles that applied to architectural elements. She stated that "the language Palladio uses – terms that revolve around the notion of "make-believe" (*rappresentare, dimonstrare, accusare, fingere, parere, effetto*) – clearly conveys his conception of ornament as a narrative system that comments upon the "truth" of nature (as construction)."[43] She cited a key passage in the *Quattro Libri* about the abuse of the scrolls (*cartocci*) in decoration:

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Similarly these volutes (*cartocci*) will not be made to project out of entablatures; since it is necessary that all the parts of the cornice be made towards the same effect (*effetto*), and display (*dimonstratrici*) that which would be visible if the work were made of wood.... since it is appropriate that in order to support a weight something hard and able to resist is required, there is no doubt that these *cartocci* are entirely superfluous, since it is impossible that a beam or any other member produce the effect (*faccia l'effetto*) they represent, and feigning to be soft and tender (*fingendosi teneri e molli*), I don't know with what reason they can be placed under something hard and heavy.[44]

The passage continues with words such as *aspetto, vista, confusione, piacere* that bring the perception into the domain of architectural theory. Payne claimed that behind Palladio's thinking was Aristotelian logic, and that Palladio interpreted the appearance of unfamiliar structures in architecture as a cause of dislike. For Payne, "what is at stake here, then, is a coherently displayed virtual structure, a narrative about building and the artifice of architecture that goes several steps beyond Vitruvius's invention stories."[45] According to Payne, although earlier theorists like Alberti and Barbaro had tentatively remarked on the theory of effects, Palladio's discourse was unique in architectural theory in his time. In short, Palladio's architecture reflected clearly his profound humanism, and that was how he could find authority to combine the elements of ancient architecture with which he had become familiar through texts as well as studies on the site. Number rules imperceptibly over the configuration of his plans, while his rhetorical style links the quality of visible elements to the universal rules of nature. It can be said that for Palladio, words and numbers are as powerful as the image, and all are expressed in the harmony of elements.

The fluent style of Wittkower's text was cut abruptly when he set about to culminate it with later developments in theory that ended the validity of the humanist

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thought. What Wittkower was most concerned about is the changing meaning of "effect" in perception, which in the theories of Perrault, Guarini and Milizia had become a matter of the eye, making the subjective observer an interpreter of the phenomena. However, Wittkower claimed that the most damaging strokes came from British theorists who took on the issue of subjective perception, such as Hume, who developed a theory of sensations (1757) and promoted a "subjective sensibility." The theorist of sublime, Burke (1757), refuted the relationship between body and architecture together with the validity of proportions. Later on, Alison and then Knight (1805) turned the theory of perception into an "association of ideas."[46] Like Wittkower, Emil Kaufmann saw the origin of this change in architectural thought in Italy, especially in the architectural ideas of a Venetian Franciscan priest, Carlo Lodoli, which were reflected in Milizia's work.[47] Kaufmann explained the change in an apocalyptic tone:

> Architectural theories, from the early renaissance to the late baroque, tell the same story as do the buildings; theory and practice were in perfect accord. The theorists were not the leaders as theorists occasionally pretend to be. They advocated the same compositional ideals that were visualized in buildings.

> Quite suddenly, in the midst of the eighteenth century, a new theory arose in Italy which diametrically contradicted all earlier doctrines. These doctrines were entirely formalistic and supported the contemporary aesthetic pattern. The newly arisen doctrine, however, was strictly functionalistic. Its only postulate was rigorous conformity to practicality and to the material.[48]

The intense engagement of French academic architects with Roman ruins started also at around the same time. Their interpretation of classical architectural elements was very closely related to the new interest in the perception of phenomena, and this would affect the architectural theory for almost a century.

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1.2. The Emergence of the Antique Fragment: 1750 – 1780

1.2.1. The Fantasies

The change of the theory of perception and the understanding of the "effect" in architecture can be seen in the eighteenth-century's fascination with the ruins. The penchant of painters for depicting nature with ruins is the origin of the "disquieting strangeness" of the isolated and bizarre settings in the drawings made by architects and etchers during the mid-eighteenth-century. Many architects found inspiration in drawings with such themes, which provided immediate associations for the observer through form and expressive techniques. Such techniques were used to create romantic depictions of real or imaginary ruins, and imaginary architectural settings, which were called *vedutta*, *caprice*, and *fantasie*. The ambiguity of time in such pictures was always an indispensable element with which artists played passionately. In several works, monuments or towns were depicted as if they were just found by a time-traveler. The emergence of this artistic attitude is usually called a "post-classical" phenomenon in art history, which continued in the neo-classical period, being always related to the artistic culture in Italy. Painters and engravers from Nicolas Poussin (1595-1664) to Claude Lorrain (1600-1682), Salvator Rosa (1615-1673), Benoît Dubois (1619-1680), Jean-Joseph Le Lorrain, Jacques de Lajoue (1687-1761), and Hubert Robert (1733-1808), and architects from Filippo Juvarra (1678-1736) to Givanni Battista Piranesi (1720-1778), Giovanni Niccola Servandoni (1695-1766), Jean-Laurent Legeay (1710-1786),Charles Michel-Ange Challes (1718-1778) and Charles De Wailly (1729-1798), used the combination of fantasy, nature and ancient ruins as a creative potential for provoking the

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imagination.[49] These artists contributed the birth of a new trend in architecture, the so-

called neo-classical architecture. The *pensionnaires* of the King of France, entitled to

study art and architecture of ancient and modern Italy at the Académie de France in

Rome during the mid-eighteenth-century, found themselves in a milieu where

architectural themes in painting inspired architectural design. Although archaeological

investigation of ruins was mandatory for those who undertook the reconstruction of the

monuments of antiquity, it can be said that a romantic engagement with ruins, which

found its fullest expression in paintings and etchings, managed initially to escape the

practical considerations inherent in the restoration of archaeological ruins. The ruin

entered in the world of architects not simply as architectural remains, but also as a

concept of poetry and painting, and was inherently romantic.[50] However, the more the

archaeological ruins were analyzed, measured and restored, the more the romanticism

disappeared.

The French architects seduced by this fantasy of ruins are usually called

"*ruinistes*" and "Piranesian." As Marianne Roland-Michel states, there are two

preconditions to be Piranesian: illusion and the architectural ruin.[51] According to Rudolf

Wittkower, the striking effects of Piranesi's etchings derived from the artist's "search for

originality," but also from a "method which is deeply rooted in the Italian mentality."

Piranesi reversed "the traditional meaning of architectural structure in general and of the

single parts."[52] Similarly, Roland-Michel argued that Piranesi, as architect and *vedutiste*,

was the inheritor of a north-Italian theatrical tradition, the publications of Bibiena and

Juvarra, and the archaeological reconstructions of Fischer von Erlach. (Fig.7) She stated

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that there were, around this time in France inheritors of the same tradition like Lajoue and Servandoni, the artists who used country paintings with themes of ancient ruins especially for theatre decors, and who would soon influence the architecture in France.[53] (Fig.8) It was a moment when many European architects were benefiting from the new and "exotic" ideas developing in Italy. For this reason, Jean-Marie Pérouse de Montclos argued that French architects connected to the artistic culture in Rome were moving at this time toward a stylistic manner that he called "anti-French." For Pérouse de Montclos, it was an "international classicism" that developed around Piranesi and influenced the new generation of French architects, who were ready to defy the thesis of J.-F. Blondel's *Cours d'Architecture*, in which Blondel had stated that the book was an "occasion to deduce the principles of major rules that Mansards had applied in their buildings."[54]

Werner Oechslin agreed that the "Piranesians" in Rome constituted an "artistic group," but he also claimed that they could not be integrated in the artistic milieu in Rome. Oechslin supposed that "the Piranesians remained relatively isolated vis-à-vis the official structures of Roman culture."[55] However, the young French architects were nourished from by the Roman culture in two ways: they were influenced from the interdisciplinary Academic culture, which linked architecture to other arts, and they were also part of a ""*Geshmackskultur*" – culture of taste, trends and artistic preferences."[56] Many of so-called Piranesians were *pensionnaires* of the Académie de France in Rome, who lived together and even worked together. The members of this closed group had very similar contact with Italian artistic culture, and it is therefore understandable that they began developing a common manner, if not exactly a style. The interdisciplinary culture

that Oechslin argued was inherent in the activities of the Académie, its *raison d'etre*. Le

Lorrain, for example, a *pensionnaire* of painting, participated in the design of decorations

for the festival of Chinea together with other "Piranesian" *pensionnaires* of architecture,

such as Charles Michel-Ange Challe and Jean-Laurent Legeay.[57] (Fig. 9) Moreover, the

Italian-born Servandoni, the future architect of Saint-Sulpice, "with a particular brio,"

stated Oechslin, "passes from architecture to decoration and does not hesitate at all to

undertake painting landscapes in the style of Salvator Rosa."[58]

An artistic medium as a link between these artists can be derived from Oechslin's

argument. Oechslin's analysis showed that the international-interdisciplinary culture

disseminated its ideas through publications, above all etchings, which promoted

"rendering" as a medium of expression for architects as well as for painters and

decorators.[59] The architectural caprices of Panini and the caricatures of Ghezzi were the

two outstanding types of etchings that were preferred by the French (374). Charles-Louis

Clérisseau, who produced fantastic or imaginary ruins all his life, can be counted a

member of Panini and Piranesi's school of architectural caprice; whereas Jean-Laurent

Legeay, being also a follower of architectural fantasy, introduced caricature in this realm.

Being the master of perspectives in which he depicted schemes of Roman antiquities,

Panini had a profound influence on the *pensionnaires* at the Académie de France, where

he taught perspective. He was the teacher of Servandoni and the painter Hubert Robert,

who was in Rome when Clérisseau was still there. Robert caught his *ruiniste* style with

"*inquietante*" scenes in this environment.[60] Yet, Piranesi was the chief, who represented

all the aspects of the Italian masters who influenced the French architects. He was a very

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productive engraver, working with his children, and attracting the attention of the best artists and architects, such as the British on the Grand Tour and the French *pensionnaires*, who were looking for a break through in architecture.[61]

Although it is undeniable that the "Piranesian" *pensionnaires* helped disseminate the new artistic genres in France in person, the publications proved to be as effective. De Machy, for example, who owed his reputation as "painter of architecture and ruins" to Roman antiquities, and who exhibited such paintings at the salons of 1757, 1759 and 1761, had never been to Rome.[62] Unlike the De Waillys, Peyres and Gondoins, many famous Neo-classical architects, like Antoine, Belanger, Brongniart, Ledoux, Mique, who were not awarded by a Grand Prix, probably never went to Italy.[63] Legeay and Clérisseau, on the other hand, spent most of their professional lives outside France.[64] Accordingly, although Oechslin connected the Academia di San Luca to the Ecole des Beaux-Arts through the travel of people, he also implied an interesting link between Piranesi and Durand through the distribution of etchings.[65] Oechslin pointed out certain "themes" that passed from the etchings to practical books on architecture such as Neufforge's *Recueil élémentaire d'architecture*, as a result of which these themes became "standardized" in architectural imagery, with some ending up in Durand's *Recueil et parallèle*. Besides basic architectural elements, urns, fountains and nymphs were among the decorative themes adopted by Neufforge, Chambers and Legeay, whereby these architects were linked back to Fischer von Erlach and his visual compendium of architectural history, the *Entwurff einer Historichen Architektur*.[66]

The more architectonic themes also found standardization throughout the rest of the century and changed thinking about architectural design. These architectonic themes were deduced from ancient buildings and ruins, denoting another Italian tradition whose revival is usually attributed to Piranesi. Despite their romanticism, the Piranesians' serious interest in archaeology is the real difference between them and the *"pittoresque"* genre of Rococo artists. Architectural fantasy and caprice owed much to the "exaggerated asymmetry and contrast of richness"[67] of the *genre pittoresque*. The *Livres d'ornemens* published in 1734 promoted such imagery in architecture, whose author the Rococo master J.-A. Meissonnier was the creator of "fountains, cascades, ruins, rocailles and shells, architectural pieces that have bizarre effects, peculiar and *picturesque* with their piquant and extraordinary forms, of which not a single part is in harmony with one another to avoid making the subject appear less rich and less likeable."[68] The "picturesque" was also adopted in Britain and philosophized by theorists like Edmond Burke, Uvedale Price, William Gilpin, Richard Payne Knight and Archibald Alison, and in turn, it influenced French culture through the so-called *"Jardin Pittoresque,"* also known as *"Jardin Anglais."*[69] However, the origin of the imagery of picturesque garden rests in Italian painting, "in the savage wilderness of the landscapes of Salvator Rosa, in the illuminant perspectives of Claude Lorrain, in the visionary gravures of Piranesi."[70]

Although the Piranesians were caught up by the "peculiar effects" of the picturesque, they were as much interested in archaeology as in fantasy, and contrary to Rococo - the hated child of Baroque[71] - the Piranesians exalted the architecture of antiquity by remaining seemingly loyal to its formal principals, and by adopting the

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theme of ruin as well as fantastic juxtapositions of classical or pseudo-classical objects. The founders of neo-classicism had a double spirit: on the one hand, they indulged their enthusiasm for the themes and effects of the picturesque and let their imaginations flow freely over the ruins of the past;[72] on the other hand, they took great pains to bring to light the authentic ruins of antiquity and restore their original state, like Piranesi and Clérisseau, who for example had to fight against the elements of nature to discover the remains of Hadrian's Villa then occupied by earth and vegetation.[73] Therefore, it can be said that the drawings with the romantic themes of antiquity united three major aspects of seventeenth and eighteenth century artistic thinking: the picturesque, the fantastic, and the archaeological. These aspects would constitute the major influences on the French architects during the second half of the century.

Returning to architectonic themes, it can be argued that Piranesi's reconstructions of archaeological ruins influenced the sense of reality in the images of ruins produced by his followers, the so-called "*ruinistes.*" According to Oechslin, the poetic ruin became for them an "architectonic theme." The French Piranesians were still far from using ruins rigorously as sources for practical design. Erouart commented on the ruin scenes drawn by Legeay, and stated that in his Roman drawings like the "*Porte monumentale,*" the ruin had no reality at all:

> "It is in fact nothing but the ruin of an imaginary monument which is
> immediately subjected to the corrosive and destructive effects of time. It
> shows an architecture which was not yet built, but even in its formal newness,
> submitted to voracious vegetation and precocious degradation."[74]

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Imagining the future ruination of a building that does not yet exist originates in this romantic quality of the ruin which oscillates between the past and the future. Jacques Gondoin is one of those who were seduced by the values attached to buildings by time, for he imagined his Ecole de Chirurgie as ruined in the future.[75] However, Gondoin was in favor of restoration of the forms and elements of antiquity rather than using them for fantasy. In fact, most of Piranesi's imaginary reconstructions of ancient settings, except his *capricci*, seek to create a sense of reality or plausibility. Like his picturesque, dramatic tone and fantastic imagery, Piranesi inherited his interest in archaeology from the Italian baroque masters like Pietro da Cortona, who gained great recognition for his drawings of the ancient vestiges, or Borromini who even imagined publishing a book on antiquity.[76] Famiano Nardini's book, the *Roma Antica* (1665), remained an authority for a long time and it was even reprinted by Antonino Nibby in 1818. The tradition of constituting the iconography of ancient monuments already existed since the appearance of Pirro Ligorio's enormous mass of drawings from which the guide books of the "*Roma antica*" benefited, such as that of Jacobus Laurus or Donati.[77]

1.2.2. The Abstractions

The transformation of the romantic ruin into an archaeological object started alongside the picturesque interest in the remains of antiquity, which gave way to a heuristic study of the forms, functions, and structures. Alongside their Italian colleagues, French architects, mostly *pensionnaires*, applied their imaginative faculties to reconstruct ruins by depending mostly on publications, like the ones cited above and the French

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"authorities" like Antoine Desdodets's *Les Édifices antiques de Rome* of 1683.[78] Their

restorations, difficult to accomplish with so little excavation, legitimized extensive use of

imagination. In one example given by Oechslin, F. Bianchini restored the imperial

palaces on the Palatine Hill (*Dell Palazzo de' Cesari opera postuma*, Verona, 1738), with

the help of a fresh graduate from the Academia di San Luca, Francesco Nicoletti da

Trapani. Oechslin claimed that "certain edifices among the Palatine reconstructions

resemble academic formulation of the same genre" suggesting that the forms and

typologies of modern architecture were taken for granted as applying also to the ancient

edifices. The reconstruction reminded one of the works of Juvarra.[79]

The story takes an important turn here. As Oechslin stated, either through direct

involvement or through publication, Piranesi had relations with every important

archaeological site of the time, from Herculanum to Paestum and Villa Hadriana (401).

More importantly, Piranesi also applied to his reconstructions in his *Prima Parte* the

"ancient imagery" of the "caprice" tradition in which he united "invention, artistic

fantasy and reference to antiquity." Fischer von Erlach was one of the founders of this

attitude, which "let Juvarra transform skillfully the archaeological sources, and found in

Piranesi an important successor, especially in the beginning." As Oechslin stated, certain

"ancient" themes were preferred over others by Renaissance architects, which would

create a typological link between the sixteenth and eighteenth centuries, from Serlio to

Neufforge. One of these ancient "themes" which used archaeology and fantasy was the

Forum. Fischer's reconstruction of Forum Trajanum, for example, which resembled

certain *piazza* designs of Bernini and Carlo Fontana, was used by Piranesi in his reconstruction of the *Campidoglio antico* in the *Prima Parte* (403).

Oechslin gave another example to show how the themes *all'antica* diffuse through "reduction and abstraction" in the archaeological plans. Among Serlio's plates of the Roman antiquities in the Third Book, there is an ideal plan of the Temple of Apollo. (Fig.10) This drawing is one of the earliest examples of the circular plan, which possibly influenced an academic project of Juvarra and also Eigtved's plan for the Frederikskirke of Copenhagen. (Fig.11) Panvinio produced a drawing of this same circular temple for his Palatine reconstruction, reprinted by Bianchini in 1739. (Fig.12) This theme, which was referred to by Oechslin as a "motif" as long as it appears in a graphic medium, became a typology that implied "precise historical references" when Mondelli adopted the same scheme in his project for the competition of the Academia in the same year (1739). Legeay, who wanted to participate in the same competition, produced a similar scheme for a church, known by a copy made by Chambers (406). (Fig.14) Later in the 1740s, Legeay found the opportunity to apply this motif to the Hedwigskirche of Berlin.[80] When the circular temple passed to Piranesi's reconstruction of the Santa Costanza in the *Antichita Romane*, it was a free interpretation of an ancient typology, not loyal to archaeological reality. (Fig.15) This new aspect of the Temple of Apollo, according to Oechslin, heralded the "birth of new inspirations and also new modes of architectural "design"... which manifested a tendency towards curvilinear forms, almost abstract, anti-functional and aestheticizing." [81] The same theme also appeared as an abstract motif in Neufforge's *Recueil élémentaire* in 1757, in the plans for the *Ecuries, Hôtel de Ville* and

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Eglise du sepulchre (Figs.16, 17), as well as in a project of a former *pensionnaire*, the *Académies* of Marie-Joseph Peyre published in his *Oeuvres d'architecture* of 1765 (407). (Fig.18) Although Oechslin did not discuss the motif's later history, the circular temple would have significant place as a graphic motif in the competition projects of the Ecole des Beaux-Arts during the time of Boullée (student of Legeay) and then Percier (student of Boullée), as well as in the *Précis des leçons* of Durand (student of Boullée) as one of the "*pièces centrales.*" (Fig.19)

Oechslin related the "continuous abstraction of archaeological plan according to the principles of symmetry and reduction" to the evolution of the Grand Prix projects, which would influence the history of architectural design (409). Another theme and another motif came from the temple of Venus and Rome, which was unrealistically doubled by Bianchini over a symmetrical axis in his reconstruction of the Forum Romanum in 1738 (407). For his reconstruction of the *Campo Marzio*, Piranesi used several earlier examples besides the fragments of the ancient plan of Rome carved in marble, the *pianto marmorea* (i.e. *Forma Urbis*); but "without having a precise archaeological foundation," he repeated the same theme of twin temples (408). (Fig.20) Plate 16 of Durand's *Recueil et parallèle* corrected this design, which included the same motif of twin temples, but omitted the authentic elements of the Flavian period, such as exedras and niches for the sake of standardization and rectangular regularity.[82] (Fig.21) A student of Percier, Leclère adopted the standardization of Durand in his project for the *Bains publics*, which won him the Grand Prix in 1808.[83] (Fig.22) Behind the idealized compositions of Percier and Durand was Boullée's visionary projects.

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The wife of the architect, Mme Brogniart wrote in a letter to her husband that "Boullée, who is for architecture what David is for painting... enlightens you in the matters of painting, gives you a lesson of mathematics, of perspective, and with all the means that his genius bestowed him, gives motion to all."[84] Compared to De Wailly, Peyre, and Gondoin, who also articulated ancient motifs in their works, Boullée appeared to have been the first to combine systematically the rigorous organization of architectural forms with the dramatic effects of picturesque images of ruins and ancient motifs derived from archaeology.[85] Yet, more than a painter-architect like De Wailly, Boullée was a theorist who gave a practical structure for the ancient taste that lacked by the neo-classicists, such as Laugier.[86] In the manuscript of his unpublished *Recueil d'architecture privé*, Boullée implied a harmony between the "*pittoresque*" imagination and the "art of combining masses."[87] Moreover, the evidence provided by his theoretical and professional work leaves no doubt that Boullée inspired Durand's combinations of standard ancient motifs in a method of architectural composition.

The studies of Jean-Marie Pérouse de Montclos and Werner Szambien tend to prove that Durand's work was not a sudden and an isolated phenomenon that appeared during a peculiar time in history. Yet, how Boullée, a student of as diverse schools as those of Blondel, Legeay and Boffrand, initiated the regular organization of masses (*corps*) with a specific method of architectural plan (axial symmetry and modulation) still remains unclear. Yet, it can be said that his research for a design methodology was directly linked to his analysis of the masses and their "effects" on human sensations.[88] Roman images were certainly the primary sources of the ancient motifs that began to

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dominate Boullée's *oeuvre*. There is enough evidence that Boullée, although not having benefited from a Royal pension to visit Italy, was in touch with many students and architects who had stayed there and was extremely industrious and had one of the most theoretical minds of his time. It is claimed that the *"mode antiquisant"* prevailed after the death in 1774 of Jacques-François Blondel, the defender of the moderns against the ancients.[89] Pérouse de Montclos argued that "in 1774, Boullée passes from the camp of Voltaire who admired very much all the French classics, to the camp of Diderot who preferred the ancients and deplored the taste of the "nation [which is] delicate, vaporous, sensitive.' "[90] Also in the 1770s, several designs and buildings changed the Parisian cityscape appeared. In 1765, Peyre's *Oeuvres d'architecture* was published with the impressive but unrealized design of Palace of the Prince de Condé. Peyre's collaboration with De Wailly, the theater of the Comédie Française was under construction through the 1770s (inaugurated in 1782). Gondoin's Ecole de Chirurgie, the "first opportunity given to a *pensionnaire* to materialize his ideas,"[91] was opened in 1775. In the 1780s, Boullée produced the so-called revolutionary projects, among which were the "Métropole" of 1781, the "Muséum" of 1783, and the "Cénotaph de Newton" of 1784.[92] These projects, designed with giant domes and barrel vaults, which are supported and surrounded by extensive colonnades and corridors, and organized in symmetrical schemes dominated by circles and squares, demonstrated the reduction of ancient motifs and their assimilation within a method of composition. While the plans of these designs showed the "art of combining masses," picturesque effects were reserved for the partial perspectives where the techniques of painting were applied, such as showing the main scene from beneath a near by object (a tree, a colonnade), or filling the scene with people and atmospheric

elements. For the picturesque effects, the influence of "Piranesian" painters and painter-architects on Boullée cannot be doubted.[93] Given that Boullée confessed that he imitated Raphael's "School of Athens" (Fig.23) in his design for the "Bibliothèque du roi,"[94] (Fig.24) the paradoxal relationship between the regularity and completeness of his plans and the partial and fantastical character of his perspectives become obvious. The comparison made by Pérouse de Montclos between the "Métropole" (Fig.25) and a painting by Hubert Robert, "Découverte du Laocoon" of 1773 also reveals the inherent conflict.[95] (Fig.26)

Determined to eliminate everything that challenged the priority of architectural plan, Durand intended to solve this conflict by improving the method of composition and sacrificing the techniques of painting, such as partial perspectives and the use of water color. As Szambien pointed out, a series of 168 small drawings made by Durand around 1790, entitled by Antoine Rondelet as *Rudimenta Operis Magni et Disciplinae*, shows that Durand knew Boullée's *Essai sur l'art*.[96] These drawings were partial perspectives of ancient settings of various types; they were a number of fragments that visualized the Boullée-esque "*caractères*," which seem to be driven from the creation of picturesque "effects" by ancient architectonic elements, for which there was already a theoretical attempt in 1780 by Le Camus de Mézières.[97] However, the picturesque quality of the *Rudiments*, which resulted from the juxtaposition of nature and architecture, will disappear in the plates of the *Recueil*, and in the *Précis* the "character" of the ancient motifs will be transformed into an expression of utility and economy, completely denuded of "effects" such as "*les lumières*," and "*les ténèbres*."

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The story of the transformation of architectural ruins into architectural themes and then into elementary motifs was summarized with the help of Oechslin, Pérouse de Montclos and Szambien. However, because the words "theme" and "motif" do not suffice to explain this process in each step, additional terminology is necessary. The word "theme" originally belongs to literature, especially to poetry, from which it made its way into painting, music and theatre; this, too, is the origin of the word "motif," meaning a thing which moves (the intellect), which was also adopted as a term of design, especially ornamentation, in which it invokes "pattern." Wittkower used the word "motif" in the sense of harmonic Renaissance compositions inspired by antiquity. Oechslin used the word "theme" as subject of composition, such as the Roman Forum, and "motif" roughly as a graphic solution of an architectural "theme," which became devoid of the context from which it emerged, such as the "circular motif." In this text "motif" will be used in the same specific sense that Oechslin used as repetition of certain ancient forms or architectonic elements in the plans, sections and elevations. However, although quasi-archaeological works and fantastical drawings have a certain liberty, there is problem in applying ancient motifs to modern design because of the anachronism of the motifs in modern context. Piranesi's license in the reconstructions of Santa-Constanza and the Temple of Venus and Rome allowed him to speculate in the authentic time of the ancient motifs, whereas Edvigt's church in Copenhagen or Neufforge's proposal for a sepulchral church, devoid of the content of the ancient forms used in Renaissance, could not avoid facing the problem of articulating an ancient motif in a modern building. The ancient "motif" in these examples appears like a fragment of an ancient unity, incomplete and somewhat isolated like the ruin, also studied like the reconstruction. In order to comprise

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the inspiration (ruin), the deduction (archaeology) and the application (motif) of an ancient or a historical image, it can be called a "fragment." In fact, the word was frequently used by architects to describe images of partial reconstructions of historical buildings, but its common use has always been the remains of something destroyed.[98] However, although the use in this text of the word "fragment" is related to this common use in architectural vocabulary, it is also different, given that it is used here as a metaphor for application of the ancient or historical motifs in contemporary design. The words "elementary-motif" and "elementary-fragment" will also refer to the ultimate standardization of the fragments, as in the case of Durand, whose work seeks to overcome the problem of anachronism through the standardization of all fragments.

1.3. The Emergence of the Elementary Fragment: 1780 - 1821

1.3.1. Antique Fragments and Composition

With the coming of the French Revolution, the tendency to eradicate the aristocratic elements of society also affected the artistic realm, and architecture, as one of the primary representation of social rank was not immune to this radical societal change. However, the transformation of the theory of architectural design had begun in the mid-eighteenth-century, and the major influence was neither writings nor architects, but images of antiquity. Paradoxically, the very classical Vitruvian doctrine of *decorum* was to be sacrificed even while the architectural production resembled the classical edifices of the ancients. Reproducing primarily the images of the antiquity, neo-classical fragments offered a relative liberty to compose buildings independent of the authentic and historical

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content of the fragments. As a result, the dominant neo-classical appearance of all types

of building started to challenge the conventional notions of "*convenance*," "*bienséance*"

and "*etiquette*."[99] The so-called "international classicism" in architecture created

"autonomy" for (historical) forms, and this autonomy was to appear soon in a new theory

of architectural composition. Originally a term belonging to painting, "composition" was

gradually assimilated into the terminology of architectural design.[100] Traditionally,

composition in architecture referred usually to the graphic work (plan, facade or

decoration), while the words "disposition" and "distribution"- without having a clear

semantic distinction between them - meant design.[101] Although these concepts had

always kept a distance between the graphic medium of design,[102] at the end of the

eighteenth-century composition signified both the process of assembly of architectural

elements and the graphic work that resulted from this process, and it became a general

concept that included disposition and distribution and attached the abstract sense of the

design process tightly to the medium of architectural design, the drawing.[103] The verb "to

compose" gained strength, as architectural design was thought to require a method of

masterly composition of its elements.

The absolute detachment of the term composition from its painterly signification

was parallel to the disappearance of *pittoresque* tendencies in architecture, which, as

mentioned before, was an extension into architecture of concepts from painting. The

autonomy of artistic disciplines was testified to by the appearance of their own

terminology. As the appearance of the word *pittoresque* in the eighteenth-century

indicated painting's freedom from the "yoke of literature,"[104] Jean-Nicolas Durand's

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critique of the use of concepts, such as architectural "effects,"[105] "characters," and the use

of perspective,[106] and his predilection for a "mechanical" method of architectural

composition indicated his belief in the autonomy of architectural concepts from painting

at the end of the same century. At that time, architectural composition was completely

detached from "picturesque effects" such as "sublime character" and so on, and

increasingly attached to graphic solutions. At the Ecole des Beaux-Arts, this was effected

by reducing the number of acceptable classical sources by relating competition projects to

standard ancient themes,[107] and at the Ecole Polytechnique this was done by

standardizing the elements and process of architectural design in a "mechanical"

method.[108] The emergence of the autonomy of architectural design was a process of

elimination, standardization and methodization, which was criticized by Pérez-Gómez as

the decisive step in the invasion of architectural theory by instrumentalist thought.[109]

Autonomy of architectural theory in relation to the theory of architectural forms,

and the development of design methodology, all became visible in the works of Boullée,

supported a specific terminology of architectural design, from which Durand benefited in

terms of clarification of actual terms, such as the priority of "composition," the

elimination of "distribution" for the sake of "disposition,"[110] as well as invention of a

new term, the "entre-axe."[111] The distinct meanings of "disposition" and "distribution"

had always been unclear in French architectural discourse, and Durand wanted to end this

ambiguity. In 1691, D'Aviler used both "disposition" and "distribution" in relation to the

same thing: composition; although he conceived them as two different aspects of design.

While he described "distribution" as the arrangement of the proportion of different parts

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of an edifice "without seeking for a whole composition," he interpreted "disposition" as the "arrangement of the parts of an edifice in relation to the whole."[112] On the contrary, in 1714 Cordemoy underlined that disposition and distribution were the same thing, and that the parts which were to be well "disposed" in an architectural composition were courts, windows, doors, vestibules, salons, apartments, galleries, staircases, etc.[113] On the other hand, in 1757 Neufforge used distribution as a word that squarely meant design, as he talked about "the distribution of buildings for the bourgeois, from three *toises* on the front to twenty-four," and the "distribution of the plan for each floor."[114] Despite confusion of the nuances of meaning, D'Aviler, Cordemoy and Neufforge made it clear that the words "disposition" and "distribution" had a similar purpose in architectural language: the organization and the interrelationship of the parts of a building. Yet, this organization depended on the conventional *"convenance"* and *"bienséance,"* that is, the aptness and propriety in the choice and disposition of the parts, rather than on a compositional process. Although there was not a clear distinction between these two concepts, they depended on a combination of customs (*moeurs*) and academic principles. The material conditions linked customs and principles in architecture, such as the art of construction (*art de bâtir*), on which there was an abundant literature.

The new sense of architectural composition was artificially related to construction. For example, in the *Précis*, no new practical information for construction was offered, and in fact the topic remained somewhat artificial in the text.[115] For Durand, composition was strictly related to drawing (*dessein*), and detached from the conventional relationship between the distribution of parts and construction. This was also testified by

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the replacement of the traditional measurement unit *toise* by the abstract *entr'axe*, which gave no sense of measurement related to human perception and sense of proportion, and was not even comparable to the *metre* (meter) introduced after the Revolution.[116] Even if Durand wanted to institute a practical as opposed to aesthetical design method, his conception of composition with axes neglected architectural design methods that followed practical aspects of construction, such as that of Charles-Étienne Briseux (1728), whose directions about the orientation and distribution of the rooms, the circulation of air and sunlight, etc. were all justified by Vitruvian principles, local customs, as well as by climate, materials, and techniques.[117] Although the parts on construction in Jacques-François Blondel's *Cours d'architecture* (1771-1777) were not written by him, in this work and in the *Architecture françoise* (1752-1756) Blondel presented conventional compositions that were shaped by the customs, principals, and techniques of construction.

All these conventional connections loosened when architectural composition became an end in itself toward the end of the eighteenth-century. The change in the architectural vocabulary was related to this change in the concept of composition of architectural elements that were conventionally shaped together by customs, principals, and techniques. The transformation of the meaning of architectural elements paralleled the standardization of architectural fragments that were typified and stripped of their representative characters - their contents - to serve for various new functions in Durand's method. In this method, architectural elements were redefined as abstract entities independent from the customs, principles and techniques, which conventionally

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determined the assembly of architectural elements. This conventional connection between architectural elements and architectural design changed when the elements became devoid of all signification outside the process of composition. In fact, the meaning of element did not totally change, but was simply transformed into a more limited sense that defined a basic architectural component in a system based on the logic of mechanical assembly.

Although the variety of architectural elements was already an important issue around the mid-eighteenth century, what to do with these elements was not yet an appropriate, but a pending question. For example, Jacques-François de Neufforge's *Recueil élémentaire d'architecture* of 1757 comprised everything from five orders to porticos, façades, fountains, fireplaces, niches, portals, and bridges.[118] Because Neufforge applied almost no systematic order to the great variety of architectural elements, which he presented in eight pamphlets, it is not possible to categorize these elements. Yet, it is evident that he wanted to include every piece and part that can be named and composed in architecture. In this way, Neufforge created a visual architectural vocabulary, which was not provided by the dictionaries of Félibien, D'Aviler, or Cordemoy.[119] Moreover, in Neufforge's *Recueil*, the abundant images of all architectural elements overshadowed the elements of classical orders. It can be argued that this work was one of the first attempts to illustrate a total architectural vocabulary neither from the point of view of construction nor orders, but only and simply from the point of view of graphic composition of elements chosen from a compendium of drawings.

The Academy of Architecture attempted to bring standards to public (royal) building activities as well as to the architectural discourse; the architectural dictionaries emerged from the same desire to improve the "art of building" by controlling all steps of architectural production. Although Neufforge's book was not of this type, and was not concerned with a standard vocabulary of architectural terms, through the power of its drawings it contributed to standardization. To give an example, André Félibien was concerned with the technical language of architecture, and he explained in his *Des principes de l'architecture* of 1676 that he undertook a dictionary of terms for the architects and craftsmen to end the inefficiency of having various names for the same thing. However, Félibien illustrated only the tools whose names he wanted to specify.[120] On the other hand, Neufforge, dealing simply with drawings, was not at all interested in expressing himself with words. Like many of his colleagues in the mid-eighteenth-century, Neufforge was definitely interested in the language of forms, figures, and patterns taken from either historical or contemporary examples. Neufforge's plates were about a different type of standardization than that of the vocabulary: standardization of architectural fragments through images. This type of standardization was essential for modern architectural element, as a standard component of technical drawings: plans, elevations and sections. As will be seen, the modern element will be deduced from fragments – standard architectural motifs barrowed from either fantastic drawings, or architectural and archaeological plates.

Parallel to the increasing role played by drawings in architecture in the second half of the eighteenth-century was the relationship between antique forms and

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architectural theory. Marc-Antoine Laugier's *Essai sur l'architecture* of 1757 and Ribart de Chamoust's *L'Ordre françois trouvé dans la nature* of 1761 were two examples of the practical interpretation of architectural elements, which were supposed by both authors to originate from the type of the "primitive hut." In these essays, both the search for historical justifications of formal compositions and the practical aspects of architectural design provoked speculations about architectural elements. The new conception of architectural element emerged from the tension between the trans-historical principles of architecture (the primitive hut) and the idea of the historical evolution of contemporary architecture. In this respect, Laugier's polemical work, a critique of contemporary practice from the point of view of the trans-historical elements of the primitive hut, can be regarded as an "elementary" approach to architectural design, for it assumed universal and trans-historical principles for architectural elements. On the other hand, Leroy's history of the evolution of the "Christian temple" (1764) showed that architectural typologies were more relative and less abstract than architectural elements, that the transformation of the former in history depended on combinations of the latter. Similar consideration of architectural elements can be seen in Leroy's *Les Ruines des plus beaux monuments de la Grèce* of 1758, and especially in his response to Stuart in the preface for the second edition of this book. Stuart had criticized him for not having exact measurements of the monuments of Athenian Acropolis, and in answer, Leroy stated that he did not go to Greece "simply to examine the relationship between buildings and between their parts with the measure of our foot," but that he "measured the monuments of Greece... to learn the principles of these relationships, which are described by

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Vitruvius, in order to compare them with the buildings of people who preceded or followed the Greeks in the knowledge of the arts."[121]

Leroy's belief in the historical evolution of classical architecture was not shared by Jacques-Guillaume Legrand whose *L'Histoire générale de l'architecture* (1799) was completely devoid of this notion, just like the plates of Durand's *Recueil et parallèle* that it accompanied.[122] Legrand and Durand seemed to have no concern for the evolution or transformation of architectural typologies, as they simply looked at the combination of elements. They recovered and reconstituted trans-historical patterns from antiquity by attributing universal values to the principles of their compositions, which they believed to be basic geometrical units, such as the square and circle. Durand's combinations of squares and circles are known from the *Précis des leçons d'architecture* (1802),[123] especially plate 20 of volume I, the "*ensembles d'édifices.*" (Fig. 27) Less known is that Legrand applied the same method in his reductive analysis of history of architecture, where he claimed that Roman architecture was made of geometrical patterns:

> The Romans often attached a shorter rectangular portico to the higher circular mass of their temples, like in the Pantheon and the Temple of Jupiter at Spalato... This is the beginning of the assembly of different forms that we see mixed in other buildings to serve architects as a new way of making variety in their compositions... It is in the combination of these two simple forms, square and circle... that the motif of their plans or facades can be found.[124]

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1.3.2. Elementary-Fragments in J.-N.-L. Durand's Method of Composition

The same belief in the trans-historical value of the antique motifs can be seen in Gondoin's reference to the arcaded educational buildings of antiquity, which he used for the justification of his Ecole de Chirurgie; but Gondoin was still a romantic, interested in the ruin and ruination.[125] (Fig.28) It can be said that in the case of Durand and Legrand, the compression of time between the past and now was not due to a romantic involvement with the past, but to a pragmatic approach to history that aimed at deducing the elements and principles of the architecture of an idealized past, which can also be found in the archaeological reconstructions of *pensionnaires* of the French Academy in Rome.[126] Through the abstraction of classical elements and through the total elimination of the historical context of these elements, Legrand reduced the building configurations of the antiquity into "motifs" while Durand reduced these popular motifs - fragments - into standard "parts" (*pièces*).

Like Neufforge, Durand derived his fragments from historical and contemporary examples, and stripped them of both their temporal context and their source of quotation by means of simplification, that is, by turning them into "parts." The appropriate reference of a part is no longer historical, but geometrical, which was given in plate 20 of volume I of the *Précis*. The difference between a fragment and a part, then, is that while the fragment is still meaningful in its incomplete state and has a relationship with the imaginary, a part is meaningless outside the composition, for it is merely a graphic solution. Durand's method can be considered both deductive and inductive, because he de-composed fragments to find their geometrical patterns and constitutive elements, and

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re-composed them into "parts," which can now be called "elementary-fragments."

Neufforge's fragments were replaced by Roman fragments by the *pensionnaires* like De

Wailly and Peyre.[127] These fragments were adopted and abstracted by Boullée, and

assimilated into standard units by Durand.[128] Gondoin's anatomy hall of the Ecole de

Chirurgie was composed of two Roman fragments: the hemicycle and the semi-dome.

Works from Boullée's studio and the projects made for the Year II competitions show

how this new motif, or fragment, became a typology for assembly spaces, and ended up

in the *Précis des leçons* as one of the "central parts."[129] This elementary-fragment can be

seen at various scales in the student projects of the Ecole des Beaux-Arts until the end of

the nineteenth-century.

The transformation of the conception of architectural elements from Neufforge to

Durand revealed also the transformation of architectural design into methodical

composition. Werner Szambien questioned the origins of the basic notions of Durand's

theory of architectural composition, and concluded that Boullée's work had the main

characteristics of Durand's method of composition, such as elementary reduction and the

"inter-axe" (*entr'axe*).[130] The text of Boullée's unpublished *Recueil d'architecture privée*

referred to drawings that do not exist today, and questioning these missing drawings,

Szambien studied several drawings made in the studio of Boullée and found in the

Biberach collection. He discovered that in these drawings, which could have been some

of the models for the missing drawings of the *Recueil*, the use of a modular measure

(either in *toise* or foot), axial symmetry and graphic reduction were already present.

(Fig.29) Szambien claimed that the missing drawings could only have been inherited by

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Durand, who used their underlying principles in his teaching at the Ecole Polytechnique and in the *Précis des leçons d'architecture*.[131] (Fig. 30) However, Durand kept on working on graphic reduction of the fragments until when all the elements of the *rudiments* were completely abstracted:

> By 1821, the treatment of the "elements" and "parts" becomes more and more perfunctory: the galleries are assimilated into rooms, the staircases are given numbers and the belvederes are omitted, etc. Also the regulating or quantitative units increasingly dominate architectural knowledge. The module, the intercolumniation or the "inter-axe" take a form which, deprived gradually of all "styles," cedes it place to formulas.[132]

Szambien assumed that Louis-Ambroise Dubut may also have seen Boullée's drawings, and may have used them in his own *Maisons de ville et de campagne de toutes formes et de tous genres* of 1803. Yet, it was Durand who, as the professor of architecture at the new founded Ecole Polytechnique, completed what was started by Boullée, establishing a methodological framework for the reductive design theory, related to the Enlightenment thought and in the spirit of the French Revolution, and attached to the key word "composition."[133] "The term composition," stated Antoine Picon, "as used in the *Précis*, is less a reference to painting than to the analytical method, the set of procedures that makes it possible to decompose objects and to set out their component parts in the "order in which generation becomes easy.' "[134] As Picon showed, there is a strong affinity between this analytical method and the teachings of Locke, Condillac, and Condorcet.

The primary source of the methodology of the *Précis* seems to be the influential thinker Abbé de Condillac, whose books were owned by Durand. Both the structure and

the organization of Durand's text agreed with Condillac's theory of human understanding: it was so precise as to leave no place for ambiguities or equivocal interpretations, and it was centered on the "elements" and "parts" of buildings, which were subjected to certain processes, such as "disposition", "combination," and "composition." Moreover, the architectural composition as taught in the *Précis* developed from the "simplest to the most complex," just as Condillac argued for the mechanisms of human understanding, like the elements of language. In his *Essai sur l'origine des connaissances humaines* (1746), which was inspired by Locke's *Essay Concerning Human Understanding* (1690), Condillac mentioned "composition" and "decomposition" as two actions with which our minds "make up a single notion or subtract from a notion some of the ideas that compose it."[135] Analysis of the connection of ideas was essential to Condillac's theory, because, as he claimed, it prepared us "to form a more exact idea of the understanding." Boullée referred to the same text of Condillac which he owned, while calling the reader to listen to a modern philosopher: "All our ideas, all our perceptions, he says, only come from the exterior objects. The exterior objects make different impressions on us according to their level of analogy with our own organization."[136]

In the seventeenth and eighteenth centuries, the analyses of various phenomena were commonly sought through reduction of the object of analysis into its "elements." The word was used in the fields of science and humanities as a motto like the word "fragment" in the arts, to emphasize that what was at stake was the basics of knowledge of something, reduced to a set of components for its dissemination and re-application, such as *Elémens de botanique* of Joseph Pitton de Tournefort (1694), *Eléments de la*

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philosophie de Newton of Voltaire (1737), *Elémens de chimie* of Herman Boerhaave

(1754), or *Elémens d'une typographie qui réduit au tiers celle en usage* of Adrien Pront

(1794).[137] Also in the *Encyclopédie*, as Kevin Harrington underscored, "Diderot was

attempting to determine the fundamental principals of human knowledge and

understanding by reducing various activities to their most basic elements".[138]

Durand's textbook brought scientific rigour to an architectural treatise in a

revolutionary France that no longer tolerated aristocratic institutions or the architectural

discourse of the *ancien regime*. Durand also applied a specific terminology that implied a

predilection for the practical aspects of architecture, such as economy and utility. His

abstract vocabulary underlined the instrumental logic applied to architectural design, such

as "*combinaisons*," "*assemblages*" and "*formation*" of "*éléments*" and "*parties*," as well

as "*mécanisme de la composition*", "*marche à suivre*," "*formules graphiques*,"

"*applications de la formule précédente*," etc.[139]

The analysis of the components of an architectural ensemble was akin to

archaeological research. In fact, Durand's theory must have been inspired directly from

the archaeological studies of the eighteenth-century, which aimed at reconstructing the

missing unity by studying the real fragments as well as the principals of classical

composition. The *envois* of the French *pensionnaires* in the nineteenth century show that

the process of architectural composition was at work in the reconstructions of ancient

Roman buildings. Given that these architects were all the laureates of the *Grand Prix* of

the Academy and the students of the Ecole des Beaux-Arts, it can be argued that the

method of elementary composition must have been known at the Ecole. In fact, many

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competition projects of the Ecole prove that the production of a *parti* was more or less similar to that of a *composition* at the Ecole Polytechnique, where the architectural plan was dominated by axial symmetry and the combinations of elementary-fragments.

Yet, growing opposition to the rigid classicism of the Ecole des Beaux-Arts and the Academy was soon to bring changes to the discourse of architectural design. The so-called Romantic-rationalist architects of the 1830s and 1840s, such as Labrouste, Duc, Duban, and Vaudoyer, sought a different interpretation of architectural history and theory. Although these architects dealt with historical fragments in their works, they also tried to be inventive: by applying methods of de-composition and re-composition, they tried to initiate progressive architecture by means of new combinations of ancient and local elements. The elements of architectural patrimony were thus discovered and used in new architectural compositions as the history of architecture was increasingly seen as eclectic, as a variety of compositions of architectural elements.

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Notes to Chapter 1

[1] Vitruvius, *Ten Books on Architecture*, trans. D. Rowland, (Cambridge: Cambridge University Press, 1999), 1. 1 and 1. 2.

[2] Leon Battista Alberti, *On the Art of Building in Ten Books*, trans. J. Rykwert and R. Tavernor, (Cambridge, Mass.: MIT Press, 1988), 1, p. 7.

[3] For the implication of the opposition between nature and artifact inherent in use of the word *lineamenta* (*lineamenta/materia*), see Rykwert's definition of the word in the Glossary, Leon Battista Alberti, pp. 422-423.

[4] Johann Joachim Winckelmann, *Remarques sur l'architecture des anciennes*, (Paris: Barrois l'aîné, 1783), pp. 56-57.

[5] "J'ai considéré les monuments... sous deux points de vue différents, qui forment la division naturelle de cet ouvrage en deux parties; dans la première, j'envisage ces monuments du coté Historique; dans la second, du coté de l'Architecture." Julien David Le Roy, *Les Ruines des plus beaux monuments de la Grèce considéréea du côté de l'histoire et du côté de l'architecture*, (Paris, 1758), 1, p. vii.

[6] Alina Alexandra Payne, *The Architectural Treatise in the Italian Renaissance: Architectural Invention, Ornament, and Literary Culture*, (Cambridge: Cambridge University Press, 1999), p. 25.

[7] Payne, 91.

[8] Joseph Rykwert saw the lack of metaphor as an essential defect of neo-classical architecture, especially that which would be promoted by Durand around 1800. See, *The Dancing Column*, (Cambridge, Mass.: MIT Press, 1996), pp. 13-14.

[9] As Payne pointed out, in the chapter 9 of the book 1 of *De Re Aedificatoria*, Alberti explained unity and coherence through Horace's metaphor of the monster. Payne, *The Architectural Treatise in the Italian Renaissance...*, p. 81. One can also easily find in Alberti's text a social value in the composition of buildings towards creating agreeable settings for the possible plots, such as "...where young men who are waiting for the elders to return from conversation with the prince may practice at jumping, playing ball, throwing quoits, and wrestling...;" or "... where clients can await the chance to discuss business with their patrons, and where the prince may sit on the tribunal and give judgment." *On the Art of Building in Ten Books*, 5. 3, p. 121.

[10] Joseph Rykwert, *The Dancing Column*, p. 374.

[11] According to Tavernor, his mistress. Sigismondo's second wife was still alive when Isotta, his future and third wife, was given the "privilege of internment in the family church." Robert Tavernor, *On Alberti and the Art of Building*, (New Haven: Yale University Press, 1998), p. 57.

[12] According to Robert Tavernor, the model for the facade was the nearby Roman monument, the Arc of Augustus, built *c.* 27 B.C. *On Alberti and the Art of Building*, p. 52.

[13] Rudolf Wittkower, *Architectural Principles in the Age of Humanism*, (London: The Warburg Institute, 1949), p. 33.

[14] On a detailed account of the symbolism of circle in architecture see, Louis Hautecoeur, *Mystique et Architecture: symbolisme du cercle et de la coupole*, (Paris: Picard, 1954).

[15] Rudolf Wittkower, *Architectural Principles in the Age of Humanism*, p. 46. However, Tavernor's account of the entablature is different and about an accidental situation: "a window was cut into the facade to light the upper room, and this involved the removal of the central portion of the entablature. To complete the ornament of the facade the broken entablature was provided with 'visual supports' in the

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form of pilasters which were constructed either side of the central door and at both ends of the facade, and an arch was built to span and connect the two halves of the entablature." *On Alberti and the Art of Building*, p. 140.

Tavernor did not explain who was responsible for the opening of the window, nor did he comment on Wittkower's theory. If the opening was made by the locals, for example by the local architect Antonio Lobacco , this means that he acted very freely at such an important issue, although, as Tavernor stated, he asked for explanation from Alberti in every matter that was not clear to him. If it Alberti did it himself, at such an advanced state of construction it would be a radical change for someone like Alberti, who, again as Tavernor stated, believed and recommended that one should not start building before the project was thoroughly imagined. Therefore, one tends to believe in Wittkower's thesis that the facade was conceived with a broken entablature from the beginning.

[16] Rudolf Wittkower, *Architectural Principles in the Age of Humanism*, p. 18. Knowing Alberti's thesis of proportions in both architecture and music, Wittkower underlined that the ratio of 1:2 was an octave. Tavernor's account of the proportions is conflicting with that of Wittkower (he gave a ratio of 6:10 applied in Mantuan *braccia*), although he wanted to show the role of "harmonic proportions" in the work of Alberti. *On Alberti and the Art of Building*, p. 145. Wittkower (p. 44) also stated that, as in Santa Maria Novella, the height of San Sebastiano, "from the level of entrance to the apex of the pediment," was equal to its width (1:1). In short, Wittkower found a "geometric motif" in both plan and facade of Alberti, which was a square. It has to be stated that Wittkower was always skeptical of the built work, as he knew that Alberti was almost never present during the construction, whereas Tavernor published his research on the buildings of Alberti after meticulous measurements.

[17] Tavernor gave possible influences on Alberti's central plan, such as the two Mantuan churches of Santo Sepolcro (demolished), and San Lorenzo; Santo Stefano Rotondo in Rome; Brunelleschi's Oratory of Santa Maria Degli Angeli in Florence. *On Alberti and the Art of Building*, pp. 143-145.

[18] Wittkower, *op. cit.*, pp. 39-40.

[19] Tavernor, *op. cit.*, p. 103.

[20] Wittkower, *op. cit.*, p. 47. The Basilica of Constantine is called today the Basilica of Maxentius, which was built by the Emperor Maxentius between 307 and 310, but finished under Constantine I the Great after 312.

[21] Jean Castex, *Renaissance, Baroque, et Classicisme*, (Paris: Hazan, 1990), p. 69.

[22] Roy Eriksen, *The Building in the Text: Alberti to Shakespeare and Milton*, (University Park: The Pennsylvania State University Press, 2001), p. 53.

[23] Christine Smith, *Architecture in the Culture of Early Humanism: Ethics, Aesthetics, and Eloquence, 1400-1470*, (New York: Oxford University Press, 1992), p. 85, Quoted by Roy Eriksen, *op cit.*, p. 58.

[24] Tavernor, *op. cit.*, p. 178.

[25] Tavernor compared the amount of bricks projected for the construction of the church with the possible number of bricks that exist in the Latin-cross-shaped church, and speculated that "it would seem most likely, therefore, that Alberti's design for Sant'Andrea resembled the model of the 'Etruscan Shrine' characterised by the Basilica of Maxentius." *Op. cit.*, p. 165.

[26] Krautheimer supported the idea that Alberti had in mind the Basilica of Maxentius, known to him as the *Templum Latonae*, when he imagined the description of the *Templum Etruscum* by Vitruvius: "Good humanist that he was, he always approached antiquity first through its writings. The ancient authors were his guides to that lost world from which he wanted to resuscitate the brave new times. For the architecture of the ancients Vitruvius was his principal interpreter. But as he complained, many passages in

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De Architectura were obscure." Ironically, as Krautheimer stated, Alberti thought that adapting the basilica plan (a secular building) for a church was a historical mistake. Following Vitruvius who said that the Etruscan Temple was a vaulted structure, but by misinterpreting the obscure passage on the plan of the temple, and finally by confusing the basilica with a temple (or, as Krautheimer suggested, with a mausoleum), Alberti came up with the idea of a Tuscan Shrine, which he proposed to Lodovico Gonzaga for Sant'Andrea of Mantua. Richard Krautheimer, "Alberti's Templum Etruscum," in *Early Christian, Medieval, and Renaissance Art*, (London: University of London Press, 1969), pp. 333-344.

[27] Tavernor, *op. cit.*, p. 175.

[28] Tavernor, *op. cit.*, pp. 159-175.

[29] Wittkower, *op. cit.*, p. 49.

[30] "... let lineaments be the precise and correct outline, conceived in the mind, made up of lines and angles, and perfected in the learned intellect and imagination." Alberti, *op. cit.*, 1. 1, p. 7.

[31] Alberti, *op. cit.*, 1. 2, p. 8.

[32] Alberti, *op. cit.*, 6. 5, p. 163.

[33] Wittkower, *op. cit.*, p. 58.

[34] Payne, *op. cit.*, p. 22.

[35] *Ibid.*, p. 22.

[36] Wittkower, *op. cit.*, p. 56.

[37] Payne, *op. cit.*, p. 23.

[38] Wittkower, *op. cit.*, p. 62.

[39] *Ibid.*, p. 66.

[40] Colin Rowe, "The Mathematics of the Ideal Villa," in The Mathematics of the Ideal Villa and Other Essays, (Cambridge, Mass.: The MIT Press, 1976), pp. 1-28. Looking at the facade of the Villa Malcontenta, Rowe claimed that it was "adulterated" by necessity. See pp. 9 *ff*.

[41] Wittkower stated that in his book on Roman antiquities, Palladio "not only used the works of the modern roman antiquarians, Biondo, Fulvio, Fauno, and Marliani, but also classical authors, Dionsyius of Halicarnassus, Livy, Pliny, Plutarch, Appianus Alessandrinus, Valerius Maximus and Eutropius." *Op. cit.*, p. 56.

[42] Wittkower's interpretation of the facade is worth quoting in length: "The treatment of the ground-floor is extremely complicated, for the small Corinthian order is not applied to a proper wall... The strips at the sides of the windows have been treated to look like Tuscan pilasters with their own capitals, and this results in the impression of a third minute order; the relationship of the giant composite order to the small Corinthian order is repeated in the relationship of the Corinthian to the Tuscan pilasters... in all this, one would be inclined to believe, Palladio was going his own way, without regard to ancient models. But even for this building he reverted to classical antiquity, and found there, surprisingly enough, his justification for the extremely complicated interplay of wall and order." *Op. cit.*, p. 76.

[43] Payne, *op. cit.*, p. 180.

[44] Andrea Palladio, *Quattro Libri*, p. 68. Quoted by Payne, *op. cit.*, p. 178.

[45] Payne, *op. cit.*, p. 180.

[46] Wittkower, *op. cit.*, pp. 131-133.

[47] Emil Kaufmann, *Architecture in the Age of Reason: Baroque and Post-Baroque in England, Italy, and France*, (New York: Dover Publications, 1995), pp. 89 *ff.* See also Edgar Kaufmann, Jr., "Memmo's Lodoli," *Art Bulletin*, XLVI (1964), 159-175.

[48] Emil Kaufmann, *op. cit.*, p. 89.

[49] Marianne Roland-Michel used this expression in the same sense as the Freudian notion "*unheimliche*," with which she wanted to express the "breath of a scary unreality, even anxiety... issuing partially from the play of scales and the disproportion between the imperceptible persons and the bulky masses of architecture": "On perçoit dans ces peintures – et, à un degré moindre, dans les dessins que leur sont liés – l'impression qualifiée par Freud d'inquiétant étrangeté (unheimliche): un souffle d'irréalité effrayante, voire d'angoisse, y passé, issu en partie du jeu des échelles et de la disproportion entre les imperceptibles personnages et les volumineuses architectures. Les premiers sont réduits à de minuscules silhouettes, parfois groupées processionnellement, déambulant sans raison apparente ou selon une logique qui nous échappe. Les seconds écrasent par leurs proportions inhumaines." "De l'illusion à l'inquiétante étrangeté": quelques remarques sur l'évolution du sentiment et de la représentation de la ruine chez des artistes français à partir de 1730," in Georges Brunel (ed.), *Piranèse et les Français*, (Rome: Académie de France à Rome, 1978), p. 484.

[50] Gilbert Erouart stated that there was a certain duality in the manner in which Legeay treated the archaeological vestiges in his depiction of the ruins and the world which surrounded them. Legeay was not interested in the testimony of history, but following Panini and Natali in creating homogenous scenes on graphic level, he reconstructed a decor rather than reality, "an image resembling the past." *L'architecture au pinceau: Jean-Laurent Legeay: Un Piranésien Français dans l'Europe des Lumières*, (Paris: Electa-Moniteur, 1982), p. 170.

[51] Marianne Roland-Michel, *op. cit.*, p. 476.

[52] Rudolf Wittkower, "Piranesi's "Parere su l'architettura," *Journal of the Warburg Institute*, II (1938-1939), 156.

[53] "De l'illusion à l'inquiétante étrangeté," pp. 476-477. Roland Michel underlined the scenographic aspects of Piranesi's works.

[54] "Cours d'Architecture de Blondel... qui est pour lui l'occasion de réduire en principes le plus grande partie des règles que les Mansart ont mises en pratique dans leurs édifices". *Epître dédicatoire* of the *Cours d'architecture*. Quoted by Jean-Marie Pérouse de Montclos, "Piranèse, les français et le classicisme international," Georges Brunel (ed.), *Piranèse et les Français,*(Rome: Academie de France à Rome, 1978), p. 420. Pérouse de Montclos also stated that Marie-Joseph Peyre proposed using the principles of the architecture of the Greeks and Romans, which would serve to fight against the so-called French architecture in France, built in the manner of the Mansards as proposed in the lessons of Blondel. *Ibid.*, p. 421. On the other hand, Emil Kaufmann defended the idea that despite his Baroque orientation, Blondel's writings, which were concentrated on the principles of assembly of the building components, helped the development of the Revolutionary architecture. See, "Three Revolutionary Architects: Boullée, Ledoux, and Lequeu," *Transactions of the American Philosophical Society*, XLII (1952), 436 *ff.*

[55] Werner Oechslin, "Le Group des "Piranésiens" Français (1740-1750): Un Renouveau Artistique dans la Culture Romaine," in Georges Brunel (ed.), *Piranèse et les Français*, (Rome: Academie de France à Rome, 1978), p. 367, and 374.

[56] "Le Group des "Piranésiens" Français," pp. 370-371.

[57] Festival of the *Chinea* was a Roman tradition from the times of Normand rulers, organized during the offering of tributes to the Pope. See John E. Moore, "Prints, Salami, and Cheese: Savoring the Roman Festival of the *Chinea*," *Art Bulletin*, December 1995. Like many historians, McCormick points out the importance of this festival on the architectural developments during the 1740s: "During the 1740s, a

group of progressive French architectural students, bored by the rigid programs of the academy, devoted most of their time and energy to festival designs and architectural fantasies. Many of these were made for the Academy masquerade, the year's great event, which was part of the Roman carnival. It was these fantastic designs by young architects such as Charles Michel-Ange Challe (1718-78), Louis-Joseph Le Lorrain (1715-1759), and perhaps Jean Laurent Le Geay (1710-1786), which not only set the stage, but represented in part the beginnings of the Neo-Classical style." Thomas Julian McCormick, *Charles-Louis Clérisseau and the Genesis of Neo-Classicism*, (Cambridge, Mass.: MIT Press, 1990), p. 2. Le Lorrain designed his first *macchina* for Don Fabrizio Colonna 1744. He also designed other *macchine* for the *Chineas* of 1745, 1746, and 1747. See Joseph Rykwert, *The First Moderns: The Architects of the Eighteenth Century*, (Cambridge, Mass.: MIT Press, 1980), pp. 357 *ff.*

[58] "Nous pouvons rappeler à ce propos le cas exemplaire de Servandoni qui, avec un brio particulier, passe de l'architecture à la décoration et ne se refuse point à peindre des paysages dans le style de Salvator Rosa." "Le Group des "Piranésiens" Français," p. 371.

[59] *Ibid.*, p. 378. The word "rendering" is in English in the text and alludes to the American Beaux-Arts movement in the beginning of the twentieth century.

[60] Roland-Michel, p. 481.

[61] Piranesi's first important publication, *Prima Parte d'Architettura e Prospettive* came out in 1743 and had significant impact on the architectural taste of the time. It was followed by *Carceri* (1745), *Antichità Romane* (1756), *Magnificenza e d'Architettura dei Romani* (1761), *Campo Marzio* (1762), and *Antichità d'Albano* (1764).

[62] Roland-Michel, pp. 480-482.

[63] Jean-Marie Pérouse de Montclos, *Etienne-Louis Boullée*, (Paris: Flammarion, 1994), p. 16.

[64] See Gilbert Erouart, *L'architecture au pinceau: Jean-Laurent Legeay: Un Piranésien Français dans l'Europe des Lumières*, (Paris: Electa Moniteur, 1982); and Thomas Julian McCormick, *Charles-Louis Clérisseau and the Genesis of Neo-Classicism*, (Cambridge, Mass.: MIT Press, 1990).

[65] On this, see also his "L'Intérêt archéologique et l'expérience architecturale avant et après Piranèse," in Georges Brunel, ed., *Piranèse et les Français*, pp. 395-418.

[66] "Le Group des "Piranésiens" Français," pp. 379-383.

[67] Referring to W. Sypher, *Rococo to Cubism in Art and Literature* (1960), Munsters stated that the taste for the peculiar in the first half of the eighteenth century "found its best expression in the unreal compositions baptized as the "piece of caprice" or "piece of fantasy" and edited in the format of pamphlets of ornaments." The irregular line was adopted by Nicolas Pineau and Watteau in several drawings and arabesques, but it became the style of the work of Meissonnier. *La poétique du pittoresque en France de 1700 à 1830*, (Genève: Librairie Droz, 1991), p. 40.

[68] "Fontaines, des Cascades, des Ruines, des Rocailles, et Coquillages, des morceaux d'Architecture qui font des effets bizarres, singuliers et pittoresques, par leur formes piquantes et extraordinaires, dont souvent aucune partie ne répond à l'autre, sans que le sujet en paroisse moins riche et moins agréable." Meissonnier's themes were entitled *"un morceau de caprice," "un morceau de fantasie." Mercure de France*, Mars 1734. Quoted by Wil Munsters, *op. cit.*, p. 41.

[69] Wil Munsters, *op. cit.*, p. 46. Munsters refered to J. M. Morel, *Théorie des Jardins* (1776), for the information on how English gardens gained priority over French gardens. This happened with the help of the enthusiastic accounts of travelers like Abbé Leblanc, Madame Roland and Delaborde, the translations of English theorists like Whately and Walpole, the treatises published by Watelet and Girardin, and also the long series of Anglo-Chinese gardens published by Le Rouge in 1776. See p. 49.

[70] *Ibid.*, p. 47. Victor Delcroix claimed that since the death of Rosa's sister Stella because of the poverty of the family, "a somber sadness was seen in his paintings. He enjoyed painting wild sites, deep gorges, and devastating torrents. His brush overcame greatest difficulties, and his large and spiritual touch expressed the desolation that filled his heart." (Des lors on remarqua dans les tableaux de Salvator une sombre tristesse. Il se plut à représenter des sites sauvages, des gorges profondes, des torrents dévastateurs. Son pinceau se jouait des plus grandes difficultés, et sa touche large et spirituelle exprimait à merveille la désolation dont son âme était remplie.) Victor Delcroix, *Salvator Rosa*, (Rouen: Mégard et Cᵉ, 1883), p. 52. Delcroix also states that Rosa painted all those figures that gave his paintings "*un caractère grandiose ou terrible.*" See p. 62.

[71] There were serious attacks at Rococo design at this time in Italy and France. In France, the "*classicisme souriante*" (smiling classicism) was found "frivolous" (*léger*), and of bad taste (*mauvais goût*). See Philippe Madec, *Boullée*, (Paris: F. Hazan, 1986), p. 11. Pérouse de Montclos interpreted the "silence of the biographers" about Boffrand as a censure resulted from the Classicist reaction against the master of the Rococo. Jean-Marie Pérouse de Montclos, *op. cit.*, p. 17. On the other hand, J.-F. Blondel was against both "Meissonnier's frivolity and Delafosse's heaviness," the former being the representative of Rococo and the latter the "revolutionary architecture": "l'un est d'une frivolite choquante, l'autre d'une pesanteur assommante." *L'homme du monde éclairé par les arts* (Amsterdam, 1774), II, p. 48. Quoted by Emil Kaufmann, "Three Revolutionary Architects," p. 446. See also Wolfgang Herrmann, *Laugier and Eighteenth Century French Theory*, (London, A. Zwemmer, 1962), pp. 53 *ff.*

[72] It is interesting to note that depending on her research on French collections of Piranesi's drawings, Madeleine Barbin claimed that Piranesi was appreciated at this time in France as an archaeologist rather than as an original artist. "Les Collectionneurs de Piranèse en France au XVIIIe siècle d'après les catalogues de vente et les inventaires," in G. Brunel (ed.), *Piranèse et les Français*, p. 46.

[73] According to McCormick, *op. cit.*, Piranesi was the most important influence on Clérisseau.

[74] Gilbert Erouart, *op. cit.*, p. 176.

[75] Gondoin was delighted by imagining his building ruined in the future. When he submitted his drawings of the Ecole de Chirurgie to the Academy in 1780, he proclaimed that "this building would make an epoch in architecture and describe with distinction its state around the end of the eighteenth century." Louis Hautecoeur, *Histoire de l'architecture classique en France*, (Paris: Picard, 1952), IV, 246.

[76] Oechslin, "L'Intérêt archéologique...," p. 397.

[77] *Ibid.*, pp. 397-398.

[78] Desgodets was simply interested in "very exact" measurements, although his measurements and reconstructions were not too trustable. He gave a simple introduction for the history of each edifice, then described the dimensions of its parts, and finally demonstrated the mistakes that the authorities in this field had committed in their publications, such as Palladio, Serlio, and Chambray. With this publication, Desgodets appeared to be the latest authority in this field. Antoine Desgodets, *Les édifices antiques de Rome, dessinés et mésurés très exactement* (Paris: J.-B. Coignard, 1682).

[79] Oechslin, "L'Intérêt archéologique...," p. 398.

[80] Erouart claimed that "Legeay's part in the conception and realization of the Saint Hedwige is nevertheless modest." Erouart pointed out G.-W. von Knobelsdorff and J. Boumann as the primary influences of its design. *Op. cit.*, p. 107.

[81] Oechslin, "L'Intérêt archéologique...," p. 406.

[82] *Ibid.*, p. 409. Durand's plate, entitled "*Ancien capitole,*" is one of the plans that appear in the plate 16 entitled "*divers édifices publics, d'après le champ de mars de Piranèse.*" This plate is also the source of the plate 26 of the *Partie Graphique* of the *Précis* (1821), as one of the examples given to

"ensemble formé par la combinaison de plusieurs édifices." For the sources of the plates of Durand, see Werner Szambien, *J.-N.-L. Durand: de l'imitation à la norme*, (Paris: Picard, 1984), appendix H, and J.

[83] Oechslin, "L'Intérêt archéologique...," p. 409.

[84] "Boullée, qu'il était pour architecture ce qu'était David pour la peinture,... vous éclaire sur la manière de peindre, vous donne une leçon de mathématique, de perspective et, par tous les moyens que son génie lui découvre, donne du mouvement à tout..." Jean-Marie Pérouse de Montclos, *Etienne-Louis Boullée*, p. 113.

[85] Kaufmann's claim that in Boullée's work, "the touch of Romanticism results chiefly from graphic treatment," and that "the architectural form itself is not meant to express any mood, and is free from shallow symbolism," is surprisingly wrong. It was Durand who would produce neutral graphic compositions with his notorious "combinations." "Three Revolutionary Architects," p. 469.

[86] Charles De Wailly was a member of both the *Académie d'Architecture* and the *Académie de Peinture*. Boullée was detached by his father from his painting apprenticeship and forced to follow a carrier of architecture like his father. Emil Kauffman stated that Boullée "regretted even to his old age, that he had to abandon his original vocation." "Three Revolutionary Architects," p. 454. His manuscript of the *Essai sur l'art* started with an epigraph quoted from Correggio, "and me too, I am a painter!" who had been reported to say it the first time he saw a painting by Raphael. See Philippe Madec, *Boullée*, p. 126. The phrase appeared in Latin: *"Ed io anche son pittore."* See J.-M. Pérouse de Montclos, Etienne-Louis *Boullée,"* p. 45. Boullée repeated the same expression in French (*"et moi aussi, je suis peintre"*) in the text (folio 74), where he compared the liberty of the painters and sculptors with restrictions of architecture. Etienne-Louis Boullée, "Essai sur l'Art," in J.-M. Pérouse de Montclos, *Boullée: l'architecte visionnaire et néoclassique*, (Paris: Hermann, 1993), p. 51.

[87] "On ne doit pas s'attendre à trouver des conceptions très châtiées; ce sont, comme je l'ai annonce ci-dessus, des jeux d'esprit et d'imagination, surtout dans la partie pittoresque qui semble autoriser les licences dont j'ai cru devoir faire usage quelquefois. Si donc, dans ce qui compose cette suite, on y trouve ce qu'on dénomme du style, que l'on aperçoive l'art de combiner les masses, un peu d'imagination et quelquefois du caractère, elle ne sera pas inutile." Etienne-Louis Boullée, "Projet de recueil d'architecture privée," in J.-M. Pérouse de Montclos, *Boullée: l'architecte visionnaire et néoclassique*, (Paris: Hermann, 1993), p. 24.

[88] About Boullée's reference to Lucretius, Pérouse de Montclos claimed that Boullée's theory of bodies (*corps*) seemed to be inspired by his book, *De natura rerum*. "Essai sur l'Art," p. 50, note 15.

[89] One year before his death, Blondel wrote in the Cours that instead of imitating the antiquity, the students should rather study "the means which the Lescots, Mansarts and Perraults applied to produce our masterpieces. What is really the necessity of crossing the sees to discover the efforts of [some] people, ingenious for sure, had done two thousand years ago?" Cours d'architecture (1773), IV, p. xiv. Quoted by Jean-Marie Pérouse de Montclos, Etienne-Louis Boullée, p. 19. ("L'année précédant sa mort, Blondel écrivait encore qu'au lieu d'imiter l'Antiquité, ses anciens élèves devraient étudier les "moyens dont se sont servis les Lescot, les Mansart et les Perrault pour produire nos chefs-d'oeuvre. Qu'est-il besoin en effet de passer les mers pour se rendre témoin des efforts que des peuples, ingénieux sans doute, ont fait il y a deux mille ans?' ")

[90] " '... nation délicate, vaporeuse, sensible", vouée aux "harmonieuses, tenders et touchantes élégies de Racine.' " Denis Diderot, *Paradoxe sur le comédien*. Quoted by Jean-Marie Pérouse de Montclos, *Etienne-Louis Boullée*, p. 107.

[91] *Ibid.*, p. 107.

[92] *Ibid.*, p. 111.

[93] In his *Essai sur l'art*, Boullée passed an anecdote about a young painter's ignorance of the effects created by the colors and techniques of a painting by "Philippe Wouwermans." *Ibid.*, p. 54. Known as the painter of countryside and battle, the name of the Dutch painter Philips Wouwermans (1619-1668) is usually pronounced in the same category as his contemporary Salvator Rosa.

[94] *Ibid.*, p. 90.

[95] *Ibid.*, p. 117. Several works of Hubert Robert, Charles-Louis Clérisseau, another painter-architect Jean-Thomas Thibault, and ornamentist Gilles-Paul Cauvet were found in the collection of Boullée. See p. 13.

[96] Werner Szambien, *J.-N.-L. Durand: de l'imitation à la norme* (Paris: Picard, 1984), pp. 35 *ff.*

[97] Nicolas Le Camus de Mézières, *Le Génie de l'architecture, ou l'Analogie de cet art avec nos sensations* (Paris: Benoit Morin, 1780).

[98] "*Fragments d'architecture antique*" became a motto of the publications on the partial architectural restitutions of the *pensionnaires* of the Académie de France in Rome, such as J. A. Renard, *Etudes de fragments d'architecture* (Paris, 1783); Ch. Moreau, *Fragmens et Ornemens d'Architecture* (Paris: Baudouin, 1793); and H. d'Espouy, *Fragments d'architecture antique* (Paris: G. Schmid, n.d). The same expression was also used for studies other than ancient architecture, such as J. G. Grohmann, *Fragments d'architecture gothique* (Leipzig: Baumgärtner, n.d.); J.-F. Blondel, *Fragmens d'architecture et dessins des croisées qui décorent les façades du Louvre* (Paris, n.d.); and the Beauvallet collection of *Fragments d'architecture, sculpture et peinture dans le style empire* (Paris: Jombert, year XII (1803)). In all these cases, an effort to study the components of architectural styles can be seen.

[99] Legrand and Landon underlined the problem with propreity in different typologies at the end of the eighteenth-century. For them, in the absence of any etiquette of propriety, "every house pretends to be a palace, and every palace looks like a public monument" (C'est ce qui arrive quand aucune étiquette de bienséance ne règle la composition des habitations. Toute maison prétend à être un palais, et tout palais affecte l'air d'un monument public). J.G. Legrand & C. P. Landon, *Description de Paris et de ses édifices* (Paris: C. P. Landon, 1809), II, p. 90. Kaufmann claimed that the change of the sense of "*convenance*" started with J.-F. Blondel, for whom it "meant the consideration of the proper atmosphere," that is, character. Emil Kaufmann: "Three Revolutionary Architects," p. 441.

[100] It is to be noted that at the end of the seventeenth century, Félibien defined the term "*composition*" as "*partie de la peinture.*" André Félibien, *Des principes de l'architecture, de la sculpture, de la peinture et des autres arts qui en dépendent, avec un dictionnaire des termes propres à chacun de ces arts* (Paris: chez la Veuve & Jean Baptiste Coignard, fils. 1699), p. 383. Although like many other authors d'Aviler used the word "*composition*" as well as the verb "*composer*", he did not need to explain the term in the dictionary, which was dedicated to architectural terms. Augustin-Charles d'Aviler, *Cours d'architecture*, vol. 2, *Dictionnaire d'architecture ou explication de tous les termes dont on se sert dans l'architecture* (Paris, 1691).

[101] These words were originally rhetorical elements used by Vitruvius (*distributio, dispositio*) as two of the six basic concepts of architectural design which complemented the trinity *firmitas, utilitas, venustas*: "*Architectura autem constat ex ordiatione, quae graece taxis dicitur, et ex dispositione, hanc autem Graeci diathesin vocitant, et eurythmia et symmetria et distributione quae graece oeconomia dicitur.*" Vitruvius, *On Architecture*, trans. F. Granger, (Cambridge, Mass.: Harvard University Press, 1955), 1. 2., p. 24.

It can be said that the confusion of meanings of the words originated here, because Vitruvius described *distributio* as the allocation of the site, money and materials, but also associated it with *decorum*. On the other hand, *dispositio* is clearly described as design, associated with *ortographia* (plan), *icnographia* (elevation) and *scenographia* (perspective). Although Payne wanted to show that Alberti

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reintroduced these words into architectural theory, Alberti rarely used them at least in *De Re Aedificatoria* (they were translated by Joseph Rykwert as "arrangement" (disposition) and "allocation" (distribution)). Alina Alexandra Payne, *The Architectural Treatise in the Italian Renaissance" Architectural Invention, Ornament, and Literary Culture*, Cambridge: Cambridge University Press, 1999, p. 80; Leon Battista Alberti, *L'architecttura [de re aedificatoria], testo latino e traduzione a cura di Giovanni Orlandi* (2 vols; Milano: Edizioni il Polifilo, 1966).

It is known that Alberti was unhappy with the ambiguity of Vitruvius's text, and it is plausible that he prefered to introduce his own terminology that would not confuse the reader, such as *area* and *linaementi*. Therefore, the words *distribution* and *disposition* in French architectural discourse, if they had not been in use before, must have been barrowed directly from Vitruvius. The first complete French translation of Vitruvius was made by Jean Martin and appeared in 1547: *Vitruve, Architecture ou art de bien bastir* (Paris: Jacques Gazeau, 1547); whereas the same Jean Martin published (post mortem) a translation of Alberti in 1553: *L'Architecture et art de bien bastir, du seigneur Léon Baptiste Alberti... divisé en dix livres* (Paris: J. Kerver, 1553).

[102] See Werner Szambien, *Symétrie, goût, caractère* (Paris: Picard, 1986).

[103] Durand understood "disposition" as "combination" of the "parts", and composition as the totality all dispositions: "On parvenait à former les diverses parties des édifices, qui sont les portiques, les porches, les vestibules, les escaliers, tant au dedans qu'au dehors, les salles, les cours, les grottes et les fontaines, etc; enfin, comment ces diverses parties devaient être combinées à leur tour, c'est-à-dire, disposées, les unes par rapport aux autres, dans la composition de l'ensemble des édifices en général." Jean-Nicolas-Louis Durand, *Précis des leçons d'architecture* (Paris: Ecole Polytechnique, year X (1802)), 1, p. iii. This paragraph leaves no doubt that composition is understood as a process that corresponds to architectural design.

[104] Wil Munsters, *op. cit.*, p. 45.

[105] Durand believed that buildings would naturally have true effects and characters if designed functionally and economically ("effet nécessaire de la disposition la plus convenable et la plus économique"). Jean-Nicolas-Louis Durand, *op. cit.*, 1, p. 19. Durand thought that the use of perspective in architectural design was useless, and even dangerous, because it might provoke the production of "false" effects. He stated that watercolor should be used only to distinguish the masses from the voids in plans and sections. See pp. v-vi.

[106] Durand eliminated the notion of *"caractère,"* which was so dear to Jacques-François Blondel and to Durand's own master Boullée, claiming that character came from utility and economy: "Sans doute que la grandeur, la magnificence, la variété, l'effet et le caractère que l'on remarque dans les édifices, sont autant de beautés, autant de causes du plaisir que nous éprouvons à leur aspect. Mais qu'est-il besoin de courir après, si l'on dispose un édifice d'une manière convenable à l'usage auquel on les destine? Ne différera-t-il pas sensiblement d'un autre édifice destiné à un autre usage? N'aura-t-il pas naturellement un caractère et qui plus est, son caractère propre?" Durand, *op. cit.*, 1, p. 18.

[107] A document preserved at the Archives Nationales de France comprises a list of the themes of Grand Prix competitions as well as *concours d'émulation* between 1723 and 1853; AN AJ52 475. The "ancient themes," such as Arc de Triomphe, Athénée, Académies, Bains Publics, Amphithéâtre, Forum, Monument Héroique, Temple à la Neptune, Obelisque, Odéon, Pont Triomphal, etc. were derived from the architectural archaeology. These "ancient themes" intensified roughly between 1770 and 1830. Given that the themes were always public buildings and public monuments, and that constructing another Rome in Paris was desired, it can be said that the application of approved ancient motifs were more than desired for the students; it was obligatory.

[108] The students of Durand were instructed how to "de-compose" a given plan, to analyze its components, and its composition principles, which they were supposed to "re-compose" in their own

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designs. Szambien stated that Durand's course was divided into three parts: the main course, the graphic studies and the competitions. During the course, the drawing made on the blackboard had to be copied in the notebooks of the students. The graphic studies, which were about the analysis of a given building or design of a given program, became increasingly important after 1811. The use of the graphic paper became a standard between 1820 and 1830. See Szambien, *J.-N.-L. Durand*, p. 67. Szambien published a plan scheme (fig. 106), the famous "Institut"of Percier, which was prepared by A. Huet for the 1st lesson of the 2nd part of the "cours d'architecture" of 1833-1834. According to Szambien, the analysis of the "Institut" was a standard example to teach the students the combination of different parts of a building, and this particular scheme was even more simplified by its reductive copy in the *Précis*, which was also drawn. See p. 262.

[109] Alberto Pérez-Gómez, *Architecture and the Crisis of the Modern Science* (Cambridge, Mass.: MIT Press), 1983.

[110] Durand's argument concerning "disposition" and "distribution" is worth mentioning here for he eliminated the to end the centuries old confusion that surrounded these two terms. Jean-Nicolas-Louis Durand, *Précis of the lectures on architecture with Graphic portion of the lectures on architecture*, trans. D. Britt (Los Angeles, CA: Getty Research Institute, 2000), pp. 77 *ff.* In the first volume of the first *Précis*, Durand repeated in several occasions that the only concern of design was disposition: "On y remarque à quel point, pour l'intérêt même de la décoration architectonique, il est essentiel de ne s'occuper que de disposition: ce que naturellement les divers édifices acquièrent de variété et d'effet, tant horizontalement que verticalement." *Précis des leçons d'architecture*, 1, p. 93.

It seems like Durand thought he was following Vitruvius, who defined distribution (*distributio*) as allocation of money, place, and materials, which was called, again according to Vitruvius, *oikonomia* in Greek. Vitruvius, *Ten Books on Architecture*, trans. by Ingrid D. Rowland, Cambridge: Cambridge University Press, 1999, I.2.1, p. 24. It is understandable that Durand, in placing "economy" in the center of his theory, did not need "distribution" that meant the same thing: "La disposition est la seule chose à laquelle doive s'attacher l'architecte, quand même il n'aurait d'autre but que celui de plaire; vu que le caractère, l'effet, la variété, en un mot, toutes les beautés que l'on remarque ou que l'on cherche à introduire dans la décoration architectonique, résultent naturellement d'une disposition qui embrasse la convenance et l'économie." Durand, *Précis des leçons d'architecture*, 1, p. 24.

[111] The emergence of architectural autonomy was first treated in the publications of Emil Kaufmann: "Three Revolutionary Architects: Boullée, Ledoux, and Lequeu," *Transactions of the American Philosophical Society*, (XLII) 1952, pp. 431-564; *Architecture in the Age of Reason: Baroque and Post-Baroque in England, Italy, and France* (Archon Books, 1966); *De Ledoux à Corbusier: origine et développement de l'architecture autonome*, (Paris: L'Equerre, 1981).

[112] "C'est l'arangement des parties d'un edifice par raport au tout ensemble." Augustin-Charles d'Aviler, *Cours d'architecture* (Paris, 1691), vol. II: *dictionnaire d'architecture ou explication de tous les termes dont on se sert dans l'architecture*, p. 172. However, it seems like the confusion continued throughout the century.

[113] Jean-Louis Cordemoy, *Nouveau Traité de toute l'Architecture ou l'Art de Bastir; avec un dictionaire des termes d'architecture, etc.* (Paris: Chez Jean-Baptiste Coignard, 1714), pp. 85 *ff.*

[114] "Des distributions de bâtiments bourgeois, depuis trois toises de face jusqu'à 24..."; "*distributions des plans pour chaque étage.*",Jacques-François de Neufforge, *Recueil élémentaire d'architecture* (Paris: 1757), II, plate 145.

[115] Some conventional information was given in the chapter called "*Elémens*," under the subtitles "*Qualité des Matériaux*," and "*Emploi des Materiaux.*" *Précis*, 1, pp. 25-65.

[116] *Toise* was the traditional measure of construction corresponding to six feet (1. 949m) in Paris. This measure was a frequent reference to the size of private and cmmercial buildings, which gave a sense of its form with respect to conventions. Durand substituted the *toise* and meter to the inter-axe: "... il n'y aura plus qu'a déterminer les rapports de grandeur qui doivent exister entre les différentes parties de l'édifice; ce qui se fera en fixant le nombre des entre-axes de chaque partie, et en le chiffrant sur le croquis; on additionnera ensuite tous les entre-axes, et avec la somme qui résultera de cette addition, on divisera la quantité de toises ou de mètres que contient le terrain, le quotient sera la largeur des entre-axes..." *Précis* (1813), 1, p. 95. Quoted by Werner Szambien, "Notes sur le recueil d'architecture privée de Boullée (1792-1796)," *Gazette des Beaux-Arts*, XCVII (1981), p. 119.

[117] Charles-Ètienne Briseux, *Architecture moderne ou l'Art de bien bâtir* (Paris: Claude Jombert, 1728). Briseux's idea of correct dispositions was still related to the Vitruvian concept of "correctness" (*decorum*), and in this case, to "natural correctness." See Vitruvius, *Ten Books on Architecture*, trans. I. D. Rowland (Cambridge: Cambridge University Press, 1999), 1.2.7, p. 25. Briseux's plan schemes prove that he intends to inform the reader about the conventional house types. This is very different from the undefined and therefore unconventional building types of Durand.

[118] Jacques-François de Neufforge, *Recueil élémentaire d'architecture* (6 vols.; Paris: 1757).

[119] André Félibien des Avaux, was the "secrétaire et historiographe de l'Académie d'Architecture." See Werner Szambien, *Symétrie, goût, caractère* (Paris: Picard, 1986), p. 24.

[120] André Félibien, *Des principes de l'architecture, de la sculpture, de la peinture et des autres arts qui en dépendent avec un dictionnaire des termes propres à chacun de ces arts* (Paris: 1676). Félibien saw the problem as a matter of communication during the process of architectural production. See the Preface.

[121] "Je n'aurois seulement pas été dans la Grèce simplement pour observer le rapport des Edifices et de leurs parties avec les divisions de notre pied... J'ai mesuré les Monuments de la Grèce... pour connaître principalement les rapports qu'ils ont entr'eux, ou avec ceux que Vitruve décrit, pour les comparer avec les édifices des peuples qui ont précèdé ou suivi les Grecs dans la connoissance des Arts." Quoted by Pierre Pinon & François-Xavier Amprimoz, *Les Envois de Rome (1778 – 1968) Architecture et archéologie* (Rome: École Française de Rome, 1988), p. 205. See also Julien David Le Roy, *Les Ruines des plus beaux monuments de la Grèce considérééa du côté de l'histoire et du côté de l'architecture* (Paris, 1758).

[122] Julien-David Leroy, *Histoire de la disposition et des formes différentes que les chrétiens ont données à leur temples, depuis le règne de constantin le grand, jusq'à nous* (Paris: Desaint & Saillant, 1764); Jean-Nicolas-Louis Durand, *Recueil et parallèle des édifices de tout genre, anciens et modernes, remarquables par leur beauté... avec un texte extrait de l'Histoire générale de l'architecture par Jacques Legrand* (Paris: Gillé fils, year VIII (1799)). Legrand also published his text independently in small format for easy use, in which the arbitrary jumps between his subjects strike the reader in the absence of plates. Jacques Guillaume Legrand, *Essai sur l'histoire générale de l'architecture*, (Nouvelle Edition; Paris: L. Ch. Soyer, 1809).

[123] "Les formes les plus symétriques, les plus régulières et les plus simples, telles que le cercle, le carré, le parallélogramme peu allongé, sont les formes les plus favorables à l'économie." Durand, *Précis* (Paris: Ecole Polytechnique, year X (1802)), 1, p. 23.

[124] "Les romains ont souvent ajouté un portique rectangle, et moins élevé que le corps du bâtiment, à la tour circulaire de leurs temples, comme au panthéon et au temple de Jupiter à Spalato, ou cette tour est à pans, etc., c'est le commencement de l'assemblage des différentes formes, que nous verrons mélangés dans d'autres édifices, pour offrir aux architectes un nouveau moyen de varier leurs compositions... C'est dans la combinaison de ces deux formes simples, le carré ou le circulaire, employées à part, ou associées

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habilement, qu'ils doivent trouver le motif de leurs plans ou de leurs façades." Legrand, *Essai sur l'histoire générale de l'architecture*, pp. 58-59.

[125] Jacques Gondoin, *Descriptions des Ecoles de chirurgie* (Paris: Cellot et les frères Jombert, 1780), p. 7.

[126] See *Italia Antiqua: Envois de Rome des architectes français en Italie et dans le monde méditerranéen aux XIXe et XXe siècles* (Paris: Ecole Nationale Supérieure des Beaux-Arts, 2002); also, *Roma Antiqua: Envois des architectes français (1788-1924): forum, colisée, palatin* (Paris: Ecole Nationale Supérieure des Beaux-Arts, 1986); and, Pierre Pinon & François-Xavier Amprimoz, *Les Envois de Rome (1778 – 1968): Architecture et archéologie* (Rome: École Française de Rome, 1988).

[127] On the archaeological works of De Wailly and Peyre, see Allan Braham, *The Architecture of the French Enlightenment* (Berkeley: University of California Press, 1980); Monique Mosser and Daniel Rabreau, *Charles De Wailly*, (Paris: Caisse Nationale des Monuments Historiques et des Sites, 1979).

[128] By 1821, Durand reduced the number of parts into seven: the porticos, porches, vestibules, staircases, rooms, galleries and courtyards. All the other parts were considered "accessories." A drawing made by A. Huet for the 9th and 10th lesson of the 2nd part of the "cours d'architecture" (1833-1834) shows that an amphitheatre was called an accessory. *J.-N.-L. Durand: de l'imitation à la norme*, p. 263.

[129] For the Year II projects, see Werner Szambien. *Les projets de l'an II: concours d'architecture de la période révolutionnaire* (Paris: Ecole Nationale Supérieure des Beaux-Arts, 1986).

[130] On the modulation and the use of grid in Durand, see also Peter Collins, "The Origins of Graph Paper as an Influence on Architectural Design," *Journal of the Society of Architectural Historians*, IV (1962), pp. 159-162; and Jacques Guillerme, "Notes sur l'histoire de la régularité," *Revue d'esthétique* (1971), n. 3, pp. 383-394. Collins claimed that the squared paper had "incalculable importance in the subsequent history of architecture, since it constituted the origin of what was now termed the "modular" system of design," which also "formed the basis of Durand's system" (p. 161). Jacques Guillerme, referring to Collins's thesis which he supports, stated that what was more important than the origin of the use of graph paper was seeing in it the "symptoms of a crises of representation in technical projects" (p. 386). Guillerme related Durand's grid of axes and "mechanism of composition" to the three-dimensional reticulation of space and to the theories of *cristallographie*, both being systematized in the last decades of the eighteenth century in France (pp. 388 *ff*). Therefore, according to Guillerme, "the modular composition of Durand, and the reticulation of solid crystals… are the two closely related aspects of the same enterprise of serial mathematization of space that operates through a process of intermittent schematisation" (p. 393).

[131] Szambien, "Notes sur le recueil d'architecture privée de Boullée," pp. 111-124.

[132] "Jusqu'en 1821, le traitement des "éléments" et des "parties" est de plus en plus sommaire: les galeries y sont assimilées aux salles, les escaliers numérotes et les belvédères supprimés, etc. Ainsi, les unités régulatrices ou quantitatives dominent progressivement les savoirs architecturaux. Le module, l'entrecolonnement ou l'"entr'axe" se superposent à la forme qui, privée peu à peu de tout "style", cède la place à des formules." Szambien, *J.-N.-L. Durand*, p. 87.

[133] Werner Szambien argued that Durand perfected the work of Boullée "on the basis of a unitary and modular conception of the process of architectural composition." *J.-N.-L. Durand*, p. 56.

[134] Antoine Picon, introduction to *Précis of the lectures on architecture*, by *Jean-Nicolas-Louis Durand*, trans. D. Britt (Los Angeles, CA: Getty Research Institute, 2000), p. 36.

[135] Etienne-Bonnot de Condillac, *Essay on the origin of human knowledge*, trans. H. Aarsleff (Cambridge: Cambridge University Press, 2001), p. 45. Picon also referred to this text.

[136] "Ecoutons un philosophe moderne: "Toutes nos idées, tous nos perceptions, nous dit-il, ne viennent que par les objets extérieurs. Les objets extérieurs font sur nous différentes impressions par le plus

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ou moins d'analogie qu'ils ont avec notre organisation." Boullée, "Essai sur l'Art," p. 58. In the note 25, Pérouse de Montclos stated that although H. Rosenau gave the reference as Locke's *Essay on Human Understanding*, Boullée probably paraphrased this statement from Condillac.

[137] Voltaire stated in the introduction that Newton "atomized" and separated the bodies into all their possible parts, and that he would "endeavor to make these elements easy and intelligible to those who know no more of Newton and Philosophy than their name." *The Elements of Sir Isaac Newton's Philosophy*, trans. John Hanna (London: Angel & Bible, 1738), p. 3. It was perhaps because of Voltaire's effort to teach Newton's scientific philosophy to the layman that the translator John Hanna found the work to be rather useful for the unlearned. See the Preface, ix.

[138] Kevin Harrington, *Changing ideas on architecture in the Encyclopédie, 1750-1776* (Ann Arbor (Mich.): UMI Research Press, 1985), p. 7.

[139] Szambien , *J.-N.-L. Durand*, pp. 87-88.

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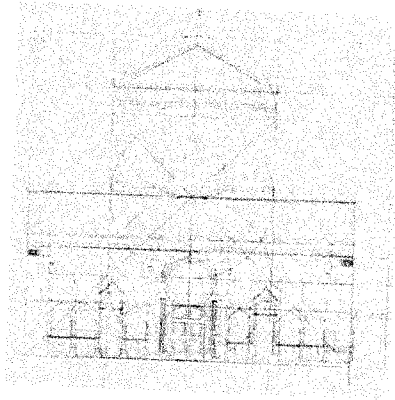
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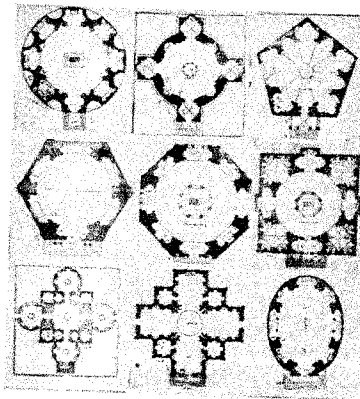
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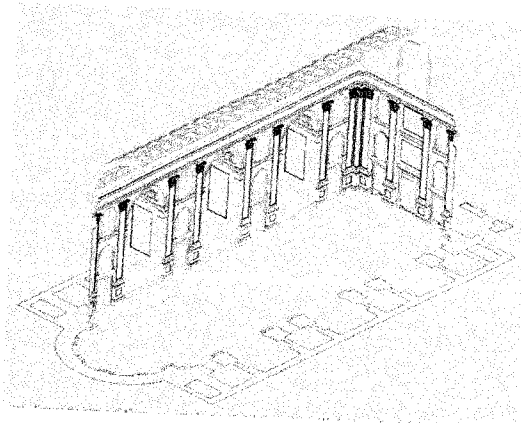
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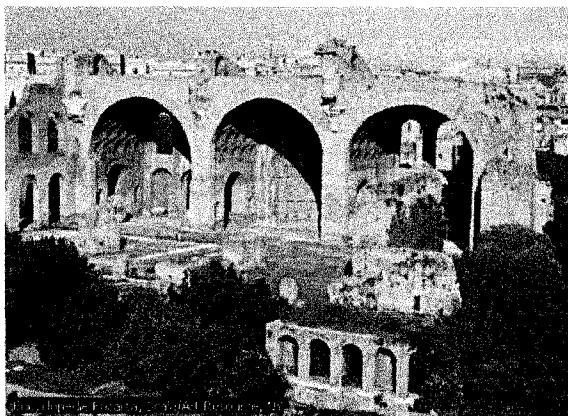
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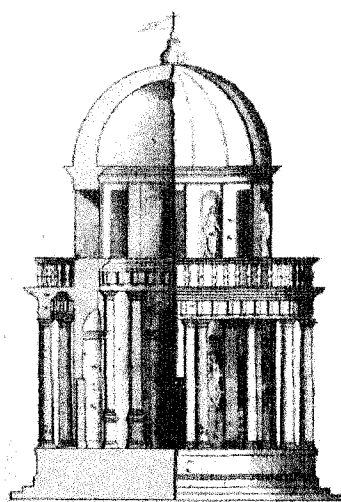
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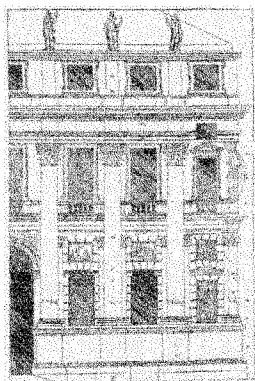
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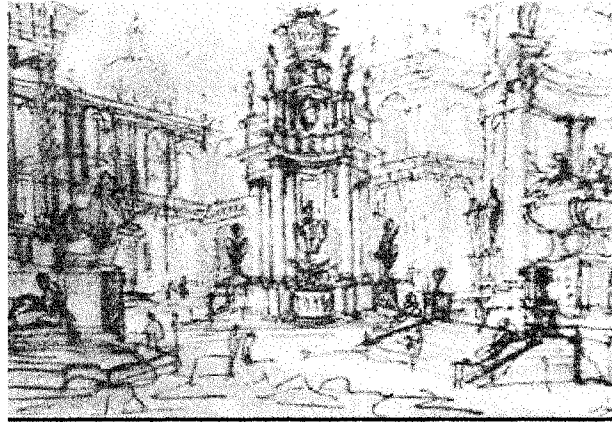
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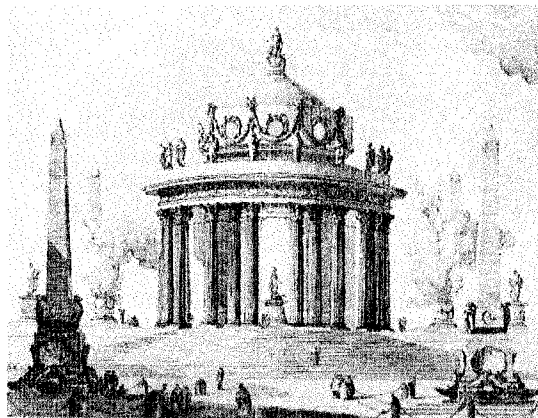
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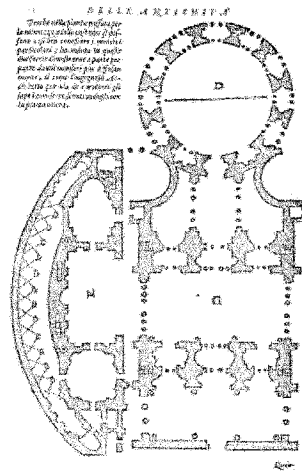
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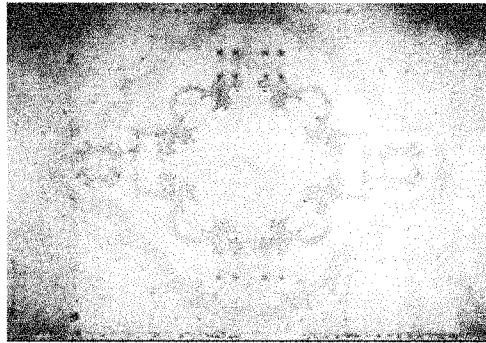
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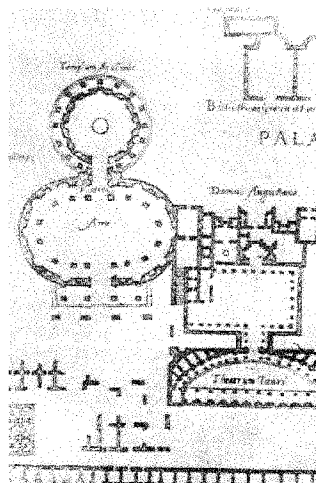
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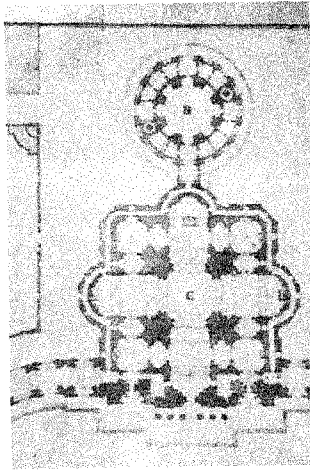
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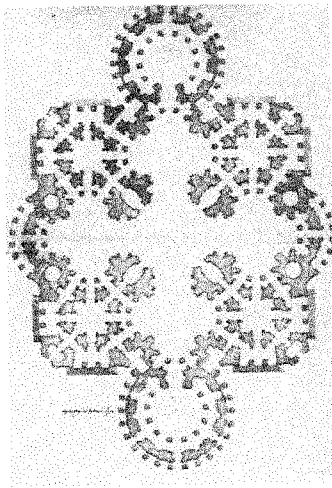
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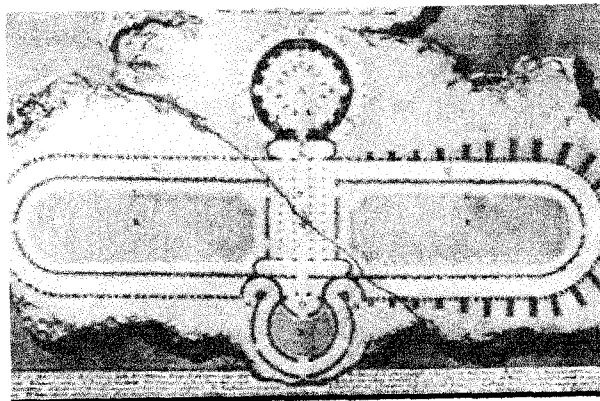
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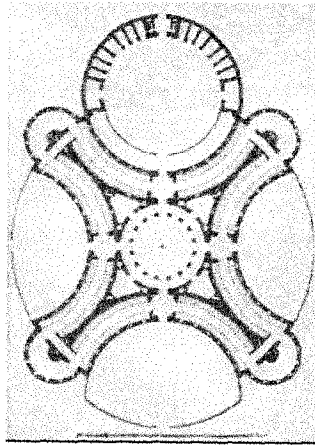
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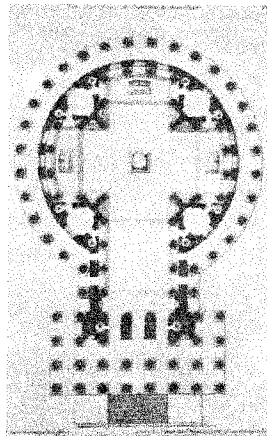
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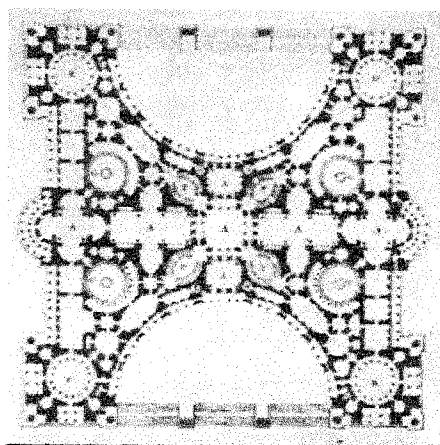
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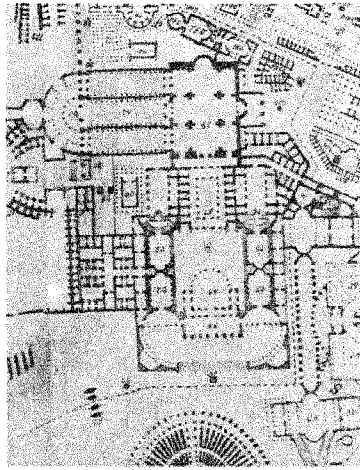
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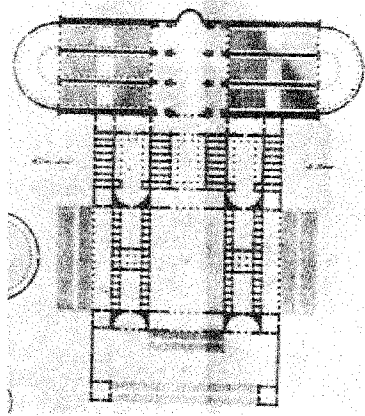
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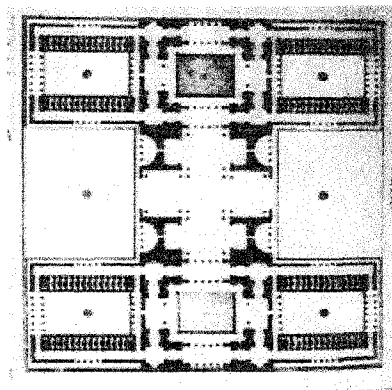
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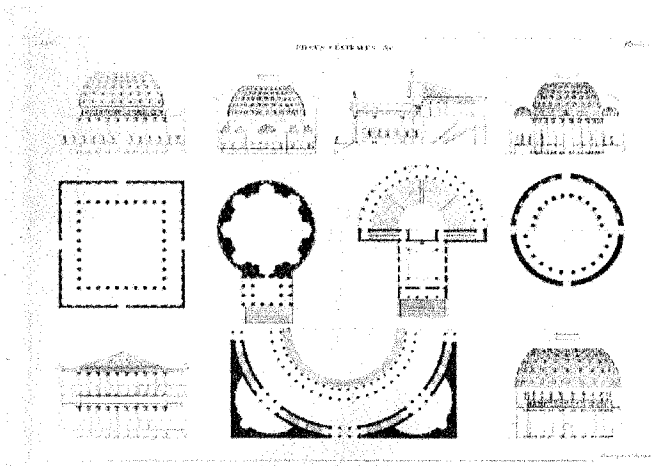
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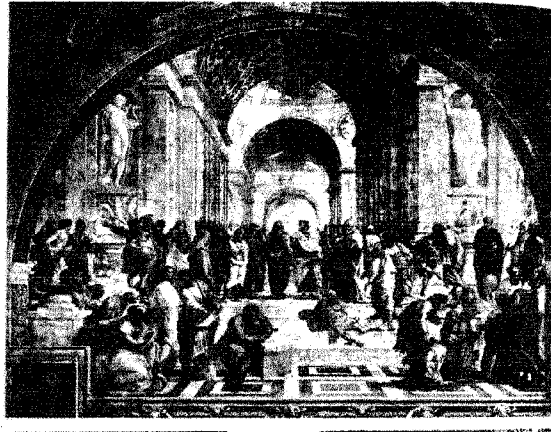
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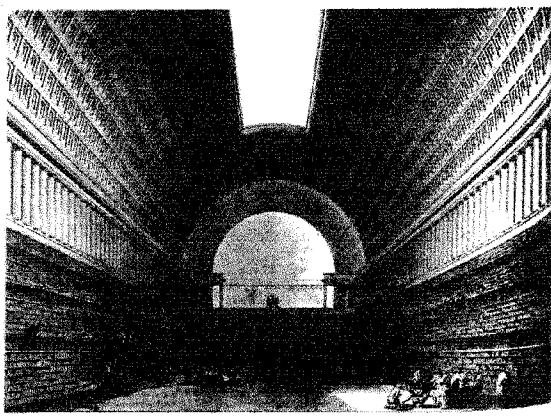
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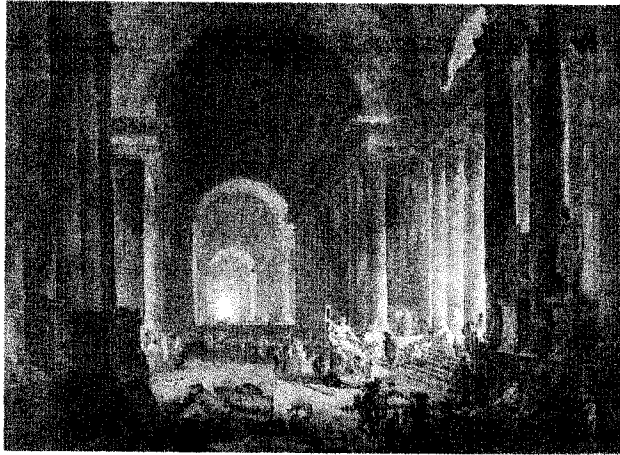
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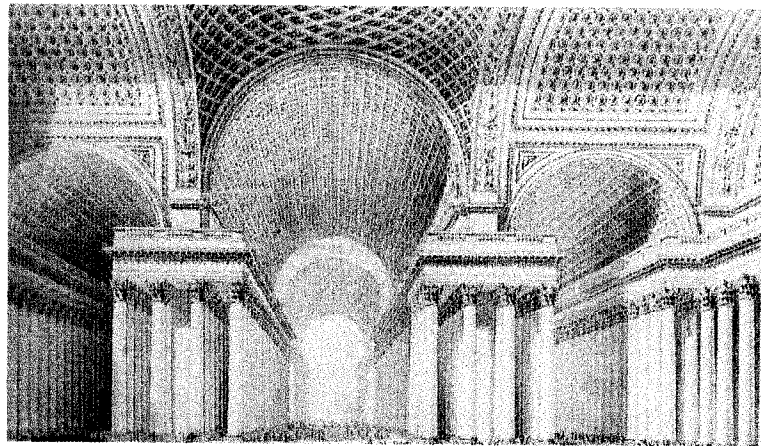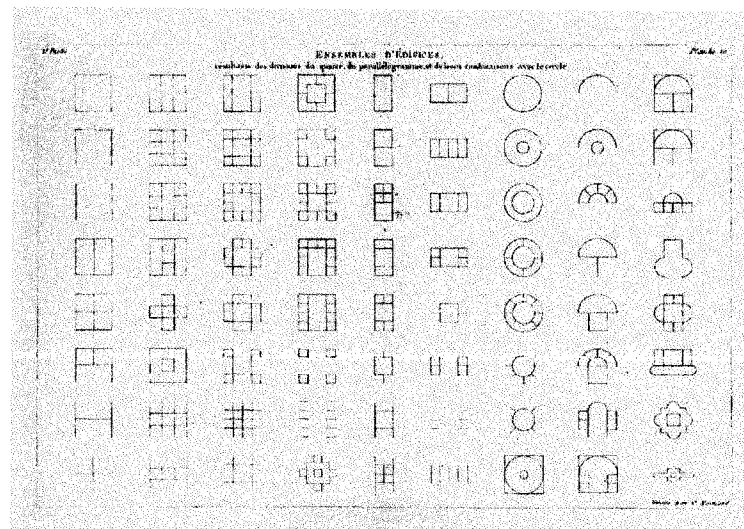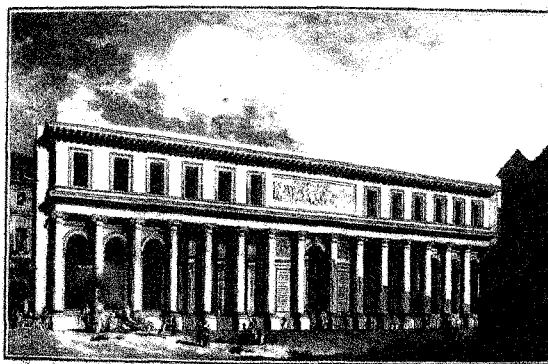
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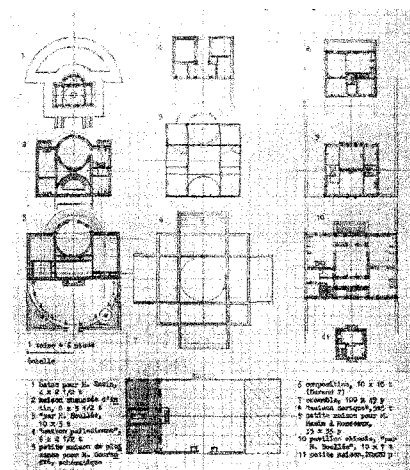
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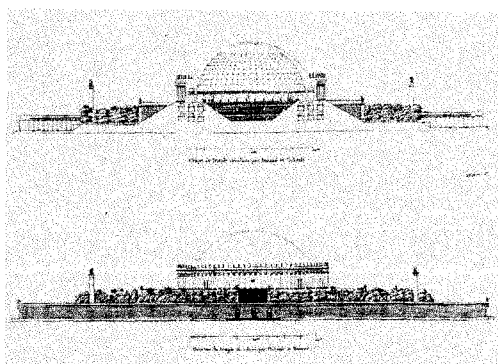
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2. Architectural Archaeology

2.1. The Eighteenth-Century

2.1.1. Architectural Archaeology and the *Voyage Pittoresque*

In the previous chapter, the relationship between antique fragments and neo-classical motifs was analyzed. In this analysis, it was argued that the pragmatic use of Greco-Roman archaeology was related to the picturesque effects of the ruins which disseminated through paintings, engravings, and architectural drawings. Comparison of the different approaches to Roman ruins in the Renaissance and in the middle of the eighteenth-century showed how the antique motifs of neo-classical architecture were different from the antique motifs applied by the architects of the Renaissance. It was argued that in the Renaissance the symbolic meaning of an architectural form overlapped with its geometrical and historical meaning. Humanistic thought did not posit a causal relationship between sensations and thoughts, and the theory of architecture occupied the same world as other productions of intellectual culture. The increasing formalism as a result of the relative autonomy of formal criteria in the eighteenth-century was the most significant difference of neo-classicism from the Renaissance. The use of neo-classical fragments was justified by the theory of sensations, which made the "effect" a criterion for the judgment of form. Architectural theory supported the dependence of design on formal notions and drawings, and finally, at the end of the eighteenth-century, the graphic composition of antique fragments dominated architectural design.

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The story of the new fragment continues as the relationship between the "antique fragment" and the "historical fragment" remains to be told. The emergence of the historical fragment is directly related to the change of intentions in architectural archaeology that has been feeding theory and practice since the 1750s. As discussed before, when the antique fragment was completely assimilated within architectural composition, as seen in the drawings of Durand, the picturesque effect of the fragment had disappeared. This was when architecture declared its complete autonomy from painting. Accordingly, the *pensionnaires*' works in at the end of the eighteenth-century and in the nineteenth-century reflected disaffection with painters' perception of the ruins of antiquity, as their works concerned not picturesque but analytical drawings, such as the water-colors showing the "*état actuel*" of the site. There was no longer a Piranesi who could fascinate them with captivating archaeology, nor was there a need for it. Therefore, the archaeological works of the French architects also showed their architectural intentions, and it is essential to analyze some of these works to understand the transformation of the approach to the architectural fragment in the nineteenth-century.

The architectural intentions behind archaeology differed from those of the nineteenth-century, but this difference was not due to change of attitude toward antiquity in the Academy. It appeared silently and naturally, as a reaction to the reconstruction of antiquity during the peak of architectural archaeology. This change was latent and became evident only by the fact that the results of Greco-Roman archaeology became less and less influential on architectural theory in the first half of the nineteenth-century. As *pensionnaires* were unsatisfied by re-compositions of antique forms, they were

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convinced by the relative values of Greco-Roman architecture. The nineteenth-century architect was not attracted by the picturesque effect of the ruin per se; he loved what the ruin represented for him: history of architecture. In the nineteenth-century, when *pensionnaires* in Rome were reconstructing Roman monuments in the manner of Grand Prix projects, they were reconstructing historical buildings, but not discovering eternal values, given that they were emotionally distanced from the times of ancient monuments. As these reconstructions became ends in themselves, romantic antiquity became a distant time in the past. It can be argued that by this time, picturesque effects of ruins had been replaced by the historicism of archaeological re-compositions, which lacked both the romantic and the sensationalist attachment of the former. Finally, when architectural archaeology extended beyond the Greco-Roman antiquity, it became clear that the new historical fragment was loaded with a sense of relativity of time and place.

The eighteenth-century architects did archaeology in a different mood. The excavations were relatively new and the Italian soil promised many new discoveries. Unlike their colleagues of the following century, eighteenth-century architects had imaginations that were provoked easily by the antique fragments, which they were eager to adopt in their designs. On the other hand, awareness of historical distance had put them under the spell of a romantic engagement with ruins, which enchanted them. On the one hand, several *pensionnaires*, like Charles-Louis Clérisseau and Jean-Laurent Legeay, were known more as *"ruiniste"* painters than architects.[1] On the other hand, architects like Marie-Joseph Peyre and Jacques Gondoin did incorporate antique motifs in their projects, while Charles De Wailly's geometrical reduction of certain of these motifs

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announced their assimilation in the compositional strategy that would be initiated by Boullée and realized fully by Durand. As it will be explained later in detail, in the eighteenth-century the assimilation and elementarization of antique fragments as architectural motifs dominated projects at both Percier's Ecole des Beaux-Arts and at Durand's Ecole Polytechnique. The compositional possibilities created by these two schools helped to develop strategies that made possible the assimilation of historical elements – which were not necessarily classical - in the nineteenth-century.

The new attitude towards archaeology in the nineteenth-century coincided with the disenchantment with architectural ruins, which ceased at this time to be a romantic notion, at least for the architects. Although the ruins of medieval architecture still impressed people like Chateaubriand,[2] even the literary world was more interested in an idealized reconstruction of the (local) past, in its many details, than in the mysterious effects of its remnants.[3] In agreement with the philosophical and political atmosphere, French architects also showed a penchant for the reconstruction of the past that celebrated the architectural patrimony, from which they hoped to derive new ideas that they could no longer find in pure ancient forms. This is what Léon Vaudoyer had in his mind at the same time when he was excavating, measuring and reconstructing ancient monuments in Rome.[4] A similar position had been unthinkable for De Wailly, Peyre, Gondoin, Chalgrin or their contemporaries. Members of the two generations that came after 1750, these architects were eager to forget the architecture of the Mansards as soon as possible, let alone returning to the French-Renaissance of Louis XII or François I, which Vaudoyer would argue upon his return to France.

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For French neo-classicists, and also for the British and others, the vision of the Roman world was marked by an engraver, Piranesi. As Werner Oechslin stated, "the *Antichità* surpassed as an archaeological publication all those that came before... Piranesi made his own contribution to the evolution of the architectonic and archaeological restoration that developed from Brunelleschi, Sangallo, through Serlio, Palladio and Desgodets, until Canina, Klenze and Hittorf."[5] Yet, Piranesi's enormous labor was not simply for the sake of archaeology; he was willing to recreate the magnificence and glory of Roman architecture. The peculiar antique settings that he created with techniques inherited from the hazy sketches of Juvarra, sharp perspectives of Bibiena and the ruins of Panini represented an imaginary Roman world in which ancient ruins were even more charming. Moreover, Piranesi showed architects the power of antique fragments in creating innovative designs. It can be said that he shifted archaeological restoration from being a source of classical orders, details and patterns, and from being an area of narrow interest of the antiquarians, and made it attractive for young architects as well as for the laymen. Although the existence of good antiquarians like Winckelmann and Caylus, or enthusiasts like Cardinal Alessandro Albani, showed a high awareness for the values of antiquity at this time, for architects, neither the writings of the former group nor the commissions of the latter were as effective as the engravings of Piranesi.[6]

The diffusion of images showing the remains of the ancient world was not limited to Piranesi's engravings; the explanation of this geography by antiquarians, architects and painters usually produced illustrated publications, which created the genre called "*voyage pittoresque.*" That the representation of the ancient world was far from being purely

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archaeological was proven by "picturesque" documentation of journeys to the places where ancient and modern times were seen beside each other. At this crucial moment just before these picturesque places became archaeological sites, they were the "curious" sites of ruins lost in the countryside, attracting appreciation for both the "lost" civilization that made the artifact, and nature surrounding it. The scarcity of knowledge and images of an ancient world that extended from Syria to England provoked curiosity about the treasures in ruins. In the eighteenth-century, the ancient world to the south and east of Rome, including the modern kingdoms of Naples, Sicily and the Ottoman Empire, was less accessible to travelers because of problems with security, transportation, accommodation and communication. It is enough to remember that in 1674 Desgodets was captured by the pirates while he was sailing to Italy and held for fifteen months. A century later, in 1781 Abbé de Saint-Non did not hide his dissatisfaction with the conditions of travel and lodging on his "picturesque journey" to Naples and Sicily. In a heart-breaking passage about his arrival in Agrigentum, Saint-Non told the reader that he was refused by everyone, including the people of his own consulate, and ended up in a bad granary with water-melon for supper and wheat chaff for a bed.[7]

For many architects, painters and enthusiasts, visiting these places was an adventure that was rewarded by fame and respect at home, surpassing the reputation of the established archaeological sites opened by the Italians such as Pompeii and Herculaneum.[8] Even Paestum, under the rule of the Kingdom of Sicily, was considered to be far from everywhere, although it was well known at the time; its monuments were studied by Soufflot in 1750 and reconstructed by a *pensionnaire*, Delagardette, in 1779.[9]

(Fig. 1) Many aspects of ancient architecture were known during this time through the many volumes of observations, sketches and paintings made by the travelers who took the risks to visit South of Italy, Greece, Western Turkey, Syria, and Egypt. The first visit to Sicily by a French connoisseur, for example, was in 1770 by Jean-Pierre Houel, who published in 1782 the first of his four volumes of the *Voyage pittoresque des îles de la Sicile*; and in 1781 Jean Claude Richard de Saint-Non began editing his five volumes of the *Voyage pittoresque et description du Royaume de Naples et de Sicile*, of which the third volume was dedicated to the *"Grande Grèce"* (Magna Graecia).[10] Throughout the eighteenth-century, and even in the nineteenth, the term *voyage pittoresque* became a cliché, as the journeys extended to everywhere, including the national territories of the Western European travelers, Africa, and the Americas.

The importance of these difficult journeys for French travelers laid in the fact that the visitors were amazed to see with their own eyes the "picture" of the ancient world, and their desire for finding exact measurements gradually disappeared as the antique forms overcame the rather abstract notions of proportion, number, or harmony. Leroy's *Les ruines des plus beaux monumens de la Grèce*, seemingly published to disseminate exact measurements of the monuments of the Athenian Acropolis, was in fact a picturesque journey.[11] (Fig. 2) The reply he gave to his serious but "slow" British competitor Stuart, who accused him of incorrect measurements, proved that Leroy's interest was not limited to finding proportions or archaeological facts, and that he was more interested in the appearances and effects, such as the "male" aspect of the Doric order, which soon became fashionable in France.[12] Another ground-breaking journey

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made around 1750 was that of Abel François Poisson de Vandières, the later Marquis de Marigny, preparing to fill the position of *surintendant de bâtiments du roi*, which was arranged for him by his sister Madame de Pompadour, the *"favorite"* of Louis XV. This journey was made to Italy in 1751 in order to develop his taste and knowledge, and he was accompanied by the young architect Jacques-Germain Soufflot, the engraver Nicolas Cochin, and the man of letters Abbé Le Blanc. Cochin, who would be one of the ardent defenders of the "antique taste" in France, had already been to this region in 1749, in the company of the architect Bellicard. In studying Herculaneum and Puzzolana, Cochin interpreted the frescos and Bellicard the ruins.[13]

Cochin, Bellicard, Caylus and even Leroy were serious scholars, whereas many others simply wanted to charm readers with amazing appearances of the ancient world. Caylus's warning against antiquarians' mistreatments of fragments is worth mentioning here. Calling for the protection of every piece that was found and advising being patient about speculation, Caylus showed the habits of a modern-day archaeologist. However, even he suggested that the publication of antique objects might help to improve the bad taste of artists.[14] On the other hand, many publications owed their financing to the curiosity of readers. In the prospectus of his *Voyage Pittoresque des isles de Sicile, de Malte et de Lipari*, the painter Jean-Pierre Houel stated that he made two journeys in 1770 and 1776, and that on the latest journey he prepared many paintings of "all the scattered monuments that these islands offer to the curiosity of the traveler."[15] His excellent engravings, which he claimed reflected perfectly his original paintings thanks to his new engraving technique, represented the geography and the artifacts with volumes of

light and shadow filling the space. These images not only provoked the curiosity of the onlooker, but also admiration for the effects of the scenes. The images of nature and of artifacts created associations between architectural and natural elements, such as the dreadful tranquility of a volcano, and that of a tomb. Moreover, the plans and sections that Houel gave with the same technique of light and shade invoked the possibility for producing similar effects in architecture. (Figs. 3, 4, 5, 6) Saint-Non's account of his journey to the same places also included long descriptions and engravings that were intended to be "amazing." The rather unexcited tone of his text was not reflected in his plates, which showed dramatic effects of the sky, the mountains, the sea, in contrast with the tranquility of the ruins. (Figs. 7, 8) Although the engravings of Saint-Non's book were not as impressive as those of Houel, one "comparative plate" that combined the images of various antique buildings was important, because the same technique would be applied by Legrand and Durand. (Fig. 9) The images are stronger than the words. In the "Prospectus" of Cuciniello & Bianchi's *Voyage Pittoresque dans le Royaume des Deux-Siciles*, it was stated that the publication would omit unnecessary information such as the habits and costumes of the people visited, which had filled "the two *voyages pittoresques* published in 1781 and 1788 by Saint-Non and Houel." It was explained that this type of information was not only unnecessary for the reader; it also made the books too big and too expensive. What was important for a *voyage pittoresque* was described:

> Everybody feels the usefulness and pleasure offered by the journeys
> which unite interesting descriptions with the even more seductive drawings
> of the different sites encountered. It seems that the picturesque journeys owe
> their origin to these live impressions which fill the soul, and, having
> transmitted by the eyes, strike it strongly.[16]

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Thus, the accounts of *voyage pittoresque* were full of amazements, because the
scarcity of possibilities of seeing exotic geographies and people intensified the effects of
the first encounters. For example, many travelers like Saint-Non and Houel were amazed
by the size of the fragments of Greek ruins in Italy, which led them to see even the
quarries as monuments. Moreover, since the time of Pliny, the effects of elements, such
as the sea, the sky or the surrounding mountains and hills were part of the picture
described by the travelers. The famous volcano Vesuvius that killed the uncle of Pliny
and brought centuries of silence to Pompeii and Herculaneum also astonished these
modern-day picturesque travelers.[17] Like many, both Saint-Non and Houel attributed the
total collapse of the giant columns and entablatures of Greek temples to earthquakes,
which contributed to the intense sentiments evoked by these elements. It can be said that
these effects were related to the "sublime" emotions conveyed through poetry, paintings,
etchings, and architecture of the time.

In his poem of 1767 entitled "Les Ruines," Aimé-Ambroise-Joseph Feutry
conveyed images through the power of elements, such as the vapors of a volcano, the
flow of burning lava, or the trembling land, which he associated with the ruins of
Herculaneum, lost Byzantium, and the decaying Ottoman Empire.[18] Similar expressions
were used by Ledoux to convey his outrage for the "mutilation" of his project of the city
gates of Paris ("Propylée de Paris"). After stating that the ruins not only showed the
splendors of nations, but also announced or preceded the ruination of empires, Ledoux
wrote an unfinished, provocative, but almost completely incomprehensible paragraph
with phrases like "if the progression that achieved the highest period can stir up

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subversive movements," and "piling up the rubles from below the political lava," or "the earth in confidence, since longtime hiding and warning about the volcano that will turn it upside down..."[19] The notion of the sublime, theorized by Burke in 1761, was also known by Boullée who expressed his admiration of the sublime effects of wild nature, which destroyed empires, by using a similar vocabulary: "The image of the great has such an empire on our senses that by thinking it horrible it excites in us a feeling of admiration. A volcano vomiting flame and death is a horribly beautiful image."[20]

On the other hand, either picturesque or horrible, the emotional attachment of travelers to the remains of ancient Greece and Rome was very strong. When their images of this idealized past contradicted contemporary reality, modern habitants of the ancient lands, mainly the Italians and Greeks, could be blamed for "degeneration." French travelers associated the ruins with their ancient builders, such as Homer's characters or the Roman emperors. An interesting case is Comte de Choiseul-Gouffier, the author of *Voyage pittoresque dans la Grèce*, and the French ambassador to the Sublime Port between 1784 and 1792. (Fig. 10) Extremely indignant about the "slavery" of Greeks to Turks, who were equally "degenerated," Choiseul-Gouffier blamed modern Greeks for not having the energy and love of freedom of their ancestors. Furthermore, his desire to rescue the Greek lands and antiquities from the "ignorant" Turk made him turn the introduction of his book into an open invitation for a Greek rebellion to be arranged by European powers and led by the Queen of Russia, Catherine II.[21] The impressions of travelers were always intense; they used language and engravings to convey these emotions to those who could not be there.

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2.1.2. The Restorations of the *Pensionnaires*

It was stated above that the genre *voyage pittoresque* diffused images of peculiar, sublime effects of ancient and modern sites." It was also underlined that there was a fine line between serious archaeology and romanticism of antiquities, and architects were prone to benefit from the both sides. The Academy in Rome had already chosen the middle way, and supported archaeology and romantic painting at the same time. This was a practical choice, given that all the efforts helped revival of antiquity in France. Therefore, the Academy encouraged more and more the studies of antiquity and gradually ignored modern architecture in Italy. Here, it will be discussed how the French Academic system developed the architectural archaeology in the eighteenth-century, which was supposed to create the powerful effects of Greek and Roman magnificence seen in pictures.

Just as engravings were a very important aspect of the *voyage pittoresque*, paintings of antique themes appear to have been a favorite genre that provoked curiosity. According to Gilbert Èrouart, the "1750s were marked by a sudden renewal of interest in Neapolitan countryside painting" in the manner of Salvator Rosa and his followers. Èrouart also stated that the continental painters, such as De Jong, Christian Wilhelm Ernst Dietrich and Joseph Vernet, as well as the British "Grand Tour" artists, such as Richard Wilson, Joseph Wright of Derby and John Runciman, contributed to this genre of depicting the ruins in the wild countryside, which became the main theme of the traveler-painters, as well as the publishers of *voyages pittoresques*.[22] Piranesi was in the middle of this new interest in drawing the ruins, and his French disciples were affiliated with the

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French Academy. Architects and painters like Charles Michel-Ange Challe, Louis-Joseph Le Lorrain, Jean Laurent Legeay, Charles-Louis Clérisseau, and Hubert Robert influenced architectural design with their depictions of architectural fragments with antique character.

The links between the *voyage pittoresque*, the genre of ruin paintings, and Greco-Roman archaeology were powerful. As mentioned above, Oechslin claimed that the "interdisciplinary" atmosphere pervaded the intellectual milieu of the time.[23] This interdisciplinarity between artistic and archaeological work underlies the common willingness to ignore the historical distance that separated the ancient world from the time of the artists. In fact, it may be more correct to talk about a common source of inspiration rather than an interdisciplinarity, and it is essential to say that this source of inspiration was not the ancient world per se, but its appearance as seen through romantic archaeology. At this time, archaeology was a flourishing disciplinary field that was seized upon by artists and architects who wanted to inherit and revive those aspects of the Greco-Roman world relevant to their "disciplines." For them, this Greco-Roman world was made of appearances, and its societal, cultural, and economic structures were invisible, irrelevant or simply ignored. Both painters and architects were interested in appearances of buildings of the ancient world, and they mutually provoked the imagination of one another. Fantasy united the artists and architects in creating settings that represented a falsified coherence of an ancient world which was "so close." This is why the motivations for the archaeological work of the architects were naturally similar to the motivations of the painters and travelers for depicting the remnants of the ancient

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world, with a theme "they were just here, just a moment ago." This is also why this ancient world was always depicted in a fragmentary picture, since only its fragments provided utility to artists and architects.

Architects were present at archaeological sites for only architectural purposes. The Baths of Diocletian, for example, were far from providing the same complete information as the basilica of Saint Peter's; but the architects, who had only three or four years to stay, could undertake the reconstructions of such Roman buildings only because they were doing pseudo-archaeology. The total disappearance of the *envois* of the eighteenth-century students make it impossible to comment on the nature of the restorations made by the *pensionnaires* of the French Academy in Rome, lodged at the Palazzo Mancini at the time. However, the regulations that determined the obligations of the *pensionnaires* and the reports sent from the administrator of the Academy to the *surintendant* Marigny, later to the *directeur* Angiviller, show that the reconstruction of the antique monuments (*relevé*) was a vague obligation until Angiviller made it officially obligatory in 1778.

In fact, the *Grand Prix de Rome* had a double purpose: one was to direct young architects to follow the example of Desgodets by measuring the buildings of the antiquity, and the other, was to compel them to study modern architecture. The beneficiary of this grant was either free or dependent on the wishes of the *surintendant des bâtiments* in his orientation until the duties of the *pensionnaire* were established by stricter regulations toward the end of the eighteenth-century. Colbert, for example, was in favor of the precise measurement of ancient monuments, whereas the inheritor of his post

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in 1751, Marquis de Marigny, was critical of the exaggerated importance assigned to archaeological work by the young architects, such as the researches that Leroy had recently done in Greece.[24] Soufflot, one of Marigny's companions in his journey to Italy, measured the temples of Paestum, but he also derived many important lessons from Saint Peter's in Rome, which he made use of at the church of Sainte-Geneviève that he built in Paris. Charles De Wailly, on the other hand, studied the Roman Baroque and was fond of Bernini, whose influence can be seen in his work at the church of Saint-Sulpice. This fusion of the art of the ancients and the moderns, *"relative à nos moeurs,"* seems to have satisfied Marigny. During the administration of Comte d'Angiviller as *directeur des bâtimens royaux*, the study of ancient monuments was institutionalized, and he approved the new regulation made by the Academy of Architecture in 1778, which required the *pensionnaires* to restore ancient monuments.[25]

The required preparation of an original project remained part of the pensionnaires' responsibilities throughout the eighteenth-century, and Angiviller described it in the regulation of 1778 as the obligation "with which the [*pensionnaires'*] progress concerning the *génie* will be judged."[26] For most of the second half of the eighteenth-century, the Grand Prix de Rome was seen as an opportunity for the further development of an architect by means of inspiration and knowledge derived from the ancient and modern monuments of Italy. In fact, as late as 1787, the Academy still proved to be careful about the development of *pensionnaires* as creative architects but not as archaeologists, declaring that they should use a part of their time for creating designs that are "impossible to realize." But the same regulation also imposed very politely the

required restoration of a Roman building. According to Hautecoeur, the Academy, "without willing to restrain "the genius" of these men, without intervening in the choice of their studies, demanded that each *pensionnaire* made during his three years of stay a detailed study of an antique edifice."[27] However, after the Revolution, Paris became more interested in acquiring useful knowledge for public architecture directly from the ancient Rome, rather from fanciful projects. From that time on, the restoration of the Roman buildings started becoming the sole purpose of the *pensionnaires*, and original design gradually lost its importance until it was reduced to a single *envoi* of a modern public monument, specified to be submitted in the fourth and last year by the regulation of 1811 and in the fifth year by the regulation of 1821.[28]

For the most of the eighteenth-century the French *pensionnaires* were pseudo-archaeologists whose restorations could not wait for the discovery of all the facts, and they could not have the prudence and patience that Caylus had called for. During the second half of the century, their restorations could not have been based on nothing more than the information that was available to Piranesi: knowledge of classical architecture, study of the still standing Greek and Roman buildings or their ruins, and archaeological publications like "the topographical studies of Nardini," or those which showed recent scholarly progress such as "the new plan of Rome drawn by Nolli and the publication of fragments of the "*grande pianta marmorea*" prepared by Bellori."[29] However, the archaeological studies of these architects also differed from the works of the antiquarians who continued to pillage ancient edifices at least until the end of the eighteenth-century. For many antiquarians, the excavation of an ancient site meant finding transportable

objects or fragments for private collections, which led them to spoil temples and destroy tombs.[30] The respect for the preservation of an ancient edifice started with the international interest in Greco-Roman monuments, which made local authorities to consider them as "public" property.[31] Pierre Pinon explained the new value that the ancient vestiges gained as such:

> For Comte de Caylus (1692 – 1765), as for J. J. Winckelmann (1717 – 1786), the "monuments" no longer served as elements of comparison for texts, but as objects (of art) carrying information in themselves. For them, the excavations no longer had the purpose of enriching the cabinets of the amateurs, but supplied new models for art.[32]

Pinon explained that apart from the antiquarians' interest in the "daily structures" (way of life, habitat, etc.) of the ancient world, the birth of "architectural archaeology" and consequently the phenomenon of large-scale excavation were also due to the demand for the forms of Greco-Roman edifices in the neo-classical period.[33] Thus, the neo-classical architects in general and the *pensionnaires* of the French Academy in particular promoted ancient ruins in terms of rediscovering them by excavation, and spoiled them in terms of using their appearance for the justification of the application of antique fragments in contemporary projects. It can be argued that the representations of the "amazing" ruins also influenced the attitude toward archaeological researches made by architects. Moreover, architectural design at the time was inspired by various representations of the antique world, as stated by Hautecoeur:

> The monuments that the *pensionnaires* and architects studied, the museums, the edifices, the excavation sites that they visited, the engravings that they saw and admired at Piranesi's or at his editors' [ateliers], the discourse that they heard from the antiquarians, the books that appeared, the

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accounts of journeys that multiply...; all these created admiration for
Antiquity and the Renaissance.[34]

Although the admiration of antiquity had also provoked archaeological research
in the Renaissance, in the eighteenth-century archaeology meant the discovery of
architectural forms, plans, motifs and structures to be used by artists and architects.
Among the ancient motifs used by architects were the large vaults of baths, bridges and
palaces, the free-standing monuments like triumphal arches and obelisks, giant columns
of temples and basilicas, and the tombs of the emperors. It is not surprising that these
themes were also the main objects of the works of the *pensionnaires*. Already in the
1750s, De Wailly, Moreau and Peyre had initiated large-scale restorations in their
attempts to measure the Baths of Diocletian and Caracalla.[35] (Fig. 11) The director of the
Academy of Rome, Natoire, praised the last works of Piranesi in a letter sent to Paris and
added that he was very content of the studies made by architects, especially by Moreau
and De Wailly. According to Hautecoeur, this was at just the time when Peyre was
studying the Villa Hadriana.[36] The discoveries that the Villa Hadriana offered were so
charming that Gondoin, enriched considerably by private commissions thanks to the
success of the Ecole de Chirurgie, went back to Italy in 1769 to carry out large-scale
excavations at the Villa, which he even considered buying for himself. On his return, he
purchased a large territory near Paris where he intended to build a gigantic villa like
Hadrian's, a project which failed due to the Revolution.[37] Oechslin stated that from
Borromini to Pirro Ligorio, there was continuous work on the reconstruction of the plan
of the villa, and Piranesi was inserted in this tradition by the appearance of some of his
"*vedute*" in the publication of the plan of the villa by his son Francesco. Oechslin also

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underlined Hautecoeur's claim that Gondoin must have left to Piranesi, who continued

with the excavations, the material that resulted from his archaeological research in

Tivoli.[38] In 1784, another *pensionnaire*, Bénard, produced a reconstruction of the Villa.[39]

The Baths of Diocletian, Baths of Caracalla and Villa Hadriana are only three examples

of concentration of artists and architects on particular buildings of Roman antiquity,

whose forms and elements were to become standards at the end of the century.

The impressive construction techniques of the Romans that appeared in

engravings also attracted architects from Paris, such as Soufflot's assistant at the Sainte-

Geneviève, Rondolet, who in 1783 studied the wall construction of the Villa Hadriana

that Vitruvius called *Opus reticulum*.[40] On the other hand, Bonnard was sent to Rome in

1787 on a mission to examine the aqueducts and sewers. The Academy in Paris became

increasingly interested in the monumental urban forms of the Romans which had always

had striking effects in paintings of around the mid-century. Although the *pensionnaires*

were attracted also to the villas, *palazzi* and churches of Italy, written and unwritten rules

compelled them to study the monumental buildings of Rome. At this time, the conception

of monumentality meant being spectacular, big, and magnificent, and reconstructions

owed much to the monumental effects promulgated by the images of antique buildings

produced by architects and painters.

Practical considerations were always among the motivations of the Academy and

the *pensionnaires* for reconstructions. For example, the Theater of Marcellus was studied

by Pierre Adrien Paris in 1771, during the relentless competition for the project for the

building of the Comédie Française in Paris. Two years after the completion of that

building in 1782, A.-.L.-T. Vaudoyer studied the Theater of Marcellus again. In 1785,

Fontaine met Percier in Italy. The two long-time friends visited the ruins together,

reconstructed the villa of Pliny and drew the Arch of Septimus Severus; soon after

Percier was charged by the Academy with drawing the Column of Trajan.[41] This mission

of Percier was not without ultimate purpose: the Colonne d'Austerlitz built for Napoleon

at the Place Vendôme in 1806 by Lepère and Gondoin will be the exact imitation of this

ancient monument, except for the bronze plates that covered the surface of the imitation

instead of the pure white marble surface of the original.[42] The so-called Arc de Tuileries,

built by Napoleon for his victories, was also the exact replica of the Arch of Septimus

Severus that was reconstructed by his favorite architects. The plan of the temple of

Bacchus (Santa Costanza) also did not escape from the attention of the Academy, which

assigned it as one of the monuments to study for its "form" and "plan" in 1792.[43] The

circular motif of this Roman-Christian building had fascinated architects since the

Renaissance, and it even appeared among the engravings of Piranesi and of Neufforge.

Despite its well-preserved condition, the Pantheon was still being continuously studied,

which showed that the minute details of ancient monuments were being analyzed. In

1778, the Academy in Paris objected to L.-E. Deseine's wish to study this Roman temple,

stating that Desgodets had also studied it, but Deseine convinced the Academy by saying

that he would make "his own advancement" on the subject.[44] Boullée had already

benefited from archaeological studies in his work of the 1780s; Percier and Durand

would generalize his antique motifs in architectural design in the 1790s. It should be

remembered that Durand's *Rudiments* was a collection of images showing classical

settings in the manner of *vedutistes* and *ruinistes*. (Fig. 12) Later Durand interpreted with

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Legrand the geometrical aspects of ancient motifs from the point of view of practicality. For example, he considered circular motif to be the most economical form. Such ideas had already found support in current practice. Le Camus des Mézières had built a "monumental" circular granary, the Halle au Blè, in 1769, whose central courtyard was covered with a wooden dome by Legrand and Molinos in 1783. (Figs. 13, 14) When Bélanger rebuilt the dome in iron in 1811, it had, "by a curious coincidence, the exact dimensions of that of Pantheon."[45]

In the second half of the eighteenth-century, the choice of buildings for archaeological study was motivated by two factors: the need to create a stock of formal and technical information for contemporary projects; and the monumental and picturesque "effects" popularized by paintings and prints. The fascination with monumentality increased after reconstruction projects became obligatory for the *pensionnaires*. This obligation coincided with Boullée's "visionary" and monumental projects, which assimilated antique fragments. Cleaned of picturesque sentimentality, a pure monumentality in architecture that prevailed during the Empire of Napoleon coincided with Durand's teaching of elementary composition, and with the schematic but *"antiquisant"* compositions produced in the atelier of Percier. The restrictions of the Academy about the buildings to study showed that the idea behind archaeology was direct "imitation" whose object had become pure antiquity. The search for monumentality remained until the intensification of archaeological study in the nineteenth-century, when architects started looking for unexplored material beyond famous picturesque and monumental themes. However, by then, architectural imagery would have been fed up by

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the images of antique motifs, and ancient archaeology would gradually cease to have reverberations in artistic and architectural production.

2.2. The Nineteenth-Century

2.2.1. Architectural Archaeology and Imitation

It was discussed above that ancient archaeology became the only purpose of the *Grand Prix de Rome* toward the end of the eighteenth-century, which had been established by Colbert with the objective to study the art and architecture of Italy. It was also shown that the *pensionnaires* were demanded by the Academy to develop an architectural archaeology that would be useful in France. This pragmatism must have paralleled in the architectural education, for it was increasingly dominated by the composition of antique motifs derived from archaeology. Here, it will be discussed how techniques of architectural composition and archaeological reconstruction were alike in the nineteenth-century, despite the fact that the students took archaeology very seriously. It will be argued that the concept of imitation was the link between the education at French schools and at the Academy in Rome. As a conclusion, several chosen examples of restorations made by different *pensionnaires* will be discussed to show that the *Grand Prix* manner of composition continued at the Villa Medici, the new seat of the Academy of France in Rome since 1802.

Léon Vaudoyer, in a letter to his father, Antoine-Laurent-Thomas Vaudoyer, explained how he was doing with his second *envois*, which was about the Corinthian

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order. Vaudoyer stated that with his new method he "proceeded in the same manner as in other types [of study], that is, beginning with the individual elements and decomposing the whole into its parts by studying the details in isolation."[46] In decomposing the components of the fragments into their elements, and then recomposing them in the perfect constitution of the order, Léon was applying not only the method used by Durand, but also achieving what Leroy had called for in the 1750s: analytical research in the history of architecture through physical (fragments) and textual (history) materials.

Vaudoyer wrote this letter in 1827, when the archaeological investigations of the *pensionnaires* in Rome had intensified. They were risking their lives on scaffoldings suspended from buildings, checking the basements of the locals to find traces of ancient construction, reading the ancient authors, looking for ancient medallions and coins, and pondering the *Forma Urbis*.[47] In the course of the nineteenth-century, the reconstitution of the elements of ancient architecture depended increasingly on excavation, and the *pennsionnaires* were provided with stipends to be spent for that purpose.[48] Although Pierre Pinon claimed that the students of the Academy in Rome were introduced to the methods of archaeology through the courses given both at the Ecole des Beaux-Arts in Paris and at the Academy in Rome, it seems like in most cases, they were almost alone with the facts of the site and each of them had to learn through his own experience.[49] The feasibility of each project depended on the physical and technical capacities of the student: excavation was needed if the ruin remained under ground; or the construction of scaffolding was necessary if the building was high above the ground. Permission for excavating or building scaffoldings was another problem to cope with.

However, these were only the problems concerning the work at the site, and the question of how to do the reconstruction through these findings remained the major challenge in most of the cases. The reconstruction of the ruins, of course, was the purpose of the *envois* that were required by the *Institut* (which gathered the Academies after the Revolution) and in these the students had to draw the actual state of the ruin together with their subjective reconstruction. The major problem with these reconstructions was the speculative completion of the missing parts. Faced with the ruined and defaced remnants of ancient architecture whose elements were either missing or buried, the *pensionnaire* considered every fragment a clue for the missing unity, be it as small as a piece of a Corinthian capital that would help to reconstitute the order, or as big as the ancient walls, columns, vaults, pavements, etc. Eventually, the *pensionnaire* had to depend on his knowledge of the ancient architecture in the reconstruction of the ruins; but given that this kind of knowledge was also fragmentary and waiting to be updated by such reconstructions, the images of classical settings in the minds of the *pensionnaires* played an important role in their restoration of the defaced fragments as well as in their reconstruction of the spatial arrangements. After all, every restoration was a conjecture, as A.-L.-T. Vaudoyer said:

> Qu'est-ce qu'une restauration? C'est la conjecture la plus probable, appuyée d'autorités, de la forme, de la figure et des proportions d'un monument, aujourd'hui en ruines, et de ce qu'il pourait être au temps de sa splendeur: c'est aux recherches, aux études, à la sagacité de l'artiste à approcher le plus près de la vérité. C'est le genre de travail qui fait connaître si l'architecte a profité de ses études sur les monuments antiques.[50]

The student-architects, educated in the Ecole des Beaux-Arts, approached the site not as historical artifact to be studied and recorded as archaeologists do, but as a task, a

project to be fulfilled, not very different from a *concours* in Paris, of which the elements were antique fragments that were to be composed according to the given program.[51] Being examples to be studied for contemporary architecture, these reconstructions had to be at least as good as Grand Prix projects. Therefore, the *pensionnaires* re-designed the architecture of the ancient ruins in accordance with neo-classical taste, given that this design method was itself derived from the previous analysis of such ancient architecture at the Ecole des Beaux-Arts. In other words, the *pensionnaires* imitated the virtual architect who designed two millennia ago; they imitated the elements he used, his compositions, and his steps; yet, at the end, they designed on their own account. The Academy seemed to be content with most of these reconstructions, because it expected complete Roman models that would enrich the classical doctrine, rather than accurate and detailed records of findings, that is, real archaeology, which was not useful for actual architectural practice.[52] Both of the Academies in Paris and Rome were not interested in the past as past, but in the past as relevant for today.

The architecture relevant for the "present" meant more or less the revival in France of ancient Rome. Moreover, French architects were convinced that contemporary practice in Italy did not have anything to offer. Under these circumstances, architectural archaeology became the preoccupation of the *pensionnaires*. As mentioned before, until the regulation of 1787, the *pensionnaires* were entitled to produce several architectural projects during their stay in Rome. Later, reconstruction gradually became the main purpose of their works in Italy and in some other areas of the ancient world. Several commissions of the Academy intended to keep archaeological endeavors manageable by

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the architectural possibilities of students. A commission made up of De Wailly, L A. Trouard, Jardin, and Paris prepared a report in 1786, in which they stated that it was not useful for the *pensionnaires* to be occupied with the monuments that were severely ruined to be correctly reconstructed. They suggested that students be assigned certain monuments, which were easier to reconstruct and which required less time. Another commission comprising De Wailly, Boullée and Paris, prepared another report, in which an annual project was required from each student. A later report (Boullée, Guillaumot, Paris) overrode the annual project, and asked for one complete project during the whole stay in Rome. D'Angiviller, *Surintendant des Bâtiments*, accepted most of the suggestions in 1787, and the *pensionnaires* regained the right to choose the subject of their reconstruction.[53] Between 1803 and 1810, the *pensionnaires* were obliged to send four studies of details of ancient monuments during the first three years, and the complete drawings of a monument in the last year, "accompanied with explicative and historical memoir."[54] As mentioned before, the regulations of 1811 and 1821 reserved only the last year for the production of an original project. Although the students became increasingly involved with archaeology and less with architectural design, they used their design experience from the school in restoring ruins.

It is interesting to see in these restorations how ancient architecture could be recovered with relative ease from the debris of the past. The time difference was not an obstacle in this process; on the contrary, it helped the speculation about the original state of buildings to focus on "imitation" of the existing examples. Moreover, students benefited from the "authorities" (principles, texts, records, historians) for their

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speculation about the perfect condition of the ancient buildings. The sentimentalism of eighteenth-century architects and painters toward the ruins was irrelevant for the nineteenth-century *pensionnaires*, who were eager to find or to recreate the lost architecture. One can say that in the *pensionnaires'* restitutions of ancient architecture, the time of the student and the time of the ancient architect became confused, as the student substituted for his ancient colleague as if he were designing in the past, or as if the latter were designing today.[55] Quatremère de Quincy considered this very enjoyable for an architect:

> The effect that the remains of antique monuments exert on one's soul is more than [a feeling of] prestige. These fragments, which overcame the centuries, receive even in their mutilation a sort of admiration from the critic, and seem to augment the beauty as we are pleased to imagine with these surviving parts the missing whole. What can the imagination love more than re-establishing their original state? With a simple design, the architect can produce in his restoration of antique edifices this effect which is rare and difficult to find in reality.[56]

The *pensionnaires* were allowed imaginative imitation in their restorations, and in a short period between the romantic engagement with the ruins and the birth of scientific archaeology, these projects constituted a unique architectural work, for they were good visual explications of Quatremère's sense of "imitation." Quatremère had the Platonic notion of *mimesis* in his mind, which became meaningful through the forms of ancient art and architecture, which testified to authentic realizations of imitation. Quatremère saw the "image" in the center of imitation: "to imitate in the fine arts, this means to produce the resemblance of a thing, but in another thing of which it becomes the image."[57] He added that the image was the appearance of resemblance, because direct resemblance belonged to copying rather than imitating:

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It is sufficient to say that the *image* is nothing but the *appearance* of the object represented. Between the *object* and its *appearance*, there is all the difference that separates what really is from what appears to be; this may also apply to the *resemblance*: what belongs to the *image* is nothing but the *appearance* of *resemblance*.[58]

The image explained as the "appearance of resemblance" of the model, was two times away from the reality of the thing imitated, and one time from its copy. Having thus transformed the Platonic notion of different degrees of similitude in representing an "idea" in the different arts, Quatremère managed to avoid different categories of imitation in the fine arts. There was one type of imitation for poetry, painting, sculpture, and architecture, but different modes of representation for each. In the preface of *De l'Imitation*, Quatremère already stated that imitation applied to all the fine arts. Moreover, imitation was a continuous phenomenon, and since ancient architecture was only the appearance of resemblance of an earlier construction (primitive hut), imitation of its resemblance (restorations) in contemporary architecture was also justified. The imitation of ancient examples of imitation, therefore, never posed a problem, as Quatremère believed in and promoted the continuity of classical architecture through imitation of earlier buildings. In short, the ruins constituted for Quatremère the source of the elements of classical architecture shaped by principles of imitation. Restoration projects of these ruins merely resembled the originals, and imitating these "resemblances" would continue those principles in which Romans had imitated the Greeks. In fact, Quatremére's conception of imitation, supported by serious research in ancient art and architecture, was rather romantic than idealist in its implications. Paradoxically, his control on the *pensionnaires'* work and his theory of imitation paved

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the way for the romantic idea of representing in a building the history of architecture, which he despised.[59]

It is not surprising that, under the supervision of Quatremère, the *pensionnaire*s in Rome had to imitate the ancients effectively; that is, they had to reconstruct the antique monuments with an "imitative resemblance" of ancient edifices. Their reconstructions were far from being accurate in many cases as a result of the conditions of the site and their limited time. But they were complete. In fact, Pierre Gros conceded that these "polished" restorations gave the onlooker "a feeling of accomplishment and security; little matters if the authors of these beautiful drawings were themselves conscious of the arbitrary character of their solutions."[60] The measurement of the ruins was a relatively objective task, and according to Jean-Pierre Adam, the students were "scrupulous" in their work.[61] Their subjectivity resulted in their interpretation of these fragments, which was the major architectural activity of a *pensionnaire*. He had to record every significant fragment found on the site and to derive from these fragments the elements and parts that once constituted the architectural unity.

But a repertoire of ancient compositions was already determined, and the students worked mostly on the same monuments or the same sites in the first half of the nineteenth-century. Besides considering archaeology a way opened to imitation in architecture, Quatremère also wanted to limit the models of imitation. He believed, "by studying the same monuments, [the young architect can] assimilate the principles in diverse ways. A small number of works have served as models for generations. They have acquired a sort of natural right."[62] As a result, the archaeological work of the

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pensionnaires had a closed circle, depending on imitation, as the restored "models" influenced and accelerated future restorations, and "supplied future architects with the indispensable elements for all architectural compositions."[63] In short, the *pensionnaires* were not much interested in either archaeology or the methods of construction; their main purpose was to find out – or invent – simultaneously the ancient and modern compositions with given elements and motifs, and with the help of their "creative imagination."[64]

The similarity between the *pensionnaires'* approach to ancient "models" and Durand's treatment of the elementary-fragments, named "parts," cannot be ignored. The student works of the *pensionnaires* at the Ecole des Beaux-Arts, which will be discussed later, suggest that elementary composition was the dominant design method at the Ecole des Beaux-Arts in the beginning of the nineteenth-century. Also in Rome, the student designed a project under the guise of restoration, although it had a given set of elements and a pre-determined layout to obey. These restorations were usually carried out as architectural compositions that pretended to be loyal to the facts. However, in most cases the restoration required the invention of an image of building parts that had disappeared. The student had to apply the known forms, sections, and figures to his "design" of the ancient building. As images of architectural members, these forms, sections and figures were known by him from school projects and earlier restorations. In fact, these were more or less the same images that Durand's had reduced to "parts" in the *Précis*. Durand's "parts" were also born from the images of the ancient architectural motifs, and such motifs were usually found among the ruins. Similarly, the *pensonnaires* studied the

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fragments of the "selected" ruins to determine the elements of the given building; but they were usually restricted with these known motifs to reconstitute the ancient design. The *pensionnares*' motifs, which were invited to restore the missing ancient compositions, were in accordance with Durand's elementary-fragments.[65] This idea of composition with given elements, dominant at the Academy, Ecole des Beaux-Arts and Ecole Polytechnique, explains the liberty of the *pensionnaires* to be simultaneously "creative" and "imitative" in their restorations.

The connection between Durand and Quatremère is known from Rudolph Schneider's study on the latter's influence on French art and architecture between 1788 and 1830. Schneider argued that Durand and Thibault's project, "Temple à l'Égalité," won the first prize in the "Year II" competition thanks to the influence of Quatremère, who was in the jury and preferred "*l'architecture théâtrale des anciens.*"[66] He also showed that Durand was one of the visitor's of Quatremère when he withdrew to his study of "Jupiter Olympien" at Passy after the political amnesty in 1796. Finally, Schneider claimed that the interior decoration of the Panthéon, which Durand published in the *Recueil et parallèle* (1799), was Quatremère's conception and not yet executed, and in his other publication, *Précis des leçons* (1801-1825), Durand used the "substance of his friend's *Dictionnaire*, which was the cult of Vitruvius, Palladio, Vignola, Ligorio and Piranesi.[67] The idea of composing buildings from a set of coherent elements and motifs, such as in the theory of Durand, could not have merely resulted from a "mechanical" design method, as argued by Werner Szambien, or from a "linguistic" approach to design, as implied by Sergio Villari.[68] It was rather a result of the emerging

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idea of imitation in architecture, although a rigid one, which increasingly depended on archaeology.

2.2.2. The Restorations of the *Pensionnaires*

The imaginative character of the work of the *pensionnaires* in making restorations can be revealed by comparing the same subjects treated by different students at other times. In these works, students usually spent much effort to base their restorations on historical data and make them appear as close to reality as possible; but in the end, they depended on their imagination to complete the missing pieces, which were usually more extensive than the surviving parts. As mentioned before, their imagination depended on images existing monuments or earlier reconstructions, which were similarly speculative. Therefore, besides the actual archaeological knowledge and the historical texts, the publication of images of ancient buildings from Desgodets to Durand provided important information. The contemporary reconstructions, therefore, depended on earlier reconstructions, which in turn depended on those produced by Italian architects during the Renaissance, the most famous of whom are Francesco di Giorgio Martini, Baldasarro Peruzzi, Antonio da Sangallo the Elder, Raphael, Filarete, Palladio, Vignola, and Serlio.[69] For these students, the reconstruction of an ancient building always required a practical attitude. More importantly, they always approached reconstruction from a set of architectural elements that they justified by the fragments of the site or their general knowledge of the architecture of the ancients. The situation was not too different in the

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nineteenth-century, when architectural archaeology became the only source for the compositional techniques that pervaded architectural education.

Some of the outstanding reconstruction projects for the significant monuments of the ancient city of Rome, such as Forum Romanum, Forum of Augustus, Forum of Trajan, Basilica Ulpia, and Basilica of Maxentius, can be discussed in order to clarify the subject. Jean-Amond Leveil undertook the difficult task of reconstructing the Forum Romanum in 1836. His reconstruction, which seems very "fantastic" today, depended on the interpretation of texts, fragments of the ancient plan of Rome engraved in marble (*Forma Urbis*), several Roman coins, as well as on the *Roma Antica* of Famiano Nardini. In his reconstruction of the Forum, which was published in the *Roma Antiqua* (1986), Leveil created an anachronism by locating certain elements side by side, which could not have existed at the same time.[70] (Fig. 15) Moreover, he created an imaginary Roman forum whose elements were too regular, as if all had been built simultaneously, following an "idealized Greek model which is mechanically applied to a Roman reality." (4) In short, the assembly of synchronous classical elements pervaded most of his reconstructions, which ignored the accumulation of differences in centuries in the Forum. One of Leveil's idealized reconstructions was the Tabularium, the Roman Archives, of which the second floor over the *substructio* was totally unknown because it was covered by the senatorial palace (67). In 1850, Alfred-Nicolas Normand undertook the same project, in which he also restored the Tabularium hypothetically, with a second floor in Ionic order following Luigi Canina (19). Like Normand, Constant Moyaux in 1865 also based his reconstruction of the Tabularium on illustrations published by Canina in 1845

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and 1848 (69). The illustrations made by Luigi Rossini and Luigi Canina were in fact

derived from the drawings of the vestiges of the Tabularium in sixteenth-century by

Maarten van Heemskerck (1578) and Étienne (Stefano) Dupérac (1575), as well as from

the engravings and paintings from seventeenth and eighteenth centuries, such as the

Roma Antica of Famiano Nardini (1666), reprinted by Antonino Nibby in 1818 (67).

Although the three architects all benefited from the same archaeological and historical

data, they produced variations of a historical image which was always fictitious.

Moreover, they came up with three different versions of the Tabularium in each case, as

they chose different elements for the reconstruction of the missing parts.

As for the restorations of Forum of Augustus, it is obvious that each *pensionnaire*

benefited from the earlier projects of his fellows, but again, each time they came up with

different solutions. Louis-Sylvestre Gasse restored the forum and the Temple of Mars

Ultor hypothetically in 1805 without the benefit of the first extensive excavations

between 1812 and 1814 during the Napoleonic invasion of Rome. He also did not know

well either the ancient sources or modern archaeology (113). (Fig. 16) However, his

reconstruction became an example for François-Joseph Toussaint Uchard, who took over

the task in 1843. Uchard knew not only the classical works by Desgodets, Piranesi,

Palladio, and Labacco, but also recent archaeological treatises, like that of Nardini,

Canina, and Piale, and in his *Memoire*, he referred to classical texts in Latin. He cited

from *Res Gestae* (the Deeds of Augustus), and used the *Forma Urbis* (the plan of Rome)

and the fragment of the inscription of Salienus which had been found a year ago (120).

Uchard came up with a different plan of the Forum, but he followed Gasse in the Temple

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of Mars Ultor; the only significant difference being that Gasse's temple was *in antis*. Yet, Uchard imagined a totally different forum surrounded by a portico of three rows, and left the two large exedrae on the either side of the porticos open. (Fig. 17) It was Louis Nouget who proved in his restoration of the Forum in 1869 that these exedrae were covered (130). Noguet's section of these exedrae, which he identified correctly as the tribunal by studying ancient texts, was also hypothetical but convincing. (Fig. 18) These three restoration projects were three variations on the same subject, and the differences between them seem to be as much a matter of personal imagination as archaeological findings.

The stories of the restoration of the Basilica Ulpia at the Forum of Trajan were not different. When Jean-Baptiste-Cicéron Lesueur reconstructed the Basilica in 1824 with a single apse at the end facing the Capitoline Hill, its semicircular form had not yet been discovered. Leseuer found the authority to use this form in a drawing by Palladio entitled the "basilica of the ancients," and more especially in the representation of a fragment of the Basilica Emilia in the *Forma Urbis*, which terminated with a semicircle decorated with columns (154). (Fig. 19) During his restoration efforts between 1835 and 1836, Prosper-Mathieu Morey discovered that the representation in the *Forma* fragment with the inscription of "EMILI" was incorrect, a mistake made in G. P. Bellori's edition of the *Forma Urbis* in 1673. Morey then found out that the representation belonged to the Basilica Ulpia (155). Moreover, studying representations of the buildings surrounding the basilica made by copyists from the sixteenth-century, Morey discovered that this semicircular apse was at the eastern end of the basilica, toward the Quirinal, not toward

the Capitoline, as shown by Lesueur. This led Morey to reconstruct apses at both ends of the basilica, which is very close to the restorations of today (164). (Fig. 20) Therefore, when Julien Guadet started working on this forum in 1867, there was almost nothing much of importance to discover, and he used this *envois* as an opportunity to test - and show – his knowledge of ancient architecture and drawing skills. He imagined a single portico contrary to the double porticos surrounding the Forum in the *envois* of Lesueur and Morey, although this was not the common opinion at the time. Also, unlike the two previous projects and contrary to the common opinion today, Gaudet restored the south-eastern façade of the basilica as open, with a colonnade. He went against the idea that the cella of Roman temples were not lit from top, except the circular ones like the Pantheon, and he imagined a skylight for the cella of the Temple of Divine Trajanus. (Fig. 21) Guadet's distaste for archaeology is well-known,[71] but his superb drawings prove that the restoration was essential - as Quatremère had said - even when the available information was not sufficient to realize it truthfully. The Academic committees that judged the *envois* were content with all three restoration projects of the Forum of Trajan, made at different times in the nineteenth-century, but all completed in the "ancient character."[72]

The Basilica of Maxentius is one of those reconstruction subjects of which the plan was almost completely known, the sections partly visible, but the elevations missing. In every student project the basilica was restored with the customary vaults of Roman baths, for everyone agreed about the structural system of the building, which was deduced from its remains. The differences were in the elevations and the interior decorations. Pierre-Martin Gauthier restored the basilica in 1814 with a simple wall

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surface, closing the arched windows of the upper row under the giant arches of the first level, reserving them as niches for statues. (Fig. 22) On the other hand, in 1888 Hector-Marie Désiré D'Espouy pierced the walls (to Laugier's liking) with as many windows as possible, but applied Corinthian columns and pilasters for the first and second orders respectively.[73] (Fig. 23) The possible variations for the elevations of this monumental building were numerous, and the form depended again on architects' choice.

Reconsidering the analytical method mentioned in Vaudoyer's letter in light of these few examples, it can be said that the *pensionnaires'* restoration work was basically analytical and compositional. In order to re-compose the missing architectural forms, they needed a set of architectural elements and the knowledge of their composition, for which they had certain antique motifs as models. The ruins and ancient texts provided some of the information, but the rest of their knowledge was scooped from the general repertoire of ancient architecture. The site usually gave the clues for the possible plan; but the elevation was in many cases conjectural. The striking differences between the representations of the actual state of the site and that of the presumed plan tell something about the real intentions of the architects, which separate their work from pure archaeology. These representations of the actual state of the site were photographic in many cases, although they were orthogonal projections, like at Uchard's Forum of Augustus, and Moyaux's and Normand's Forum Romanum. (Figs. 24-28) The reconstructed plans of the site were more abstract than the detailed drawings of excavations, which were realistic and represented the actual conditions of the site, as in Normand's Forum Romanum and Noguet's Forum Augustus. (Figs. 29, 30) These

drawings were made as close to reality as possible. In short, the restorations not only had a "just finished" look, but they were also abstract and idealized.

Leveil drew the plan of the Forum Romanum with a few lines, dots, curves, and circles, and so did Gasse in making his plan of the Forum Augustus. (Figs. 31, 33) Uchard and Noguet accentuated more the thickness of the walls and the embedded niches, but their plans were also hypothetical repetitions of certain elements, like Leseuer's plan of the Forum of Trajan (Basilica Ulpia). (Figs. 32, 34, 19) Morey's reconstruction of the same plan shows an ideal site, composed of classical elements, in the middle of a dense, irregular urban fabric, whereas Guadet's plan is even more abstract and has the quality of a perfect graphic work. (Figs. 20, 21) The *Forma Urbis Romae* was also composed of a number of marks made by chisel strokes: a necessary abstraction for the representation of architectural elements. (Fig. 35) To a certain degree, this lack of detail and variation, the abstract quality of this primitive representation in stone could have given the architects authority for the idealization of their plans. As mentioned before, elementary abstraction of plan compositions was a common aspect of the education of these architects. The sections and elevations, on the other hand, contradict the abstraction of these plans. However, like in Durand's compositions, the connection between the abstract plan and the elevations in restoration projects was made by antique motifs, found in the ruins and in earlier restorations.

Since the mid eighteenth-century, the *pensionnaires*, who "dig out from the jealous ground that shut up within it the secrets of many plans of those admirable edifices,"[74] helped development of a sense of abstraction in the composition of plans. The

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technique of elementary composition applied by the *pensionnaires* in the nineteenth-century is related to reconstruction efforts in the previous century, when French architects started to assemble a repertory of elements and forms of classical architecture. It should be remembered that many of the architectural "parts" used by Durand for his composition theory were derivations and simplifications of Roman motifs, such as galleries, semi-circular spaces, porticos, vestibules, etc. for which the *pensionnaires* and students of the nineteenth-century had a predisposition. There is an immediate relationship among the different media of the classical vocabulary, such as the *recueils*, architectural museums, and the archaeological production.

For his *Recueil*, Durand studied an abundant archaeological literature by eighteenth-century travelers, such as Leroy, Stuart and Revett, Desgodets, as well as the architectural treatises in French and Italian.[75] Given the emphasis put on the forms and elements of architecture in both the *Recueil* and *Précis*, it can be argued that he must have studied the practical information about formal composition illustrated in the publications of these authors. Moreover, the restorations by the *pensionnaires* in Rome had the purpose of enriching the collections of antique compositions back home. According to Szambien, the idea for an architectural museum was formulated in the wake of the Terror, and made possible by three characteristic products of the second half of the eighteenth-century: the cork model, the *voyage pittoresque*, and the casts of architectural details.[76] One can add to these an architectural archaeology that made use of the imitation for the regeneration of the antique imagery. Legrand mentioned the need for an architectural museum in his *Essai sur l'histoire générale d'architecture*, and he realized

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the first private museum with Molinos, with whom he prepared an architectural museum in the Baths of Julien in Paris in the Year II (1793).[77] Being a friend of Legrand, Durand was also concerned with the idea of creating a collection of architectural models, which he established at the Ecole Polytechnique. In 1795, the Ecole des Beaux-Arts had the only model collection, and around 1800, the Ecole Polytechnique barrowed several Grand Prix projects from the Ecole des Beaux-Arts in order to make their own models. As Szambien has stated, there was not opposition between these two schools. They could share their materials, and the Ecole des Beaux-Arts finally took over the model collection of the Ecole Polytechnique in 1826.[78] The Ecole des Beaux-Arts also purchased the private collection of Cassas in 1809, comprising the models of famous ancient buildings of Greece and Rome executed by the Roman Antonio Chici.[79] This collection was considered to obstruct imaginations of the students during Guadet's teaching and removed from the school in the beginning of the twentieth-century. Until then, it remained as the source of classical architectural imagery, as fragments of antiquity.

The practical archaeology of the Academy in Rome had expected results in contemporary practice, which tended to make use of classical motifs within a compositional strategy. This strategy influenced in turn the new restorations of the *pensionnaires*, who had a standard education in architectural composition. The images of the fragments of the ancient world (painting, etchings and drawings) were turned into types with the help of archaeology at the end of the eighteenth-century. These types, or elementary-fragments, were in turn used as models for the reconstructions of antique ruins in the nineteenth-century. However, the idea of imitation, understood as the study

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and imitation of the past for modern architecture, laid the foundations of the theory of imitation of architectural history. For a new generation of *pensionnaires*, comprising Henri Labrouste, Léon Vaudoyer, Félix Duban and Louis Duc, the elementarization of the remnants of the past and the imitation were the tools gained for architectural composition; these tools were to lead architecture toward a new direction in the age of historicism.

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Notes to Chapter 2

[1] Clérisseau is known to have built one significant building, which is the Palace of the Governor in Metz, built in 1781, whereas Legeay's works for the German sovereigns remained either partial contributions, or unrealized. The word *"ruiniste"* was a common attribution in the second half of the eighteenth-century and did not imply, so far as it is known, an irony.

[2] René de Chateaubriand, *Le Génie du christianisme* (Paris: Retaux-Bray, 1891), pp. 314 *ff.*

[3] Historical novels became a favorite genre in the nineteenth-century, such as Victor Hugo's *Notre-Dame de Paris*, Alexandre Dumas' *Three Musketeers, Comte de Monte-Cristo, Queen Margot*, or Alexandre Dumas-fils's *The Black Tulip*, etc.

[4] Vaudoyer's ideas on this matter are studied by Barry Bergdoll, *Léon Vaudoyer: Histroicism in the Age of Industry* (Cambridge, Mass.: MIT Press, 1994). Bergdoll found these ideas in the letters that Vaudoyer wrote to his father, A.-L.-T. Vaudoyer, a Grand Prix himself and professor at the Ecole.

[5] "Les Antichità, surpassa comme publication archéologique tout ce qui les précédait… Piranèse apporta la sa propre contribution à l'évolution du relevé architectonique et archéologique qui de Brunelleschi, Sangallo et Serlio, à travers Palladio et Desgodets va jusqu'à Canina, Klenze et Hittorf." Werner Oechslin, "L'Intérêt archéologique," p. 402.

[6] See Joseph Rykwert, "Ephemeral Splendors," in *The First Moderns: The Architects of the Eighteenth Century* (Cambridge, Mass.: MIT Press, 1980).

[7] "Nous fîmes même une forte triste épreuve de l'hospitalité Agrigentine, autrefois si renommée; car, après avoir promené nos chevaux déjà harassés, dans les rues périlleuses de la ville, après avoir éprouve les refus des gens même de notre consul, qui ne voulurent pas venir jusqu'à la porte pour nous parler, nous fumes obligés de revenir à un faubourg par lequel nous avions passé en arrivant, et, après y avoir frappé inutilement à toutes les portes et à tous les cabarets, nous nous estimâmes heureux de trouver un méchant grenier ou l'on ne pu nous donner pour souper qu'un melon d'eau, et pour lit qu'un tas de blé." Jean-Claude Richard de Saint-Non, *Voyage pittoresque à Naples et en Sicile* (Paris: Dufour, 1829), IV, p. 231.

[8] The beginning of excavations in Pompei is 1764. See Pierre Pinon, "Comment fouillait-on au 18è et au debut du 19è siècle" *Archéologia*, September 1981, no. 158, p. 18.

[9] Louis Hautecoeur, *Histoire de l'architecture classique en France* (Paris: Picard, 1952), IV, 12.

[10] *Ibid.*, p. 17. It has to be said that Saint-Non was not interested in the ruin per se. He visited the ruins for reporting the aspects of ancient monuments and their history. In fact, Saint-Non, like other travelers, was interested in everything worth mentioning: travel stories, historical and geographical information of places, their modern and ancient buildings, churches, paintings, etc. Saint-Non considered ruins an aspect of ancient lands, and it seems that travelers like him could only see a "picturesque form" in it. For example, while talking about a palace that fell in ruins in Naples, Saint-Non said that it had nothing interesting other than its *"forme pittoresque." Voyage pittoresque*, I, p. 167.

[11] Hautecoeur refered to Cochin who wrote in his *Mémoires* that Leroy brought from Greece nothing but some detailed sketches, which Caylus made adjusted by Le Lorrain and engraved by Le Bas. *Histoire de l'architecture classique en France*, IV, 19.

[12] *Ibid.*, pp. 22 *ff.*

[13] Cochin le fils et Bellicard, *Observations sur les antiquités de la ville d'Herculanum* (Saint-Étienne: Université de Saint-Étienne), 1996.

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[14] Comte de Caylus, *Recueils d'Antiquités Egyptiennes, Etrusques, Grecques et Romaines* (Paris: Desaint & Saillant, 1752), pp. i-xii.

[15] "Il en a rapporté un nombre considérable de tableaux peints à gouasse [*sic*], représentant les vues perspectives, avec les plans, coupes et élévations géométrales de tous les monumens épars que ces îles offrent à la curiosité du voyageur." Jean-Pierre-Louis-Laurent Houel, Prospectus, in *Voyage Pittoresque des isles de Sicile, de Malte et de Lipari* (Paris: Impr. De Monsieur, 1782-1787), p. 1.

[16] "Tout le monde sent l'utilité et l'agrément que présentent les voyages qui réunissent, à une description intéressante, le dessin, plus séduisant encore, des différents sites d'une contrée. Les voyages pittoresques durent [sic] vraisemblablement leur origine à ces vives impressions que font sur l'âme les choses qui étant transmises par les yeux, la frappent avec force." Prospectus, in *Voyage Pittoresque dans le Royaume des Deux-Siciles* (Naples: Cuciniello et Bianchi, n.d.), p. 1.

[17] While Saint-Non reserved a big space for the Vesuvius in the volume IV, Houel described and drew other volcanoes that he saw on his journey.

[18] "Redoutable Protée, il en a la puissance;/ Tantot Volcan, ses feux, par leur effervescence,/ Dilatant les vapeurs des gouffres souterrains,/ Par leur explosion font frémir les humains./ Des torrens enflammés couvrent les champs fertiles;/ Des montagnes de cendre engloutissent le Villes;/ La mer franchit ses bords: ce désastre nouveau/ N'offre à ces malheureux qu'un plus vaste tombeau:/ Ainsi Herculanum la Cité florissante,/ Fut la victime, hélas! D'une lave brûlante./ Mais quoi!... la terre tremble... & ses flancs entr'ouverts/ Laissent apercevoir les routes des Enfers.

Quel tumulte!... quel cris!... quel bruit sourd & funèbre... !/ Quelle noir poussière... ! o Byzance célèbre!/ L'espérance & orgueil de tes fiers Ottomans,/ Tu tombes, tu péris par de longs tremblemens./ De leurs tristes Serrails les Beautés fugitives,/ Dans les champs désolés, errantes & craintives,/ Souffraites à la mort, peut-être à leurs liens, / Envisagent ces maux comme les plus grands bien." Aimé-Ambroise-Joseph Feutry, *Les Ruines* (1767), p. 9.

[19] "... elle [classe pure et timide des artistes] apprendra que quand on détruit, on donne aumône au métier et que l'on appauvrit l'art... les ruines des monuments qui constatent la splendeur des nations, annoncent ou précèdent la ruine des empires. L'art perd ses modèles... On est saisi d'effroi quand on trace d'avance la marche du temps et l'impuissante leçon du passé; on est saisi d'effroi quand on voit les arts se précipiter et s'enfoncer sur ces corps à demi brisés qui entraînent leur ruine. Si la progression arrivée au plus haut période peut exciter des mouvements subversibles [sic], si elle peut amonceler ses décombres sous la lave politique, il faut en convenir, la terre dans la confidence, avertit et cache long-temps le volcan qui la renverse, l'explosion est ralentie par l'insuffisance des feux qu'elle concentre, et à raison des..." Claude Nicolas Ledoux, *L'Architecture considerée sous le rapport de l'art, des moeurs et de la législation* (Paris: Herrmann, 1997), pp. 17-18.

[20] "L'image du grand a un empire sur nos sens qu'en la supposant horrible elle excite toujours en nous un sentiment d'admiration. Un volcan vomissant la flamme et la mort est une image horriblement belle." Etienne-Louis Boullée, "Essai sur l'Art," in J.-M. Pérouse de Montclos, *Boullée: l'architecte visionnaire et néoclassique* (Paris: Hermann, 1993), p. 83.

[21] M.-G.-F.-A. Comte de Choiseul-Gouffier, *Discours Préliminaire du Voyage Pittoresque de la Grèce* (Paris, 1783).

[22] Gilbert Erouart, *L'architecture au pinceau: Jean-Laurent Legeay: Un Piranésien Français dans l'Europe des Lumières* (Paris: Electa Moniteur, 1982), p. 176.

[23] Werner Oechslin, "Le Group des "Piranésiens" Français (1740-1750): Un Renouveau Artistique dans la Culture Romaine," in Georges Brunel (ed.), *Piranèse et les français* (Rome: Academie de France à Rome, 1978).

[24] "Je voudrais que nos architectes s'occupassent plus qu'ils ne font de choses relatives à nos moeurs et à nos usages que des temples de la Grèce. Ils s'éloignent de leur objet en se livrant à ce genre d'architecture. Je ne juge point cette étude aussi favorable pour cultiver et augmenter leurs talents qu'ils peuvent le penser." Quoted by Ferdinand Boyer, "Antiquaires et architectes français à Rome au dixhuitième siècle," *Revue des études italiennes*, October-December, 1954, p. 181.

[25] *Ibid.*, p. 183.

[26] "... par la ils feront juger des progrès qu'ils font dans la partie du génie." Louis Hautecoeur, *Histoire de l'architecture classique en France*, IV, 40.

[27] "... en 1787 l'Académie constata que les élèves occupaient la majeure partie de leur temps a exécuter "les projets des édifices qu'ils imaginaient et qui étaient souvent d'une exécution impossible." Sans vouloir contraindre "le génie" de ces jeunes gens, sans leur interdire de se livrer aux travaux de leur choix, elle demanda que chaque pensionnaire fît, durant ses trois années de séjour, l'étude détaillée d'un édifice antique qui lui serait désigné." *Ibid.*, p. 40.

The *Grand Prix de Rome* granted architects between three to five years of stay at the Academy in Rome, depending on the regulations that changed frequently.

[28] Pierre Pinon and François-Xavier Amprimoz, *Les Envois de Rome (1778 – 1968): Architecture et archéologie* (Rome: École Française de Rome, 1988), pp. 59 *ff.*

[29] "Comme tous ces "archéologues", il se sert de moyens disponibles à son époque: il s'appui sur les études topographiques d'un Nardini et profite de progrès plus récents comme du nouveau plan de Rome mesuré et dessiné par Nolli et de la publication des fragments de la "grande pianta marmorea" préparée par Bellori". Werner Oechslin, "L'Intérêt archéologique et l'expérience architecturale avant et après Piranèse," in Georges Brunel (ed.), *Piranèse et les français* (Rome: Academie de France à Rome, 1978), p. 402.

Pianta marmorea, or the *Forma Urbis Romae*, refers to the fragments of the giant plan of Rome carved in marble during the rule of Septimus Severus circa 200 A.D. It once covered a wall in the *Templum Pacis* in Rome.

[30] For the information on the archaeology in the eighteenth and nineteenth centuries in Rome, see Pierre Pinon, "Comment fouillait-on au 18ᵉ et au debut du 19ᵉ siècle," *Archéologia*, September 1981, no. 158, pp. 16-26.

[31] One can also talk about an ethical consciousness on the part of the antiquarians/archaeologists. A good example is Quatremère de Quincy's objection to the transportation of the Italian antiquities to France during the Napoleonic occupation. It was Percier and Fontaine who built the museum in the Louvre for the exhibition of these objects.

[32] "Pour le Comte de Caylus (1692-1765), comme pour J.J. Winnckelmann (1717-1786) les "monuments" ne servent plus seulement d'éléments de comparaison pour les textes, ils deviennent des objets (éventuellement d'art) porteurs en eux-mêmes de connaissances. Avec eux, les fouilles n'ont plus seulement pour but d'enrichir les cabinets d'amateurs, elles fournissent à l'art de nouveaux modèles." Pinon, "Comment fouillait-on au 18ᵉ et au debut du 19ᵉ siècle," p. 18.

[33] *Loc. cit.*

[34] "Les monuments qu'étudient les pensionnaires et les architectes, les musées, les édifices, les champs de fouilles qu'ils visitent, les gravures qu'ils admirent chez Piranèse ou chez les éditeurs, les discours qu'ils entendent chez les antiquaires, les livres qui paraissent, les récits de voyages qui se multiplient, tout cela entretenait chez ces hommes l'admiration de l'Antiquité et de la Renaissance." Hautecoeur, *Histoire de l'architecture classique en France*, IV, 44.

[35] With the permission of the king, Charles de Wailly and Moreau shared the grant given to De Wailly. They received help from Marie-Joseph Peyre, another *pensionnaire du roi*, during their study of the Roman baths.

[36] "Nos jeunes architectes font de bonne étude issy et s'advancent plus aisément que nos peintres; il en est party deux, l'un nommé Moireau (Moreau) et Douailly (de Wailly), desquels je suis fort content..." Quoted by Louis Hautecoeur, *Histoire de l'architecture classique en France*, IV, 40.

[37] Quatremère de Quincy, *Notice historique sur la vie et les ouvrages de M. Gondoin, lue à la seance publique de l'académie royale des beaux-arts, du 6 octobre 1821* (Paris: Institut de France, 1821), pp. 13-14.

[38] Oechslin, "L'Intérêt archéologique," pp. 400-401.

[39] Hautecoeur, IV, 42.

[40] Hautecoeur, IV, 43; Pinon, *Les Envois de Rome*, p. 100.

[41] Hautecoeur, IV, p. 43.

[42] *Restauration des monuments antiques par les architectes pensionnaires de l'académie de france à rome, depuis 1788 jusqu'à nos jours. Percier, La Colonne Trajane (Rome): restauration exécutée en 1788* (Paris: Firmin-Didot, 1877), p. 11.

[43] Hautecoeur, IV, 43.

[44] *Ibid.*, 41.

[45] "Bellanger, architecte, la refit en fer an 1811, telle qu'on la voie aujourd'hui. Il est assez curieux que par l'effet du hasard cette coupole ait exactement les dimensions de celle de Panthéon." Léon Vaudoyer, "Histoire de l'Architecture," in *Patria: La France Ancienne et Moderne* (Paris: J.-J. Dubouchet et Cie, Janvier 1846), pp. 2114-2199.

[46] "J'ai cru devoir dans ce nouveau mode d'étude suivre la meme marche que dans celle de tout genre; c'est-à-dire commencer par les éléments et décomposer les ensembles dans toutes leurs parties en étudiant les détails isolément." Barry Bergdoll, *Léon Vaudoyer: Historicism in the Age of Industry* (Cambridge, Mass.: 1994), p. 84, note 29.

[47] Percier is one of the students who needed to use the suspended scaffolding to measure the Trajan's Column. Pinon, *Les Envois de Rome*, p. 106. On the other hand, field research, antique coins and records were among the ordinary studies that the *pensionnaires* did before they started their restorations.

[48] Pinon explained in detail the gradual determination of the work of a *pensionnaire*. He interpreted the regulation of the 1778 as the first step toward fixation of the task of restoration. *Les Envois de Rome*, pp. 22-23. Although only the regulation of 1873 explicitly granted a sum of money for the excavations, it seems that the *pensionnaires* could demand money for excavations apart from their stipend. For example, according to Pinon, the first systematic excavation at the Tomb of Cecilia Matella was realized by Grandjean de Montigny between 1803 and 1804, in which case the Italian authorities demanded a payment from the French authorities for "extraordinary expenses" resulting from Montigny's excavations. *Ibid.*, pp. 171-173. Also Abel Blouet, after having worked on the Baths of Caracalla, wrote in 1828, in his Preface to the *Restauration des Thermes d'Antonin Caracalla*, that he made excavations on the expense of the Academy: "Encouragé par les premières découvertes, je fis faire, aux frais de l'Académie royale de France, des fouilles assez considérables qui eurent le plus grand succés...;" *Ibid.*, p. 190.

[49] Pinon stated that the preparation of the *pensionnaires* for archaeological research started at the Ecole des Beaux-Arts, where history of ancient architecture and antiquity largely occupied the course work, and the course on archaeology included figuring out the plans from the fragments. *Les Envois de Rome*, p.

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94. According to Louis Hautecoeur, Quatremère de Quincy, fearing that the students could fall under the spell of "romantic" influences, created the chair of archaeology for Nibby, the famous archeologist of the time who had been already lecturing at the Villa Medici, during the administration of Ingres in 1836. Hautecoeur, VI, 149.

[50] "What is a restoration? It means to conjecture as good as possible, based on the authorities, the forms, figures, and proportions of a monument in ruin today, about how it should have been at the time of its splendor. Approaching to the reality as close as possible depends on researches, studies, and the sagacity of the artist. This kind of work reveals if the architect had profited from his studies of ancient monuments." This paragraph was quoted from A.-L.-T. Vaudoyer's report on the *envois* of Lesueur in 1824. Quoted in *Roma Antiqua: envois des architectes français (1788-1924): forum, colisée, palatin* (Paris: Ecole Nationale Supérieure des Beaux-Arts, 1986), p. 155.

[51] Cathrine Brice argued that the architects in Rome worked for a long time with the intention to find the "beauty" of ancient architecture as "model;" it was only after archaeology was established as a scientific discipline, Brice argued, that the study of ancient art and architecture ceased to be related to the discovery of the "beauty":

"... avec le développement autonome de l'archéologie comme "science de faits et d'observations, analogue aux sciences naturelles", la volonté d'accumuler des données qui n'ont plus forcement le caractère de la beauté, et qui n'ont plus par conséquent fonction de modèles (d'autant que la rigidité des modèles est elle-même remise en cause par les découvertes récentes), l'architecte a effectivement le choix entre un attachement à la tradition conduisant à la restauration de monuments déjà étudiés, ou bien une soumission à l'actualité archéologique dans ce qu'elle peut avoir désormais de "banal.""

Catherine Brice, "Le Débat entre architectes et archéologues à travers la revue générale de l'architecture et des travaux publics (1840-1890)," in *Roma Antiqua: envois des architectes français (1788-1924): forum, colisée, palatin* (Paris: Ecole Nationale Supérieure des Beaux-Arts, 1986), p. xxxv.

[52] For example, J.-Ch. Bonnard was charged by the Academy in 1789 by studying the Roman aqueducts and drainage systems, as this study was expected to be practical for the city of Paris. Pinon, *Les Envois de Rome*, pp. 38-39.

[53] *Ibid.*, pp. 27-38.

[54] Jean Tulard, "Napoléon et la Nouvelle Fondation de l'Académie de France à Rome," in *Correspondance des Directeurs de l'Académie de France à Rome* (2 vols.; Rome: Edizioni dell'Elefante), 1, p. 13.

[55] Catherine Brice commented on the "atemporal" quality of restorations of the ruins, despite all the historical analysis involved in these restorations: "on ne peut qu'être frappé par le paradoxe évident et fondamental dans la démarche prônée par les Beaux-Arts pour l'étude de l'Antiquité. Elle se donne au départ les bases historiques nécessaires à cette recherche, bases qui sont en fait les mêmes que celles utilisées alors par les archéologues pour l'étude de monuments, - ou plutôt d'un ensemble monumental -, auquel en dernière analyse, elle dénie précisément toute historicité, figeant son objet dans une atemporalité qui lui est conférée par les grandes lois de la nature et de beauté. Ce sont les règles de l'ordre classique qu'il faut copier, étudier, puis réinventer en fonction des autorités, et non pas en fonction des découvertes récentes." "Le Débat entre architectes et archéologues," p. xxxiii.

[56] "Les restes des monuments antiques exercent en effet sur l'âme plus d'une sorte de prestige. Ces fragments, qui ont triomphé des siècles, reçoivent de leur mutilation même une espèce de privilège qui les soustrait à la critique, et semble augmenter la beauté, dans la partie qui subsiste, de celle qu'on se plait à supposer au tout qui n'est plus. Aussi n'y a-t-il rien que l'imagination aime plus à rétablir dans son premier état ? Cet effet, qu'il est rare et difficile d'obtenir en toute réalité, l'architecte le produit souvent dans les restaurations que le simple dessin lui permet de faire des édifices antiques. " A.-C. Quatremère de Quincy,

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Notice historique sur la vie et les ouvrages de M. Gondoin, lue à la seance publique de l'académie royale des beaux-arts, du *6 octobre 1821* (Paris: Institut de France, 1821), pp. 10-11.

[57] "Imiter dans les beaux-arts, c'est produire la ressemblance d'une chose, mais dans une autre chose qui en devient l'image." A.-C. Quatremère de Quincy, *De l'imitation (1823)* (Bruxelles: Archives d'Architecture Moderne, 1980), p. 3.

[58] "Il suffit de dire que l'image n'est autre chose qu'une apparence de l'objet représenté. Il y a entre l'objet et son apparence, toute la différence qui sépare ce qui est en effet de ce qui paroit être; et ceci peut s'appliquer aussi à la ressemblance: celle qui appartient à l'image n'est autre chose qu'une apparence de ressemblance." *Ibid.*, p. 11.

[59] Demetri Porphyrios underlined this inherent contradiction in Quatremère's thought. He stated that at that time, architecture represented not the imitation of nature, but its own history. "L'infâme pluralisme," in Quatremère de Quincy, *De l'imitation (1823)* (Bruxelles: Archives d'Architecture Moderne, 1980), p. vii.

[60] Pierre Gros, "L'Utopie rétrospective," in *Italia Antiqua: Envois de Rome des architectes français en Italie et dans le monde méditerranéen aux XIXe et XXe siècles* (Paris: Ecole Nationale Supérieure des Beaux-Arts, 2002), pp. xi-xii.

[61] As Jean-Pierre Adam noted, an important part of the *pensionnaires'* job was the measurement of fragments, and they were doing it well. Adam supported his argument with comparisons between the work of the *pensionnaires* and that of the real archaeologists. "Les Envois de Rome: modèles académiques, documents archéologiques ou oeuvres d'art?" in *Italia Antiqua: Envois de Rome des architectes français en Italie et dans le monde méditerranéen aux XIXe et XXe siècles* (Paris: Ecole Nationale Supérieure des Beaux-Arts, 2002), pp. xxi-xxii.

[62] "Rapport de la Section d'Architecture sur les travaux envoyés de Rome, pour l'année 1834, p. 2;" pièces annexés des procés-verbaux de l'Académie des Beaux-Arts, 1835, 5 E 24, Archives de l'Académie des Beaux-Arts, Institut de France, Paris. Quoted by Neil Levine, "The Romantic Idea of Architectural Legibility: Henri Labrouste and the Neo-Grec," in Arthur Drexler (ed.), *The Architecture of the Ecole des Beaux-Arts* (New York: The Museum of Modern Art, 1977), p. 360.

[63] "Il semble assuré que les envois des trois premières années, que l'on intitule les "fragments antiques", sont non seulement des apprentissages du dessin de rigueur et du respect des règles des ordres, mais ont vertu de compléter ou de remplacer les planches pédagogiques de Desgodets afin de fournir aux futurs architectes les éléments indispensables à toute composition architecturale. Ces éléments sont bien entendu considères sous leur seul aspect plastique, la technique et la stabilité du bâti sont totalement exclus de ces analyses." Jean-Pierre Adam, "Les Envois de Rome," p. xxi.

[64] "Les pensionnaires... fouillent volontiers dans les textes anciens de Thucydide à Pausanias et exploitent les notes ou dessins qu'ils ont prise ou faits lors de leurs voyages en Italie, en Grèce ou en Asie Mineure, pour meubler, en fonction de rapprochements qu'ils pensent pertinents, leurs restaurations. Mais le carcan des typologies ou des styles, c'est-à-dire le sentiment qu'on ne peut pas sans imprudence ignorer les contraintes de la chronologie, n'avaient pas encore limité les initiatives au point de tarir l'imagination créatrice." Pierre Gros, "L'Utopie rétrospective," p. xii.

[65] It should be reminded that the use of Neo-classical motifs that constituted the "parts" in Durand's theory usually spread from archaeology and contemporary design, such as the projects of Boullée.

[66] Rudolph Schneider, *Quatremère de Quincy et son Intervention dans les Arts (1788-1830)* (Paris: Librairie Hachette et Cie, 1910), p. 31.

[67] *Ibid.*, pp. 12 and 363.

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[68] The most comprehensive book on Durand was written by Werner Szambien, *J.-N.-L. Durand: de l'imitation à la norme* (Paris: Picard, 1984), which treated him in the context of the Ecole Polytechnique. On the other hand, in Sergio Villari, *J.N.L. Durand (1760-1834): Art and Science of Architecture* (New York, 1990), Durand's composition method was treated as the precursor of architectural semiotics.

[69] Pinon, *Les envois de Rome*, pp. 200-203. Pinon pointed out the affinity between the complete restorations made by Desgodets and Palladio, and stated that Desgodets also intended to correct the mistakes made by Palladio, as well as by Serlio and Fréart de Chambray. This was Desgidets' motivation for publishing side by side the ruin and its reconstruction.

[70] *Roma Antiqua*, pp. 3-4.

[71] Guadet is known to have said, "Archaeology, this is the enemy."

[72] In the report for Leseurs *envois*, A-L.-T. Vaudoyer wrote that "he produced the ensemble of these monuments with great simplicity, harmony, and with a well-pronounced ancient character." *Roma Antiqua*, p. 155. On the repetition of semicircular tribunal in Morey's project, Achille Leclère reported that they found it probable because of "the great effect it produces." *Roma Antiqua*, p. 163. As for Guadet, the commission reported that "the author terminated his Memoir by saying that he wanted to make this restoration an architectural study, rather than an archaeological work. The commission found the results of this choice remarkable and for that reason, it congratulates Mr. Guadet." *Roma Antiqua*, p. 184.

[73] *Roma Antiqua*, pp. 212-231.

[74] "Ces élèves courageux ont arraché à la terre jalouse qui l'enfermait dans son sein le secret de plusieurs de ces plans d'édifices admirables..." From "*Extrait du Rapport*" read by Girodet-Trioson on October 5, 1816 at the public session of the Académie Royale des Beaux-Arts. Quoted by Pinon, *Les Envois de Rome*, p. 173.

[75] Szambien, *J.-N.-L. Durand*, p. 100.

[76] Werner Szambien, *Le Musée d'architecture: 1776 – 1836: un projet inachavé* (Paris, 1984), p. 25.

[77] *Ibid.*, pp. 45-53.

[78] Szambien, *J.-N.-L. Durand*, pp. 68, and 100.

[79] Annie Jacques, "Les Architectes de l'académie de France à Rome au XIXe siècle et l'apprentissage de l'archéologie," in *Roma Antiqua*, p. XXIV.

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Figures to Chapter 2
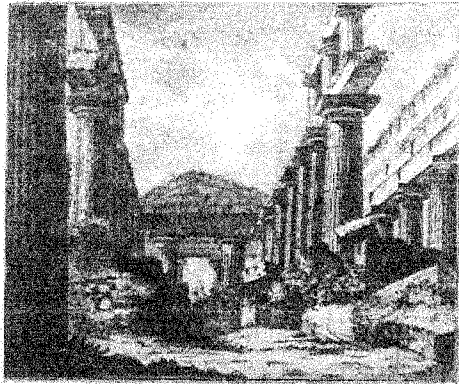
Fig.1. Soufflot, Basilica of Paestum, Sicily
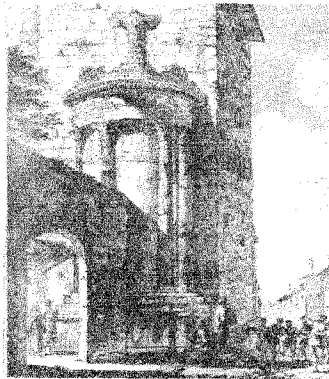
Fig.2. Leroy. Lantern of Demosthenes, from *Les Ruines...*
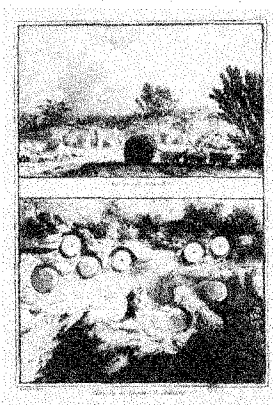
Fig.3. Houel, Quarry at Selinunte, *Voyage Pittoresque...*

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Fig.4. Houel. Temple of Juno, from *Voyage Pittoresque...*

Fig.5. Houel, Grotto of the Sybil, from *Voyage Pittoresque...*
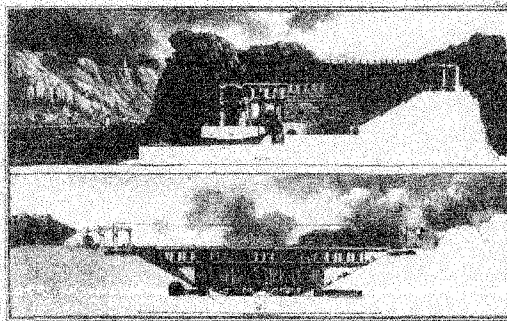
Fig.6. Houel, Section of the Theater of Taormina, from *Voyage Pittoresque...*
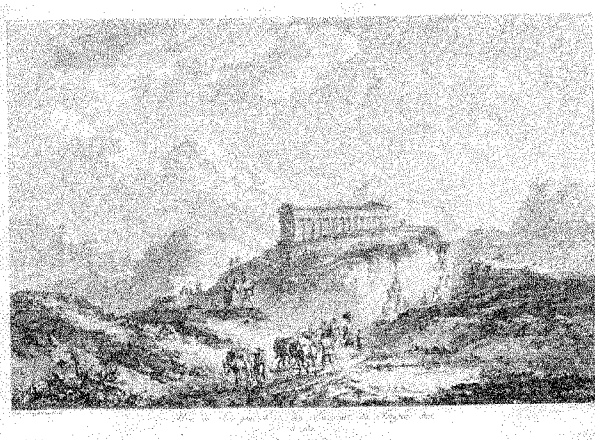
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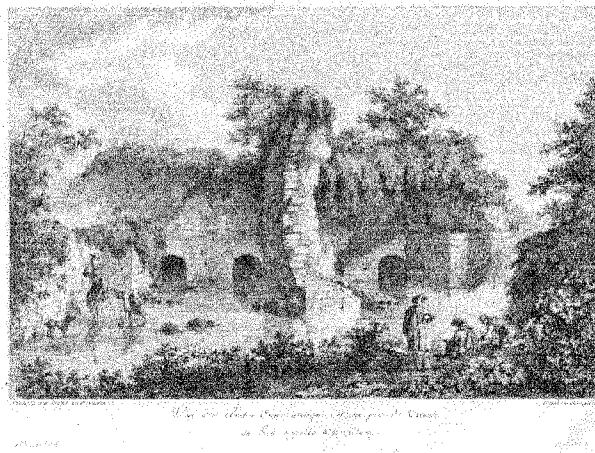
Fig.7. Cistern near Catania, from Saint-Non, *Voyage Pittoresque...*

Fig.8. Temple in Segesta, from Saint-Non, *Voyage Pittoresque...*
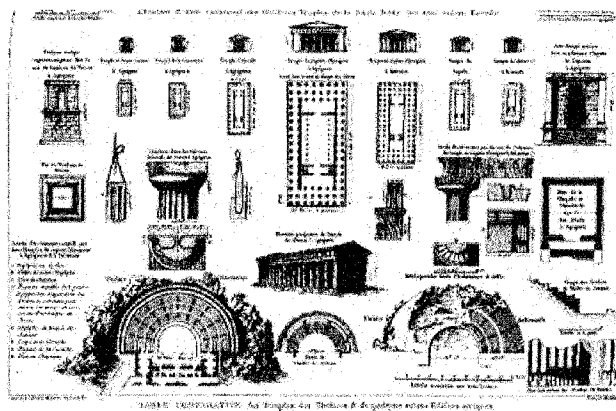
Fig.9. Comparative Table, from Saint-Non, *Voyage Pittoresque...*

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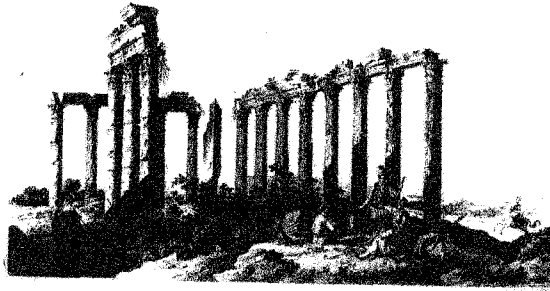
Fig.10. Temple for Eromus, from Choiseul-Gouffier, *Voyage Pittoresque...*
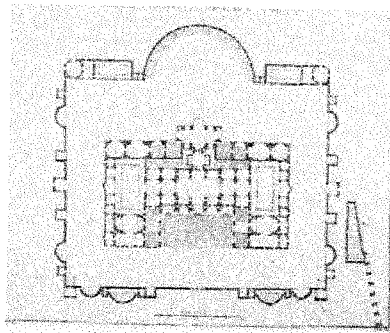
Fig.11. Peyre, Baths of Diocletian, from *Oeuvres...*
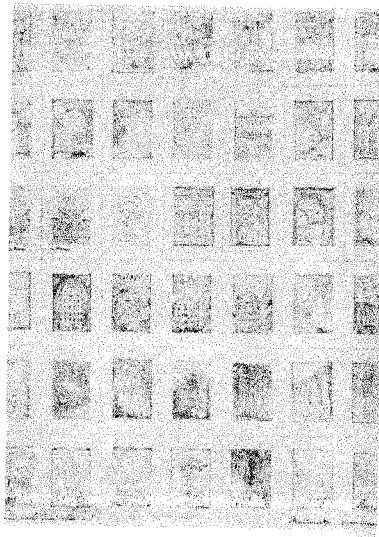
Fig.12. Durand, a portion of *Rudimenta Operis Magni et Disciplinae*

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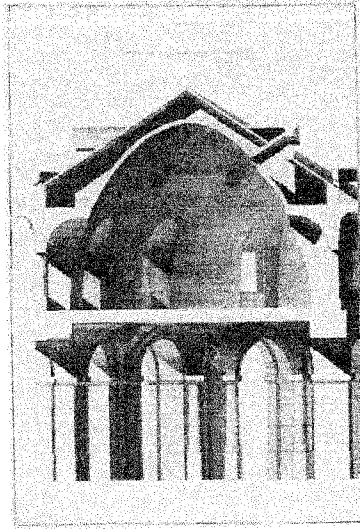
Fig.13. Le Camus de Mézières, section of the Halle au Blé
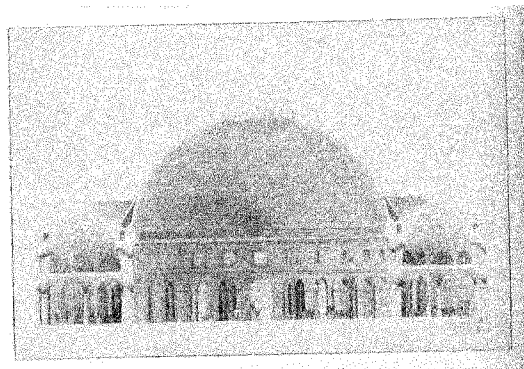
Fig.14. Legrand and Molinos, section of the Halle au Blé
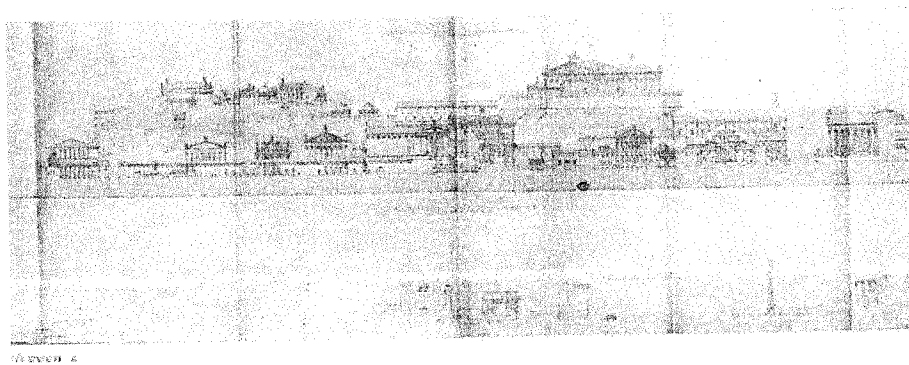
Fig.15. Leveil, Forum Romanum, elevation

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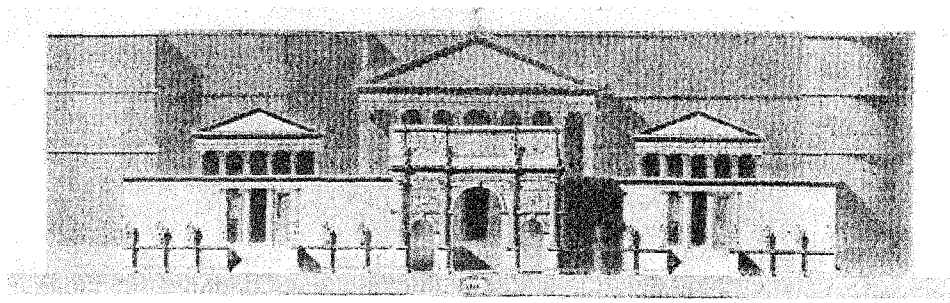
Fig.16. Gasse, Forum of Augustus, elevation
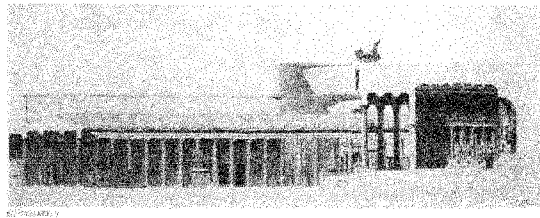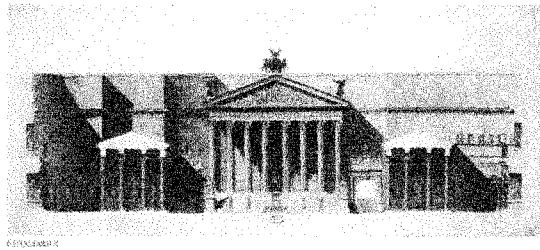
Fig.17. Uchard, Forum of Augustus, elevation and section
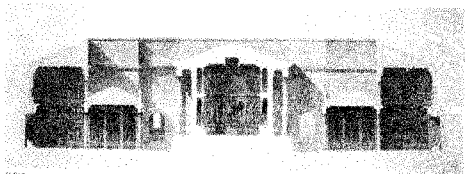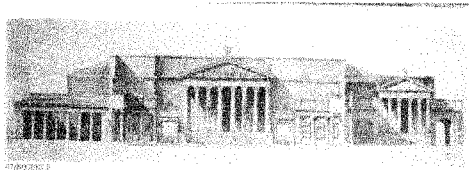
Fig.18. Noguet, Forum of Augustus, elevation and section

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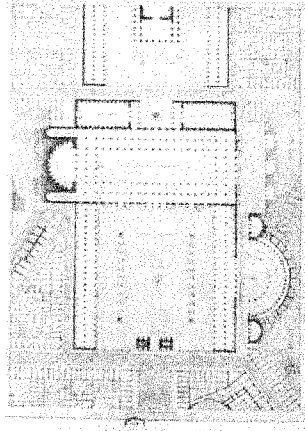
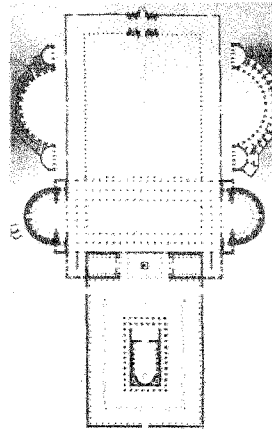Fig.19. Leseuer, Basilica Ulpia, plan
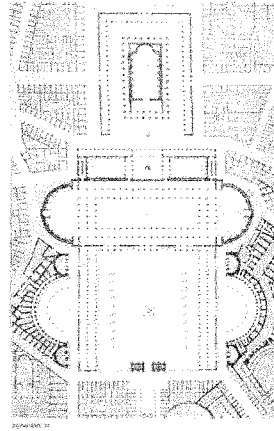
Fig.20. Morey, Basilica Ulpia, plan
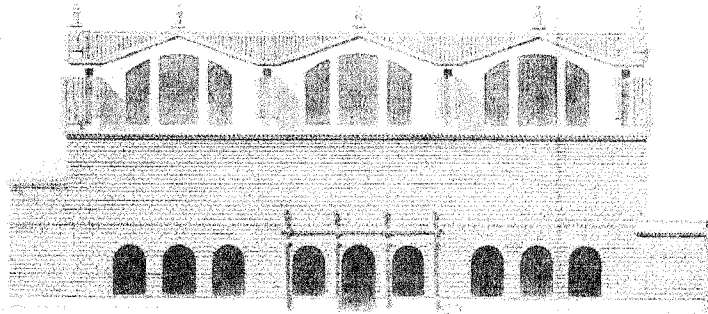

Fig.21. Guadet, Basilica Ulpia, plan

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Fig.22. Gauthier, Basilica of Maxentius, elevation
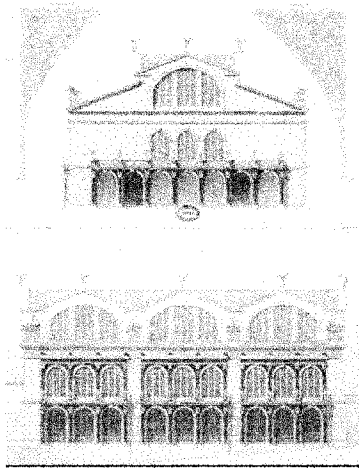

Fig.23. D'Espouy, Basilica of Maxentius, elevation
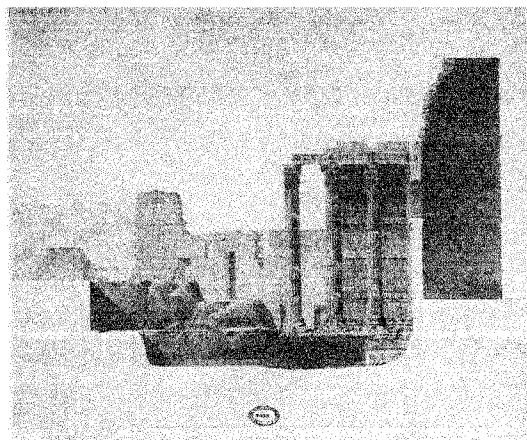

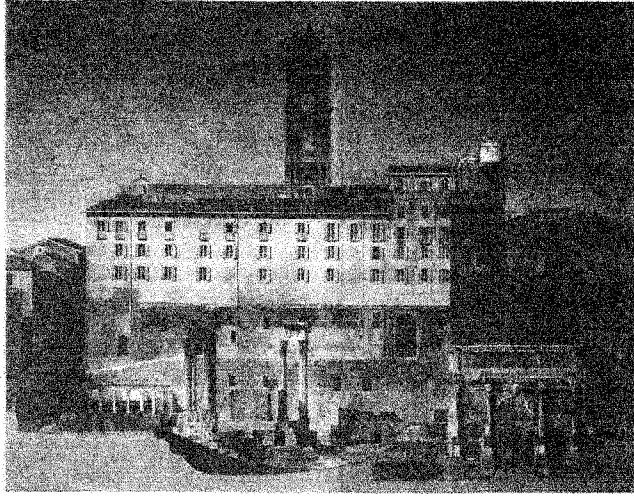Fig.24. Uchard, Forum of Augustus, actual state

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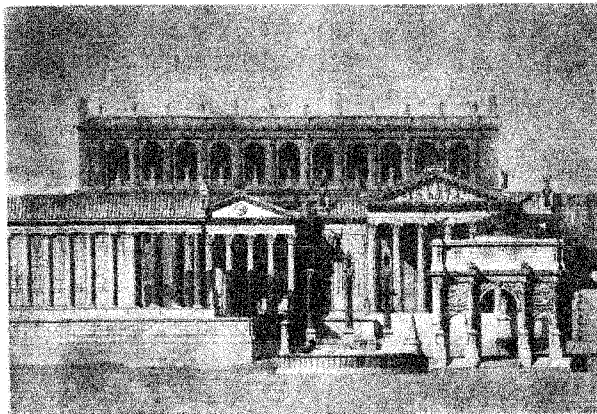Fig.25. Moyaux, Forum Romanum, actual state
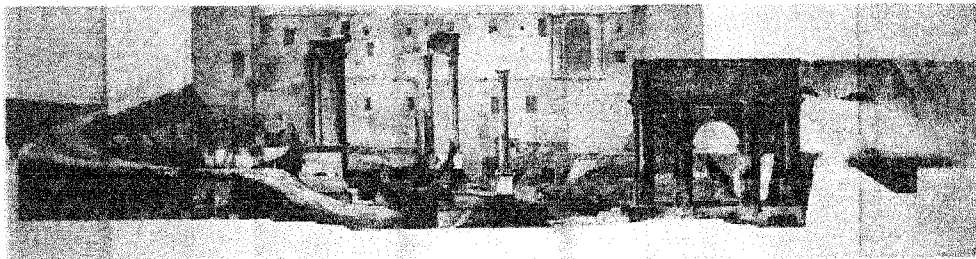

Fig.26.Moyaux, Forum Romanum, elevation

Fig.27. Normand, Forum Romanum, actual state

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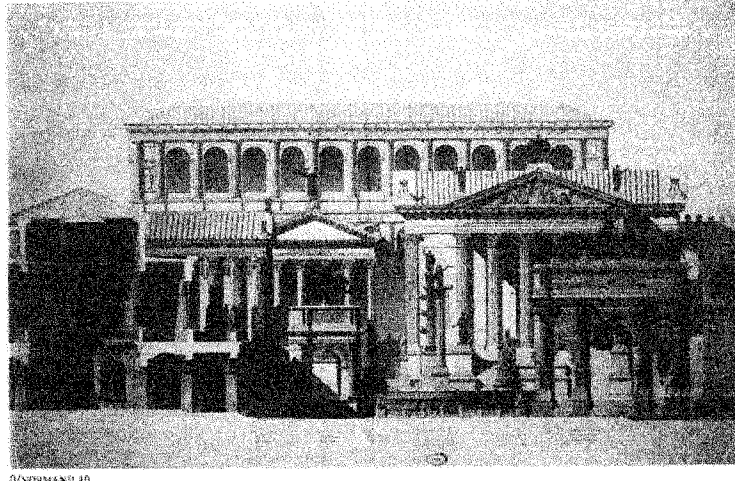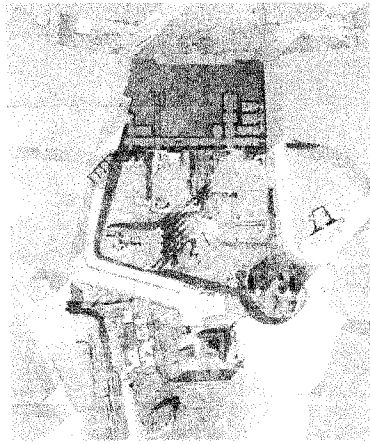Fig.28. Normand, Forum Romanum, elevation

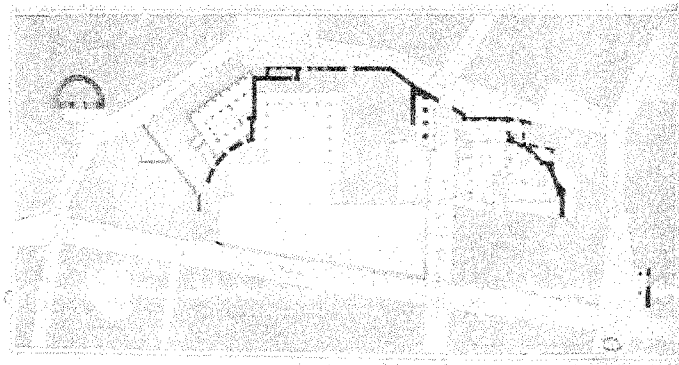Fig.29. Normand, Forum Romanum, plan of the actual state

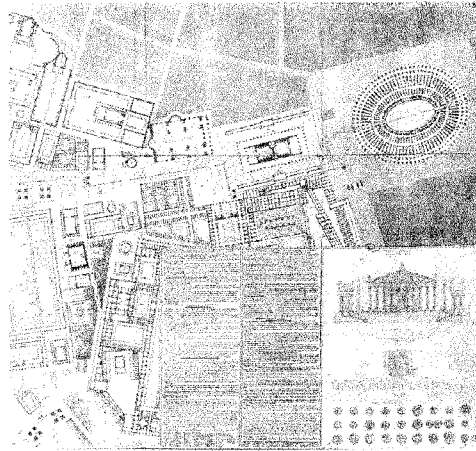Fig.30. Noguet, Forum of Augustus, plan of the actual state
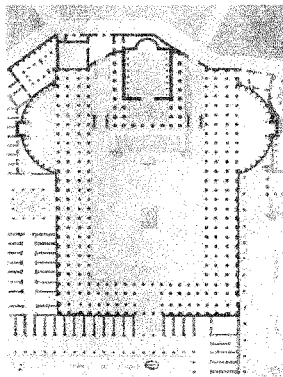
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Fig.31. Leveil, Forum Romanum, plan

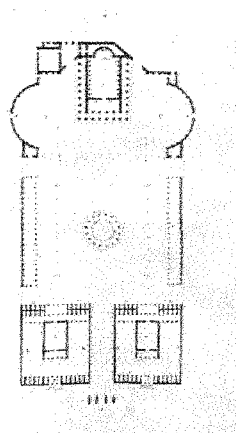Fig.32. Uchard, Forum of Augustus, plan
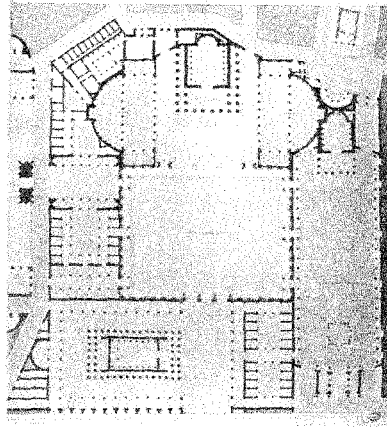

Fig.33. Gasse, Forum of Augustus, plan
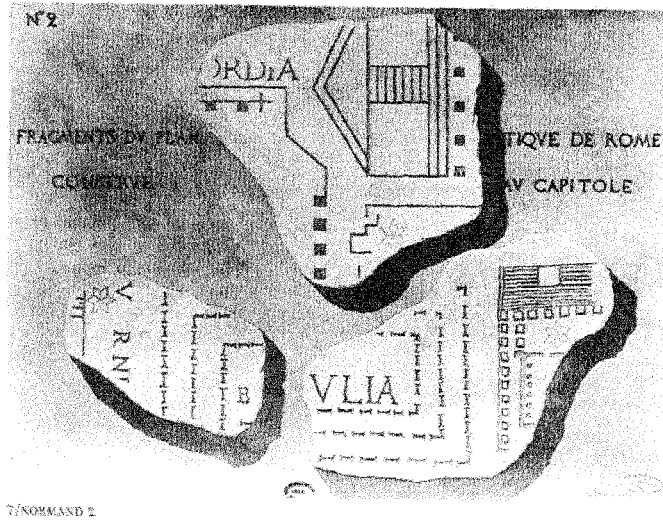
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Fig.34.Noguet, Forum of Augustus, plan

Fig.35. Normand, fragments of the *Forma Urbis Romae*

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3. Architectural Representation

3.1. The Eighteenth Century and the "Autonomous" Architecture

3.1.1. Architectural Space: Surface and Void

This chapter intends to show the change of intentions behind architectural composition, for every transformation gradually took classical architecture to a point where architecture ended up representing itself. It was argued in the previous chapter that the transformation of picturesque ruins into archaeological study paralleled the domination of architectural design with the strategy of composing with antique motifs. It is now time to explain the details of this transformation. The penchant for a fragmented picture of the antique world normalized the use of antique fragments in art and architecture, and as architects started incorporating them in their projects, they faced the problem of integrating these fragments with the rest of the design. Later, these fragments were used to make up entire compositions, which prepared the ideal condition for the creation of an imitative, neo-classical architecture. This process, which will be divided in three parts as the articulation, assimilation and elementarization of antique fragments, will be studied with examples in the next chapter, but all the pre-conditions of such transformation of architectural design will be discussed here.

As the first step, the impact of ancient ruins on French architecture will be questioned. The antique fragments, derived from ruins in the eighteenth-century, were spatial elements that accelerated the change of distribution of spaces and masses in architectural design, which had started in the second half of the seventeenth-century. Two

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visionary architects, Ledoux and Boullée, took the spatial transformation of architecture to a further point by their efforts of representing the void. To show this transformation, architectural sections will be especially studied, for they were the most important tools to create spatial arrangements, as a result of which architectural space had become the main purpose of architectural representation in the works of these two visionaries.

In the next step, the architectural discourse that shows the connection between academic studies and contemporary design will be analyzed to be able to talk about and interpret architectural production. It will be discussed how the classical design concepts, such as "character," "order," and "proportion" transformed parallel to transformations in architectural design. The historical context of the modernity of Post-neoclassical architecture will be briefly discussed in two subsections to show the further transformation of architectural discourse under historicist influence. It will be underlined that, when the machine of elementary composition turned from the "antique" fragments toward "historical" fragments, the "mechanical" method of composition started imitating the historical transition of French architecture from the medieval to the classical style. However, as this chapter will show, everything about order, beauty and decoration in French architecture in the sixteenth-century, became a matter of representing the national architecture in the nineteenth-century.

The first century of classical architecture (1500-1600) in France passed with the adoption of decorative elements derived from the Greco-Roman architecture, such as orders and ornamentation. As this architecture gradually lost its medieval aspects, it gained international reputation under Louis XIV as the French classical style. During this

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time and even until the beginning of neo-classicism in the 1750s, the classical elements

of this style, such as the orders, balustrades, sculpture and other decorative elements, as

well as the main structural motifs such as domes, porticos and various vaulted spaces,

were usually adopted not from the ancient examples but from the modern Italian

architecture. Architectural design evolved with these new elements, as well as with

symmetrical arrangement of the facades and the rectangular regularity of the plans, but

spatial arrangements did not change significantly. In fact, apart from the plans of

religious buildings and flamboyant salons and galleries, the Italian architecture could

hardly penetrate behind the surfaces of the French civil buildings until the middle of the

seventeenth-century. Changes were slow and usually concerned the "distribution" of the

interior spaces, or of the elements of circulation, such as corridors and staircases; in short,

they were not about introduction of new spatial arrangements.

The traditional planning of the French mansion was not very complicated: spaces

of different sizes were "distributed" along the wings which surrounded a courtyard, and

these wings had a hierarchic organization as denoted by the terms *avant-corps* and *corps-de-logis*. The organization of the country mansion (*château*) was also adopted in the town

house (*hôtel*), where the distribution of the spaces was further developed. Yet, the notion

of distribution implied not only connection but also separation of different units, and the

neo-classical invention of the interlocking spaces was foreign to the traditional

distribution of independent units on the same level. When the Italian decorators and

architects first started coming to France in the sixteenth-century, all they could do was

apply Italian decoration to the facades and increase the sense of regularity of the whole.

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Anthony Blunt argued that although famous Italians like Fra Giacondo and Leonardo

visited France, the lesser Italian artists – even Serlio was counted among them - had more

influence on the development of French architecture, and therefore its essential aspects

remained rather medieval than classical for a long time. However, it can be also said that

the interaction between the artistic productions of the two peoples was natural, given that

the Italian masters had to work in France with the French masons and for the French

patrons. Some of these Italians complained that they were only able to be consultants. In

the 1840s French architects who published their historical studies on this transition period

of French architecture in the *Magasin Pittoresque*, used such declarations to prove the

limited influence of Italians on the formation of the French style. After the beginning of

the Italian influence, not only mansions but also other building types such as churches,

convents, and hospitals, demonstrated the new decorative layer. Yet, there were few cases

where a totally spatial motif was introduced, such as the burial chapel at the abbey church

of Saint-Denis, called the Chapelle des Valois and designed by Catherine De' Medici and

the architect Jean Bullant around 1560. Although this circular motif was made famous by

Bramante, its ancient origin was depicted in one of the plates of Serlio's *Architettura*,

most of which were prepared in France and became very popular there.[1] In any case, such

motifs remained as external elements in the whole composition. (Fig. 1)

French architects responded differently to Italian influence during the later, so-

called neo-classical period. Because of the immediate contact with the ancient

architectural heritage of Italy and many other factors, French architects began around the

middle of the eighteenth-century to reconsider the authentic elements of Greco-Roman

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antiquity. The foundation of the Academy of Architecture in 1671, Perrault's illustrated translation of Vitruvius in 1673, and Desgodetz publication of *Les Edifices antiques de Rome* in 1682 had already created a basis for the imagery of purely ancient compositions. (Figs. 2,3,4) However, all these seventeenth-century reconstructions were not intended for direct imitation, but for the measurement of their elements and finding the principles of beauty, solidity, and utility. With increased actual contact with the remains of the ancient world by *pensionnaires* and travelers, French architects stopped seeking exact proportions in the ruins; they were rather seduced by the images of the ruins and allowed themselves to reproduce the effects of these images, as discussed in the previous chapter. This "sacrifice of proportion for effect" caused a new trend in French architecture, and spatial and structural motifs from the past were articulated in conventional plan dispositions.[2] The result of this encounter was different from that of the past, which was about the articulation of the decorative elements on the surfaces. New spatial arrangements that came with the antique motifs created a penchant for constructing interlocking spaces, and in some visionary designs this turned out to be the representation of the void, considered by their architects the embodiment of the "immensity" in architecture. One dominant aspect of the architectural drawings of the period was that it put peculiar emphasis on sections, which represented both interlocking spaces and the void. This observation can be clarified with a short survey of designs from the history of French classical architecture.

Most French architecture until the middle of the sixteenth-century was anonymous. The first signs of the digestion of classical principles appeared in the mid-

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century by the works of Philibert de l'Orme and Pierre Lescot, the former being known for his treatise on architecture and the latter for his work at the Louvre. Around the beginning of the seventeenth-century, owing also to the influence of Catherine De' Medici during and after the reign of Henri IV (1598-1630), architects like Jacques de Cerceau the Elder, Pierre Le Muet, and Solomon de Brosse started expanding and diffusing the local architectural culture with the help of significant commissions and publications.[3] However, the real individual "artists" who had important influence appeared only toward the middle of the seventeenth-century; François Mansart, Louis Le Vau, Charles Lebrun, and Antoine Le Pautre broke the dominant Italian influence on French architecture, and, according to several historians, they even started to set examples for the Italians during the reign of the "Sun-King" Louis XIV.[4] Until this time, the influence of the Renaissance was more or less limited to decoration and the arrangement of the facades.

As Anthony Blunt stated, the most important reason for Italianism in French architecture were "the campaigns of Charles VIII (reigned 1483-98), Louis XII (1498-1515), and Francis I (1515-1547) in Italy, which produced as a direct result a reverse invasion of France by Italian taste." (13) Blunt also argued that although humanistic studies were already established in France in the fifteenth-century, this was not much help for the elite to understand the architecture of the humanism, and "their understanding of the Italian Renaissance was in many ways superficial." Moreover, they did not seem to have been interested in the great works of antiquity that they must have seen in Italy. What really charmed the French aristocracy, clergy, and bourgeoisie was

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the luxury, the decoration, and the way of life (14). In the beginning, several Italian masters were employed to work at the châteaux, such as Fra Giacondo, who stayed from 1495 to 1505, Guliano da Sangallo, who came in 1495, and Domenico da Cortona. Later, local craftsmen were brought from Milan and Genoa which were then under French rule, and used for the precision of the decorations (16). In fact, these Italians as well as those who came later could never build a whole building. On the other hand, French masons quickly learned Italian decorations and they created a mixed architectural style that would later be called the architecture of transition.

This mixed style appeared in secular architecture, especially in the châteaux like château of Gaillon commissioned by Cardinal of Amboise, which gave up its flamboyant medieval style for Italianism, after the arrival of the Italian craftsmen in 1508 (23). Yet, the medieval features of French architecture remained dominant in this building, such as the pitched roof, vertical paneling of mullioned windows, and tall chimneys: in short, a love of verticality that contradicted with the horizontal lines of Renaissance architecture. Later châteaux like Bury (1511-24), Chenonceau (begun 1515), and Azay-le-Rideau (1518-27), had the same aspects but they also had regular plans which Gaillon lacked (26). These châteaux, which kept the traditional arrangement of *corps-de-logis* flanked by the *avant-corps* around a courtyard, were also "similar in their treatment of the elevation." Blunt described the general features that would become the characteristics of the *hôtels particulières* for a long time:

> Each storey is ornamented with very flat pilasters, and is bounded by
> strong horizontal string-courses above and below it. The result is that the wall
> is divided up by a network of lines crossing at right angles, which pattern out
> the surface but hardly disturb its flatness. It is, in fact, a completely non-

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plastic wall treatment [...] Orders are applied one above the other but are sometimes interrupted by the insertion of a niche in the middle of a pilaster (26-27).

In Jacques du Cerceau the Elder's design for a town house (1559), the surfaces were treated in the manner described by Blunt, only lacking the pilasters, and emphasizing the verticality by window openings and dormers. (Fig. 5) Similarly the classical arrangement of the facade of Gilles Le Breton's Porte Dorée at Fontainebleau (1528-40) was interrupted by the medieval vertical panel of windows, which was continued here by the insertion of the little pediments into the entablatures above the windows (54). (Fig. 6) A stronger reference to Italian facades was François I's château of Madrid (begun in 1528) where Serlio may have worked, but the loggia vaults of its facade were decorative rather than spatial elements (53). (Fig. 7) Serlio's work at the château of Ancy-le-Franc (c. 1546) was a complete facade arrangement where the regular distribution of the shallow niches and thin pilasters was intended to create soft shadows to reveal the contours. (Fig. 8) In Philibert de l'Orme's château of St. Maur (1541-63), and Jean Bullant's château of Écouen (1555-1560), the insertion of more voluminous, plastic elements remained partial at the facades, and in the latter the verticality of the Corinthian columns was continued with the still dominant dormers and chimneys. (Figs. 9, 10, 11) This Italian facadism was adopted by the French for practical reasons: it represented high culture; it did not disturb the traditional taste that was accustomed to see a closed facade; and finally, it did not cost a fortune.

The most characteristic aspect of the French architecture until the middle of seventeenth-century was the absolute rectangular regularity that governed plans and

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elevations. Italianesque motifs were decorative elements and pastiches applied on flat

rectangular facades (Figs. 12-16) In the graphic representation of such architecture,

sections were the least important drawings, as they showed solely floor and roof

construction, the relationship of the depth to the height of the interior spaces, and

sometimes interior decoration. (Figs. 17-21) That the sections provided complementary

information about facades can be proven by the fact that apart from exceptionally large

spaces like churches, the longitudinal sections were hardly needed. Plans and elevations

provided sufficient information to explain and build uncomplicated spatial organizations.

(Figs. 22-25)

The situation changed around the middle of the seventeenth-century.[5] The

influence of the Italian baroque on French architecture was not limited to a relative retreat

from the strict regularity of the architectural mass, for a new conception of space was also

imported. Baroque curves were not only decorative enrichments of facades; new spatial

motifs also intervened in the body of the building as *grand salons*, vestibules, church

choirs and altars. Such was the architectural orientation of Le Vau, Le Pautre, and the

Mansarts. Their building plans usually had a central spatial motif, as in Le Vau's château

of Vaux-le-Vicomte (1657-61). In this building, neither the plans not the facades were

sufficient to explain the architectural concept of the central motif. (Fig. 26) A better

example is Le Pautre's design for an ideal château (1652), where the architect had to

divide the representation of the facade in two halves: half elevation, and half section.

(Figs. 27, 28) Here, the relationship of the central motif to the rest of the interior spaces

was so important that it had to be explained by a longitudinal section. Moreover, the

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radical differences between the building mass of the ground floor plan and that of the second floor plan not only implied spatial thinking about the building, and also required studying it in sections.[6] (Figs. 29, 30)

For François Mansart, the section became an essential design tool, and he used it for different purposes and in different ways, but especially for his domes. The tall dome was a well-known reference to St. Peter's, and it was studied well by Roman baroque architects like Giacomo Della Porta at Sant'Andrea della Valle (begun 1591), Pietro da Cortona at Santi Luca e Martina (begun in 1635), and Francesco Borromini at Saint'Agnese (1653-1657).[7] Lemercier at the chapel of Sorbonne (1635-1653), and Le Vau at Collège des Quatre-Nations (1663-1668) applied this baroque idea with sobriety. However, Mansart's singular style made him the French architect with international reputation, as he tried to integrate harmonically the dominant dome with the rest of the building, as at the Valle-de-Grâce and at the Visitation. This was still lacking at Le Vau's Collège, and at the church of the Ardilliers, designed by the humanist Father of Sainte-Marthe with the collaboration of architects Pierre Biardeau and Florent Gondouin in 1654.[8] (Fig. 31) Although he was rather traditional in his civil buildings and never went as far as Le Pautre, Mansart perfected in French ecclesiastical architecture the idea of central motif with an emphasis on verticality and culmination. The two problems that occurred due to this emphasis - transition from the horizontal to the vertical and the relationship between the exterior and the interior - required him to have recourse to sections frequently. (Figs. 32, 33) Here the architect not only faced the aesthetic, but also technical sides of the problem. Mansart also used the section to show circulation and

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structure, and sometimes employed the divided representation to show the relationship between interior structure and its exterior. (Figs. 34, 35)

The intricate relationship between the building mass and the interior space in Mansart's architecture was made explicit in Mariette's etchings of the chapel of château of Fresnes published in Jean Mariette's *L'architecture françoise* of 1727. In these etchings, the exclusion of the building mass from the sections strengthens the idea of the divided but harmoniously interconnected interior space. (Fig. 36) Separation of the exteriors from interior spaces was the common characteristic of the architecture of Le Vau, Le Pautre and Mansart. It can be argued that in their works the medieval naiveté about the "distribution" of interior spaces and its honest representation on the outside disappeared. The facades of Le Pautre's ideal château did not give a clue of the intricate spatial arrangements of the interiors. Similarly, Mansart's numerous drawings for the east facade of Louvre, as well as the facade of his château of Maisons, are plastic treatments - *scenographia* – independent from the interior spaces. (Figs. 37, 38, 39)

In his design for the church of Les Invalides (1679-1691), Jules-Hardouin Mansart applied the device of the cut-off dome that his uncle had first used in the church of Visitation, through which one can see the paintings of the second dome, without seeing the light sources.[9] In the section of Les Invalides, it can be seen that the three layers of the dome were intended to have different purposes: the first and highest one was for the exterior form, the second and middle one for the hidden light source and the painting, and the last and lowest one for hiding the light source and detachment of the surface of the painting. (Fig. 40) The visual boundaries of the space were determined by the decorated

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surface of the interior cut-off dome and the painted surface of the middle dome. The exterior layer determined the exterior boundaries of the dome, not visible from inside, and the interior layer was a pure decoration that delimited the interior space, whereas the middle layer, which was half perceptible and half imperceptible, concealed a void. The section of the building makes perceptible that which is otherwise imperceptible, such as this void. When Jacques-Germain Soufflot and Giovanni Nicolo Servandoni applied the same technique in designs for Sainte-Geneviève and Saint Sulpice, the void was still hidden behind the decorative dome; but when Ledoux and Boullée developed this middle section and eliminated the decorative layer in their "visionary" designs, they represented the void. (Figs. 41-44) Ledoux and Boullée sacrificed proportion for effect and started playing with scale of the elements, and they created architectural spaces (human scale) made with smaller elements, and located them under the *immensité* of the void (divine scale) made with exaggerated elements, as in Ledoux's "Bain Public," and Boullée's "Métropole." (Figs. 45, 46) Ledoux and Boullée used the human scale elements for the role that the interior layer of J-H. Mansart's dome played at Les Invalides, delimiting the space. Both architects delimited the architectural space with antique elements, and put it in contrast to the limitless void, for the boundaries of the larger construction became even less perceptible when seen through the smaller one, creating the sublime feeling of human finitude crushed by infinity.

Although contrast between different scales of space was a baroque idea, it can be said that both the antique elements that were used to create the architectural space, and the spherical forms that were used to form the void, had their origins in Greco-Roman

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archaeology that intensified after the 1750s. Moreover, the subsection on the *voyage*

pittoresque showed that travelers were eager to transmit to readers their amazement with

the ruins whose exposed spaces appeared under the immense sky, as well as the sublime

feeling of human weakness and the fragility of human constructions beside the natural

powers. These they conveyed with words and images. In fact, the projects prepared by

Ledoux and Boullée and their explicatory texts in *l'Architecture* and *Essai sur l'Art* used

the same technique of mutual impact of words and images as in the *voyages pittoresques*.

The idea of contrast between the architectural space and the immensity of the void must

have been transmitted by such encounters with the ruins of the ancient world. These two

creative men knew how to reproduce the effects of those encounters with geometric

simplicity of architecture.

The use of antique motifs in such dramatic settings, and their reduction into

elementary motifs in architectural composition will be the subject of the next chapter.

However, here it is sufficient to say that since the end of the seventeenth-century, the

insertion of antique elements into the harmonious space of baroque buildings changed the

perception of space. Apart from the radical contrast that their forms brought to the

interiors, the play with the scale in these antique elements also created a hierarchy of

space within the buildings. An early example is J-H. Mansart's chapel at Versailles

(1689-1710). In its gallery, Mansart placed tall Corinthian columns on the pillars below,

and moved away from the Baroque search of harmonious space. The architect increased

the space between the columns (*dégagement*), which defined a different sort of space than

the arches of the aisles and the vault of the nave; the two did not combine to create a

unified design. (Fig. 47) Claude Perrault proposed in 1697 a colonnaded nave for the rebuilding of the church of Sainte-Geneviève. (Fig. 48) In 1755, Contant d'Ivry realized a very similar organization at the St-Vaast.[10] (Fig. 49) In the 1760s, Chalgrin combined in the nave of the Saint-Philippe-du-Roule the Ionic order with a coffered barrel vault, preceded with a Doric portico.[11] (Fig. 50)

The church of Sainte-Geneviève (1757-91) had a more complicated organization. As the Baroque unity was destroyed and antique motifs started to dominate, the need for reconciliation between arcuated and trabeated structures posed a problem. In an attempt to combine the "Gothic" (in fact Byzantine) genius of vaulting with the Greek elegance, Soufflot placed the vaults that carried the pendantives on top of a Corinthian order. Marie-Joseph Peyre and Charles De Wailly applied the same technique in the vestibule and theater of the Comédie Française (1767-82) where Soufflot's somewhat detached rectangular and vertical spaces at Sainte-Geneviève were replaced by a tentative spherical equilibrium. (Fig. 51) As argued before, around the time when these buildings were conceived, the impact of the ruins of the ancient world on architectural imagination had started to bear fruit. The transformation of architectural space and structures was related to the problem of conciliation between interior arrangements and antique motifs. In short, antique motifs forced their geometrical and spatial aspects in the buildings.

Although the famous Rococo designers such as Meissonnier and Oppenord created a very ornate Baroque architecture with curves as radical as Borromini's, a counter movement had already started in their time. Boffrand had already designed in 1712 a circular and colonnaded central motif for the Palace of Malgrange. (Fig. 52)

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Jacques-François Blondel, who always kept away from stylistic excess, designed a house in Genoa with a circular space in the center, which would be seen in De Wailly's houses and in many types of Ledoux's buildings. (Fig. 53) Therefore, it can be said that Ledoux and Boullée took this established process to fantastic dimensions. In fact, the transformation of the perception of the architectural space can be summarized as such: the demarcation of architectural space was still defined in Soufflot's building from surface to surface, and the columns were extensions of these surfaces; in De Wailly, each architectural element started defining its own space around it, and the whole composition started revolving around a center; finally, in Ledoux and Boullée, these smaller interlocking spaces were put in contrast with a central void. Sections of three staircases by Soufflot, De Wailly and Ledoux illustrate the three stages of this evolution. (Figs. 54, 55, 56)

It is true that Ledoux and Boullée could never build the void that they represented in their drawings; but these drawings had enormous influence on the architectural imagery of the time. The influence of the "visionaries" on architectural education in France will be discussed in the next chapter. Yet, here it can be briefly said that the representation of architectural space through sections became almost an obligation for the student of architecture toward the end of the eighteenth-century. At the Ecole des Beaux-Arts, the projects for the *prix d'emulations* and the Grands Prix showed the influence of Boullée. (Figs. 57, 58, 59) Two of his students, namely Percier and Durand, continued this influence at the Ecole des Beaux-Arts and Ecole Polytechnique respectively.

In the discussion of the transformation of the architectural space, it must be said that Durand put an end to the dramatic and sublime settings created by playing with scale; by applying a hierarchical system, he brought economic and functional rationality to architectural space. At the end, Durand's conception of space was neither scenographic like that of François Mansart, nor sensational like that of Boullée; he developed a constructive sense of space to be built by applying elementary composition. It was mentioned above that the architectural elements in De Wailly, Ledoux and Boullée defined their own space around them. By composing architectural elements into parts on a web of axes, and by assembling these architectural parts hierarchically, Durand managed to regulate the space between the elements in the whole composition. (Fig. 60) No matter how these elements were composed, with his method they always ended up defining certain elementary-motifs (parts). Durand's "mechanical" compositions rejected subjective construction of space, as well as any confusion between the architectural elements and the forms that result from the assembly of these elements. In assuming that the methodical assembly of antique elementary-fragments would also solve the problem of architectural representation and define the appropriate character of the building, he artificially revived the naiveté of the sixteenth-century, when the honest facades of medieval buildings were touched by Renaissance regularity. (Figs. 61, 62)

3.1.2. Architectural Propriety: *Convenance, Caractère,* and *Usage*

It was shown above that the transformation of architectural space through antique motifs in the eighteenth-century was not due only to the new penchant for Greco-Roman

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antiquities, since it had already started at the end of the seventeenth-century. However, as argued in the discussion on the architectural archaeology, the picturesque and fragmented appearance of the ancient world not only introduced new formal and spatial configurations; it also inspired questioning of the very architectural principles on which the architecture of those fragments was believed to have been built. The keyword for the neo-classical sensibility was "effect," and the first principle to be affected by it was proportion. The elimination of proportion in creating the architectural effect was essential for the transformation of propriety, because as proportion was considered a matter of design, imperceptible in the built form, architectural effect became associated with the propriety, for it was a matter of appearance.

The transformation of the notion of propriety from a societal to a purely sensational issue is related to the transformation of the conception of architectural space. As said, the excessiveness of baroque decoration in general and the Rococo in France in particular provoked a counter taste that promoted the pure plasticity of classical elements. In connection with the revitalization of the theory of primitive hut, it was criticized that in French and Italian architecture classical elements had become merely decorative elements, which obscured their beauties and effects. A differentiation between essential and superfluous elements of buildings became inevitable in the architectural discourse. The emphasis that the thinkers of the Enlightenment put on primitivism and the noble beauty of natural simplicity motivated architectural theorists to specify the essential elements in architecture. Voltaire's words about François Mansart's Château of Maisons show very well the relationship between vision, sensation, and propriety in architecture:

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> Simple en était la noble architecture;
> Chaque ornement en sa place arrêté
> Y semblait mis par la nécessité:
> L'art s'y cachait sous l'air de la nature,
> L'oeil satisfait embrassait sa structure,
> Jamais surpris et toujours enchanté. [12]

Architectural discourse had started adopting this terminology during the reaction against Baroque design. In the mid-1750s, Laugier developed a theory of architecture that evoked Voltaire's lines by emphasizing simplicity, nobility, necessity, nature, and structure. These concepts were assumed to complete one another naturally. Thus, as Lodoli's constructivist ideas were propagated in Italy by Andrea Memmo, Francesco Algerotti, and Francesco Milizia,[13] Laugier led the discourse of architectural purification in France:

> Perhaps they will also criticize me for reducing architecture to almost nothing, because I take away everything other than the columns, pediments, doors and windows. It is true that I really remove the superfluous from architecture; that I strip it of the trinkets which have surrounded its usual finery; that I leave to it nothing more than its naturalness and its simplicity.[14]

Starting with Laugier's *Essai sur l'architecture*, the idea that architectural elements had to be defined as either essential or decorative entered the discourse of erudite architects in France. Soon, the "visionary" architects championed in the elimination of superfluous, because for them superfluous elements did not create character but hindered it. Here it will be sufficient to simply mention Boullée's sensationalist theory of architecture, in which he argued that proportions were given in simple geometrical forms (*corps*) and that we would find them pleasing because we could easily grasp them. At the first glance, the idea that the proportioned objects please us

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because of their "analogy to our organization" seems to show that Boullée did not negate

the human aspect in his theory. In fact, with his conception of "analogy," he negated the

principle of imitating the human body and replaced it with the pervasive idea of a

universal organization that did not include human proportions.[15] Although Boullée

always underlined that art imitated nature, and that pure invention was impossible, his

conception of nature was as something unintelligible, and therefore sublime. Moreover,

having related proportions only to visual perception, Boullée eliminated the "number" in

proportion, and put the "effect" in its place:

> We see here that proportion is something perceptible only to expert
> eyes. We see here that proportion, although it is one of the primary beauties
> in architecture, is not the primary rule for the constitutive principles of this
> art.[16]

Boullée's reinterpretation of proportion paralleled to his reinterpretation of

propriety, (*convenance*) in a concept that was present in the theory of J.-F. Blondel: the

caractère. Blondel had used the word *convenance* in the general sense of *decorum*, that

is, the appropriate distribution of everything in a building, and *bienséance* as the

appropriateness of its image; finally, Blondel distinguished the *caractère* as something

that one should choose to give to his design from the beginning:

> we say that a building has propriety [*convenance*] when we observe
> that its exterior disposition and the principal parts of its decoration are
> absolutely relevant to the objective for which the edifice was built, when the
> spirit of propriety preside it, when *bienséance* (k) is exactly observed, when
> the architect [*Ordonnateur*] realized in all his ordinances the style and the
> character that he would have to choose...[17]

The character and style of a building depended on what the building was built for,

and according to the rules of propriety the arrangement of the facade had to have

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"distinct, particular expressions, which are neither to be confused nor to be synonyms, which need to be felt, then understood, and which contribute more then we normally imagine to assigning to each building its appropriate character."[18] The nuances that Blondel observed between these three concepts show that his theory of architectural representation was dependent both on universal effects and social conventions. Therefore, that a temple had a "sublime" affect was about its *caractère*, that this temple had appropriate and proportioned orders was about *convenance*, and that in a sacred monument one should not use any profane motifs was about *bienséance*.[19] Boullée eliminated these nuances by developing his universal theory of forms and their "appropriate characters."

As is well known, Vitruvius related propriety to two things: under *decorum*, to the social appropriateness of appearance; and under *distributio*, to the appropriate distribution of elements, decoration, spaces, buildings and even cities, according to social status, resources, site, or function. As mentioned above, Blondel's distinctions between the *convenance*, *bienséance*, and *caractère* corresponded to this double meaning of propriety, which was left somewhat ambiguous in *De Architectura*.[20] On the other hand, for Boullée, *caractère* was neither a societal nor a practical issue. Boullée quoted exactly from Blondel when he discussed the appropriate image of a building that gave it an "appropriate character," but he associated it with the effects produced by masses (*corps*).[21] Always having the effects of paintings in his mind, Boullée claimed that such "*tableaux* in architecture are made by giving the subject its appropriate character whence is born the relational effect."[22] Thus, for Boullée, character was a mood to be conveyed

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by the related function of the building, but this mood always resulted from the feeling of sublime created by inhuman proportions. Toward the end of the century, Durand eliminated Boullée's theory of effect and character for the sake of objectivity in spatial construction that was motivated solely by economy and functionality:

> It is without doubt that the grandeur, magnificence, variety, effect and character that we observe in buildings offer many beauties and sources of pleasure that we get from their appearance. But why would we need to run after them, if we design a building in a manner convenient for the kind of use for which it is destined? Wouldn't it already differ perceptibly from another building destined for another use? Wouldn't it naturally have a character, or better, its appropriate character?[23]

This equation of "character" to "use" in the *Précis* shows that Durand had assimilated the Boullée-esque antique fragments that he had produced in the folio called the *Rudiments*. When Durand developed the dislike for romantic vistas of the antiquity, he aimed to establish a less sentimental, less picturesque composition of antique fragments. In order to have a method of composition that would "naturally have its appropriate character," Durand not only standardized antique motifs – fragments - that pervaded the architecture of the previous generation, but also tried to control them in vertical and horizontal dispositions by means of a methodical process. However, in trying to institutionalize the dependence of elevations on plans, he created their relative independence. The dependence of elevations on plans was only possible with a limited vocabulary of typological parts like the one which Durand had. In short, when Durand intentionally categorized and systematized the principle elements and motifs of the neo-classical architecture, he unintentionally laid the foundations for an eclecticism, which would spring from the very method that he invented to design functional and economic

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buildings in classicist taste. The eclecticism would be detrimental to the classical "character," for its last support was the elementary-fragments, actively used at the Ecoles des Beaux-Arts and Polytechnique.

Paradoxically, and despite Laugier's efforts, the classical orders had already been reduced to ornamentation when eclecticism started to define architectural expression in the nineteenth-century. Eclecticism in architecture meant not only the liberty to choose forms from different sources; it also meant the mixture of new and old techniques, new and old materials, and new and sometimes unorthodox use of old compositions. The developing techniques of building and new building conditions reduced the role of classical elements in eclectic compositions, as signaled officially in Louis-Pierre Baltard's teachings. In a lecture given at the opening of the course of Theory of Architecture at the Ecole des Beaux-Arts in 1839, he stated that the orders belonged to a secondary status in architectural composition, which comprised decorative elements. Although he reiterated Durand's naive idea that facades were solely dependent on plans, this now entailed an official reinterpretation of the Vitruvian doctrine for the contemporary eclectic conditions:

> I would add to these observations that facades, the exteriors of buildings, are only the secondary parts of a composition; that facades are nothing but the skin (*revêtement*), the dress of the building, which can only be made by organic combinations that result from a good distribution of the interiors, and the formation of a good plan. The facades simply result from the correspondence between the bays of the supporting walls and the different areas that can reach as far as the exterior walls.[24]

Baltard's idea of the design process was almost the same as Durand's. Both thought that elevations were dependent on plans, but they also accepted that the elements

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and composition of elevations were different from the elements and composition of plans.[25] The difference between Baltard and Durand is that the latter had restricted architectural elements to certain typologies, and controlled all possible elevations by the choice of these typologies in the plan. In his method, architectural composition was completely devoid of asynchronous fragments used by previous generations of classicists. For example, in various buildings designed after the disappearance of the baroque, such as Chalgrin's church of St.-Philippe-du-Roule, Soufflot's Ste. Geneviève, Gondoin's Ecole de Chirurgie, De Wailly and Peyre's Comédie Française, De Wailly's Château of Montmusard, and Ledoux's Hôtel de Guimard, the sections revealed an anachronism between architectural elements, such as between the carpentry of the modern roof and the classical orders of a church, or between the ordinary interior divisions and the exedra-like portico of a house. (Figs. 63, 64, 65, 66)

On the other hand, buildings illustrated by Durand appeared to be composed of ancient elements that looked purely contemporaneous. (Figs. 67, 68) Durand had suggested a veritable connection between plans, elevations and sections (*marche à suivre*), and in so doing, he reduced the distribution of the elements of the façade to a secondary activity as the vertical "disposition," which was to be derived from the plan, the horizontal disposition and the primary composition.[26] However, this still should have been a major problem, given that the notion of propriety (which Durand had reduced simply to expression of the assembly of elements) still required the application of an order for the kind of public buildings illustrated in the *Précis*. This order was the system of the plan (inter-axis), but this system could simply establish the subdivisions of the

elevations, and the forms of the elements of the facade had to comply with the configuration of the chosen part. In short, Durand's theory of composition was completely dependent on the plan, as elevations were dependent on the forms of the chosen "parts" that were determined in the plan. Therefore, there was in the *Précis* an artificial solution for the problem between the two "dispositions," the plan and the elevation. In Durand's compositions, character was not applied to the facades; it was born from the plan together with the elevations. This artificial solution, which Durand owed to the limitation of his elementary vocabulary, would be impossible to manage when historicist thinking would dominate especially the architectural form.

In fact, the strange plight of architectural representation can be seen already in the architectural drawings of archaeological reconstructions of the eighteenth-century. As reconstructions of the *pensionnaires* showed, with a vocabulary of classical elements at hand, one could discover the elevations from the plan. Yet, as also seen, each reconstruction of the same building could be different. Although the neo-classical doctrine directed by Quatremère de Quincy welcomed variation within the confines of "imitation," this discrepancy between the abstract plan and its elevations dominated architecture in the nineteenth-century, when the architects found liberty of expression in the "dress" of a building. The eclectic character of buildings would emerge from this discrepancy between plans and elevations, and appearance of a building that defined its character would be dissociated from representing the building's content. It would even represent history of architecture, which will be discussed later.

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3.1.3. Architecture and Nature: Effects

The discovery of imitation of affects of nature in ruins inspired important transformations in architectural principles and design. As mentioned, the word *effetto* was a rhetorical concept used by Renaissance architects like Palladio. In his influential critique, *Essai sur l'Architecture*, Laugier interpreted the assembly of classical elements from a similar point of view. However, in the second half of the eighteenth-century, the concept of effects based only on sensations dominated, which shifted the importance from correct classical orders and forms to their geometrical aspects.

At the end of the century, when Durand stopped seeking to create effects by architectural form, the principles of assembly of architectural elements had transformed; propriety belonged to the composition, order to the grid of axes, and proportion to the *entr'axe*. The decreasing significance of the orders should be considered together with the emergence of the problem of representation. Trying to revive its authentic use, architects since the 1750s wanted to use orders as constructive and spatial elements. However, as they rediscovered the elementary qualities of architectural members, the elements of the orders were stripped of their representational character and reduced to constituents, such as columns, entablatures, vaults, walls, etc. Devoid of classical principals that made their shapes meaningful, the elements of the orders were detached from their authentic context of representation. In the first decades of the eighteenth-century, architectural education at the Ecoles des Beaux-Arts and Polytechnique depended on compositions of elementary-fragments, which imitated the ancients. In these

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compositions, the use of orders represented the orders of antiquity without metaphor and interpretation.

Orders had a different place in the architecture of Boullée, who used them extensively in his drawings, than in the theory of J.F. Blondel, who discussed their classical distinctions. While Blondel was still concerned with the reconciliation of classical principles with the visual aspects of the *convenance*, Boullée used the orders simply for their visual effect. In fact, for Boullée the orders simply meant free-standing columns, and he used the classical forms in a peculiar way, particularly for their spatial effects. The effects that Boullée described and represented had already been described and represented in the picturesque depictions of the ancient world from Piranesi to Houel, and analyzed theoretically by Le Camus de Mézières in his treatise on sensational aspects of architecture.[27] Other contemporary writers, including Ledoux and Viel de Saint-Maux, either ignored or totally denied the orders as described by Vitruvius. Paradoxically, the more the architects of the Enlightenment immersed in the architecture of the ancients and lost their objective distance, the more they became critical of Vitruvian notions, which had blocked the flow of architectural genius in the age of intellectual liberation. On the one hand, this generation wanted to eliminate the use of the elements of ancient architecture as decorative tools in design, as done in the "architecture of the Mansarts." On the other hand, they were aware that the mystical symbolism of architecture was no more, and they were satisfied by reconstructing its effects.

This new phenomenon - the will to reconstitute the effects of the ancient values in architecture - can be construed as a search for a new approach to antique architectural

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configurations, which encouraged the use of architectural fragments in regular geometric compositions. On the other hand, the conception of architectural message (*architecture parlante*) was a new challenge to the classical canon. The established theory of the ontology of architectural elements was that "Architecture" originated in the imitation of the construction of the primitive hut; that the primitive hut construction was developed with finesse by the Greeks, who also linked it to the proportions of the human body. As opposed to this, starting from the second half of the eighteenth-century, architectural elements were taken as forms that conveyed a relative meaning through perception of the forms, rather than through a-priori acceptance of a cultural value (orders). For example, a giant order was considered beautiful because it was impressive and it created a large space in which light and shade created a mood, not because it was the member of the most important building of the town, the temple. Although the primitive hut theory was not really in the center of debates, it has always been a part of them, because it concerned the notion of imitation and because it could be interpreted from opposing points of view; morally, rationally, and historically; in short, it could be used to prove or deny theories about the origin of the orders. On the other hand, challenging the validity of the orders was another thing, more important than the question of the primitive hut, for it concerned not only the imitation of a previous type of construction, but also the emergence of an architectural symbolism, of an architectural culture in general.

In his *Cours d'architecture* J.F. Blondel tended to reconcile almost every attitude in the architecture around the mid-eighteenth century, explaining in many volumes an architecture that communicated through sensations (*caractère*) as well as through

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established canons (orders, symmetry, proportion, etc.). While Blondel tried to find an inclusive theory for the architectural concepts of the ancients and the moderns, Viel de Saint-Maux, Ledoux, Boullée and Durand were undermining Vitruvian concepts in architecture. When there was a search for reconciliation, it was not sought in loyalty to the classical orders. For example, in 1776 Ribart de Chamoust believed that he had conciliated between the logic of the ancients and the license of the moderns by going to the origin of the orders (the primitive hut) and finding there an archetype for a "French Order." Chamoust's French Order was different from that which was proposed by Philibert De l'Orme almost two centuries before, for it was not concerned with the relationship that De l'Orme had constructed between the quality of local materials and the local aesthetics that should result from it.[28] As Chamoust told the reader, when he saw a space covered by the tall trees around a gorge opening to the Marne, he found the archetype similar to, but also different from, the one that the Greeks were supposed to have found for the Doric order. "Why," he asked himself, "shouldn't I put three columns on one side, like Perrault put two, to gather the beauties that the ancients admired, and create a large span (dégagemen) on the other side, for which the moderns would give everything?"[29] However, in 1839, after having rejected the priority of the architectural orders, Louis-Pierre Baltard, a disciple of Boullée, also rejected the primitive hut theory by saying that it was nothing but a fable, and claimed that the orders were always relative to taste, and that even the Greeks themselves were not faithful to a rigorous standard.[30] Such a reinterpretation of the origins of the orders would have consequences, given the ideas about the differences of time, geography, and culture had taken roots in architectural discourse a hundred years after the famous quarrel between the camps of the

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ancients and the moderns. Yet, the results of relativist thinking in architecture would have to wait until relativism became an acceptable theory within the nineteenth-century historicism, when architects had the liberty to choose the elements of composition depending not on the classical principle but on the desired meaning of the design.

Abbé Laugier's critique of the abuses of the orders in *Essai sur l'architecture* aimed to re-establish the validity of the ontological meaning of the classical orders, reaffirming that the logic of the rational construction of architectural elements derived from Vitruvian "primitive hut." But the lack of drawings and usual tables of proportions does not allow one to imagine the kind of architecture he proposed. However, it can be said that Laugier was less interested in explaining classical principles, and more in the appearance, that is, the effects of classical elements. In his text, architecture was understood as an assembly of architectural elements disposed rationally and without vanity, and these elements should please with the "effects" of their "appearance" which should not be false, just as Palladio theorized the *effetto* of tectonic elements. Laugier's architectural ethics lay in the archaic origin of architectural elements, related to the honesty and rationality that can be given to architecture by the imitation of nature. Moreover, Laugier's theory promised that architects and laymen could judge and criticize pretentious architecture on the basis of conscience (morals), and that this morality also covered economy (social ethics).[31] In Laugier's theory architecture was supposed to convey a universal message. This meant that what appeared to the eye should not mislead the onlooker about its natural function. Wolfgang Herrmann pointed out Laugier's strong emphasis on the necessity of the correspondence between appearance and reality:

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Differing from all previous writers he interpreted the classical principle of the balanced interplay of the whole and its parts in a concrete sense by demanding that the actual construction of a building should be formed by the members hitherto regarded as decoration. So far writers on architectural theory had stipulated that these decorative elements should express what they called an apparent solidity, whereas Laugier demanded that they be applied in such a way as to ensure the actual solidity.[32]

Jacques-François Blondel was one of the theorists who called for a satisfying expression of the solidity of the building, and he explained it by the term "*vraisemblance.*" He argued that sometimes an enlightened verisimilitude in a building was better than a shocking reality.[33] However, as Herrmann noted, Laugier rejected the idea of "looking like," and demanded truthful construction in architecture. With Laugier, assembly of architectural elements gained an ethical basis that lacked to many theorists since Palladio. In Laugier's theory there was something as essential as - and definitely more universal than - the notion of *biensèance*, given the correct assembly of basic elements applied to all buildings of all types and classes. This notion of applicability to all buildings and all types (*genres*) also appeared in the announcement on the title page of Ledoux's *L'Architecture considerée sous le rapport de l'art, des moeurs et de la legislation*, in which he treated architecture as a source of human happiness and well-being. So powerful was his faith that he claimed that the simple house of the poor, if well designed, would be even more pleasing than the palace of the rich.[34] Like Laugier, Ledoux expressed a common consciousness, but in a different way and with different intentions: good architecture was the source of morality, well-being, and happiness. The configuration of architectural elements was justified by human sensations, as these elements intermediated between nature and men, and made visible and sensible the

effects of the natural elements. Many Ledoux drawings intended to convey this message; the buildings stand in open countryside under a luminous sky and in contrast to - but also in harmony with - nature, and the human figures underscore the fact that nature becomes meaningful through architecture. Boullée imagined at least the same effects for his architecture that gave meaning to the "*tableau de la nature*," which he praised: "What a delightful spectacle that fascinates our view! That the daylight is soft! That it is pleasant! The beautiful image of life is spread all over the Earth!"[35] For both Ledoux and Boullée the image of a happy society was always associated with an architecture built under a pleasant sky and on a fertile land. For them, the sad and threatening ruins had already ceased to be picturesque objects, and their dramatic effects were reserved for monuments and temples. Both architects wanted to create anew the architecture of a happy society from the ruins of ancient architecture and in the "image" of the perfect harmony of nature.

Ledoux and Boullée also avoided Laugier's idea of transparency which required the minimum construction of structural elements and which seemed to be derived from primitivism,[36] such as naiveté, honesty, and the primitive hut itself.[37] Laugier's reductionism, which can also be regarded as a will to eliminate the extravagancies that impeded observation of the primary architectural elements, was interpreted differently by Ledoux, who preferred "telling" compositions with solid elements, and also by Boullée, who found a similar dialectics in the interplay between undecorated (empty) walls and (massive) accumulation of spaces between the columns. For both architects, the simple but eternal logic of compositions were intended to represent the harmony in nature.

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Le Camus de Mézières considered harmony "the first motive of the greatest effects." Although an old-fashioned, aristocratic architecture can be sensed in his text, he sought rules in nature, which was for him the mother of all sensations. Referring to Claude Perrault's notion of "positive beauty," Mézières claimed that the sensations created by both nature and architecture were universal and primordial, and for the same reason he rejected Perrault's other concept of "arbitrary beauty" based on relativity.[38] Mézières could also explain the Greek orders by this idea, in which architecture played the mediating role between nature and human sensations, and in turn gave the building its character. The emerging idea of "noble simplicity" that was so evident in Laugier was transformed into a matter of sensation in the theory of Mézières, who considered the disturbance of simplicity an intervention in the relationship between nature and architecture and a work of the vulgar.[39] According to Mézières, the rules of the nature were fixed and unequivocal. Therefore, architecture, too, should express the language of nature without confusion.[40] Unlike Laugier, he was not interested in the representation of nature in the elements of the primitive hut, and like Ledoux and Boullée, he was rather fond of architectural mass and repeatedly referred to those masses that appeared under bright light, casting shadows and reflecting the daylight on their surfaces, or those under the somber effects of the sky, whose depth was impossible for vision to penetrate, and which therefore created sublime effects similar to those of nature.[41] For Laugier, the rules of nature constituted the elementary principles of construction, and therefore they had to be seen in the elements of architectural composition. For Mézières, and by the same token, for Ledoux and Boullée, the "effects" of the architectural form were to be analogous to the effects of nature. These were two different interpretations of the notion

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of imitation in architecture, and the latter prevailed, as the lack of illustrations in Laugier could not compete with the world of illustrations of the architecture of effects of the others.

3.1.4. Architectural Orders: Dissolution

The idea of representation of the sublime aspects in nature was an important factor in the transformation of classical principles in architectural design. But the reconsideration of history of architecture from this perspective of representation of nature led to an anti-classical theory of architecture. The most radical criticism of the classical notion of the imitation of nature in architecture came from Jean-Louis Viel de Saint-Maux, "*avocat au Parlement, peintre et architecte*," who developed his argument on the "*génie symbolic*" of architecture.[42] For Viel de Saint-Maux, man's experience of nature was in the origin of architecture as symbolic form, excluding that which was built for a practical purpose. Saint-Maux considered architecture a concretized myth, a religious rite given form in the temple, and therefore purely symbolic.[43] This symbolic form, he argued, had once been a typology for ancient peoples, but it had been applied simply as decoration ever since, maybe even by the ancient Greeks.[44] Thus, the Vitruvian doctrine about the origins of the orders was a false assumption about the nature of architectural symbolism. For Saint-Maux, this theory of the orders simply emphasized proportions and the logic of construction, and such sense of the orders would have had no meaning for ancient people who used architecture as symbolic language.[45] In fact, according to Saint-Maux, architecture was the first form of language that communicated to people the

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elements of nature that revealed the divinity.[46] However, it can be argued that the painter Saint-Maux, while brilliantly speculating about the quasi-anthropological origins of symbolic forms, which had been previously ignored, presented an amazingly mysterious picture of an unknown, blurry antiquity. With a prophetic tone similar to Ledoux's, Saint-Maux invoked Boulée-esque images with the effects of the words such as *"eternel,"* *"pouvoir créateur,"* *"miracles de la Nature,"* *"noble délire,"* *"l'espace,"* etc.[47] As Pérouse de Montclos said, the identity of this *"pittoresque dilettante"* still remains mysterious.[48]

Saint-Maux was not the only one to write on the language of architecture. Ledoux, in an attempt to give moral character to architecture, had presented it as the hope of contemporary society, and as a tool to create a happy relationship between the classes. In his prophetic tone, he declared a paradise on earth, sustained by the virtue of work, in which architecture would be a mediator between the powers of nature and of man. In his project for the workers' city of Chaux, he saw architecture as an instrument with which man could regulate nature, exploit its sources, and commemorate its riches, which meant in his time a source of prosperity and societal happiness.[49] In his *Architecture,* the metaphysical symbolic function of architecture defended by Saint-Maux was replaced by a secular symbolic function of ethics of work and social morality. He took the function of the building (utility) as architecture's content, which was to be represented by its form. This idea of the representation of nature, production, and function related the imitation directly to utility and left architectural orders as a secondary issue at the periphery of architectural matters. In Ledoux's theory, the concept of "character" was transformed from the creator of moods into an analogy of function. Although Laugier had dealt

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extensively with the rationalization of architectural elements and their expression, he had

not attempted to rationalize the expression of use. Moreover, contrary to Saint-Maux and

Laugier, Ledoux found both mysticism and expression in the representation of (human)

actions and not in the static elements of architecture, and for the same reason he was not

very fond of the orders. Given that relativism was not entrusted by the architects of his

generation, his statement that different orders were suitable for different geographical

locations explains his limited use of them.[50] Having also attacked blind imitation of

Greco-Roman architecture as "seeing with the eyes of others," Ledoux did not build

much on the doctrine of the orders. Although the orders were essential for the

architecture of Boullée, he simply saw in using columns and colonnades a potential for

creating an appropriate mood for the character of the building. For him, the Greek orders

were useful not for creating large spaces, but for enhancing the quality of the

architectural space. With Laugier's argument about the forest being the natural origin of

the structure of the Gothic church in his mind, Boullée explained his project for a

Basilique by stating that by applying columns in front of the heavy piers, one could hide

the sources of light and create a "mysterious effect" suitable for the character of a

temple.[51]

In sum, representation of different functions of architecture, such as symbolic,

societal, and sensational, were the new issues of concentration which changed the way

architectural representation was understood by the architects of the Enlightenment, and

which changed the role of orders in architecture. With this transformation of the notion of

imitation applied to orders, the relationship between content and form was also put in

question. The most important aspect of this transformation was that architecture was now seen as the construction of spatial effects. Although it can be said that this new approach to architectural imagery continued the Baroque sense of space by manipulation light, the emphasis shifted from the organic construction of the space to the representation of the void, which was intensified with the vacuum of undecorated surfaces now freed from the effects of the *scenographia*. The powerful Baroque concept of *scenographia* aimed at constructing theatrical settings that would raise sensations through the use of light that made sculptural elements seem to emerge from the surface of the building.[52] However, the new architectural imagery, which was considerably influenced by the images of picturesque ruins in the spacious countryside, attracted the attention to the void that had remained from the regular space of ancient buildings. Beside the impact of Newton's scientific theory of masses, the origins of the love of void in architecture should be looked for in the proliferation of images of antique fragments, which started with the paintings of ruins as still-lives in "sublime" nature, and had been influencing architectural imagery at least from the time of Salvator Rosa.

The penchant for the void can be regarded a proof of the emergence of an "autonomous" architecture, independent of the other arts - especially from sculpture and music - in creating spatial effects. Although dependent on the painting in terms of its terminology and technique, and on poetry in terms of sublime feelings, the new architecture became self-justifying also by means of the spatial effects. Perhaps thinking of sections, Boullée stated that such effects could only be created by architecture:

> The tableaux of architecture cannot be made without a profound
> understanding of nature: the poetic quality of architecture is born from its

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effects. This is what really makes architecture an art, and this is also what elevates it to the level of sublimity.[53]

Although Laugier had a rather conventional sense of effects, the reduction of rhetorical motifs in architecture started with his purification of architectural elements. It should be remembered that, among his many criticisms of architectural elements, Laugier found the location of statues in niches absurd, simply because they were denuded of every contour, and he argued that they should only be located on pedestals.[54] Although this criticism should be considered in relation to Laugier's idea of the *dégagement* (clearing) of the elements, it also meant the refusal of architectural gestures made with the walls, the *scenographia*, which was made with the combination of architectural and sculptural elements. Laugier's text can be read as a call for the architectural elements to leave the walls and come to the open. The new conception of architectural space started intervening between the elements of baroque art, such as music, poetry, painting, sculpture, and architecture. As architecture became a more spatial art, direct visual perception became a dominant criterion for judgment. For the same reason, Boullée saw architecture as a *tableau* and rejected the link between music and architecture, since the beauties that stemmed from these two arts were perceived by different senses.[55] As for the painting, its role in architecture was reduced to providing images, and in this it achieved a privileged position at least until the death of Boullée, who usually proceeded from painterly image to technical drawings. Being the last architect with a special predilection for painting, Boullée used its technique for representing the void, which was opposed to the architectural space in his sections. The tension that he wanted to create between the void and spaces led him to concentrate on sections and elevations, whereas

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the plan became more and more abstract; it even became a graphic composition independent from the painterly sections and elevations. In such compositions, the discrepancy between the plan and elevations and sections was continued by Durand, who finally erased all traces of the painterly effects in representation, including the void, and gave the space an economic value.

Like Boullée, the collaborator with Durand in the *Recueil des edifices*, Legrand, considered imitation in the arts in relation to sensations. Yet, Legrand related architecture to poetry and music rather than painting and sculpture, simply because of the analogy between hearing a piece of music and seeing a building:

> Although this art is often taken with painting and sculpture, and that, being an art of design, its principles seem to be necessarily similar to that of painting and sculpting more than the others. Nevertheless, in terms of borrowing from nature, it has more analogy with poetry and music, than with painting and sculpture.[56]

While painting and sculpture were material objects that could be seen, Legrand thought that poetry, music, and architecture created a mental image:

> In fact, generally [painting and sculpture] have material and visible objects to imitate, whereas the objects of the others escape from our senses, and exist only in the imagination of the poet and the musician.[57]

With the same point of departure of sensations and by using a similar terminology, Legrand reversed Boullée's argument and categorized architecture with the apparently higher arts of poetry and music. Although this is normally an essential distinction, at this time it was not really important, because both Legrand and Boullée had been looking for a common principle for the arts from the same specific point of view of

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sensations, and this took them to unclassical conclusions, since their conception of imitation was essentially unclassical. Like Boullée, Legrand used the words "order" and "proportion" without any real connection with the "correct relationship between the masses" and the effects produced by it. Still referring to picturesque "amazement," Legrand could relate it to the principles of regular composition:

> Material parts, whose arrangement and order are subjected to the charm of proportions repeated regularly throughout a building that is regulated by the correctly related masses, produce amazement by arousing ideas of force and power, satisfy curiosity, and the soul is always pleasantly occupied by a sense of vision; such are the means and effects of beautiful architecture. Who, then, would deny that there should not, as for the principles of composition, a perfect analogy between this art, poetry, and music?[58]

At the time when the plates of the *Recueil* were prepared, the theory of effects and character were still in force, but Durand eliminated them as soon as he started preparing his courses at the Ecole Polytechnique. Both Legrand and Durand must have inherited the theory of masses and their geometric reduction from Boullée. Quatremère de Quincy also supported the geometric reduction of antique motifs by his theory of imitation, which encouraged the use of typology, like in Durand's compositions with elementary antique fragments. Going to the etymological origins of the words, Quatremère claimed that "type" and "character" were naturally linked, and that propriety in a building stemmed from this ancient quality.[59] With his method of assembling elementary-fragments as "parts" in additive compositions, Durand had also related the character to those "parts," and he argued that the propriety would result from such rational compositions, and the character of the building would be established.

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In his *Décadence de l'architecture à la fin du XVIIIᵉ siècle* (1800), Charles-François Viel blamed the "capricious minds" of Ledoux and Boullée without naming them; these two had transformed the "roving imagination" of the Baroque into a new thing that seduced many others. As Pérouse de Montclos underscored, Charles-François Viel saw both Baroque and neo-classical architecture as "anti-classical."[60] According to Viel, a true classical architecture could be possible only by studying the ancient Greek architecture and finding in it that which was "worthy of imitation."[61] The architecture that Durand proposed was in fact made of classical elements and motifs "worthy of imitation." Yet, the classical principals were no more.

Having eliminated the *"imagination vagabonde"* in design, Durand took the notion of imitation materialistically, and transformed it into a process of assembling a given set of elements. Although his method was consistent within its vocabulary of standard elements and elementary-parts, it threatened architectural representation with immediate dissolution. In the logic of the assembly of architectural elements, the elements of the exteriors were supposed to result from the plan. The emphasis on the secondary status of architectural exteriors reduced them in time to decoration and to a "reference." This secondary – but not yet evitable - status of decorative elements was approved officially in 1839 by a representative of the establishment of architectural education, Louis-Pierre Baltard, professor at the Ecole des Beaux-Arts, quoted above. Baltard claimed that facades should come after a good plan, because he wanted to underline his dislike for the *"genre libre"* that was mistakenly called *romantique* and concerned only the appearance. Yet, although he defended the "serious rules of

architecture that guided the masters since Vitruvius," in fact those serious rules were now just an appearance.[62] In fact, in a report on educational and administrative issues of architecture, the same Baltard underlined the fact that architecture needed its own definition:

> Let us create a true idea of architecture, distinguish the elements of this fine art, and recognize that there is nothing common in its principles, and even less in its application, with that of painting and sculpture...[63]

Was the professor of the Ecole des Beaux-Arts defending classical architecture against the romantics? In fact, the romantic-rationalist architects in the 1830s were doing exactly what he said: looking only at the evolution of architecture to find a new definition for it.

3.2. The Nineteenth Century and the Historicist Architecture

3.2.1. Architectural Mixtures

The main difference between architectural theory in the nineteenth-century and in the eighteenth is the unusual complexity of the latter, that is, its continued attachment to almost all the theories that had been valid in the previous century, beside new doctrines of architectural design. The similar and diverging theories of the eighteenth-century appear as assimilated, or mixed or allied with new doctrines in the discourse of the nineteenth-century architect. But the architectural theory of the nineteenth-century appears to have transformed all the main theoretical concepts of the eighteenth-century. Issues like effects, character, orders, mysticism, religiosity, classicism, history,

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rationality, etc., appear predominantly in the architectural discourse of the nineteenth-century in different connections, in order to advocate different purposes, and to obtain new results. This was a time when the architectural theory and practice start to demonstrate the "unclassical" vein that had so far been successfully kept outside the Academy.

Two main factors of this reaction were romanticism and rationalism, the former being attached to a literary movement with somewhat nostalgic interpretation of history and the latter to the Saint-Simonian progressivism.[64] The architects who moved visibly away from strict classicism in the 1830s managed to merge the two schools of thought in different proportions, and in this merger the nostalgia of the romantic interpretation of history could be balanced by the rationalism of Saint-Simonianism, whereas the lack of futuristic image or historical precedent for the progressivism could be provided by the romantic historicism. This merger appeared also in philosophy as eclecticism, which was presented in the writings of Victor Cousin as the pragmatic combinations of different schools of thought, the different "systems," or as he called them, "philosophical fragments."[65]

In architecture, the cross roads of rationalism and romanticism, and also the philosophy of eclecticism, led to a new interpretation of architectural history which shifted the attention from distinct stylistic categories to "transitions" between these categories. Although in the eighteenth-century cultural roots of the relativity of taste were occasionally discussed, and the un-classical architectural styles were respected, they were still treated as different categories, and no points of contact between the classical and

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unclassical categories were argued. There was no mention of "transition" between the architectural styles, except for the degeneration of the classical architecture into barbarism. Yet, the romantic-rationalist French architects in the nineteenth-century saw inventiveness in the contact between the two categories, especially between the medieval and classical architecture, with the help of a thriving nationalism which underlay both romanticism and progressivism.

It is not surprising that this was a time when the power and authority of architectural academism was seriously challenged. The closing of the Academy in 1792 was a revolutionary reaction to its Royal connection and therefore lasted for only three years, whereas the new challenge came from within the discipline and threatened the coherence of classical principals, as the "classical" was now replaced by the "historical" interpretation of architecture.[66] The Academy[67] would resist this challenge for a short time, but after the resignation of Quatremère de Quincy in 1839, it reacted wisely by assimilating the "romantic" and "rationalist" tendencies, while refusing any compromise with the "Gothicists."[68] The romantic-rationalistic tendencies were absorbed by the Academy within the new classical doctrine, through the influence of liberal government authorities during the July Monarchy (1830-1848), like the intellectuals Adolphe Thiers and François Guizot. The Romantic idea of progressivism was supported also by other romantic and Saint-Simonian historians, critics, and philosophers with similar inclinations, such as Saint-Simon's old collaborator and historian Augustin Thierry, the Saint-Simonian critic Hippolyte Fortoul, and historians of philosophy Edgar Quinet and Jules Michelet, both being the protégés of Victor Cousin.[69] Through such a strong

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theoretical establishment of the new interpretation of history, the historicist-progressivist

philosophy entered architectural theory. Major government commissions such as the

Ecole des Beaux-Arts, the Conservatoire des Arts et Metiers, the Palais de Justice, the

Bibliothèque Sainte-Geneviève, the Bibliotheque Nationale, and the Marseilles Cathedral

were given to architects who were eager to apply their different philosophies of

eclecticism in architecture, always with the pretext of recreating a "transitory" period in

history.[70]

Barry Bergdoll claimed that it was Jean-Nicolas Huyot who first introduced in the

1820s the theory of local conditions of architecture in his newly created course of history

of architecture at the Ecole des Beaux-Arts.[71] Bergdoll said that the relativist principles of

Huyot "must have encouraged the romantics to believe that all architectures responded to

local facts, such as climate, materials and technology, as well as social and political

conditions."[72] Having traveled to the most important locations of ancient architecture

from Rome to Greece, Turkey and Egypt, Huyot was a *protégé* of Quatremère de Quincy

and his collaborator for the *Dictionnaire historique d'architecture*. Hautecoeur stated that

it was indeed Quatremère who obtained the chair (*"histoire des monuments"*) in 1819 for

Huyot.[73] Huyot was known to be more open-minded than Louis-Pierre Baltard, and in his

first project for the Palais de Justice (1835), he had proposed Gothic ornaments for the

buildings to be erected around the Sainte-Chapelle.[74] But Huyot was also attached to the

conservative theory at the Ecole. Although Quatremère argued for the relationship

between "type" and locality, he restricted this with historical and cultural categories, and

he did not argue that contemporary Western society required anything other than the

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imitation of ancient arts.[75] Remembering that in his *Dictionnaire*, Quatremère had

advised architects to imitate Greek prototypes and condemned the architecture of the

seventeenth-century,[76] that is, the classical style of Mansarts, it can be concluded that

Huyot's contribution on relativism in architecture must have been limited. In fact, in *De*

l'Imitation, while explaining the impressions that the effects leave on the soul,

Quatremère made it clear that he was against any kind of mixture in the arts that would

result in confusion of the impressions.[77]

It seems like eclectic influence came from outside the Ecole and the Academy,

mainly from the teachings of the philosopher Victor Cousin and from the historian-

politicians Adolphe Thiers and François Guizot, as Bergdoll suggested.[78] Cousin reached

the youth through restricted means during the oppressive reign of Charles X,[79] and

influenced not only architects but also the painters Delacroix and Delaroche.[80] As

Bergdoll has shown, the collaboration between the artists and historian-thinkers of the

time was essential for the success of the romantic-rationalist movement, as in the case of

the group of Vaudoyer, Fortoul, and Alexandre Lenoir's son Albert Lenoir, all three

being Saint-Simonians, who "formulated a philosophy of architectural history that

combined an attentive study of national monuments with a broader comprehension of

historical process."[81] This group found a parallel between their time and the transition

from Gothic to French Renaissance in the sixteenth-century. They believed that, as in

those days, France served as the melting pot of diverse influences. They also assumed the

continuity of architectural genius in their culture: just as the transition between Etruscan

and Roman architecture was mediated by elements of Greek architecture, the transition

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from Gothic to French architecture was realized through the endurance of classical elements. They believed that this transition process, which was cut abruptly by absolute classicism in the seventeenth-century, should be studied as the basis for a new architecture.[82]

In fact, several leading theorists of the eighteenth-century had tried to overcome the Academic prejudice against Gothic architecture by emphasizing the superiority of its slender elements over heavy classical elements in church architecture. However, the first demands for recognition of the Gothic style came at a time when pure classicism had begun to dominate architectural theory and practice, and therefore it could not bear fruit. Yet, this was also when certain theorists believed that architecture had not yet achieved absolute beauty, like Abbé Laugier, who promoted for that purpose the application of rationality that he found in classical principles. However, the main representative of Perrault's idea of relativity of taste in this century was A.-F. Frèzier, who supported Perrault's thesis with the fact that the Gothic buildings were still appreciated by public.[83] The most radical eulogy for the genius of Gothic style came from a follower of Frèzier, and a member of the Academy, Pierre de Vigny, who even claimed in an article that "it was wrong to have abandoned Gothic architecture." In an "untraceable" article published in 1752, Vigny argued that fixed rules would kill architectural genius, and that "the productions of all nations and of all centuries must be adopted, brought to perfection and liberated from the tyranny of the antique fashion and, since genius must work in complete freedom, it should take over and make use of what is best in each style." Fearing that he

would forfeit his election to British Royal Academy, Vigny refuted his own ideas, and he was forced to resign from the French Academy because of his "ill-tempered" character.[84]

After having fulfilled the command of the *surintendant des bâtiments* Marquis de Marigny to create measured drawings of Château de Blois, Jacques-François Blondel developed a very positive idea of Gothic style, which he declared to be very appropriate for churches.[85] Yet, Blondel never took the subject further. Also in his lecture at the (rather provincial) Academy of Lyon, J.-G. Soufflot stated that absolute rules would hinder development in architecture and asserted the superiority of the Gothic church over the modern church.[86] Despite the fact that he applied hidden "Gothic" buttresses in the church of Sainte-Geneviève (Panthéon), and designed ribs to distribute the forces from the tambour of the dome, Soufflot avoided strictly any resemblance to Gothic architecture in that famous neo-classical building.[87] Laugier was also in favor of Gothic rationality and slenderness, despite the fact that he believed in the absolute beauty in architecture, contrary to Vigny. His appreciation of Gothic derived from its consistency of principles and the natural appearance of its elements, which he could not find in Servandoni's "heavy" classical portico of the Saint-Sulpice. Laugier found it regrettable that the French architecture halted between Gothic and classical styles.[88] He preferred a consistent architecture, not a patchwork of elements from different styles, and this part of his ideas was preferred in architectural thought until 1830 in France.

A sense of opposition between Greco-Roman and national styles had established itself among the French elite in the time of the *philosophes*, when Diderot had called impure French classicism the work of a "vaporous nation." However, the Revolution and

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the Restoration changed the way that architectural forms were seen, and for some in the nineteenth-century the medieval forms became associated with the golden age of Christianity and nationality, while the classical forms were sometimes associated with paganism and their universal value was refuted by regionalists and relativists. On the other hand, French society under the liberal rule of Louis-Philippe was seeking the reconciliation of opposites during the July Monarchy. Therefore, it is not surprising to see architectural tendencies that tried to find examples of such reconciliation in the history of architecture. Young architects grasped that a possible solution should avoid strict oppositions such as between "Christian" and "pagan," but also the excesses that extended architectural theory to non-European styles, in order to preserve the "*génie*" particular to each culture.

The word "*génie*" had been frequently used in the architectural discourse during the eighteenth-century, when it meant creativity and competence inherited from the ancients. Yet, for the romantic-rationalists, the meaning of the word underwent a slight transformation: now it was a French-Christian genius that counted.[89] The word was used by many, from Chateaubriand to J. A. Coussin. In his *Le Génie du Christianisme* (1802), Chateaubriand, while talking about architecture on one occasion, considered that the dome in churches was "a happy mixture" that became possible in religious architecture by mediating between "what the Gothic has as bold [construction] and what the Greeks have as simple and graceful."[90] On the other hand, *Du Génie de l'Architecture* (1822) by J. A. Coussin was, as Hautecoeur put it very well, "a work full of jumble, but interesting for its choice of buildings," treating buildings as varied as Roman basilicas, Saint-Sophia,

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Chinese palaces and houses, an Ottoman mosque, Indian temples, etc.[91] Coussin claimed

that his main purpose was to "reveal the constant beauties of architecture, independent of

time and place, of genres and styles, and finally to reveal the metaphysical [qualities] of

its elements."[92] Although he failed to achieve this purpose, his book opened up to a non-

classical world, and the keyword "génie" here appeared as an inclusive term that

surpassed the boundaries of the European continent. Whatever Coussin talked about in

the book was a product of "génie," and that the lack of theoretical and historical structure

of the book and the over-explanation of the plates show that the author took the reader for

a promenade through the forms, ornaments, and spatial configurations of many nations.

Yet, although such a promenade had been known to European architects since Fischer

von Erlach, Coussin introduced an interest in the transitions between the architectural

elements that he described in detail. He believed that the "génie" was mobile, that it was

transmitted to a new architecture by means of mixture. In the case of the Gothic style, for

example, Coussin repeated the common opinion of his time that its origin was in the

Moorish style, itself a derivation of Byzantine architecture.[93] As for Renaissance

architecture, Coussin claimed that it was not the rebirth of Greco-Roman but a mixture of

oriental and Greco-Roman influences.[94]

In Cousin's lecture to the Société philotechnique, where he gave his opinion about

the origin of architecture, he opposed the theory that architecture was born from the

primitive hut, an explanation that he found too "materialistic." For him, apart from

fulfilling basic needs like eating, sleeping, procreation, shelter, etc., architecture was a

"strong sentiment, pure and delicate."[95] He claimed that man, after becoming man, started

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to shape architecture with equal guidance from science and art, which made "the rocks, the bark of the tree, the stone, the metal, and the colors speak, and what a language!"[96] Coussin repeated the idea that architecture always progressed in history by transforming itself, and by being interblended. He claimed that new architecture would always be found between the past and the future.[97]

Coussin's imaginary promenade in the architecture of the world became a popular theme in France, where this promenade was restricted to the architecture of the country. The first clue of promoting national monuments as examples of architectural genius appeared in Alexandre de Laborde's *Monuments de la France classés chronologiquement et considérés sous le rapport des faits historiques et de l'étude des arts* (1816). Laborde's book comprised two volumes of drawings of the French architectural heritage from the Celtic to the Gothic architecture in grand format. As Laborde himself stated, nobody before him could cover this material: Clérisseau published only the Roman monuments of Nîmes, and Montfoucon died before publishing anything on Gothic architecture. Although Laborde's publication was not a theoretical piece and it was rather about the recording of the architectural patrimony, it touched an issue in its brief introduction which was going to be very important for the romantic-rationalists: the transition from the French medieval building tradition to the Renaissance architecture. Here, Laborde stated that the military campaigns of Charles VIII and Louis XII in Italy brought France Italian art that was interpreted by the genius of French artists like Pierre l'Escot, Philibert de l'Orme, Jean Bullant, and Jean Goujon, who created masterpieces like the châteaux of Joinville, Chambord, Anet, Écouen, Chenonceau, and Blois. He lamented that this

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époque did not last long because of servile imitation of the Italians. He said, French could have her Palladios, and instead, she had her BorrominisError! Bookmark not defined.[98] The idea of missing opportunity of the French Renaissance seems to be a response to the architectural crisis that appeared during the anti-aristocratic atmosphere of the revolutionary France, which would be developed during the Reformation. The names Laborde mentioned and the châteaux he illustrated would be extremely important for the architectural imagery of the "romantic *pensionnaires*," and the drawings of Gothic churches that occupied a big portion of his book would haunt Viollet-le-Duc and his followers.

3.2.2. Architectural Paradigms: Transitions and Historical Context

In the new interpretation of the artistic "*génie*," new combinations and transitions were taken to be essential for new architectural beginnings. This new conception of historical change shaped the basic outline of historicist thought in the architecture of the time. As Michel Foucault argued, history in general was put in a new order in the nineteenth-century, parallel to other fields of knowledge which were re-organized after the end of the "classical age" (1650-1800).[99] According to Foucault, the representation of natural history in the nineteenth-century underpinned the representation of knowledge in new taxonomies, which prepared a firm ground for categorical distinctions to be made according to constituent elements of the object of representation.[100] Foucault's analysis also pertains to the new conception of architectural history, for his theory of modern categorization also explains that problem of architectural style started with the end of

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"classical" history of architecture. In the nineteenth-century, the classical category of

"Architecture" was artificial in the modern conception of history, because it was not a

general category for all architectures, nor did it allow equal sub-categories: Architecture

generally signified a Greco-Roman style, and therefore its object of representation was

not defined by the difference of its elements and functional organization from that of

other architectures. For example, Durand had produced a compendium of architectural

typologies from various styles, but when it came to develop a design methodology, he

only categorized Greco-Roman elements of architecture; whereas Alexandre de

Laborde's "French monuments" were "classified chronologically" and comprised the

monuments of the Celts, Greeks, Romans and the French.

It is not an exaggeration to say that in the eighteenth and the beginning of the

nineteenth centuries, the "classical" history of architecture had become a collection

(*recueil*) of classical forms, elements, and compositions, although the correct

configuration of classical architecture had continued to be contested. However, with the

new organization of the elements of history, a new architectural history began to manifest

its distinction from the "classical" history of architecture, as a result of which

architectural discourse adopted a language of agitation, opposition, and even gained the

tone of manifesto.[101] Now architectural history was defined by the many distinct stylistic

categories of different times, different peoples and different geographies. The categorical

distinctions – although dependent on the point of view of the maker of the categories –

were made according to many issues, but mainly differentiated among the constitutive

elements of buildings by their functional organization. With this definition of the

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architectural element through function came a serious problem, because different stylistic elements from different architectural categories could fulfill the same function in architecture. For example, the choice of a Gothic column shaft instead of Corinthian, or a Romanesque window jamb instead of that of Florentine Renaissance now became theoretically possible, opening the way to the "*genre libre*" that Baltard condemned. It is at this point of crisis that the historical-minded architects sought a justification for stylistic mixtures within the transitional sub-categories which fit even better in both scientific and romantic perspectives of the time.

The *Magasin Pittoresque* was the popular spokesman of this new affinity between science, technology and culture. Inspired by British weeklies, which were designed to fulfill the curiosity of the ever-increasing and better educated urban populations in the big cities, it began publishing in 1833. In this journal, stories from the early and late Middle-Ages appeared on the same pages as the latest scientific news, and illustrations of Gothic, late-Gothic and early-Renaissance buildings appeared side by side with illustrations of latest-technological devices, such as the gas-lamp of a light-house, or of the subjects of natural science, such as the section of a sperm whale. On the other hand, information was given about the past cultures of Europe, past and contemporary non-European cultures, their societal mechanisms, administration, philosophy, etc. to both satisfy and create the curiosity about exotic matters.[102] Léon Vaudoyer and Félix Duban, two "romantic" *pensionnaires* who studied together, wrote in this magazine.

From the beginning, the *Magasin Pittoresque* published articles on French architectural patrimony from medieval and classical times with a special emphasis on the

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French style. Later, this type of writing was organized in the journal under the general

title of "Etudes d'Architecture en France, ou notions relatives a l'âge et au style des

monuments élevés à différentes époques de notre histoire."[103] It is known Vaudoyer

wrote most of these articles, but it is not possible to determine those that belong to

Duban, except when the authorship is self evident, as in the case of the article on the "Arc

de Gaillon."[104] The article on this fragment from the Château de Gaillon, believed to be

built by Fra Giocondo and brought to Alexandre Lenoir's Musée de monuments

historiques after the Revolutionary pillage, must be Duban's, because he was the one

charged with building the new Ecole des Beaux-Arts on the site of Lenoir's museum.

Duban's argument about the reuse of this fragment in the courtyard of his Palais des

Etudes was the main theme of the series of articles published under the general title

Etudes d'Architecture en France: "transitions." In one of these articles, subtitled

"Architecture civile," and possibly written also by Duban, it was argued that "the style of

[Hôtel de Tremoille], as well as Cluny and Bourgtheroulde, belongs to what we call the

transition style between the Gothic and the Renaissance."[105] Since the article argued that

the Hôtel de Tremoille was contemporary with the Château de Gaillon, and since the

fragments from both of these buildings were re-erected in the garden of the Ecole des

Beaux-Arts, the author was likely be Duban. In the 1833 article on the "Arc de Gaillon,"

Duban stated that it was an integral part of his new project for the Ecole des Beaux-Arts,

because it completed the "transition" from the Gothic to the classical. The site had been

an open air museum of French architectural fragments, and these fragments would

continue to demonstrate the development of French architecture in its historical sequence:

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The wall on the left will be totally decorated with many fragments of Gothic architecture, which are in the possession of the school, and which will represent the French art until around the fifteenth-century. The Arch of Gaillon, completed with arcades of a varied style which come from the same château, offers the artists the elegant architecture of Louis XII, and serves for transition to the architecture of the Renaissance, for which Philibert Delorme left us the portico of Anet as the model.[106]

It seems that during the time that Duban was busy with the Ecole des Beaux-Arts and Vaudoyer with Conservatoire des Arts et Metiers, the *Magasin Pittoresque* published the most interesting articles on French architecture, one of which was entitled "Monuments du Regne de Louis XII," published in 1842. The main theme of this article was that there were two stages for the history of European nations as the pagan art and the Christian art, and that the Christian art surpassed the pagan art. After having given a short history of architecture from the point of view of structural systems, the author, who seems to be Léonce Reynaud, stated that the full development of the arcuated system (*affranchisement de l'arcade*) was realized by the Christians, and this created new architectural structures like Byzantine and Gothic, which were the highest points in the development of structural systems before the modern domination of classical architecture.[107] In a later article, probably the same author claimed that the *Renaissance* was not all about the revival (*renouvellement*) of ancient forms, but it became so in the hands of imitators, who hindered the development of Christian architecture in France and in England, where the name of Christopher Wren - but not Inigo Jones - was associated with the "decadence of architecture."[108] It was argued that Wren followed Bramante, who had introduced formalism in architecture by arbitrarily placing Pantheon's dome on top of the Basilica of Constantine (i.e. Maxentius) in Saint-Peter's.[109] The possibility of

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hybrid structures made from Gothic and Roman systems made the topic of an article on Brunelleschi in 1840 in the *Encyclopédie Nouvelle* by Léonce Reynaud, who discussed how Brunelleschi, the real Renaissance architect, took advantage of both systems in his completion of the Florence cathedral.[110] Thus, the architects of the Duomo, Arnolfo di Campio and Brunelleschi represented the real architecture of the Renaissance, which is now seen as an interrupted development. Moreover, in these articles in the *Magasin Pittoresque*, servile imitation of antiquity was criticized not only from the point of view of structure, but also of locality, that is to say, local materials, climate, etc. To give an example, in the article concerning the architecture during the reign of Henri II, the Italian architect Domenico da Cortona was praised for his Hôtel-de-Ville in Paris because of his respect for the needs and the specific conditions of climate in France, and Philibert De l'Orme's Château d'Anet was described as an "architecture appropriated for the [French] genius, taste and needs."[111]

In his *Histoire d'Architecture* (1846), in which he assembled the articles he published in the *Magasin Pittoresque*, Léon Vaudoyer claimed that the "French civilization operated with the help of two distinct elements, the *Latin* element, and the *Franc* element."[112] He saw two essential periods of transition in the history of French architecture, from Romanesque to Gothic, and from Gothic to Classical, both of which were effected by the interactions between these two elements (2139 *ff*). Like Reynaud, Vaudoyer criticized the excesses in copying antiquity that had hindered the development of the French style (2167), and considered the architecture under Louis XIV the highest point in the history of French architecture (2184), which had been declining ever since.

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After having mocked the robust copies of the Roman architecture under Napoleon (2192), he stated that there were three groups of architects today: The first is the old generation of classicists; the second group is those of the middle generation, who are less exclusive and think of an architecture that depends on "great principles of antiquity" while taking into account of the beauties of the medieval architecture and the Renaissance, both in France and Italy, and that is appropriate to available materials and climate; the third group is the young generation who think Gothic is the national style of France (2195). Naturally, Vaudoyer belonged to the second group, to the generation of "transition" who was supposed to create the new French architecture from the two extremes: the Classical and the Gothic.

Here was a new generation of intellectuals who wanted to create a national (French-Christian) identity for a progressive country, for which they looked for examples in history, and especially in French history. In architecture, because of the need for compromise with the existing classical tradition and the need to change classicism to restart the progress, the romantic-rationalist architects oriented their efforts to the period of transitions in French architecture, which started roughly with the French military adventures in the Italian soil in the end of the fifteenth-century. However, although Duban and Vaudoyer took this idea of transition rather literally, the original idea behind the "historical progress" was Victor Cousin's interpretation of the history of philosophy from which he derived a pragmatic philosophy of learning from all "systems" of all histories. As C. S. Henry states, Cousin's theory of eclecticism was not "the impracticable project of conciliating all doctrines and opinions, which can only result in

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the confusion of inconsistent principles."[113] Lecturing on history of philosophy at the prestigious Ecole Normale Supérieure and Sorbonne in his mid-twenties, Cousin believed that each philosophy developed from the specific conditions of its time, but it was also related to the philosophies that preceded it. Therefore, Cousin's eclecticism did not refute eighteenth-century methodology:

> So far from being an arbitrary selecting and bringing together of doctrines and notions on the grounds of taste and preference, its processes are throughout, strictly scientific and critical. Its eclectic character consists precisely in the pretension of applying its own distinctive principles to the criticism of all other systems, - discriminating in each its part of truth and its part of error, - and combining the part of truth found in every partial, exclusive, and therefore erroneous system, into a higher, comprehensive system.[114]

Cousin's method of "fragmentation" of philosophies, which recalls Condillac's method of de-composition of knowledge, his attention to mixture and transitions, and also to the specificity of times and locations, attracted young architects who found themselves faced with the problem of architectural history. The architectural works of the romantic-rationalists were formally bounded by history and locality rather then freed from them, claiming to be retrospective and progressive at the same time. With this new trend in architectural theory, history per se emerged as the context of a building, and this new paradigm in architecture started defining its own conditions.

In fact, the work of Henri Labrouste appears to be less literal and therefore more suitable for the progressivist, eclectic and regionalist architecture promoted by Vitet. Since his restoration of the ruins of Greco-Italian settlers of Paestum in 1829 for his fourth year *envoi*, which caused a well-known crisis within the Academy, Labrouste

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proved to be a materialist interpreter of history, for whom locality was a response to local

material conditions. It is certain that Labrouste returned from Paestum with different

baggage than that of Soufflot some eighty years before.[115] In the unconventionally long

introductory text of his Paestum *envoi*, Labrouste claimed that the building with central

colonnade (*Le Portique*, now known as the Temple of Hera I) was not a temple but some

sort of a gathering place for the town, that it must be the forbear of the Roman basilica

(and therefore the Christian church), and that this building and the Temple of Ceres

(Athena) were different from the earlier Temple of Neptune (Hera II) as products of a

new culture and new techniques, therefore they represented the original architecture of

Paestum.[116]

The emergence of a new thought, a new phenomenon, as a result of a movement

and new encounter, was also a familiar notion in Cousin's philosophy. In the case of the

introduction of the Greek thought to Italian soil, Cousin's analysis of Xenophanes'

philosophy in the *Fragments philosophiques* is especially interesting. Being an Ionian

from the Asia Minor, and obliged to immigrate to the predominantly Doric Italian

peninsula at an advanced age, Xenophanes combined the philosophy of the elegant and

pleasure-seeking Ionians with the Pythagorism of the Dorians, and became the father of

the Eleatic school. Cousin claimed that as everything was at birth, this new philosophy

was weak, but it was also fecund and had a great future.[117] At the end, Cousin implied

that by mixing the theist element of Pythagorism with the pantheist element of Ionic

philosophy, Xenophanes had started the dialectical reasoning on which the Eleatic school

would be founded.[118] While the young Labrouste's interpretation of the Greek settlers of

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Italy implied the beginning of a new, Latin architecture, young Cousin interpreted the

settling of Xenophanes in Italy as the beginning of Western philosophy, and even

Western theology.[119] It was not without reason that French architecture was seen to have

been born from the marriage of Frank and Latin elements, inheriting this genius born in

the Italian soil.[120]

Because Labrouste vehemently defended his ideas against the Academy, it can be

said without hesitation that these were his convictions about how to achieve healthy

progress in the architecture of a modern society. This can be seen in the two libraries he

built, in which the use of historical elements was always justified by functional logic, but

with a romantic touch. The comparison of the facade of the Bibiothèque Sainte-Genvième

and the cupolas of the Bibliothèque Nationale can make a good example: a former

student of Labrouste, Eugène Millet, stated that in the studio Labrouste always made

them analyze historical structures, and that the arch always provided good lessons. Millet

said that at the end, Labrouste always preferred the arch "*extradossé*" (the arch whose

thick extrados was clearly exposed), and always imposed it on the students.[121] It can be

concluded from this anecdote that the choice of "Roman" arches on the facade of the

Bibliothèque Sainte-Geneviève was simply a technical preference, as was the "Gothic"

slenderness of the interior metal structure of both libraries. As for Labrouste's romantic

inspiration, Bailly stated that Labrouste imagined the cupolas of the Bibliothèque

Nationale with light sources on top and with vegetal decoration all around because of a

childhood memory: when he was a high-school student, Labrouste often went to Jardin

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du Luxembourg and studied among the trees, under the clear sky, and without any distraction; he thought that this was the ideal atmosphere for a library.[122]

This was the kind of interpretation of elements of architectural history that Ludovic Vitet, a disciple of Cousin and an architectural critic, advocated. In 1826, Vitet harshly criticized education at the Ecole des Beaux-Arts, and advised young architects never to forget that they lived in France and not two-thousand years ago in Italy or Greece, stressing the importance of local and contemporary conditions. His skillful satire of the new Bourse built by Brogniart, a disciple of Boullée, shows how ridiculous the pure Greco-Roman imitations had become, and how strong was the consciousness for locality in architectural design.[123] Vitet located the problem in education, and in order to avoid the mistakes of the classicists, he demanded that young architects have not only a historical but also a critical mind:

> The critical mind in architecture, this is the art of freeing oneself from all absolute systems, of all types of conventions, and to chose boldly between all schools of thought and all countries what is appropriate for the conditions of our climate, and for the specific destination of the monuments we build.[124]

Vitet believed that in architecture, everything was born from another thing that preceded it, and in the history of architecture the birth of a new thing had usually happened by mixture of "foreign elements," as in the Romanesque and Byzantine styles, which were the styles of "transition" between the purest times of Roman and Gothic architecture. Vitet added that today was an epoch of transition, and the marriage of different things that was seen monstrous might give birth to great things, as it had in the past.[125]

Whether based in a historical or a technological context, for architectural thinkers of the time, the future of a national architecture always depended on the preservation of the national genius, which was represented in the architectural patrimony. Contrary to the romantic attachment to the ruins in the eighteenth-century, the new generation was anti-*ruinistes*, that is, they were frightened by the possible destruction of the historical monuments. Vitet, who was so conscious about the needs of the time, said that before building a new luxurious building, they should save a historical monument from ruination, because it represented their history to people.[126] On the other hand, Duban's struggle against the Comission des Bâtiments Publics to keep the Arc de Gaillon in the courtyard of the Ecole des Beaux-Arts proved that he could not think an architectural context without reference to national-historical monuments.[127] In his letter to the public, Duban declared that the preservation of a national monument was not a matter of a picturesque beauty, but an intellectual necessity, which justified the design of the new building for the school of architecture, located on the site of a medieval convent. Yet, apart from its "transitory" role, this fragment, which was "found in the axis of the Palais des Beaux-Arts by a happy coincidence", had a pragmatic function as well. In short, this fragment was a reference to development, not ruination:

"But that which is for so many buildings a simple picturesque beauty, is here, I dare say, an appropriate enhancement. If this portico did not exist, the architect would have to propose an equivalent. Indeed when one thinks about the parts of the establishment – in front, in the entrance court to the right, the daily studies, masses of students milling about all hours of the day on their way to classes, the constant coming and going of employees; beyond, everything is silence and meditation: a museum, a library, exhibition rooms, all places where one goes individually for study and examination. Such different functions demand a dividing wall: a grill in the opinion of the Conseil, and indeed, it exists... together with the portico from Anet and the

Gothic fragments that would be laid out in front, an admirable summary of our national architecture, and a body composed of the most eminent architects of France ponder its relocation, that is to say, its ruin!"[128]

With the romantic-rationalist architects' possessive reconsideration of their architectural patrimony, the architectural ruin had perhaps played its last role – as the cultural-historical reference - in architectural theory. In this last role, the romantic attachment to the universal and sublime impressions of ruins transformed into a romantic engagement with the national and rational aspects of historical heritage. After 1830, pure classicism was transformed into eclecticism by all the techniques of elementary composition that were the characteristics of neo-classical architecture; the application of these techniques to the images of architectural patrimony gradually changed the relationship between the fragments (which now became "historical") and their elements. Finally, the role that character played in neo-classical architecture was replaced by the historical reference in post-neoclassical architecture. Architectural fragments played the major role in this critical "transitory" age, as the catalyst for the crisis of definition of architecture.

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Notes to Chapter 3

[1] Anthony Blunt, *Art and Architecture in France 1500 to 1700* (Middlesex: Penguin Books, 1980), pp. 73 *ff.*

[2] Pérouse de Montclos said that Laugier and Boullée sacrificed the notion of proportion for the sake of effect in their critiques of the church of Saint Peter's in Rome, about which they both argued that the largeness of the space was imperceptible because of its many divisions. J.-M. Pérouse de Montclos, *Boullée: l'architecte visionnaire et néoclassique* (Paris: Hermann, 1993), p. 81, note 51.

[3] In 1559 Jacques de Cerceau the Elder published plans for all types of houses entitled *Livre d'Architecture*, and in 1623, Pierre Le Muet published projects of various buildings, entitled *Manière de bien bastir pour toutes sortes de personnes*; both were influenced by the publications of Serlio. Solomon De Brosse undertook important commissions such as the château of Colommiers (1613) for Catherine de Gonzague, and the château of Luxembourg (1615) for Catherine De' Medici. See Blunt, *op. cit.*, pp. 166 *ff.*

[4] Anthony Blunt is one of them, but there are others like R. W. Berger who argued for the reverse influence in one specific case. Berger claimed that Bernini's second design for the Louvre with circular motif in the middle was inspired by Antoine Le Pautre's design of the "ideal château" published in his *Desseins de plusieurs palais* in 1652. Berger also claimed that Le Pautre must have been inspired by the representations of the construction of St. Peter's in Rome, with its dome unfinished. Robert W. Berger, "Antoine Le Pautre and the Motif of the Drum-without-Dome," *Journal of the Society of Architectural Historians*, XXV (1966), no. 3, pp. 165-180.

[5] Most of Hautecoeur's analysis of French architecture under Henri IV and Louis XIII is about the formal and decorative aspects. Louis Hautecoeur, *Histoire de l'architecture classique en France (L'architecture sous Henri IV et Louis XIII: L'Architecture civile)* (Paris: Picard, 1967), II.

[6] For the study of the central motif of this project, see Robert W. Berger, *Ibid.*, pp. 165-180.

[7] Christian Norberg-Schulz, *Architecture Baroque* (Milan: Gallimard/Electa, 1992).

[8] See Jean-Pierre Babelon and Claude Mignot (ed.), *François Mansart: Le génie de l'architecture* (Paris: Gallimard, 1998).

[9] Blunt, *op. cit.*, p. 221.

[10] See Allan Braham, *The Architecture of the French Enlightenment* (Berkeley: University of California Press, 1980), pp. 33, and 50.

[11] See Louis Hautecoeur, *Histoire de l'architecture classique en France (Second moitié du XVIIIe siècle)* (Paris: Picard, 1952), IV, pp. 214-215.

[12] "Simple was the noble architecture;/ Each ornament was properly placed/ By necessity as it seemed:/ There art was hidden behind the nature,/ The eye was satisfied with grasping its structure,/ Never mistaken and always delighted;" Quoted by Blunt, *op.cit.*, p. 221.

[13] Edgard Kaufmann argued that "there were curious parallelisms between Lodoli's thoughts and some uttered by the Abbe Laugier." Edgar Kaufmann, Jr., "Memmo's Lodoli," *Art Bulletin*, XLVI (1964), p. 159.

[14] "On m'objectera peut-être encore que je réduis l'architecture presqu'à rien; puisqu''a la réserve des colonnes, des entablemens, des frontons, des portes et des fenêtres, je retranche à peu près tout le reste. Il est vrai que j'ôte à l'architecture bien du superflu; que je la dépouille de quantité de colifichets qui saisoient sa plus ordinaire parure; que je ne lui laisse que son naturel et sa simplicité." Marc-Antoine Laugier, *Essai sur L'Architecture* (Nouvelle Edition; Paris: Duchesne, 1755), p. 56.

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[15] Etienne-Louis Boullée, "Essai sur l'Art," in J.-M. Pérouse de Montclos, *Boullée: l'architecte visionnaire et néoclassique* (Paris: Hermann, 1993), p. 59 *ff.*

[16] "On voit ici que la proportion n'est ordinairement très sensible qu'aux yeux des connaisseurs. On voit ici que la proportion, quoiqu'étant une des premières beautés en architecture, n'est pas la loi première d'ou émanent les principes constitutifs de cet art." *Ibid.*, pp. 65-66.

[17] "On dit qu'un bâtiment a de la convenance, lorsqu'on remarque que sa disposition extérieure et les principales parties de sa décoration sont absolument relatives à l'objet qui a donné lieu à ériger l'édifice, lorsque l'esprit de convenance y préside, que la bienséance (k) y est exactement observée, que l'Ordonnateur a prévu dans toute son ordonnance, le style et le caractère dont il devoit faire choix..."

"(k): en architecture, on se sert du terme bienséance pour designer l'assortiment du style de l'ordonnance avec le choix des ornements. Par exemple, c'est manquer à la bienséance, que de faire usage d'attributs profanes dans les monuments sacrés, d'ornements arbitraires dans les édifices publics; de faire parade d'un ordre rustique dans les Palais de Rois, ..." Jacques-François Blondel, *Cours d'Architecture* (Paris: Desaint, 1771), I, pp. 389-390.

[18] "... expressions distinctes, particulière, qu'il ne faut point confondre, qui ne sont point synonimes, qui ont besoin d'être senties, ensuite discutée, et qui contribuent plus qu'on ne s'imagine ordinairement à assigner à chaque bâtiment le caractère qui lui est propre." *Ibid.*, pp. 373-374.

[19] On sublime and other types of characters in architecture, see J-F Blondel, *op. cit.*, pp. 378-380.

[20] Rowland pointed out the second sense of *decorum* under the description of "Allocation" (*distributio*). Vitruvius, *Ten Books on Architecture*, trans. I. D. Rowland (Cambridge: Cambridge University Press, 1999), p. 151.

[21] "L'art de produire des images en architecture provient de l'effet des corps et c'est ce qui en constitue la poésie. C'est par les effets que produisent leurs masses sur nos sens que nous distinguons les corps légers des corps massifs et c'est par une juste application, qui ne peut provenir que de l'étude de corps, que l'artiste parvient à donner à ses productions le caractère qui leur est propre." Boullée, "Essai sur l'Art," p. 31.

[22] "Les tableaux en architecture se produisent en donnant au sujet que l'on traite le caractère propre d'ou naît l'effet relatif." *Ibid.*, p. 71.

[23] "Sans doute que la grandeur, la magnificence, la variété, l'effet et le caractère que l'on remarque dans les édifices, sont autant de beautés, autant de causes du plaisir que nous éprouvons à leur aspect. Mais qu'est-il besoin de courir après, si l'on dispose un édifice d'une manière convenable à l'usage auquel on les destine? Ne différera-t-il pas sensiblement d'un autre édifice destiné à un autre usage? N'aura-t-il pas naturellement un caractère et qui plus est, son caractère propre?" Jean-Nicolas-Louis Durand, *Précis des leçons d'architecture* (Paris: Ecole Polytechnique, 1802), 1, p. 18.

[24] "à ces observations, j'ajouterai que les dessins des façades, des dehors des édifices, ne sont que les parties secondaires d'une composition; que ces façades ne sont que les revêtement, que l'habit de l'édifice, qu'elles ne peuvent être données que par les combinaisons organiques résultant d'une bonne distribution intérieure, et de la formation d'un bon plan; car les façades elles-mêmes ne résultent que de la correspondance des baies des murs de refend, et des différent milieux qui peuvent être prolonges jusqu'aux murs extérieurs." Louis-Pierre Baltard, *Discours d'ouverture du cours de théorie d'architecture* (Paris: Ecole Royale des Beaux-Arts, 1840), p. 12.

[25] "Nous aurons à traiter des élémens et de la composition de ceux-ci sous la rapport de la distribution et de la décoration, et, par des observations générale sur les monumens, nous ferons connaître brièvement d'après quels principes ils doivent être composés." *Ibid.*, p. 16.

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[26] "Tandis que ceux dans la composition desquels on a suivi le marche qu'indique la nature, c'est-à-dire, ou l'on s'est occupe, d'abord, du plan; puis, de la coupe et dont l'élévation n'est que le résultat de l'un et l'autre." Durand, *op. cit.*, p. 92.

[27] Boullée claimed that architecture "formed by shadows" was his discovery. Boullée, *op. cit.*, p. 78. Although Boullée's text must be posterior to 1780, he did not mention the work of Nicolas Le Camus de Mézières, *Le Génie de l'architecture, ou l'Analogie de cet art avec nos sensations*, published in 1780.

[28] The "French Order" was proposed by Philibert de L'Orme in 1567 in *Architecture*. His theory can be summarized by a passage from Anthony Blunt: "His argument is double, theoretical and practical. On the theoretical side he argues that the Greeks and Romans invented Orders which satisfied their particular needs, so why should not the French, an equally great nation, invent an Order in accordance with their problems? The practical argument is also cogent. The Greek and Roman Orders were invented in countries in which marble is the natural material, whereas in France most buildings are made of stone. Now it is difficult to obtain a shaft of stone long enough to make a large column in a single piece, and, further, in a shaft of this length stone will not bear the strain put on it. Therefore, generally speaking, stone columns have to be built in drums laid one on top of the other. The disadvantage of this is that the joints between the drums are visible and are disfiguring to the columns. De l'Orme therefore proposes a French Order in which the column is broken at intervals by bands of horizontal decoration which serve to cover these joints." *Art and Architecture in France 1500 to 1700*, p. 87.

[29] Ribart de Chamoust, *L'Ordre François trouvé dans la nature* (Paris: 1776), pp. 6-7.

[30] "Ainsi, sans rejeter entièrement la fable de la cabane rustique à qui on a décerné l'honneur d'être le type de toute l'architecture, ne pourrait-on pas supposer avec autant de raison que les premiers temples qui furent construits en pierre n'ont été que des imitations des constructions troglodytes dans lesquelles les Cyclopes se retiraient, ou que les temples furent la copie de ceux dont l'Egypte était déjà couverte depuis des siècles?" *Discours d'ouverture du cours de théorie d'architecture*, p. 20.

[31] Laugier considered economy to be observed in especially public buildings, saying that not all buildings require the application of the Orders: "Les grands ordres d'architecture ne conviennent point à toutes sortes d'édifices, parce que tout le monde n'est pas en état de faire." *Op. cit.*, p. 105. Ledoux will include economy among the criteria of judgment for architecture. *L'Architecture considerée sous le rapport de l'art, des moeurs et de la legislation* (Paris: Hermann, 1997), p. 9. It was Durand who would make economy a major principle of composition.

[32] Wolfgang Herrmann, *Laugier and Eighteenth-Century French Theory* (London: A. Zwemmer, 1962), p. 21.

[33] "Une architecture vrai plait à tous les yeux, une Architecture vraissemblable ne plait qu'à la raison éclairée; c'est celle qui dans son ordonnance ne montre rien qui ait droit de choquer le Spectateur instruit, quoique l'Architecte ait quelque fois franchi les vrais principes de l'Art.

"Le vraissemblance étant quelquefois préférable à une vérité qui rebute souvent plus qu'elle ne satisfait: par exemple, l'encoignure d'un bâtiment, un trumeau... n'en offrent pas moins à la réflexion la solidité réelle de l'édifice.

"... mais ces différentes parties pêchant contre la vraissemblance, leurs apparences blessent l'œil de l'examinateur, & par cette raison doivent être rejetées... cette qualité est préférable en bien des occassions à la réalité..." J-F Blondel, *Cours d'Architecture*, I, pp. 392-393.

[34] "La maison du pauvre, par son extérieur modeste, rehaussera la splendeur de l'hôtel du riche..." Ledoux, *op. cit.*, p. 1. However, it should not be forgotten that Ledoux still treats architecture according to "l'ordre social."

[35] "Quel spectacle délicieux enchante nos regards! Que le jour est doux! Qu'il est agréable! L'image ravissante de la vie est répandue sur toute la terre!" Boullée, *op. cit.*, p. 73.

[36] Pérouse de Montclos detected in *Essai sur l'Art* a reference to Jean-Jacques Rousseau, where Boullée calls nature as the "book of all the books." *Boullée: l'architecte visionnaire et néoclassique* (Paris: Hermann, 1993), p. 75. For the place of Jean-Jacques Rousseau in movement of the "return to the origins," see Anthony Vidler, "The Primitive Hut," in *The Writing of the Walls: Architectural Theory in the Late Enlightenment* (Princeton (N.J.): Princeton University Press), 1987.

[37] "C'est... le nud du mur qui ôte à l'architecture toute sa grace. Moins il en paroîtra, plus l'ouvrage sera beau; et s'il n'en paroît rien du tout, l'ouvrage sera parfait." "Essai sur l'art," p. 58. Also in p. 274, "je me contente d'enveloper tout le second ordre par des vitraux continues et sans interruption. Mon église deviant l'ouvrage le plus noble et le plus délicat."

[38] "Nos principes sur l'analogie des proportions de l'architecture avec nos sensations sont calqués sur ceux de la plus grande partie des philosophes. On n'erre point en suivant la nature; sa marche est une, Pithagore nous le dit.

"L'harmonie est le premier mobile des plus grands effets; elle a sur nos sensations le droit le plus naturel; les arts dont elle est la base portent dans notre âme une émotion plus ou moins délicieuse." Nicolas Le Camus de Mézières, *Le Génie de l'architecture, ou l'Analogie de cet art avec nos sensations* (Paris: Benoit Morin, 1780), pp. 9-10.

"C'est d'après des règles fixes et invariables que se forme le goût et que nous faisons mouvoir d'une manière déterminée et sublime tout à la fois, les différens ressorts pour affecter agréablement les sens et porter dans l'âme cette émotion délicieuse qui nous ravit, qui nous enchante." *Ibid.*, p. 14.

[39] "Laissons au vulgaire les froids ornemens, ce sont de foibles moyens. C'est par le grand ensemble qu'on attire et que l'on fixe l'attention; c'est lui seul qui peut intéresser tout à la fois et l'âme et les yeux." *Le Génie de l'architecture*, p. 64.

[40] Mézières stated that the beauties of the nature "*sont toujours dans une juste proportion et dans une vrai rapport. L'expression n'en est jamais equivoque.*" *Op. cit.*, p. 14.

[41] *Le Génie de l'architecture*, see pp. 56-63.

[42] Viel de Saint-Maux is sometimes confused by Charles-François Viel, the prolific writer and the architect of many hospitals. Although there is not much information about his life, Pérouse de Montclos proved that he was the author of the first two of the famous letters on architecture written to the Comte de Wannestin (1763) and Duc de Luxembourg (1764). Montclos also showed that Saint-Maux worked and saw himself as painter rather than architect. Jean-Marie Pérouse de Montclos, "Charles François Viel, Architecte de l'Hôpital Général et Jean-Louis Viel de Saint-Maux, Architecte, Peintre et Avocat au Parlement de Paris," *Bulletin de la Société de l'Histoire de l'Art Français* (1966), pp. 257-269.

[43] Saint-Maux criticized contemporary architects for not observing this difference between architecture and building. Jean-Louis Viel de Saint-Maux, *Lettres sur l'architecture des anciens et celle des modernes* (1787; reprint, Genève: Minkoff, 1974), pp. viii *ff.*

[44] *Ibid.*, p.vii.

[45] Saint-Maux claimed to have published an essay on language. Pérouse de Montclos stated that this essay, entitled "*Considération sur l'origine de la Peinture et du Langage,*" has never been mentioned in any source, except in Saint-Maux's note 4 of his seventh letter on architecture. Jean-Marie Pérouse de Montclos, "Charles François Viel," note 3, p. 263.

[46] "On y détaille les pierres premiers, ou autels votifs, d'où sont derivées les mères des sciences et des arts, puisqu'elles porterent les premiers hyéroglyphes ou signes représentatifs, auxquels nous devons

l'origine de la peinture et du langage." *Lettres sur l'architecture*, p. ix. Saint-Maux criticized in every occasion the "false assumptions on the origins of classical architectural elements." He stated that since two thousand years architects only concerned with creating links between human body and the classical elements, which he found absurd. To him, all origins were cosmogonical and sacred (*cosmogonie de ces tems*). See pp. 17-20.

[47] In fact, all these words were taken from the same sentence, which was cited by Pérouse de Montclos to underline its affinity with the architecture of Ledoux and Boullée: "L'artiste semble dérober à l'Éternel ce pouvoir créateur qui à nos yeux exprime les miracles de la Nature...; dans son noble délire, il peint jusqu'à l'espace." Pérouse de Montclos, "Charles François Viel," p. 267.

[48] *Ibid.*, p. 264.

[49] On Ledoux's industrial architecture, see Anthony Vidler, "L'Espace de Production," in *L'Espace des Lumières: Architecture et philosophie, de Ledoux à Fourier*, trans. Catherine Fraixe (Paris: Picard, 1995), pp. 147-194.

[50] *L'Architecture*, pp. 12-13.

[51] Boullée, "Essai sur l'Art," pp. 85-92.

[52] John Summerson's discussion of *scenographia* in the eighteenth century ends with a new period entitled "return to classicism," see *L'Architecture du XVIIIe siècle*, trans. Patrick Mauriès (Paris: Éditions Thames & Hudson, 1993), pp. 46 *ff.*

[53] "Les tableaux du ressort de l'architecture ne peuvent être faits sans la plus profonde connaissance de la nature: c'est de ses effets que naît la poésie de l'architecture. C'est la vraiment ce qui constitue l'architecture un art, et c'est aussi ce qui porte cet art à la sublimité." Boullée, *op. cit.*, p. 71.

[54] Laugier, *op. cit.*, p. 52.

[55] Boullée, *op. cit.*, p. 65.

[56] "Quoique cet art soit souvent uni à la peinture et à la sculpture, et que, comme art du dessin, ses principes semblaient devoir se rapprocher de ceux du peintre et du statuaire, plus particulièrement que des autres; il a cependant, pour la manière d'emprunter à la nature, plus d'analogie avec la poésie et la musique, qu'avec la peinture et la sculpture." Jacques-Guillaume Legrand, *Essai sur l'histoire générale de l'architecture* (Paris: L. Ch. Soyer, 1809), p. 33.

[57] "En effet, ces derniers ont, en grande partie, pour but l'imitation d'objets matériels et visible, tandis que le type des autres échappe aux sens, et n'existe que dans l'imagination du poète et du musicien." *Ibid.*, p. 33.

[58] "Dès parties matérielles dont l'arrangement et l'ordonnance sont assujettis au charme de la proportions répétées régulièrement dans l'entendue d'un bâtiment limité par le juste rapport de ses masses, l'étonnement produit par le réveil des idées de force et de puissance, la curiosité satisfaite, et l'âme toujours agréablement occupée par le sens de la vue, tels sont les moyens et les effets de la belle architecture; qui pourrait donc nier qu'il n'y ait, quant aux principes de composition, une analogie parfaite entre cet art, la poésie, et la musique? *Ibid.*, p. 34.

[59] On the relationship between type and character for Quatremère de Quincy and others, see Anthony Vidler, "From the Hut to the Temple," in *The Writing of the Walls: Architectural Theory in the Late Enlightenment* (Princeton (N.J.): Princeton University Press, 1987), pp. 147-164; also "The Idea of Type: The Transformation of the Academic Ideal, 1750-1830," *Oppositions*, Spring 1977, no. 8, pp. 95-115.

[60] "L'esprit capricieux de ces deux artistes s'est empare d'un grand nombre d'architectes, les a détournés de l'étude unique qu'ils devaient faire du style pur qui distingue les bâtiments des anciens, et a

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opéré une véritable révolution dans l'ordonnance des édifices." Quoted by Pérouse de Montclos, "Charles François Viel," p. 265.

[61] In his interpretation of Viel's reaction, Pérouse de Montclos counted all the peculiarities of Neo-classicism: "La violente diatribe de Viel est moins dirigée contre l'aimable éclectisme qui ouvre les jardins à de pittoresque fabriques gothiques, égyptiennes, étrusques, mauresques ou chinoises, que contre la synthèse de la structure gothique et de l'ordonnance grecque, dont Soufflot fit le premier l'essai au Panthéon, et contre la recherche d'une architecture élémentaire, réduite au volume et à l'effet, procédant d'une interprétation de l'antiquité gréco-romaine renouvelée par les découvertes de l'archéologie, par la prise en considération des antiquités antérieures et par l'imagination de quelques visionnaires." Pérouse de Montclos, "Charles François Viel," p. 266.

[62] Baltard, *op. cit.*, pp. 4-5.

[63] "Formons-nous une idée juste de l'architecture, distinguons les elements de ce bel art, et reconnoissons qu'il n'a rien de commun dans ses principes, et moins encore dans ses applications, avec la peinture et avec la sculpture…" Louis-Pierre Baltard, *Notice sur l'organisation des batimens civils, sous le rapport de l'enseignement et sous celui de l'administrations, avec un tableau de l'ensemble de cette organisation* (Paris, n.d.), p. 4.

[64] For the philosophy of Henri de Saint-Simon and Saint-Simonianism, see Felix Markham (trans. and ed.), *Social Organization, the Science of Man, and Other Writings; Henri de Saint-Simon* (New York: Harper & Row, 1964). For the influence of Saint-Simonianism on the romantic-rationalist architects, see David Van Zanten, *Designing Paris: The Architecture of Duban, Duc, and Vaudoyer* (Cambridge, Mass.: MIT Press, 1987).

[65] Victor Cousin studied the history of philosophy in fragments, and he entitled his oeuvres as *Fragments Philosophiques*.

[66] Jean-Pierre Épron treated this theme in his study of eclecticism in France during the nineteenth-century. Epron saw the opening of the société d'architecture as the first major organized reaction to the Academy. *Comprendre l'écléctisme* (Paris: Insitut Français d'Architecture, 1997).

[67] That is, Section d'Architecture of the Académie des Beaux-Arts of the Institut de France.

[68] One should only remember that almost all the main opponents of strict classicism, such as Duban, Vaudoyer, and H. Labrouste, were later elected to the Academy. It is interesting to read in his eulogy for H. Labrouste, the most rebellious of these architects, how Delaborde kindly reproached him for going against the establishment during his youth. Henri Delaborde, *Notice sur la vie et les ouvrages de M. Henri Labrouste, lue dans la séance publique annuelle du 19 octobre 1878* (Paris: Institut de France, 1878), p. 3.

Labrouste's letter to his elder brother Théodore dated 1855 shows that Labrouste did not want to turn down the proposal for his candidature to the Academy because of his earlier opposition against the institution: "Ce qui me semblait difficile il y a quelques années, ne serait pas impossible aujourd'hui; ce n'est pas que ja'i changé, mais les circonstances ne sont plus les mêmes et les personnes non plus." *Souvenirs d'Henri Labrouste, Notes recueillies et classées par ses Enfants* (Paris, 1928), p. 87.

On the other hand, celebrating Labrouste on his acceptance by the Academy in the November of 1867, Vaudoyer wrote in his letter that he did not think he would be as lucky when his time came, because he belonged to the group of four reformers of the 1830: "Maintenant, je ne te le cache pas, je suis très loin d'être assuré d'obtenir le même succès que toi à la prochaine nomination, il me serait cependant bien dû de pouvoir prendre place à cote de vous trois et compléter ainsi le corps compact des quatre réformateurs de 1830, qui ne sont jamais démentis." *Ibid.*, p. 90.

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[69] David Van Zanten showed that the Saint-Simonian idea of historical progress changed the way that architectural history was seen. The classical understanding of the decline of the arts was attacked by the followers of the idea of progress, who claimed that every crisis in the history, the fall of the Roman Empire, the emergence of Protestantism, the Revolution, was a sign of progress: "These moments, formerly seen as ages of darkness and chaos, were now illuminated and depicted as epochs of wonderful popular élan by Sismondi in his *Histoire des républiques italiennes* (1807-9) and *Histoire des Français* (1821-44); by Thierry in his *Lettres sur l'histoire de France* (1820, 1827); by Guizot in his *Histoire des origines du gouvernement représentatif* (1821-22), *Histoire de la révolution d'Angleterre*, and *Histoire de la civilization en France* (1830); and by Mignet's and Thiers's histories of the French Revolution (1824 and 1823-27, respectively)." *Designing Paris*, p. 59.

[70] On the relationship between historian politicians and the important government commissions assigned to these architects, see David Van Zanten, *op. cit.*, pp. 45 *ff*,

[71] This is a critical period in the history of architectural education in France. Huyot was responsible for the Theory of Architecture, that is, the principals of classical architecture, whereas Baltard was responsible for the Theory of Architecture, that is, the principals of architectural composition. It seems like Huyot's post was created by Quatremère to balance the "romantic" movements among the students. See Simona Talenti, *L'histoire de l'architecture en France: émergence d'une discipline (1863-1914)* (Paris: Picard, 2000), p. 28.

[72] "Les principes relativistes de celle-ci devaient inciter les romantiques à croire que toutes les architectures répondaient directement aux données locales en matière de climat, de matériaux et de technologie, ainsi qu'au milieu social et politique." Barry Bergdoll, "Le Chef de la nouvelle école: Duban, sa fortune critique et sa theorie de l'architecture," in Sylvain Bellenger and Françoise Hamon (ed.), *Félix Duban 1798-1870: les couleurs de l'architecte* (Paris: Gallimard, 1996), p. 22.

[73] Louis Hautecoeur, *Histoire de l'architecture classique en France* (Paris: Picard, 1955), VI, 49. David Van Zanten confirmed that although Huyot had a broader perspective of architecture than L-P. Baltard, he appears from his lecture manuscript to have had a conservative doctrine. *Op. cit.*, p. 269, note 71.

[74] David Van Zanten, *Building Paris: Architectural Institutions and theTtransformation of the French capital, 1830-1870* (Cambridge: Cambridge University Press, 1994), p. 93.

[75] See A-C. Quatremère de Quincy, "Caractère," in *Encyclopédie Méthodique*. For an analysis of Quatremère's response to the problem of adaptation of the Greek forms in Northern Europe, see Anthony Vidler, "From the Hut to the Temple," pp. 157 *ff*.

[76] Louis Hautecoeur, *Histoire de l'architecture classique en France* (Paris: Picard, 1955), VI, 148.

[77] "Tout ce qui tend à nous prouver l'unité d'action de notre âme, et l'impossibilité ou elle est de se diviser, pour donner audience à deux sensations concurrentes, tend également à établir la règle d'unité d'imitation, soit que l'on considère en général l'imitation dans les propriétés respectives des arts entre eux, soit qu'il s'agisse des éléments dont se composera l'ouvrage d'un seul art. Chacun avoue sans peine que l'unité est violée, là ou l'ouvrage d'un seul art produit plus d'un sujet dans une composition, plus d'un intérêt dans une action, plus d'un caractère dans une personnage, plus d'un évènement (principal) dans un poème, plus d'un trait d'histoire dans un tableau, plus d'un point de vue dans un site ou une perspective, etc. etc. C'est que l'âme alors ne reçoit que des impressions rompues et incohérentes." Quatremère de Quincy, *De l'imitation* (1823) (Bruxelles: Archives d'Architecture Moderne, 1980), pp. 45-46.

[78] "Il semblerait que Duban, comme ses amis, ait adhère aux nouvelles vues historiques exposées par Victor Cousin et François Guizot, avant que leurs cours ne fussent censurés en 1821 et 1822, et aux premiers écrits d'Augustin Thierry." Barry Bergdoll, "Le Chef de la nouvelle école," p. 22.

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[79] Fontaine repeated several times in his diary that the reign of Charles X was charged with resentment against the public and republican institutions which recalled the Revolution that had dethroned the Bourbons and guillotined his older brother, Louis XVI. Pierre François Léonard Fontaine, *Journal 1799-1853* (2vols; Paris: Ecole Nationale Supérieure des Beaux-Arts, 1987), II.

[80] During the inauguration of the monument erected in the memory of Duban at the Ecole des Beaux-Arts, sculptor Eugène Guillaume described the artistic and ideological atmosphere of the time. Eugène Guillaume, "Duban," *L'Architecture*, décembre 1894, no. 48, pp. 390-392.

[81] "... pour formuler une philosophie de l'histoire architecturale qui conjugue une étude attentive des monuments nationaux à une compréhension plus large des processus historiques." Barry Bergdoll, "Le Chef de la nouvelle école," p. 23.

[82] Barry Bergdoll, "Le Chef de la nouvelle école," p. 24. For the critique of Renaissance classicism and the neo-classicism, see also Léonce Reynaud, "Architecture," in P. Leroux and J. Reynaud (ed.), *Encyclopédie Nouvelle* (Paris: Charles Gosselin, 1836), I, 770-778.

[83] Herrmann, *op. cit.*, pp. 85 *ff*.

[84] "Dissertation sur l'architecture," *Journal économique*, March 1752, pp. 68-107. Quoted by Herrmann, pp. 85-86.

[85] *Recueil contenant la description, les plans, les élévations et les coupes du Château de Blois, levés par Ordre de Monsieur le Marquis de Marigny en 1760*, Paris: Bibl. De l'Institut, MS 1046. Quoted by Herrmann, *op. cit.*, p. 87.

[86] Herrmann, *op. cit.*, p. 85.

[87] For the story of Soufflot's use of both "*genre massif de l'architecture antique et le genre plus léger gothique*," and the agitation made by Pierre Patte about the stability of the structure, see Louis Hautecoeur, IV, 191 *ff*. In fact, Soufflot combined Byzantian structure and Greek-Roman structures in grand scale, which caused him a lot of problems.

[88] Herrmann, *op. cit.*, pp. 67-69.

[89] Vaudoyer, for example, talks about "*génie*" of the Latin race in the context of French art. Léon Vaudoyer, *Discours de M. Vaudoyer prononcé aux funérailles de M. Duban* (Paris: Institut de France, 1871).

[90] "Au moyen de dôme, inconnu des anciens, la religion a fait un heureux mélange de ce que l'ordre gothique à de hardi, de ce que les ordres grecs ont de simple et de gracieux." René de Chateaubriand, *Le Génie du christianisme* (Paris : Retaux-Bray, 1891), p. 251.

[91] "Coussin dans son Génie de l'Architecture, oeuvre pleine de fatras, mais curieuse par le choix des édifices, consacre des chapitres aux basiliques romaines, à Sainte-Sophie, sans parler du Gothique, de la Chine, de l'Inde." Hautecoeur, VI, 253.

[92] "Notre but principal, d'ailleurs, étant de faire ressortir les beautés constantes de l'architecture, indépendantes des temps et des lieux, des genres et des styles, et enfin de la métaphysique de ses éléments." J. A. Coussin, *Du Génie de l'architecture, ouvrage ayant pour but de rendre cet art accessible au sentiment commun, en le rappelant à son origine, à ses propriétés, à son génie* (Paris: Firmin Didot, 1822), p. 5.

[93] Coussin, *op. cit*, p. 127.

[94] *Ibid.*, p. 135.

[95] J. A. Coussin, *De l'Origine de l'architecture, developpement des idées y relatives, et continues dans le genie de l'architecture* (Paris: Firmin Didot, 1824), p. 2. Coussin used the word 'materialisme" in "Du Génie de l'Architecture," p. viii.

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[96] "Le rocher, l'écorce d'arbre, la pierre, le métal, les couleurs ont parlé, et quel langage!" Coussin, *De l'Origine de l'architecture*, p. 3.

[97] *Ibid.*, p. 5.

[98] Alexandre de Laborde, *Monuments de la France classés chronologiquement et considérés sous le rapport des faits historiques et de l'étude des arts* (2 vols.; Paris: Joubert, 1816); see the "Discours préliminaire."

[99] The "classical age" for Foucault extends between two important discontinuities in the Western epistemology, from the mid-seventeenth century, to the modernity which started in the beginning of the nineteenth century. Michel Foucault, *Les Mots et les Choses: Une Archéologie des Sciences Humaines* (Paris: Gallimard, p. 13).

[100] *Ibid.*, pp. 140 *ff*.

[101] The letters and writings of Duban, Vaudoyer, Labrouste, Vitet and many other can be seen as architectural manifestoes which have certain similarities with those of the leaders of twentieth-century avant-garde architecture.

[102] It can be argued that the imperialist expansion of France since the beginning of the nineteenth-century can be counted among the factors that provoked curiosity for exotic elements. For example, France had recently occupied Algeria in 1830, and it had invaded Egypt in 1798.

[103] David Van Zanten and Barry Bergdoll stated that this series of articles was written by Léon Vaudoyer. Van Zanten, *Designing Paris*, p. 47; Bergdoll, *Léon Vaudoyer*. However, in the note 3 of the chapter four, Bergdoll attributed the article named "Les Bizzareries de Ledoux" (1852, n. 20, 388 *ff*) to Vaudoyer because of a manuscript by Vaudoyer, but also because "in these years most of the articles on architecture in *Le Magasin pittoresque* were by Vaudoyer." One can conclude that not all of the articles were written by Vaudoyer. Moreover, in a later article, Bergdoll mentioned Duban's contribution to the historical articles published in this journal in the 1840s. Barry Bergdoll, "Le Chef de la nouvelle école," p. 24.

Same obscurity is reflected in the obituaries of Vaudoyer. Davioud stated that Vaudoyer had written many of these beautiful articles, whereas Ballu simply said that Vaudoyer published the articles on the French architecture in the *Magasin Pittoresque*. Gabriel-Jean-Antoine Davioud, *Funérailles de M. Léon Vaudoyer: Discours Prononcé au nom des Elèves (12 février 1872)* (Paris: Extrait du Bulletin de la Société centrale des Architectes, 1872), p. 4; Théodore Ballu, *Notice sur M. Léon Vaudoyer* (Paris: Institut de France, 1873), p. 9. Since these articles never had an author's name, it is doubtful that Vaudoyer produced all. If he did so, and if the conjectures made in this text about the authorship of the articles are not correct, this means that Vaudoyer must have freely barrowed the ideas of his friends.

[104] Davioud stated that on his return from Italy Vaudoyer studied French architecture and published his studies in the *Magasin Pittoresque*; Bergdoll said the same thing for Duban. See Davioud, *op. cit.*, p. 4; and Bergdoll, "Le Chef de la nouvelle école," p. 23.

On the other hand, it is possible to identify the articles written by Vaudoyer from the little book published in the *Patria* series, where Vaudoyer turned his articles into a history of architecture in France. See Léon Vaudoyer, "Histoire de l'Architecture," in *Patria: La France Ancienne et Moderne* (Paris: J.-J. Dubouchet et Cie, Janvier 1846), pp. 2114-2199.

[105] "Le style de l'architecture de cet hôtel, ainsi que de ceux de Cluny et de Bourgtheroulde, appartient à ce qu'on appeler le style de transition entre le Gothique et la Renaissance." "Etudes d'Architecture en France: Architecture civile," *Le Magasin Pittoresque* (1841), p. 381.

[106] "Tout le mur de gauche sera décore par les nombreux fragments d'architecture gothique que possède l'école, et représentera l'art français jusqu'a XVè siècle environ.

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"L'Arc de Gaillon, complété par des arcades d'un style varie, et provenant aussi du même château, offrira aux artistes le type de la jolie architecture du siècle de Louis XII, et servira de transition à l'architecture de la Renaissance, dont Philibert Delorme nous a laisse le modèle dans le portique d'Anet."
"Musée des Petits-Augustins," *Le Magasin Pittoresque* (1833), pp. 284-285.

[107] "Monuments du Regne de Louis XII," *Le Magasin Pittoresque* (1842), pp. 121-128.

[108] "Les artistes de Renaissance avaient donc senti la nécessite d'une reconstitution de l'Art sans être parvenus à en formuler les principes d'une manière absolue. Mais ceux qui ont produit le Renouvellement se sont malheureusement contestés de poser un principe d'imitation qui devait entraver l'avenir en enchaînant les progrès de l'esprit moderne qui se substituait à celui du moyen age."
"Commencement du Regne de François 1er," *Le Magasin Pittoresque* (1842), p. 93.

[109] Inigo Jones was presented as the architect of the Renaissance, and Christopher Wren, who wanted to imitate the Saint-Peter's in Rome, as the architect of the *Renouvellement. Ibid.*, p. 194.

[110] Léonce Reynaud, "Brunelleschi," in *Encyclopédie Nouvelle* (1840), III, 96-99.

[111] "...architecture appropriée à son génie, à ses goûts et à ses besoins." "Regne de Henri II," Le *Magasin Pittoresque* (1843), pp. 193-194.

[112] "L'Italie n'était-elle pas, par sa situation même, le véritable lien qui devait unir l'Occident à l'Orient! Il ne faut pas non plus perdre de vue qu'antérieurement à la renaissance, la civilisation française s'était opérée à l'aide de deux éléments distincts, l'éléments latin et l'élément franc." Vaudoyer, "Histoire de l'Architecture," p. 2160.

[113] Victor Cousin, *Elements of Psychology: A Critical Examination of Locke's Essay on the Human Understanding*, trans. and int. Rev. C. S. Henry, D.D. (New York: Gould & Newman, 1838), p. xxix. To give an example, Cousin claimed that in Locke's *Essay on Human Understanding* "the study of human understanding [was] reduced to the study of ideas." See p.53. Unlike Condillac, who made from Locke's text a philosophy of sensations, Cousin tried first to analyze the text, and understand what is wrong and what is always valid.

[114] Rev. C. S. Henry, D.D., introduction to *Elements of Psychology: A Critical Examination of Locke's Essay on the Human Understanding*, by Victor Cousin, trans. Rev. C. S. Henry, D.D., (New York: Gould & Newman, 1838), pp. xxxi.

[115] On his return from Italy, Soufflot gave a lecture to the Academy there, in which he stated that the "Beautiful is the same today as it had been 2000 years ago." Herrmann, *op. cit.*, p. 63.

On the other hand, the "nationality" of the Doric order of Paestum was also a hot subject in the eighteenth-century, which created a big debate related to the quarrel between the French and Piranesi about the superiority of Greeks over Romans and vice versa. Piranesi's restoration of the Temple of Corso, with its unusually tall Doric columns, was to point out its Etruscan origins, which made the Father Paoli to even claim in 1784 that "Greeks simply gave more beauty to the forms invented by Etruscans," but they sometimes had produced bad copies, such as at Paestum. Moreover, given that Leroy's study of the Athenean Acropole proved that the Greek Ionic order was different from that of Scamozzi, Vignola and Michelangelo, even Goethe was questioning at this time if the Greek Doric order really had no base, as in the ruins of Paestum. But architects – if not the Italians - quickly adopted the Doric style without base, as it was meaningful in terms of transformation and progress of classical architecture. See Hautecoeur, IV, 21 *ff.*

[116] Henri Labrouste, *Les Temples de Paestum: restauration exécutée en 1829 (Restauration des Monuments Antiques par les Architectes Pensionnaires de l'Académie de France à Rome)* (Paris: Firmin-Didot, 1877). Neil Levine claimed that Labrouste's miscalculation of the chronological order of the temples was by purpose; he wanted to oppose the Academic doctrine that the Roman architecture was the perfection of Greek architecture. Neil Levine, *op. cit.*, pp. 385 *ff.*

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[117] Victor Cousin, *Fragments Philosophiques, pour servir à l'histoire de la philosophie* (8 vols.; Genève: Slatkine Reprints, 1970), I, 17-18.

[118] *Ibid.*, p. 51.

[119] In his notes on Cousin's Sorbonne lectures on the history of philosophy in 1818, the twenty-two years-old student Renan complains many times for Cousin's persistent reference to Greek philosophy as the origin of Christian theology. Renan stated firmly that Greek philosophy only influenced the development of Christianity whose origin was Judaism. Renan, *Remarques sur le cours de 1818 de V. Cousin* (Paris: A.-G. Gizet), 1972

[120] Neil levine ignored the connection made by Labrouste between Greeks and Romans (Latins) on the basis of rationality if not on the basis of formal perfection. Arguing that Labrouste accepted Greek architecture simply as Greek architecture but not the origin of classical architecture, Levine interpreted Labrouste's *précis historique* as the refusal of the Academic notion of the evolution of classical architecture, and pointing at Labrouste's restoration of the Temple of Neptune [Hera II] without tribune galleries as a proof: "by extension, Labrouste was also implying that the Christian church, as it had developed in form from the Roman basilica, had no logical connection with the forms of the Greek temple." Neil Levine, *op. cit.*, p. 376.

However, the fact that Labrouste named the Temple of Hera [I] "*le portique*," but not a basilica like did Delagardette, does not prove that he refused a connection with the Roman basilica; on the contrary, it shows that Labrouste accepted this building not as a Greek but a local building for gathering, thus structurally in the origin of the Roman basilica, which was a commercial court, and of the Christian church, which came from this commercial court.

[121] Eugène Millet, *Henry Labrouste: Sa Vie, Ses Oeuvres (1801-1875)* (Paris: Société Centrale des Architectes, 1880), p.10; "Notice sur Labrouste, lue a l'académie dans la séance du 16 décembre 1876," in *Souvenirs d'Henri Labrouste, Notes recueillies et classées par ses Enfants* (Paris, 1928), p. 77.

[122] Bailly, "Notice sur Labrouste, lue a l'académie dans la séance du 16 décembre 1876," in *Souvenirs d'Henri Labrouste, Notes recueillies et classées par ses Enfants* (Paris, 1928), p. 77.

[123] Ludovic Vitet, "Inauguration du Palais de la Bourse" (Novembre 1826), republished in *Etudes sur les Beaux-Arts: Essais d'Archéologie et Fragments Littéraires* (Paris: Comptoir des Imprimeurs-Unis, 1846), pp. 265-270.

[124] "L'esprit critique en architecture, c'est l'art de s'affranchir des tous les systèmes absolus, de tous les types de convention, et de choisir hardiment, entre les traditions de toutes les écoles et de tous les pays, ce qui peut s'approprier aux conditions du climat sous lequel on travaille, et à la destination spéciale des monuments que l'on construit." Ludovic Vitet, "Des Monumens de Paris" (*Extrait de la Revue Française*, Mars 1838), republished in *Etudes sur les Beaux-Arts: Essais d'Archéologie et Fragments Littéraires* (Paris: Comptoir des Imprimeurs-Unis, 1846), p. 280.

[125] Vitet, "Des Monumens de Paris," pp. 288-289.

[126] *Ibid.*, pp. 293.

[127] See David Van Zanten, "Félix Duban and the Buildings of the Ecole des Beaux-Arts, 1832-1840," *Journal of the American Society of Architectural Historians*, XXVII (1978), no. 3, pp. 161-174.

[128] "Mais ce qui a été pour nombre d'édifices une simple beauté pittoresque est ici, j'ose le dire, une beauté de convenance. Si ce portique n'existait pas, l'architecte aurait proposé un équivalent. En effet que l'on se pénètre de la division de l'établissement. En avant, dans la cour d'entrée à droite, études quotidiennes, agglomération d'étudiants se pressant à chaque heure du jour, aux cours de l'école, allées et venues continuelles des employés: au-dela, tout est silence et recueillement: un musée, une bibliothèque des salles d'exposition, tous lieux ou l'on se rend un à un dans un but d'étude et d'examen. Une destination

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si différente exige une limite, une grille selon l'avis du Conseil; eh bien, cette grille existe... avec le Portique d'Anet et des fragments de l'art gothique qui serait déposés en face un admirable résumé de notre architecture nationale, et un conseil composé des premiers architectes de France en médite la translation, c'est-à-dire la ruine!" *Bulletin de la Société de l'Histoire de l'Art Français* (1977), p. 223.

The translation was quoted from David Van Zanten, "Félix Duban and the Buildings of the Ecole des Beaux-Arts," p. 166.

Figures to Chapter 3
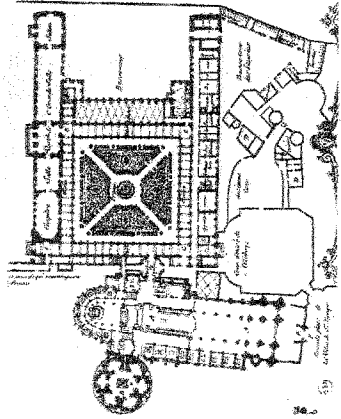
Fig.1. J. Bullant, Chapelle des Valois, Saint-Denis
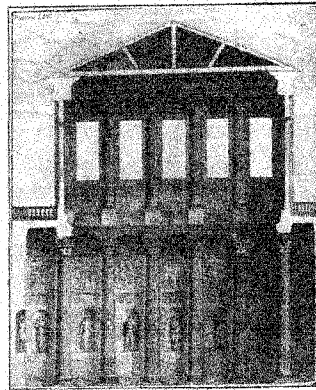
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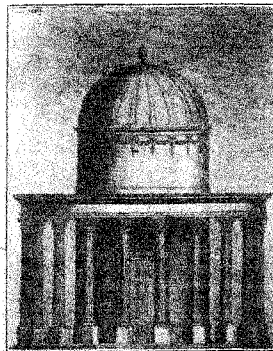
Fig.3. C. Perrault, "Edifice circulaire," from *Vitruve*

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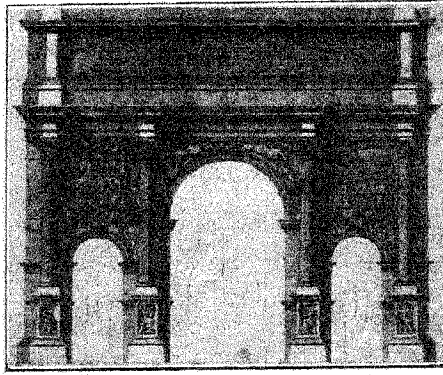
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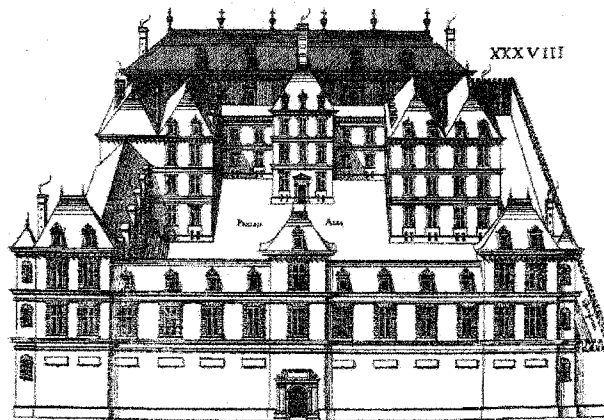
Fig.5. Jacques Du Cerceau the Elder, House
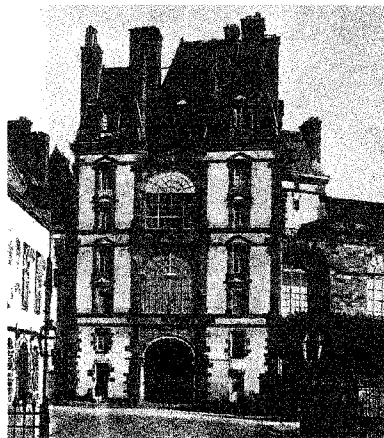
Fig.6. Gilles Le Breton, Porte Dorée, Fontainebleau

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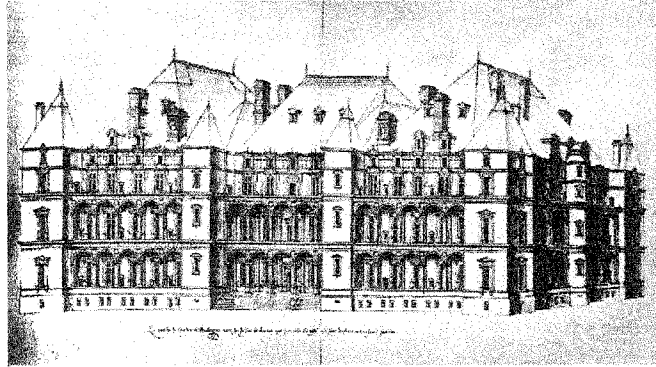
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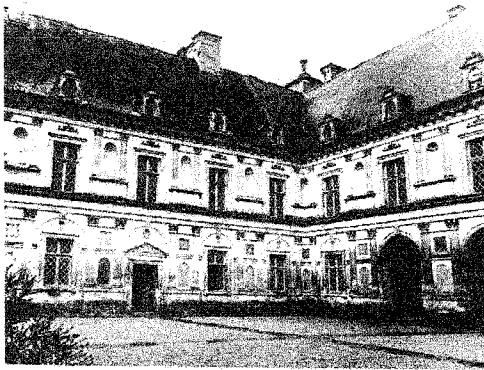
Fig.8. Serlio, Ancy-le-Franc

Fig.9. Philibert de l'Orme, Château d'Anet, from *Magasin Pittoresque*

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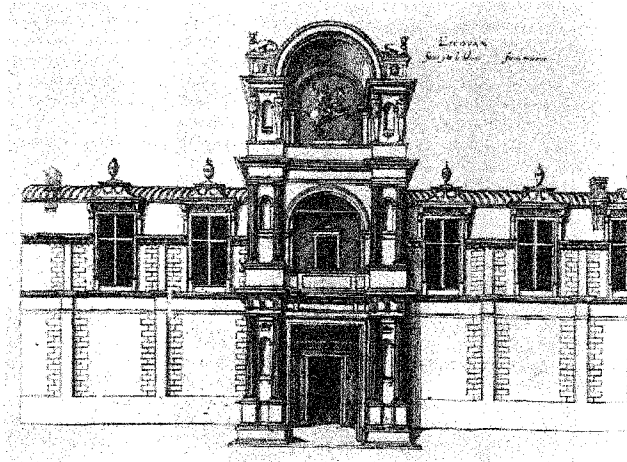
Fig.10. Jean Bullant, Château d'Ecouen

Fig.11. Jean Bullant, Château d'Ecouen, courtyard

Fig.12. Places des Vosges, Paris

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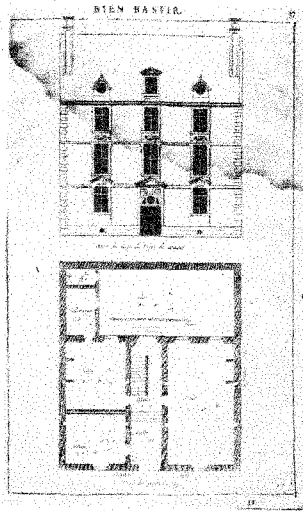
Fig.13. Pierre Le Muet, House
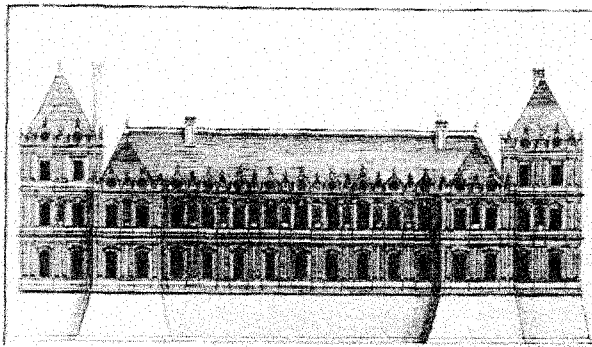
Fig.14. Solomon De Brosse, Château de Coulommiers
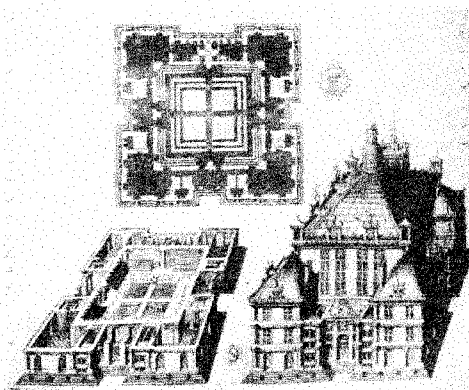
Fig.15. J. Perret, Temple

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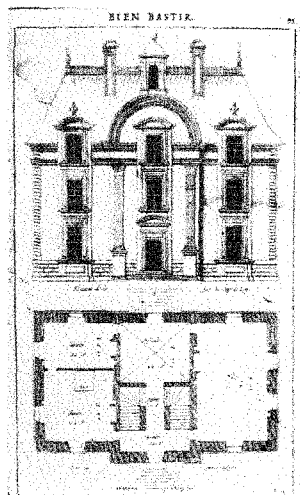
Fig.16. Pierre Le Muet, "Escalier dans une cage rectangulaire"
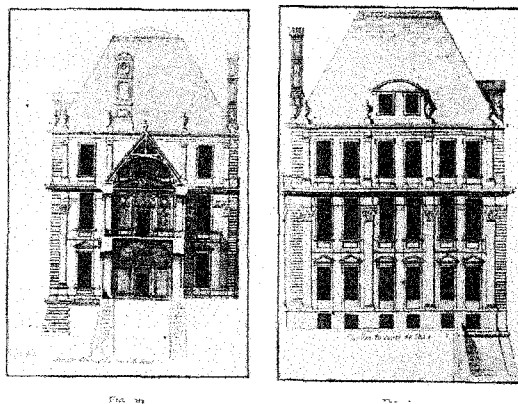
Fig.17. A. Du Cerceau, Tuileries, Pavillon de Flore
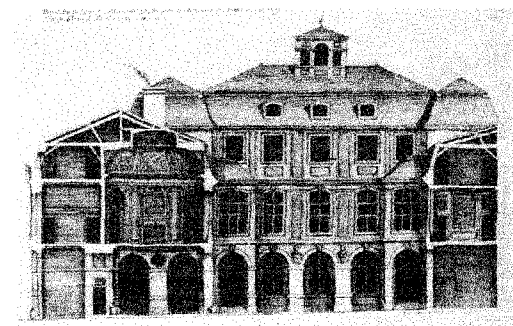
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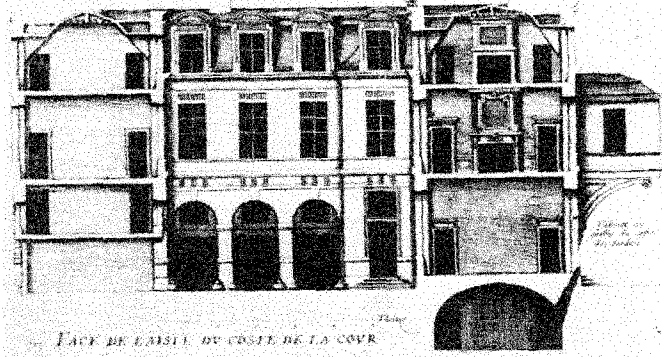
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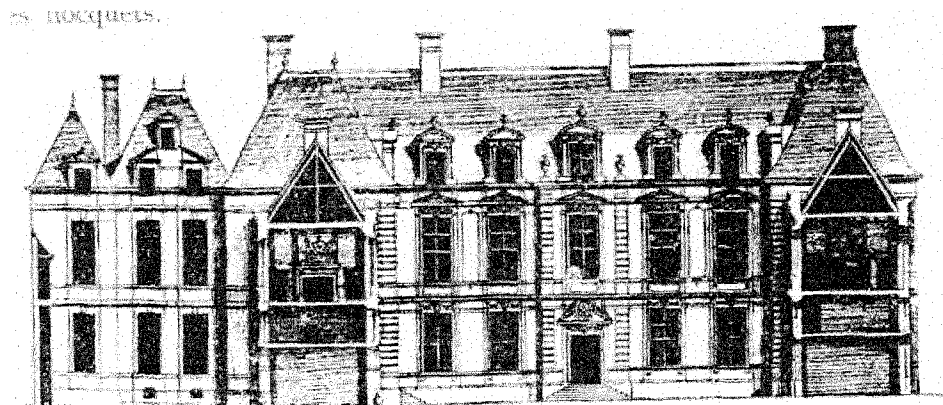
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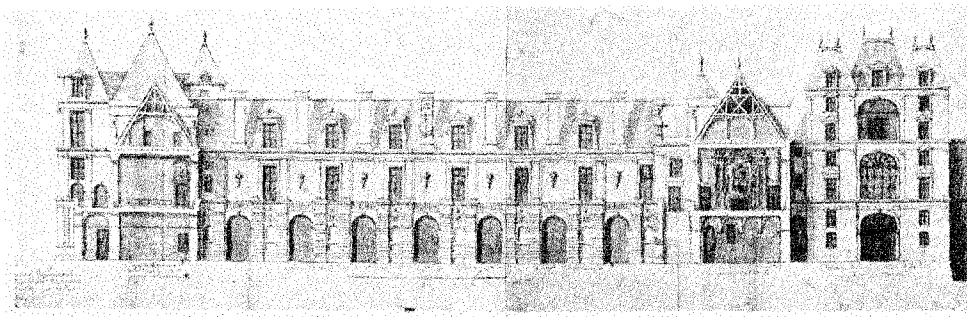
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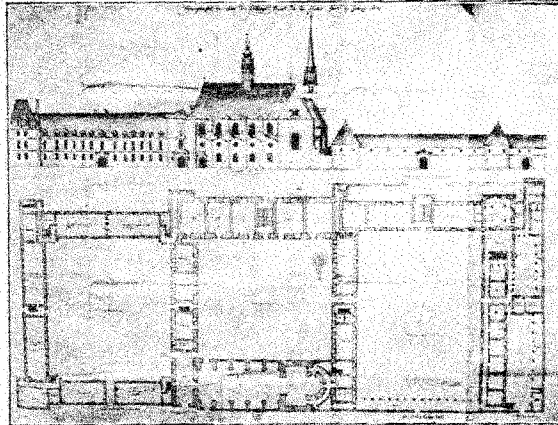
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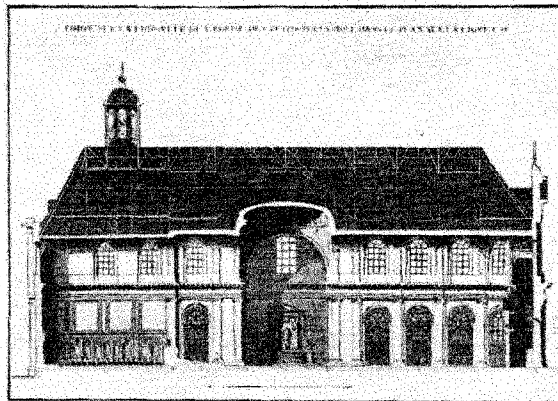
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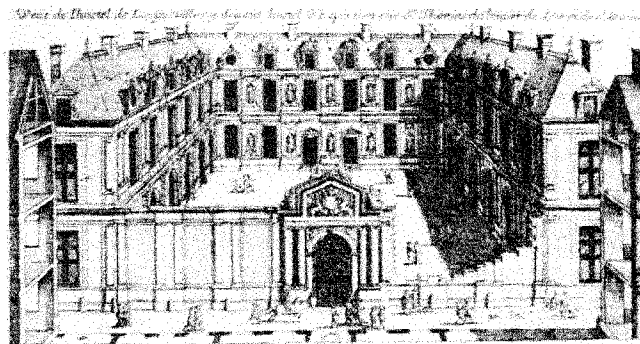
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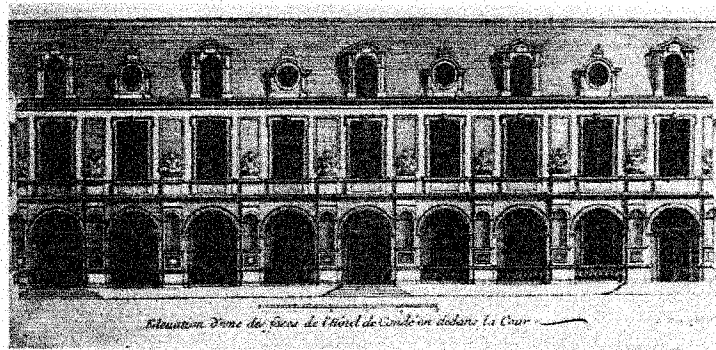
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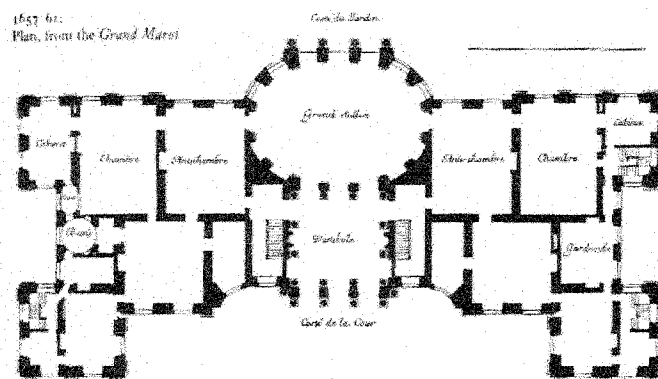
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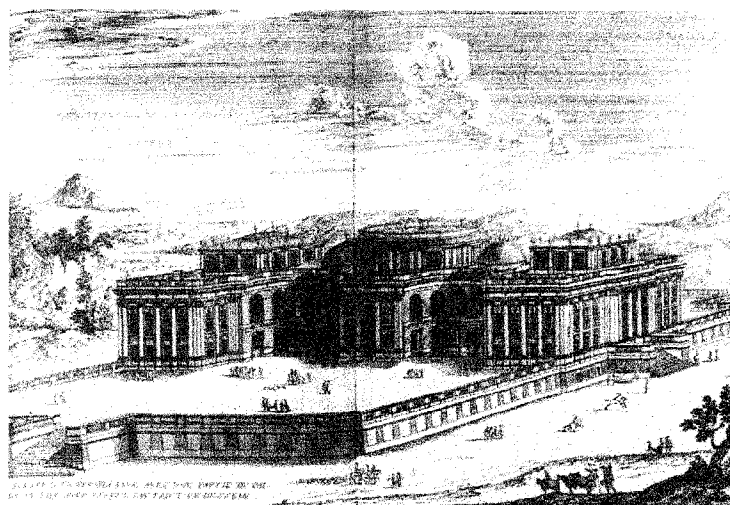
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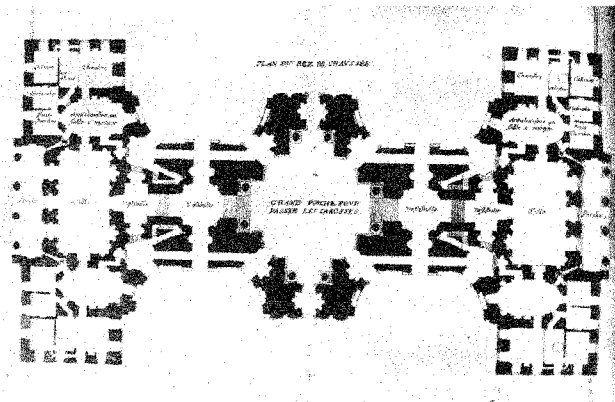
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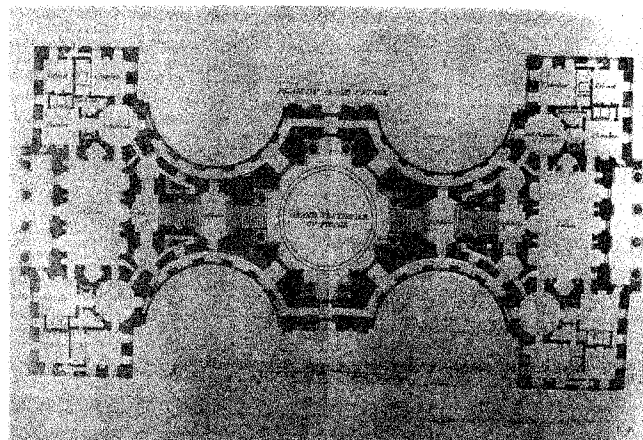
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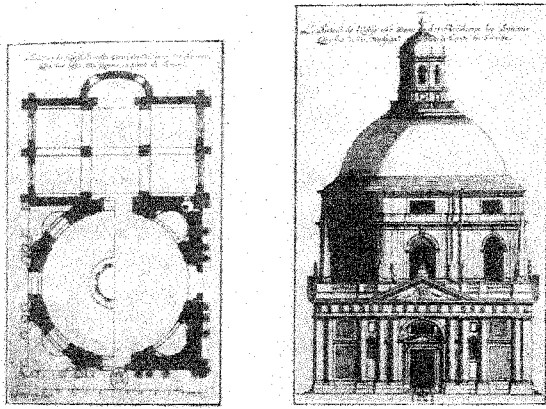
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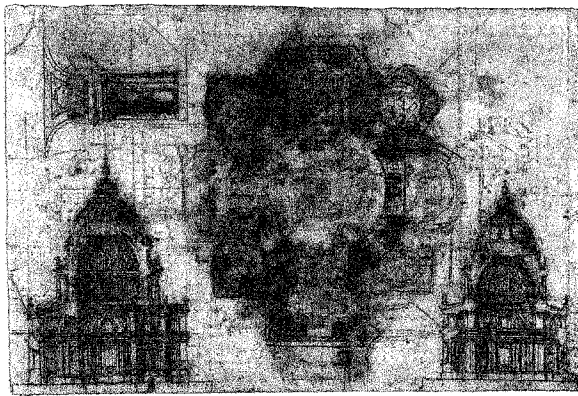
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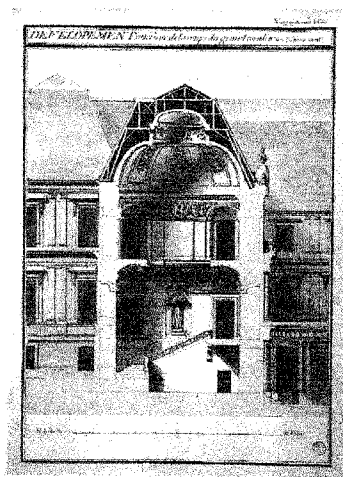
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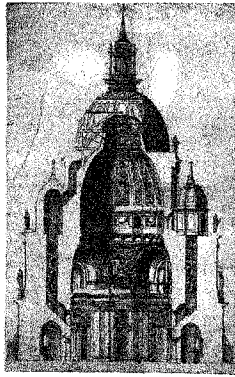
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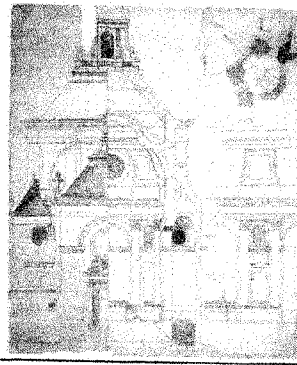
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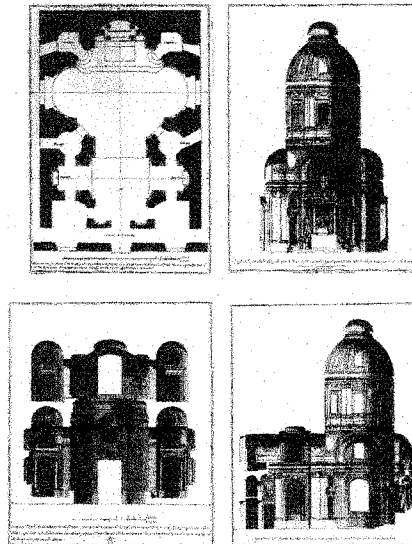
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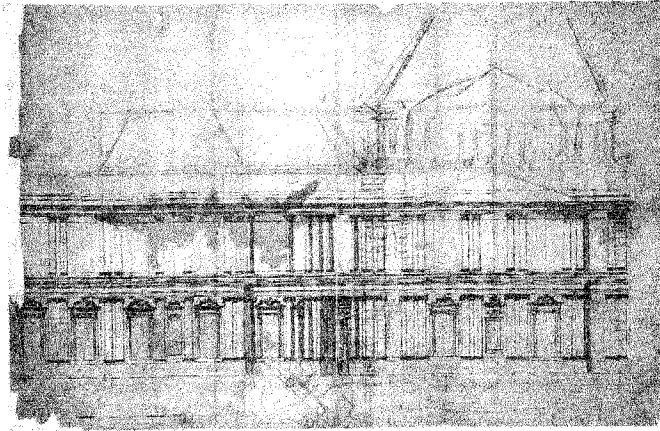
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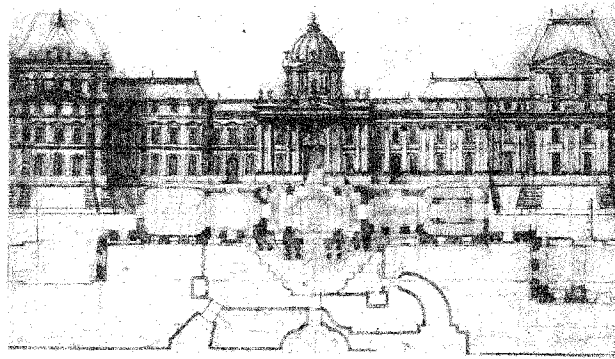
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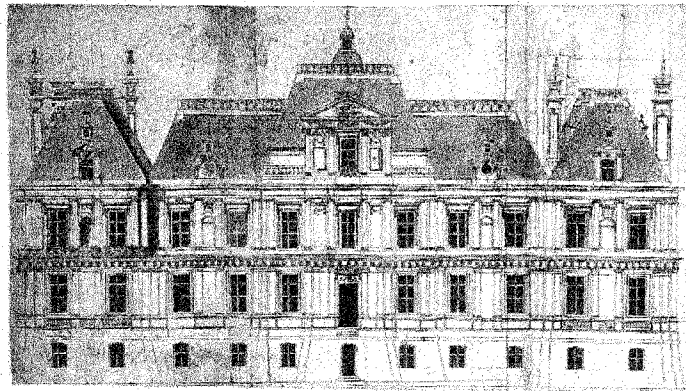
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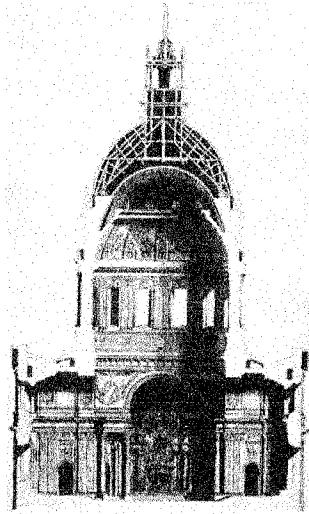
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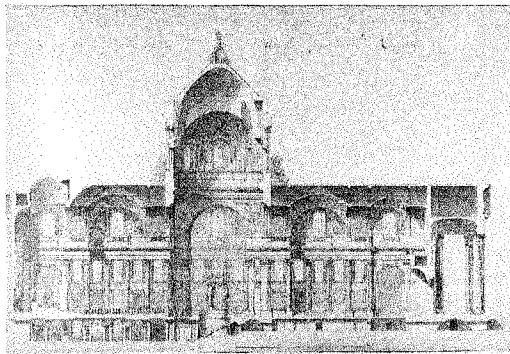
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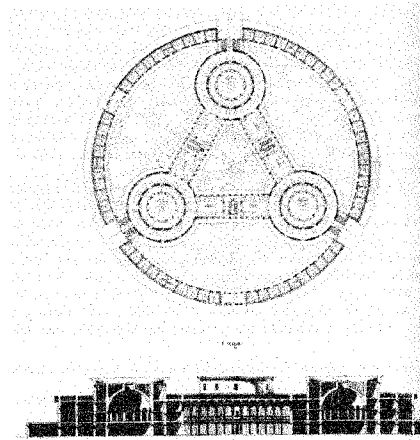
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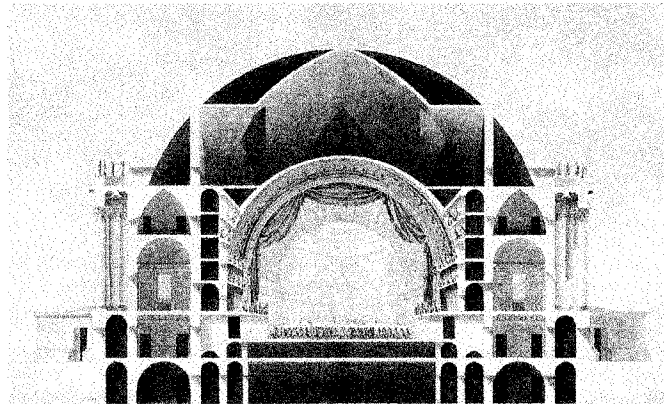
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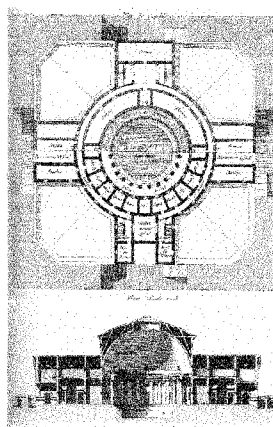
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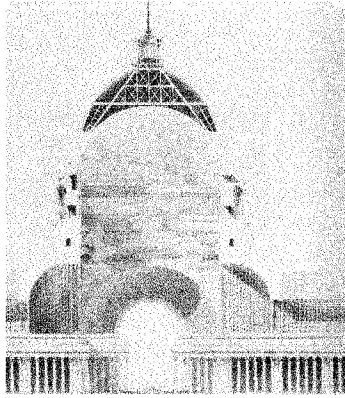
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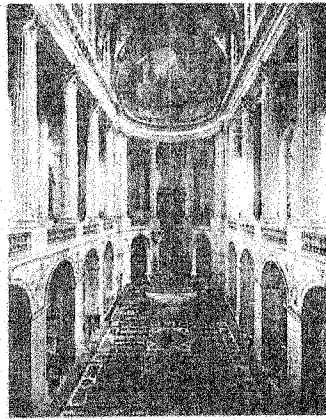
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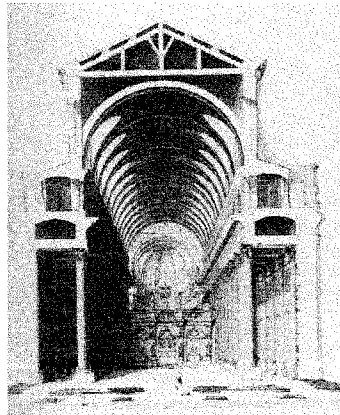
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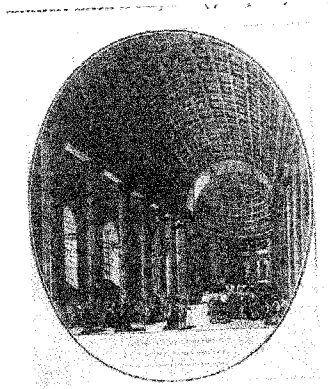
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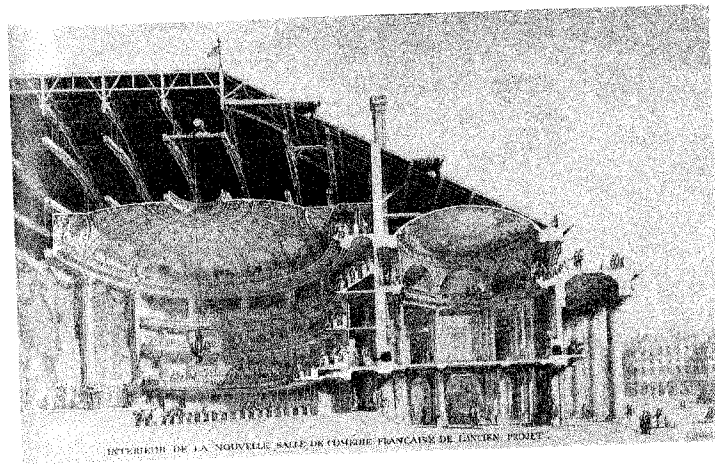
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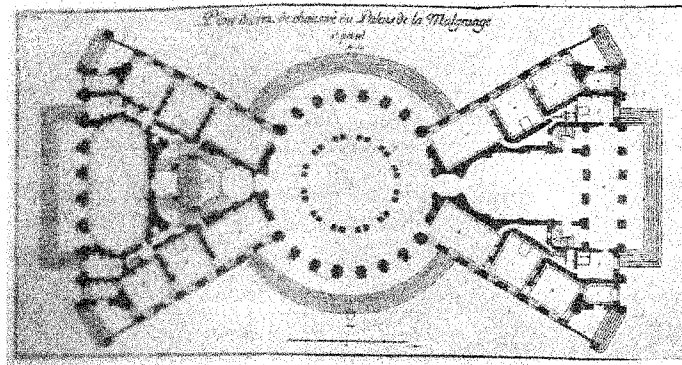
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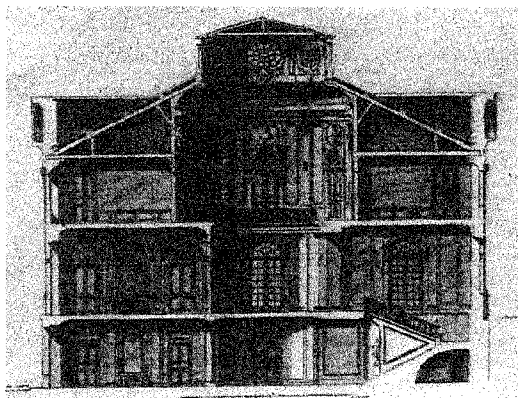
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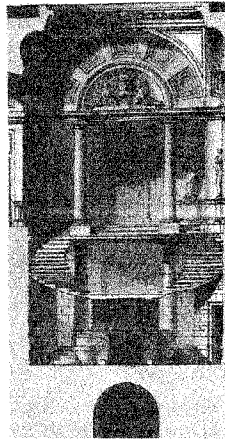
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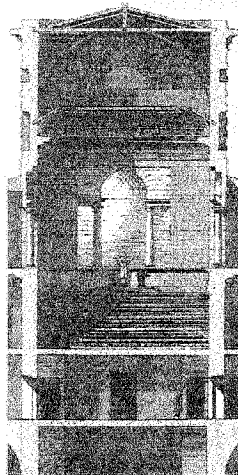
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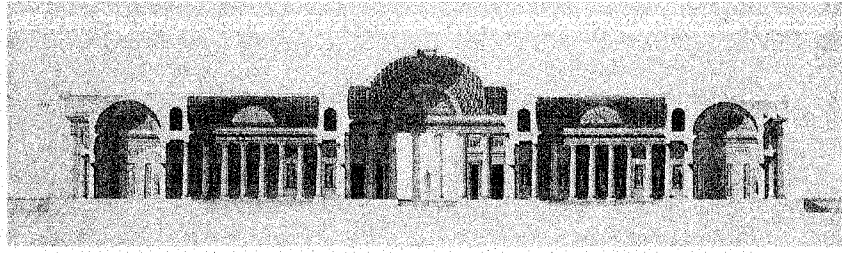
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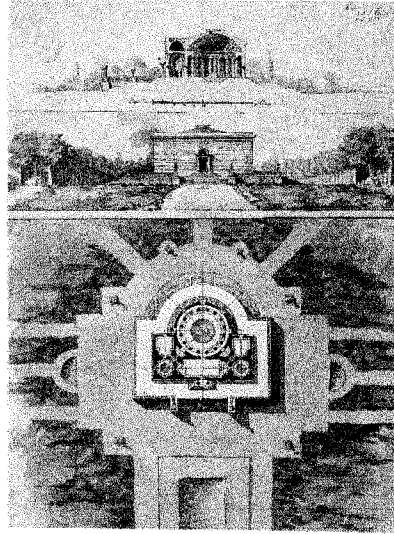
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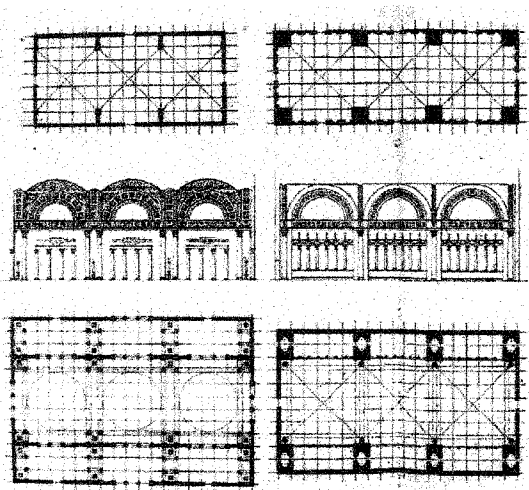
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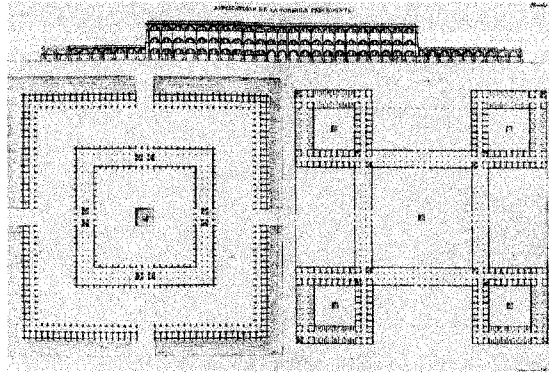
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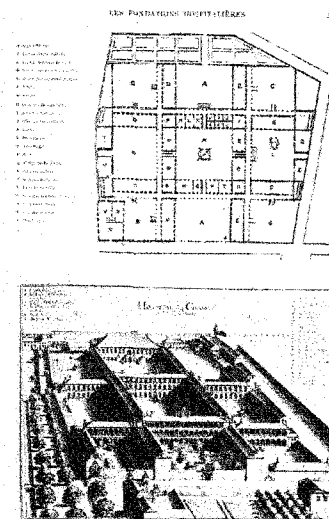
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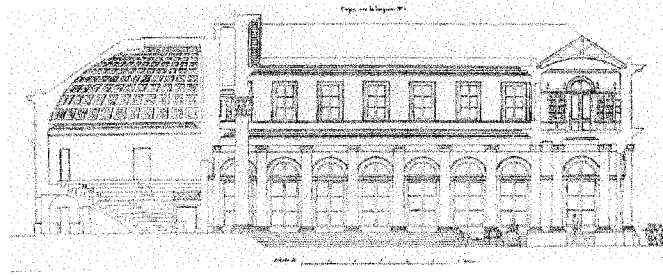
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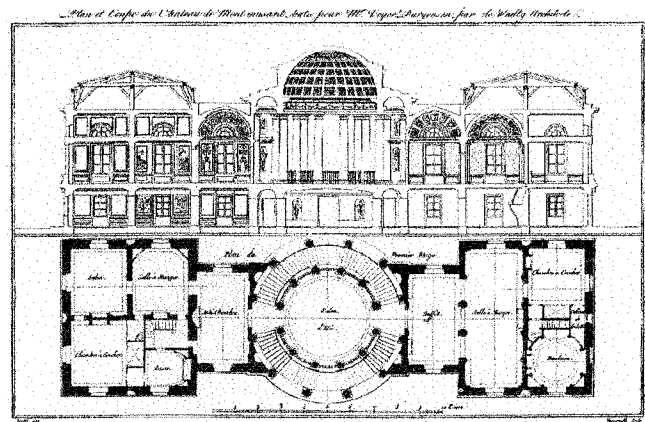
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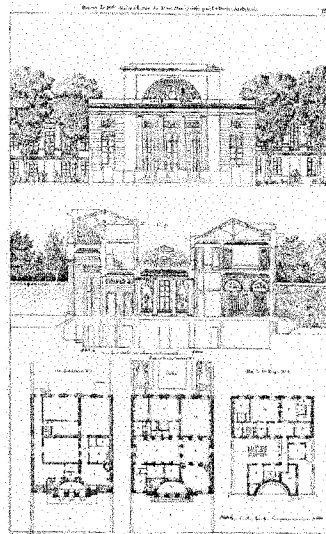
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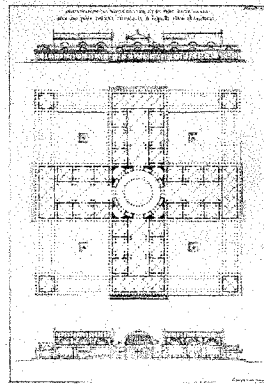
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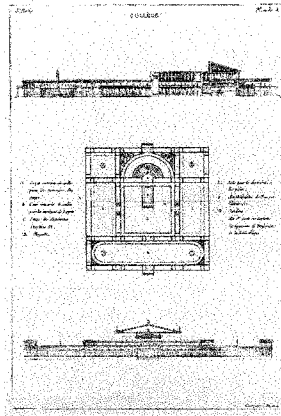
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4. Architectural Design and the Antique Fragment

4.1. The Articulation of the Fragment: Fischer and Gondoin

4.1.1. Karlskirche and Ecole de Chirurgie: A Comparison of Fragments

In the previous chapters the underlying conditions of the elementarization of antique fragments and the birth of historical fragments were discussed. These conditions, which can be summarized simply as architectural theory, picturesque journeys, archaeology, architectural education, intellectual atmosphere, and societal change, were discussed in relation to one another to show the elements of the process of transformation that connected the eighteenth-century neo-classicism to nineteenth-century eclecticism. In the rest of the dissertation, this process will be reviewed specifically from the point of view of architectural design. Buildings, projects and ideas will be discussed to explain in how this transformation was reflected in design. This transformation will be studied in three stages in neo-classical architecture, the articulation, incorporation and elementarization of antique fragments. The articulation of antique fragments starts just after the rebirth of antique taste in the 1750s. Therefore, this study has to return to the beginning of neo-classicism, but this beginning implies the end of another thing: the baroque. Different uses of antique elements in two different buildings, one late-baroque, and other early neo-classical, may help to explain the specificity of the antique fragment in the second half of the eighteenth-century: Fischer von Erlach's Karlskirche (1715-1737), and Jacques Gondoin's Ecole de Chirurgie (1769-1774).

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Some architectural historians asserted that late-baroque architecture was the last phase of unity in architectural expression. For Christian Norberg-Schulz, the late-baroque was "the last organic style in the history of European architecture," whereas for Emil Kaufmann, it was a "frozen baroque," but it still had the "baroque sense of composition, with gradation, concatenation, and integration as its main factors," and has "an organic, mobile character." Both Norberg-Schulz and Kaufmann agreed that the "revolutionary" and "neo-classical" architecture that followed the late-Baroque are characterized by fragmentation in composition and ornament.[1] Heinrich Wölfflin, on the other hand, claimed that northern baroque could not be compared to the Italian, and especially Roman baroque. Wölfflin sustained his argument by saying that in the north, "the architecture of the Renaissance was never subjected to the pure and ordered articulated process that it underwent in the south, but was always more or less open to the capricious influence of the painterly or even the decorative."[2] Wölfflin's statement is relevant for all the formal and structural transformations of imported styles in the history of architecture, that is, the continuous borrowing of architectural motifs may results in the accumulation and mixture of iconographies pertaining to the motifs in question, like in the Karlskirche in Vienna.

Although it is difficult to say that the facade of this building has a visual harmony, the iconographic fragments used to constitute this building demonstrate very well the attempt to create historical depth and a meaningful language through architectural form, similar to those which were studied in the first chapter while discussing Alberti's architecture. What is at stake here is an attempt to blend classical fragments through a

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specific iconography that intended to make this church an icon of the Viennese society. A different situation can be observed at Gondoin's Ecole de Chirurgie, one of the earliest neo-classical buildings in France. Built around half a century after the Karlskirche and the precursor of what Kaufmann qualified as "consolidated architecture," the Ecole de Chirurgie in Paris appears more unified in form and harmonious in expression than the late-Baroque church in Vienna.[3] In both buildings architectural character was sought in the application of antique fragments in different ways that are worth studying because it can show how unity of expression can be achieved within a fragmented composition, whereas a visually "consolidated" unity can result in fragmentation. These two examples demonstrate that in the end of one style and the beginning of another, the antique fragment served both to the dissolution of architectural principles and to the unity of architectural composition. Therefore, it is essential to distinguish in these two designs how different the fragments were and how differently they were treated. The distinction between the characteristics of the fragments in the Karlskirche and in the Ecole de Chirurgie is not only because of a typological difference. The difference is a matter of adaptation of historical fragments in the modern context of design. In the Karlskirche, fragment was still a metaphor, in the Ecole de Chirurgie, it became an effect.

Fischer's *Entwurff Einer Historischen Architektur* (1724) was concerned with a diversity of historical architectures, whose elements and concepts were assumed to be specific to the cultures in question.[4] The book can be also regarded as the beginning of the fascination with the history of architecture in Europe, which would be seen in Goethe's connoisseurship as well as in Winckelmann's idealism in the eighteenth-

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century; the same fascination with history would cause the nineteenth-century questioning of the boundaries between the historical and cultural categories in architecture, and pose the question of style. Fischer's presentation of history is important in this respect; he gave a panorama of world's architecture, and illustrated fragments from different cultures. Moreoever, because the book announced the curiosity for distant cultures and geographies, and illustrated new (old and exotic) architectural forms, Fischer's book may be also seen as the precursor of the publications called *voyages pittoresques*. One cannot help but think that the underlying theme of this book is a juxtaposition of different architectures put next to one another in words and drawings.[5]

As a new genre of architectural publication, the *Entwurff* initially strays from taking architecture per se as its subject, and takes its history instead. Constructing a visual sense of history by presenting all kinds of architectures from the distant or immediate past, near, and far, Fischer's book strangely narrows historical and geographical distances, and makes Solomon's Temple, Pantheon, and the Mosque of Sultan Ahmet appear in the same context as architectural masterpieces.[6] Although the Fourth Book of the *Entwurff* comprises Fischer's own designs, and therefore returns to architecture as its subject, this return brings historical context into the present. The omission of certain epochs is telling and seems to be related to Fischer's time and intentions. After the illustration of Seven Wonders of the World, he includes the architecture of the Greeks, Egyptians, Romans, Turks, Arabs, Persians, Siamese and Chinese, whereas he excludes not only Gothic architecture, but also Renaissance and the Roman baroque (with the exception of the "Borromeo Gardens"). Interestingly, apart from several extant ancient

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Roman buildings, the omitted historical styles, namely, Gothic, Renaissance, and Baroque, were the only ones that Fischer had seen. He lived in Rome for about twelve years after which he came to Vienna, where Italian architects were building in the baroque manner. Fischer had a penchant for imperial architecture that manifested the glamour of many different civilizations, which he must have gained in Rome. His desire to be the creator of an imperial architecture of the Hapsburg Empire ("The Holy Roman Empire") which would immediately be part of the history, such as the Palace of Diocletian or the pagodas of China, can be seen behind his omission of Gothic and Italian Renaissance, which cannot be associated with any such historical context. Moreover, Italian Baroque that he omitted was what he knew best, which he preferred to exemplify by his own designs that were illustrated in the Fourth Book. Fischer's historical fragments presented a selective history of architecture to his contemporaries, which they could only know through images. This increased the potential of the book, as it presented the distant or destroyed buildings beside those which were unbuilt - both being unattainable.

These fragments appear to be the connection between the architectural history and design, because they are also symbolic forms. For example, the images of the Coliseum, Trajan's Column, and Pantheon are all the manifestations of the power of the Roman Empire. Yet, each one of them is enough to convey this message in itself. What really mattered for Fischer was not the formal and historical coherence that the historical forms had in their own context, but their specific symbolism. For example, the *meydan*, which was for Fischer a large square in Persia for archery competition, was in this sense a

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monumental form like an Egyptian pyramid, a symbol of a ritual fulfilled by means of

architecture. The clues for the complex iconography of Fischer's architecture can be

found in the fragments with which he illustrated the history of architecture. Joseph

Rykwert described the façade of the Karlskirche as follows:

> This façade was an elaborate programmatic exercise, whose elements
> are all shown in Fischer's Entwurff. It is eclectic in intention, and the
> assembly of elements is intended for reading a sort of compositional, fugal
> counterbalance of heavily charged formal elements.[7]

The Karlskirche is the most outstanding building built by Fischer. (Fig. 1) After a

vow to get rid of the plague that hit the city, the Emperor Charles VI opened a

competition and chose Fischer's project, and the foundation stone of the building was laid

by the Emperor in 1716. This church has certain similarities with St. Peter's in Rome and

St. Paul's in London. In fact, as Francis Fergusson suggested, "the general composition,

with two outer pavilions, pediment, and dome, is a free adaptation of Bernini's plan for

St. Peter's."[8]

The building was dedicated to St. Charles Borremeo, who was not only the name

saint of the Emperor, but also had the reputation of having defeated the plague in Milan.

The two columns on either side of the portal with spiral reliefs represent – by analogy to

Trajan's column – scenes from Charles Borromeo's life and the miracles performed after

his death. Despite Leibniz's wish to crown these columns with the statues of Charles the

Great and Charles of Flanders, the allegorical statues surmounting the towers represent

the virtues "hope" and "faith."[9] Many historians argued that these two columns also

referred to the two columns in the Solomon's temple, Boaz and Jachin, which meant

"firmly established", and "in its strength", and these meanings alluded not only to the deeds of St. Charles Borremeo but also to his namesake Emperor Charles VI whose motto was *Constantiam* et *fortitudinem* (constancy and fortitude). One interpretation also makes the connection with the Holy Roman Empire. In Fischer's book, Hagia Sophia, an early "temple" of Christianity, was illustrated with its minarets added by the Ottomans. It was argued that his illustration detached the two Trajan's columns from their pantheist context, and evoked Constantine's Holy Roman Empire.[10] Moreover, the emblem of Charles VI was a pair of columns topped by a dome-like crown with the aforementioned motto. He was the natural inheritor of all the meanings attributed to these forms - the successor to the throne of the Holy Roman Empire.

Fergusson stated that Carl Gustav Heraeus, the Emperor's antiquarian, was the author of the iconography of the church, which he described at length in his letters to Leibniz. Apparently the Emperor wanted not only to summon St Charles Borromeo's help, but also to accentuate his own greatness. Fergusson discussed in detail the significance of the plague columns that were common in Austria at that time. He stated that "the flagellant's use of a plague column was intended as a re-enactment of Christ's flogging. The column itself, however, became the particular object of veneration."[11] As Blunt put it, this building was not only a summa of erudite iconography, but also of the major monuments of Europe. It thus became imperial "not only in its symbolism but also in its breadth of reference."[12]

The image of the Karslkirche is made of a collection of fragments. This image of the church is simply external, almost textual. The façade can be read as a plate from the

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Entwurff, in which the analogies to fragments, such as the images of Trajan's column, St. Peter's dome, and the Pantheon's pediment, are juxtaposed. Also implied in this eclectic organization is a reminder of the similar juxtapositions in buildings like St. Peter's and the Pantheon. The accumulation of historical depth through the re-use of the fragments is thus accentuated. The new order of the juxtaposition of historical fragments increased the potential of meaning attributed to the building, so that the façade claimed many associations with time, location, and culture, which governed the choice of the fragments. While the justifications for iconographic choices depend on religious and imperial connotations, the fragments are from Rome. Like the French architects who recently started staying in Italy, Fischer collected most of his fragments from Rome, which he later collated in many of his buildings. One anecdote about the origin of the image of the church is worth mentioning here. Edward Passmore mentioned a nineteenth-century critic who was astonished by seeing the church of Santa Maria di Loreto by Sangallo the Younger appearing behind the Trajan's column in Rome. "He was embarrassed, he wrote, to discover Erlach's inspiration for the Karlskirche quite so suddenly."[13] Similarly, Jacques Gondoin's Ecole de Chirurgie in Paris was composed by Roman fragments with historical depth and accumulated reference. However, although these fragments were not only scenographic elements like at the Karlskirche, they did not have the profundity of reference that was seen in the Viennese church.

Since the reign of Louis XIV, the French had aimed to surpass Italians in the arts and create a French Renaissance. For this purpose, the Academy of France in Rome was founded in 1666 to accommodate selected French artists and architects who were

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supposed to bring the marvels of Rome to France. During the reign of the Sun-King, significant researchers traveled to Italy and published measured drawings of the monuments, such as Antoine Desgodets (1682), and intellectuals like Augustin-Charles d'Aviler (1691) disseminated concepts of artistic vocabulary. However, it is around the mid-eighteenth century when the French Academy in Rome really began to exert a profound influence on architectural practice in France, especially after when Marquis de Marigny, the later *Surintendant des bâtiments du roi*, made a journey in Italy in 1751 in the company of Soufflot.[14] As explained before, the process of documenting the ancient architecture of Rome accelerated after this journey, and supported by the large archaeological undertakings, especially during the Napoleonic invasion of Italy between 1809 and 1814.[15] The tentative archaeological studies of the eighteenth-century were usually fragmentary when excavation was relatively more difficult, but there were enough material to motivate the architectural debates and stylistic attitudes in France. The Academy in Rome revived many antique motifs, which were to dominate architecture until the mid-nineteenth-century. Jacques Gondoin's Ecole de Chirurgie, erected between 1769 and 1774, was the first built example in which two clearly antique motifs were mixed, the ancient theatre and the semi-dome. (Fig. 2) The anatomy hall attached to the school's courtyard was a semi-circular theatre covered by a coffered semi-dome with a semi-circular oculus. Two smaller semi-circles were located to fill the gap between the corners of the rectangular walls of the auditorium and the curve of the rows, therefore fixing a graphic solution for a multi-purpose motif for the next generations.

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The free-standing semi-dome is no doubt a Roman element seen in public baths, as well as an essential part of the Byzantine structural system. The semi-dome with a skylight is also a partial image of Pantheon's dome. Yet, this structure was certainly an innovation for French architecture in the second half of the eighteenth-century. Charles De Wailly's water color of the interior of the Pantheon repeats the popular theme of the coffered dome partially seen behind the columns. This image shows that in the second half of the eighteenth century French architects were impressed by the picturesque and sublime character of this Roman masterpiece, besides its geometrical regularity. The semi dome also appears in the form of exedrae in many Roman ruins and was an inspirational motif for those who depicted the ruins, like Charles-Louis Clérisseau, a friend of Giovanni Battista Piranesi. Clérisseau's water-color of the Temple of Venus and Rome, made around 1755-1757, is one of many drawings that demonstrate fascination with this interior element appearing in the open. (Fig. 4) This architectural fragment, as a culmination at one point of an architectural composition, quickly became popular in modern interiors in France and in England.

When the Pope Clement XIII commissioned a new pontifical altar for the San Giovanni in Laterano in Rome, Piranesi produced several drawings in 1764, and in many of them he used the same motif: a semi-dome for the tribune with clerestory windows above and a columnar screen below. (Fig. 5) This motif as a culmination element would appear frequently in many projects of various French architects from both the eighteenth and nineteenth centuries. In these projects, this motif would be articulated in different forms and scales and lead to new compositional solutions. It was already seen in the last

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section how it was merged into the coffered barrel vault of the ceiling of St. Philippe-du-Roule.

The eighteenth-century architects were not the first to pay attention to this "natural section" of a dome cut in half and revealed by the ruins. The section of the Roman dome appears in many drawings since the Renaissance. The Roman ruins had serious impact on architects beginning with quattrocento, from Alberti through Bramante to Palladio and Serlio; yet, these architects rarely used sections for the design and construction of a building. (Fig. 6) James Ackerman showed that Renaissance architects usually drew a plan and built a model, and construction was carried out by the help of simple details and by verbal communication.[16] But the architectural section was present at least in the form of cut-away perspectives and models. (Fig. 7) Jacques Guillerme and Hélène Vérin argued that "in the beginning, as concerns the architectural section, was the *ruin*, more specifically, the Roman ruin: the ensemble of the ruins of the *Urbs* which displays to the magnetized gaze of humanist nostalgia all the stages of the vestiges' decline and all the breaches that time has wrought on the outer shells of edifices extolled by scholars."[17] It was already suggested in the previous chapter that the section became a major design tool for Baroque architects, and when French artists and architects saw the ruins, they were impressed by the dramatic and sublime effect of their interiors, rather than the lost principals of order and beauty that had attracted Renaissance humanists. Seen from this point of view, it can be said that the interpretation of the dome as a popular antique fragment (either for the interiors or for the exteriors) was essentially

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different in the anatomy theater than in the previous ecclesiastical examples, such as St. Peter's, the Karlskirche, or Sainte-Geneviève.

The ancient semi-circular theater was an almost completely forgotten architectural type, probably because of the structural difference of constructing large auditoriums, and the protruding proscenium that was criticized for spoiling the illusion. Although Palladio's Teatro Olimpico had been built by 1584, its theater was oval. But it survived in Western architecture at least as an image, as it endured as a well-known figure in Serlio's *Architectura* until Gondoin "excavated" this motif from books and the actual buildings he must have seen in Italy or in the South of France. Pérouse de Montclos stated that "the construction of the Ecole de Chirurgie… was the first occasion given to a pensioner to materialize his ideas."[18] The fact that this form had never been used for an anatomy hall makes the situation even more interesting. A plan of concentric circles under a dome was the accepted scheme for anatomical auditoria, as seen in the design by Louis Joubert for Parisian surgeons, which was built between 1652 and 1656 and published by Jacques-François Blondel in the *Architecture françoise* in 1752.[19] But when this building was actually built, the auditorium was made an octagon. (Figs. 8, 9)

How, then, did Gondoin think of building a theater where the spectacle would be a cadaver? Was this not in conflict with the notion of *convenance*? Or, did Gondoin associate the ancient motifs with the notion of intellectual, moral, and physical perfection, that is, the forms of a public enlightenment? In his preface to *Descriptions des Ecoles de chirurgie* (1780), Gondoin said that the auditorium was open to public. This helps to explain why this part of the school stands as a monument, both inside and

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outside.[20] Like all monuments, therefore, the indoors of the anatomy hall serve as a backdrop for public activities: a setting for theatrical events involving spectacles and spectators.[21] It can be said that the building was in search for an appropriate representation of this public character. In this respect, Gondoin must have seen an affinity between the ancient theater and the purpose of the school as a civic and educational facility.

The author of the *Dissection des parties du corps humain* (1546), Charles Estienne had described in detail the appropriate layout of a "*théâtre d'anatomie*," which he envisaged in the form of the ancient theater. Estienne explained in two pages that the current problem with public anatomy sessions was the difficulty of seeing either because of the arrangement of seats, or the inadequacy of light, and he proposed a semi-circular arrangement of seats in three, or at least two, stories. Estienne also proposed a pivoting dissection table in the location of the ancients' stage. This arrangement was required to render efficient the public observation of anatomy – "the excellent artifice of nature."[22] According to Pierre-Louis Laget, this is the first recorded proposal for a semi-circular amphitheater in the ancient manner to be used for anatomy.[23] In the introductory article attached to the facsimile reproduction of this book, Pierre Huard and Mirko Drazen Grmek discussed its illustrations in terms of the level of anatomical knowledge and the way of its representation. They claimed that that Estienne's plates depended on direct observation. Estienne did not have recourse to iconographic language of the fifteenth-century engravings, in which each organ was matched with a cosmological symbol, and he discarded a plate by Goffroy Troy, showing the relation between organs and the signs

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of zodiac. (Fig. 10) Although this plate was finally published in 1575 by the publisher

Kervren,[24] such ideas had nothing to do with Gondoin's thinking either, which followed

the ideas of Estienne, regarding the creation of efficient space for observation.

Behind the design of Gondoin's *théâtre d'anatomie,* lay an emerging tradition of

reinterpreting classical architecture that developed parallel to the philosophy of the

lumières, which saw nature and architecture as two different products of universal

rationality. Architects of the 1750s were also motivated by factors other than functional

requirements, such as the dramatic effects of ancient fragments, which started to replace

the role played in architecture by the orders. Architectural motif created by the

combination of two fragments, such as the ancient theater and the semi-dome, is a result

of this new sense of efficient public space that impressed by effects. Therefore, the

motive behind the combination of these fragments is different from that seen in the

fragments of Karskirche. In the *Descriptions des Ecoles de chirurgie,* Gondoin wrote

about the importance of character in buildings, and he claimed that the talented architects

of the century ignored this important aspect. He praised the use of colonnades at the

Saint-Sulpice and Sainte-Geneviève because their majestic pediments gave to these

buildings appropriate character.[25] In his own building, the "character" was derived from

the educational facilities of the ancients, which did not give a clue for the iconography of

an anatomy theater. Having given examples from two ancient towns, Pompei and Stabia,

Gondoin justified the fragments that he used by buildings that he related to education:

> Among the public buildings in many other cities, I would indicate the
> theaters, amphitheaters, porticos which served for lessons in philosophy, the
> gymnasiums, in short, all those places reserved for instruction and exercise.[26]

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Gondoin's choice concerned not only antique forms, but the correspondence between a function and a form in ancient Roman architecture, and this correspondence was supposed to give the building its character. This would also be Quatremère de Quincy's interpretation of the link between type and character.

4.1.2. The Time of the Fragment

Gondoin's choice of the ancient theater was justified by ancient types, which assigned buildings their character. The problem with ancient characters was that they represented architectural types instead of the particular building. The use of ancient theater for an auditorium was a genius idea, but this perfect adaptation of this antique form in an anatomy room proved that architectural propriety was reduced to visual effect of character, although this Greco-Roman type was associated with science and education. Gondoin's use of antique fragments shows that he eliminated all signs of historical distance between the time of the ancient theater and his time. This imitation of the ancient time of the type also required classical settings with synchronous elements, in which the time of antique fragments was isolated from the real time. The central part of the Ecole de Chirurgie, the portico, courtyard, and the theater, created an isolated area that belonged to the time of the ancients, whereas the rest of the building belonged to the modern time.

With its anatomy theater attached to the courtyard, the new Ecole de Chirurgie invoked an ancient *bouleuterion*, which was usually composed of an auditorium with a courtyard[27] attached to it; it also invoked the Roman *odeion*, which was used for teaching

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and entertainment. The *Bouleuterion*, the assembly hall in the ancient Greece, was a civic building that made use of the theater layout for the fulfillment of its basic functional requirement as public assembly. R. E. Wycherley argued that the Greeks used public spaces for various purposes; especially those associated with public assembly, for example, a theater "was often found to be the best place for large political gatherings.[28]" Because the theater type could accommodate prosaic as well as extraordinary affairs, Wycherley found it difficult to assign the appropriate name to roofed theaters. A *thersilion*, such as the one at Megapolis, could be called by Pausanias a *bouleuterion*, or the town-hall, whereas a *bouleuterion*, such as the one at Priene, "has been rightly labeled *ekklesiasterion* or assembly-hall because it was big enough to hold the whole citizen body of the little town, though it must have housed the council too, and may also have been used as a law court.[29]"

The Romans also used the semi-circular theater for various purposes, like in the *odeion* as the place for musical performance and other events, attesting to the fact that the multi-functional character of the theatre was preserved. The *odeion* of Rhodes, for example, is thought to have been used either for musical events or for lessons in rhetoric given by famous Rhodian orators. The *odeion* of Petras was used for musical concerts as well as for theatrical performances. The roofed theater had become one of the most important architectural ideas to be derived from the antiquity, for it was apparently the best form for various political, educative, and entertainment activities. Palladio's Teatro Olimpico in Vicenza, however, had revived this idea for one function only, the theater.

Behind the revival of the form of the ancient theater in the eighteenth century can be seen an archaeological reading of buildings similar to that of Wycherley. It should be remembered that the real form of the theater of Herculaenum was still being debated when Cochin and Bellicard saw it half buried in 1749, and its shape was discovered to be a semi-circle by the excavations of K. Weber in 1751. Despite the semi-circular form of the well-known Theater of Marcellus in Rome, the fact that Palladio's theater was elliptical like the Roman amphitheaters confused archaeologists. Moreover, by comparing the texts of Vitruvius and Pollux, Winckelmann discovered that the Greek theater had the shape of a ¾ of a circle, whereas the Roman theater was a semi-circle.[30] When Gondoin built the new anatomy hall as semi-circle, the link between archaeology and architecture was established. The excavations were no more made only to find objects for the cabinets of the antiquarians and enthusiasts; it helped to improve architecture. The success of the roofed ancient theater revived an antique motif that served to different functions in history, the *thersilion, ekklesiastikon, bouleuterion,* law-court, *odeion* and classroom, and this motif would be assigned new functions. Denis Bilodau added another historical function of this type, which was even more relevant for Gondoin's building. He claimed that the type of the anatomy hall was related to the rite of sacrifice, which the Greeks occasionally performed in their theatres.[31] Although Gondoin never mentioned such a Greek rite, he must at least have imagined the dramatic setting made by the Greek theater, fragment of a Roman dome, with the cadaver on the stage. This stage is the concentration point of the whole composition, and its special effect invoked the contemporary paintings of the *ruinistes.*

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Clérisseau and Gondoin had nothing in common in their professional work, but they shared a common attitude toward the effects of ancient settings. The link between the painterly and architectural imitations of such settings manifested itself in the works of these two men and this is essential to understand the role played by antique fragments in French architectural practice in the second half of the eighteenth century.

The "*veduti di fantasia*" produced by Clérisseau are picturesque compositions of ruins in which the elements do not necessarily belong to the same historical time or place. For example, as Julian Thomas McCormick has suggested, in one of the earliest examples of this type, named the "Italian Scene" and dated 1759, "the combination of Corinthean pilasters and columns, Augustan entablature, tabernacle with inset relief on it, and fragments of ancient stucco works never occurred in antiquity."[32] (Fig. 11) In order to emphasize the role of fantasy in the work of the artist, McCormick approached the picture from the point of view of a connoisseur and detected the intentional discrepancies in it. In so doing, he underlined the fact that the *fantasia* aimed at uniting the images of antiquity in a peculiar way in order to create a sensation through special juxtapositions. Like the appearance of unexpected co-existence of things in dreams, the fragments of the picture are curiously associative – not real but close to reality. Given that the people resting on the fragments are dressed in an ancient style and the man by the fountain in a modern style, the overall impression of the picture is a coalition of the past and present at an ancient site. However, the ruins certainly imply a past time for these two people from two different times, because the ruins were apparently there much before any of them. Therefore, it can be said that if the ruins' time is in the past-perfect tense, that of the

setting is either in the past or present tense. The viewer of this picture is supposed to detect three times, the further past being of the ruins; the past, of the occupiers of the ruins; and the present, of the contemporary observer (Clérisseau?) located on the left of the picture next to the fountain, watching the other figures like a hallucination.

A cross section that Gondoin prepared for the Ecole de Chirurgie depicted a similar dramatic setting in a modern context.[33] (Fig. 12) McCormick's observation that the "Italian Scene" could never have occurred in antiquity can be applied to this section, which also represents an ancient setting and modern elements side by side. In another *vedute* by Clérisseau, today called the "Ruined Coffered Dome," the structure resembles a temple, but also an (imaginary?) tomb, for there is a sarcophagus in the center. (Fig 13) The scene is both tranquil and dramatic, the impact of the open sarcophagus being balanced by vegetation and human beings around. In fact, the section of the anatomy theater suggests something similar. The frightening dissection table stands in the middle of the section, with the monumental door behind it opening to the *cour d'honneur*, and spectators occupying the balconies, intended to mark the present use of the building. Gondoin preferred to cut this section so close to the rear wall of the auditorium only to show this dramatic setting, because it does not show the whole section of the seats and the gallery underneath, which would be a more practical section. In choosing to combine these two fragments, one religious (Pantheon), the other secular (theater), Gondoin may have been inspired by "heavenly" and "earthly" themes, corresponding to the dome open to the skylight and the theater for the audience. It is uncertain if the function of the room, watching the dissection of the dead, had demanded reconciliatory arrangement for the

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propriety of the setting, or if it was simply a matter of a dramatic effect, related to the expression of character. The cross section supports the second hypothesis; the open space of the section backed by the huge blind wall, covered by the dome and topped by the oculus, creates a most dramatic background for the dissection table and its spectators.

A similar dramatic setting with the theme of sarcophagus lying under a gigantic dome and surrounded by spectators is the well-known design of Boullée for the cenotaph of Newton (1784). (Fig. 14) For both designs, it can be argued that death and life were important themes in architecture during the rediscovery of antiquity, and both architects derived this idea from the *ruinistes* of painters. But this painterly effect, the "dream" of Clérisseau in the "Italian Scene," could be easily disturbed by the elements of the modern time. This is how the cross section of the anatomy theater disturbs the isolation of the antique from modern elements, revealing that the structural and spatial arrangements of the adjacent blocks are essentially different from that of the auditorium to which they are attached. The longitudinal section of the building is different, and it demonstrates the continuity of ancient elements on the central axis of the building between the main gate and the theater, reserved mainly for the public. (Fig. 15) The building was given an ancient character with these ancient elements that occupy the centre of the building complex. The cross section, on the other hand, reveals a fragmented composition, in which ancient and modern elements appear side by side.

However, this fragmentation is only visible in this section and the architect successfully avoided the mixture of different elements from different times. In the cross section, the fragment appears monstrously in the middle of the two blocks built in the

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contemporary down-to-earth manner. Although the auditorium suggests a spatial and structural arrangement completely different than these blocks, the co-existence of these spaces can be only seen in the section. In fact, these two different kinds of settings never interfere with one another in reality. The longitudinal section provides simply a classical vista, and the auditorium space is an isolated interior. Therefore, it can be said that although the architectural fragments were composed together as associational elements in order to create an appropriate "scene" for the "theme" of the building, unlike the "Italian Scene," interblending of different times in the same setting was avoided.

Clérisseau's imaginary "Italian Scene" created new associations through the arbitrary juxtaposition of antique fragments, to create effects like those in Piranesi's *carceri* and *capricci*, and in Legeay's *fantasies*. Gondoin's fragments, on the other hand, pretend to belong together and to be complete, whereas they provide only partial images, as revealed by the sections. The colonnaded front and its triumphal arch-like gate, the colonnaded courtyard, the classical frontal, and the auditorium constitute the setting for civic gathering, which can be best seen in the longitudinal section. In the Karlskirche, a frontal image of the building was imagined to convey the iconographic message through its surfaces – *scenographia*. The mixture of ancient and modern elements of this facade was natural, for the intended iconographic messages required a similar historical depth. The new articulation of the fragment in the second half of the eighteenth-century in France, as seen in Ecole de Chirurgie, was devoid of such iconographic and historical depth, and the use of fragments was justified by effects and ancient character, which led to the isolation of different "times" of the architectural elements.

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4.2. The Incorporation of the fragment: De Wailly, Peyre, Ledoux, and Boullée

4.2.1. The Geometry of the Fragment

The articulated fragments of Gondoin's Ecole created a carefully isolated area in the center of the building, which was completely ancient in appearance. The same kind of central axis can be seen in the Comédie Française (1767-1782), designed and built by two other *pensionnaires*, Charles de Wailly and Marie-Joseph Peyre. In this building, the antique fragments gathered on the central axis were the temple front, vestibule, and the semi-circular theater. However, the architects used circles to design the vestibule, theater and the stage, and these circles helped to abstract the antique fragments used in these parts. Geometrical reduction was also an important tool that Boullée used in his projects. Geometrical regularity, which was derived from the fragments, helped Boullée to incorporate the antique fragments in the whole composition in his visionary work in the 1780s. In these projects, the centrality of the composition continued, but the discrepancies between different parts of buildings disappeared. Every part was made of antique fragments, and every part was integrated with the geometrical unity of the whole. The previous chapters on picturesque journeys, archaeology, and architectural theory gave the background of this development. To show how this happened in architectural design, the review of the geometric abstraction of antique motifs starts with a study on the Comédie Française, whose primitive technique of abstraction would be the basis of Durand's elementary method, after it was generalized in Boullée's visionary designs.

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Starting from the 1750s, architects tried to adopt the geometrical qualities of the ancient theatre that provided regularity in architectural composition, contrary to the ellipse or horse-shoe plan of the conventional theaters. Although Gondoin's "*théâtre d'anatomie*" demonstrated a literal quotation of antique fragments, the architects of the Comédie Française (1767-1782), De Wailly and Peyre, forced the limits of convenience to achieve a circular and even spherical space in their building. The drawings of this building and several other projects of De Wailly show the first signs of architectural composition with geometrical forms derived from the antique fragments.

De Wailly and Peyre wrote the essay "*théâtre*" in the supplement for the *Dictionnaire* edited by Diderot and D'Alembert. This short text attributes symbolic importance to the circular scheme of the theater. At first, the authors present the technical advantages of the circular form, which provides better viewing and hearing because the proscenium takes place within the circle and thus is thus surrounded by the auditorium. However, the authors also state that the ceiling is divided into twelve parts, corresponding to the twelve signs of the zodiac, which are decorated by the allegorical figures with flowers and fruits on their heads, representing the four seasons.[34] This explanation reveals that the architects saw in the shallow dome of their theater a cosmogonic symbol. Although Daniel Rabreau and Monika Steinhauser argued that De Wailly and Peyre designed the theatre in line with Laugier's arguments, a more relevant source of influence can be detected in Viel de Saint-Maux, who argued for the cosmogonic roots of the architectural elements as early as 1763.[35]

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Saint-Maux ridiculed Vitruvian arguments and their whole tradition, especially

the analogy of human body to the formation of the classical orders. He repeated many

times in his *Lettres sur l'architecture* that in ancient agrarian cultures, temples had never

been confused with other buildings because nature, and therefore faith, was represented

through its configuration: the roofing stood for the skies and the columns for vegetation.

The most important idea represented in such architecture, according to Saint-Maux, was

fertility and the cycles of nature, which depended on the intercourse between sky and

earth.[36] Saint-Maux argued that the number of columns in ancient temples had once

corresponded to the number of days in the week, and that some circular forms

represented the zodiac. De Wailly and Peyre might have adopted a similar idea, because

they attributed a similar function to the columns of their theater whose twelve intervals

modeled the months in a year. However, the insistence on the circle as the point of

departure for design created serious problems. The architects tried to keep the spacing

between the twelve columns equal until they had to remove the two columns that divided

the stage and the proscenium; then they solved the problem by strengthening the columns

on either side of the stage, and by making a special vaulting between them.[37] Although

they insisted that the circular form was for adopted for reasons of convenience, the

symbolism of the astrology attributed to ancient circular temples, which was already

disseminated by Saint-Maux, seems to have had more significance in the choice of this

form.[38] De Wailly and Peyre's insistence on using giant columns within the theatre also

seems to have been less related to Laugier's rationalism and more to the adoption of a

transcendental motif in a secular building, which was a mistake for Saint-Maux.[39] (Fig.

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The circle was used by De Wailly and Peyre as an elementary form, beyond any historical reference, and not necessarily in direct imitation of any ancient building. Thus, the auditorium does not imitate the semicircular form of the Greek theatre, and is different from more literal neo-classical revivals in Palladian manner, such as Vincenzo Ferrarese's plan for a theater illustrated in Milizia's book in 1771, which is considered one of the earliest theater designs in neo-classical manner.[40] Therefore, it is also wrong to say that Peyre and De Wailly tried to create a contemporary Teatro Olimpico or a Roman odeon. The reduction of an antique form into its geometrical aspects, signaled in some of the plates of Neufforge (1757), can be seen as the motive behind the circles and spheres designed later by architects, such as, Boullée, Ledoux, Lequeu, and Antoine-Laurent-Thomas Vaudoyer. In this respect, the use of the fragment in the Comédie Française is different from that of Gondoin's anatomy hall, because of the geometrical simplification of the fragment. (Fig. 17)

Charles De Wailly also tried to integrate circular elements with rectangular elements in his other designs. However, the architect's geometrical experiments usually contradicted his technical know how, and demonstrated that his rationalism was symbolical.[41] In this respect, it can be said that for De Wailly, using circles secured harmonious and proportionate disposition of the parts of a building. As a geometrical tool, the circle appeared in the most significant place of ensembles, usually on their central axis. He developed a technique of using two inter-locking circles for theater designs, which helped him to create proportioned auditoria and stages. The circles he drew in the sections of the Comédie Française show that the architect imagined spherical

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arrangements in the centre of the theatre. (Fig. 18) The vestibule, the auditorium, and the stage were located in three adjacent invisible spheres, which functioned as "form-works" for the plan and section. The futuristic "oddities" of A.-L.-T. Vaudoyer and J.-J. Lequeu, the combination of a sphere and a circular peristyle, was invoked here at least at the level of drawing.[42] In many of his projects, De Wailly's circles were partly materialized and partly immaterialized. De Wailly used circle in both plan and section, yet while building one part of the circle, used the rest for arranging the spatial dispositions of the surrounding elements in a particular setting. The section of the vestibule of the Comédie Française from 1773 reveals very well this technique: the upper gallery of the vestibule is completely proportioned by a circle, but only the upper portion of this circle is visible in the built form, as the interior dome of the vestibule. (Fig. 19) The plans and sections of the auditorium and the stage testify to the same thing, where the set-back of the balconies, the roof, and the proportions of the stage conform to the traces of circles in both directions; they therefore conform to spheres. The well-known theme of the sphere supported by surrounding columns, which will be seen in compositions by A.L.T. Vaudoyer and Jean-Jacques Lequeu, may have its origins here.

As in the Comédie Française, De Wailly's design for the Château de Montmusart (1764) for Voyer D'Argenson incorporated two interlocking circles in the plan, which governed the whole composition. (Fig. 20) These abstract circles became two different things in the third dimension: one ended up as a circular peristyle for the "Temple of Apollo," and the other as a rotunda for the "Salon of Muses" with a dome like that of F. Mansart's Church of the Visitation. Playing with the geometry of antique motifs can also

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be seen in his project for the alteration of the church of Sainte-Geneviève, in which De Wailly omitted the dome of Soufflot, kept only the circular peristyle that supported the dome and left it open as a temple. A shallow dome appeared in the centre of this peristyle. Here, the tension between the dome and the colonnade stems from the vision of this dome rising slowly from within the church towards the top of the colonnade. Interestingly, Boullée's own proposal for the Sainte-Geneviève simply reversed this composition by locating the peristyle under the dome.

There is considerable evidence that the circular colonnade was made popular by those French architects who passed through Rome, such as Froginard, Legeay and Clérisseau, and who had contact with Piranesi. As discussed before, from the 1740s on, the lesson of Rome showed its influence in French architecture in various ways. Le Lorain's design for the Festival of Chinea in Rome (1747), Bélanger's Dairy (c. 1770s), and René de Girardin's ruined temple in the park of Ermenonville (c. 1770s) can also be counted among the early combinations of the circular colonnade and dome. Piranesi's 1761 etching showing the ruins of the Temple of Vesta and Clérisseau's aforementioned painting named "Ruined Coffered Dome" from the mid-1760s, show that this figure could be given a dramatic character through association with the destructive effects of time. In these drawings, the image of a historical building appears to be architecturally incomplete, ephemeral and eternal at the same time, and which imitates the cosmogonic symbol of the open circle under the sky. However, soon this romantic and mysterious aspect of the circular temple would be associated more with its geometric properties and less with its historical roots.

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In 1770, when Ribart de Chamoust's *L'Ordre François* appeared, De Wailly

designed a Temple of Arts for the Parc de Menars, a pergola covered by one large and

three small domes on columns.[43] (Figs. 21, 22) The section of this "temple" also reveals

the image of the semi-dome on columns. It is to be remembered that at this same time

Soufflot also designed a circular temple of Apollo for the park of Menars, and that this

motif was in vogue all over Europe as an element of picturesque gardens.[44] (Fig. 26) It is

not surprising that De Wailly discovered the potential of the same motif in the drum of

the dome of Soufflot's Sainte-Geneviève, when he prepared his proposal for the church

of Madeleine. De Wailly used it also in his own house, as well as in his second project for

the Château of Monmusart, exhibited in 1771. (Fig. 23, 24) Both of these projects had a

grand circular staircase that occupied the center of the building and organized the

circulation between all the main parts of the house. De Wailly seems to have derived this

motif from his friend and partner M.-J. Peyre, who already designed a central circular

staircase in his project for the Hôtel de Condé in 1765. The circular form in the open

flanked by two wings had appeared in a plate of Neufforge, and the origin of Neufforge's

plate seems to be Le Pautre's "ideal château." Although in De Wailly's own house the

body of the staircase is barely visible from the outside, the section shows that De Wailly

had built a full circular colonnade, just like the one he had proposed for the Sainte-

Geneviève and for the Montmusart, and the plan shows that this circular staircase

regulates everything around it. (Fig. 25)

In the drawings of the second project for the Château of Montmusart, a circular

form emerges from the centre of the house, to become both a grand staircase and a

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belvedere. There is no doubt that this is the most significant part of the house and relatively the most independent. Although the elevation invokes an ancient temple, the section invokes the sphere as the cosmogonic element hovering above rising columns.[45] This circular peristyle and the sphere will make their way into architectural design as an intersection of symbolic antique fragment and abstract geometrical element. This idea of developing the design around an antique motif will be the major theme of the fantastic drawings of Boullée.

The image of combined columns and circle was also used as a decorative motif, and it appeared in several villas built by De Wailly and Ledoux as an external element seeking for a harmonious articulation in vain. Its significance, however, is in the future abstraction of this motif. De Wailly's built a house for his sculptor friend Pajou in 1781, adjacent to his own house on the rue de la Pépinière in Paris. In this building the image of the hemispherical vault rising above the tripartite portico invokes again the presence or absence of an invisible sphere supported by columns, and dominates the center of the facade to the cost of disharmony. (Fig. 26) In Ledoux's design for the house of Mlle Guimard, the same motif appeared also as an exterior element signifying the main facade.[46] (Fig. 27) In the drawing of this facade, the silhouette of a sphere appears to rise on top of the columns. Ledoux used it again for a staircase in the Hôtel de Mme Thelusson (late 1770s), which only connected the garden level to the basement. (Fig. 28)

Two of the gates designed by Ledoux in 1783, Barrière des Bonshommes and the Barrière de Monceau, also reveal the interplay between this antique motif and elementary geometry. (Fig. 29) On the other hand, Ledoux's design for the "House for a Bailiff" was

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nothing but a sphere. (Fig. 30) It was A.L.T. Vaudoyer who finally combined the circular colonnade with the pure sphere in a fantastic design in 1784 for a "Maison d'un Cosmopolite." (Fig. 31) In 1793, Jean-Jacques Lequeu designed two similar projects for the "Temple of the Sacred Equality" and the "Temple of the Earth." (Fig. 32) Molinos used the same idea in 1799 for a "mortuary depot" to be located in a park called Champ de Repos. These last radical examples demonstrate how much the antique fragments were absorbed and abstracted toward the end of the century. In the first section, it was mentioned that how Boullée developed the system of axes for the plan was not known. Now it can be argued that the geometric reduction of antique fragments and their gradual diffusion to the whole composition from a central motif had already begun, as it is seen in the work of De Wailly.

4.2.2. The Scale of the Fragment

Boullée started a new epoch in French architecture. He knew how to make use of basic geometrical forms derived by the previous generation from antique fragments, but he used geometrical rationality of his plans to justify his "sublime" compositions, whose sections demonstrated spaces in inhuman proportions. These sections would be naturalized by Durand and Percier, his two disciples, and they would be used repeatedly in their school works.

The section of the Opera designed by Boullée in 1781 shows two things discussed in chapter 3: the articulation of an antique fragment within the building that results in the creation of a special setting; and a play with the scale of architectural elements that

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results in the subordination of the architectural space to the void. (Fig. 33) In this amazing section showing the interiors of an enormous structure, where familiar coffered semi-dome takes its place as a substructure supported by columns, the relation between the theater and the stage appears to be reversed: the theater, independent of the superstructure, becomes the stage-set. The purpose of this superstructure with giant vaults is not only to support the gigantic dome that dominates the exterior appearance of the building; it is there also to create the effect of immensity.

For this peculiar placement of the theater within the superstructure, it can be argued that Boullée transformed the Baroque idea of making several layers for the decoration, lighting, and exterior form, between the exterior mass and the interior space of the building, into the subordination of the architectural space to the void. The fact that both of these constructions of the Opera are structural and do not require one another shows that what matters here is the difference of their scales. From this point of departure, it can be argued that the function of the section is more about emphasizing the effects of the juxtaposition of the human scale of the theater and the inhuman scale of the void, and less about structural organization. In fact, partial perception of the main space through a smaller space was a prolific theme in the classical imagery in the eighteenth-century, which was a direct result of the insertion of antique elements in the interiors, and this theme created different scales of space, as discussed before in the J.-H. Mansart's chapel of Versaille, finished in 1710. Examples to this can be seen in Sarvandoni's work at the church of Saint-Sulpice (1749) in Paris, and Contant D'Ivry's Saint-Vaast in Arras (c. 1765).[47] Soufflot's Sainte-Geneviève seems to be going in the same direction, but the

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complicated structure of this church did not allow him to move the columns further away from the walls. (Fig. 34) As argued in the first chapter, creation of multiple antique settings of different scales originated in Italy, and it was a favorite theme in the imaginary architectural settings created by Piranesi, such as the Tempio Antico in the *Prima Parti* (1743). (Fig. 35) De Wailly's water-color of Pantheon stemmed from a similar theme depicted by Panini, which was later repeated by Boullée. (Fig. 3)

The relationship between "fantastic" drawings of ruins and so-called "visionary" designs was discussed before. In both of the genres, there is an intentional divergence from reality. In the visionary projects, the distortion of reality is related to the fact that these drawings do not always "project" the same thing in its different representations in plan, sections and elevations. The elevations and especially sections convey a sense of "as if," as they break from the control of the plans. This hypothetical aspect is imbedded in the image which makes the project stray from the completeness and toward speculation in the "subjunctive" form.[48]. It is not a coincidence that the etymologies of the words "fantastic" and "visionary" are related to the notion of appearance of something that is not real, or not present. The escape from the reality of the present, the "as if," is emphasized by the confusion of the past and future in such visionary architectural representations. Just like a ruin scene - such as the "Italian Scene" of Clérisseau - represents the "*temps perdu*" through different scales of time between the past and the present, a "visionary" setting intends to convey the same emotion through different scales of elements, it therefore imitates the effects of the painting in architectural space.[49]

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A common attitude about the representation of reality can be found in the architectural imagery of the "*dessinateurs*," which descends from Piranesi, Legeay, Clérisseau, Hubert Robert to Boullée, Ledoux, Lequeu, and A.L.T. Vaudoyer. The difference between a design by Boullée and a water-color by Clérisseau, or an engraving by Piranesi, is defined by the level of concentration on architectural composition. While in the *vedute*, *caprici* and *carceri*, architecture is dispersed around in the picture, in Ledoux and Boullée it is right in the center, made explicitly distinct from the nature in which it is located. The plans of these last two architects demonstrate a fascination with geometrical regularity and symmetry, almost to the degree of obsession. Their sections communicate a sense of theatricality that contradicts the sober exteriors of the ensemble. The section, more than the plan, is also the place where the fragment is incorporated in the otherwise disciplined composition. Registering only the traces of the geometric aspects of the fragment, the plan became more abstract than the elevation and section.[50]

Boullée's enthusiasm for re-assembling monumental Roman architectural motifs in "sublime" settings manifests itself best in sections. Like Gondoin's Ecole de Chirurgie, Boullée's fragments seem to have been inspired by their sections. Boullée produced many drawings for basilicas or temples, all of which had more or less the same arrangement. The project for the completion of the church of Madeleine is the most down-to-earth of his projects, for it was intended to be built. (Fig. 36) In it, the antique elements such as the gallery of the nave covered with a large coffered barrel vault, the Corinthian order on which this barrel vault rests, the semi-spherical coffered exedra of the apse, the perfect arches over the chorus, and the ancient-temple-like circular peristyle

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subordinated to the space beneath the massive dome, are gathered to create a hierarchical spatial effect in the section. As Pérouse de Montclos has suggested, this free-standing circular peristyle is a "temple within the temple".[51] This technique of creating a hierarchy of spaces, which helps to confuse the dimensions of the larger structure seen through the smaller one, makes "the size of the sky that decorate the dome appear immense."[52] It is certain that the carefully hidden light sources on either side of the section of the dome were intended to reinforce this effect through indirect illumination of the dome, repeating the effect of the baroque cupolas of Les Invalides and the chapel of Assumption at Saint-Sulpice at a giant scale. The surface painting, however, is misleading, given the fact that the window openings and the parapets that hide them, which appear in the profile, miraculously disappear in the background of the section. This drawing is not merely an architectural section that is intended to explain the plan in vertical disposition; it is also the representation of the void by means of the juxtaposition of the fantastic dome and the antique colonnades, and this is why its reality is occasionally contravened by the techniques of painting.

The incorporation of fragments at the Ecole de Chirurgie was immature; the portico, colonnaded courtyard, and the theater were lined up on the central axis and could only be perceived in a sequence. In Boullée's drawings, antique fragments were diffused in the interiors whereby different settings were interblended in one all-pervading space. In Gondoin's design, the unity of composition was regulated by the symmetrical arrangement of the mass and the careful isolation of the fragments at the center of the building from the two side wings, whereas Boullée's compositions were constructed

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around the fragments, as if they provided the sections of Piranesi's imaginary perspectives or a painting by Raphael. Boullée traveled neither to Italy nor to Greece, and he had not much interest in archaeology. His inspiration for the design of the giant coffered barrel vault of his "Bibliothèque du roi" was not from an academic reconstruction of any ancient site, but from a virtual reconstruction of the classical setting in Raphael's "School of Athens."[53] Boullée's architecture is a spectacle; yet, it does not have an iconography to be read as the Karlskirche's facade, nor does it intend to isolate the architectural effects in separate and limited spaces like in the Ecole de Chirurgie. In Boullée's work, everything is public, everything is spectacular. One can even argue that Boullée's plans were made by necessity, not by the love that shaped his elevations and sections. This argument can be supported by the fact that he never lost his predilection for painting after his father forced him to be an architect, and he remained a painter-architect through all his professional life. The plans did not satisfy him; they were not enough to express the sensations that the architectural spaces should invoke, by shaping light and dark, mass and void. However, these technical drawings opened the possibility of exploiting rationally the potential of the antique imagery that Boullée expressed in his painterly sections and elevations. They were also more useful in architectural education. The detachment of the antique fragment from its historical associations will have consequences especially in the thinking of his student, J.-N.-L. Durand, would eliminate sublime effects.

Before discussing Durand's work, the story of the ancient theater and geometrical regularity has to be completed by returning to Boullée's design for the Opera. By

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transforming Gondoin's semi-circular theater into a stage set under a superstructure, and by adding it the antique colonnade, Boullée turned this antique motif itself into a spectacle and he created next generation's most popular motif for an assembly space. The use of this motif was also justified by the spherical proportioning that went well with the universalistic ideas of the time, which especially dominated the assembly spaces designed in the revolutionary period.

In 1794, the Year II of the revolutionary calendar, several architectural competitions substituted for the major commissions that had almost entirely disappeared after the obliteration of aristocracy. Public buildings designed for huge gatherings were among the prevailing themes in these competitions, and the theater form was common among the entries. In one case, Normand's design for a "Maison de Ville ou Commune" (Community House) for Melun, the architect articulated the semi-dome at a smaller scale than that of the Ecole de Chirurgie. Percier and Fontaine, who would become the leading architects of Napoleon, designed a semi-circular theatre that reserved the semi-dome for the stage. (Fig. 37) Similarly, the section of the theatre designed by Charles-Etienne Durand for one of the competitions reveal a spherical arrangement, despite the oblong plan.

In another competition, J.-N.-L. Durand and Thibault designed an assembly hall named "Temple Décadaire," which resembles Boullée's Opera in the elevation and his Cenotaph of Newton in the section.[54] (Fig. 38) Lahure's "Arènes du Peuple," a political arena for the French people, is also nearly spherical and has the perfect Pantheon dome with oculus, giving the impression of doubling the section of the Opera. (Fig. 39) The

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section of the Assemblée Nationale designed by Legrand and Molinos in 1791 also reveals a spherical arrangement.[55] In 1829, Jules de Joly started re-building the Assemblée Nationale (Chambre des Députés) at the Palais de Bourbon, which had a temporary construction built by Leconte and Gisors between 1795 and 1797, where they applied a semi-circular auditorium surrounded with the semi-dome and topped with an oculus. (Fig. 40) After having replaced Chalgrin at the Palais de Luxembourg, he installed here the hemicycle of the Sénat (Chambre de Pairs) between 1835 and 1841, which was not very different from the Parliament.[56]

The philosophy of the Enlightenment and the revolutionary spirit caused the peculiar convergence between the notions of publicity, spectacle, sphere, and architecture. This convergence is in the core of the transformation of the fantastic images into central motifs through the combination of geometrically abstracted fragments. As if Ledoux's famous drawing of the interior of the theater of Besançon - again a spectacle appearing in the pupil of an eye – wants to summarize the situation. (Fig. 41)

4.3. The Elementarization of the Fragment: From "Visionary" Architecture to Durand's *Précis*

4.3.1. The Elementary-Fragment

The technique of elementary composition promoted by Durand is a significant step in changing the role of the fragment. Antique fragments that had been gradually incorporated into architectural composition were completely dissolved into their elements

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in Durand's compositions. In De Wailly's geometric abstraction, in the extraordinary compositional techniques of Ledoux's "speaking" architecture, and in the primary solids of Boulleé's sensationalist architecture, the fragment had already been dissociated from its historical meaning, but it still possessed an anachronic and "fantastic" position in designs. In the *Précis*, Durand successfully detached every architectural element from its historical and specific annotation. In so doing, he not only eliminated the implication of the interaction between nature and artifice within the fragment (the ruin, the time), he also de-composed many building types, either from the ancients or from the moderns. From this moment on, the image of any antique fragment could be freely articulated in a given composition as a formal-spatial entity, as it became an elementary-fragment.

The problems that resulted from the erosion of classical principles, such as proportion and propriety, were discussed before, and it was argued that in Boulleé's visionary projects, in which disproportioned elements were used to create effects that would give a building its character, these problems became evident. In such a context, Durand appears as a devoted rationalist, the first to deny picturesque tendencies in architecture. Durand not only rejected the sensationalist and picturesque tendencies in architecture, but he believed that with a consistent method, he could overcome the main problems and re-establish the rationality of architecture, which for him meant nothing but classicism. Like Laugier, Durand reduced architecture to basic elements, such as columns, vaults, doors, windows, roofs, etc. In his method, everything depended on disposition, and disposition on the inter-axes of the plan. He assumed an immediate link between horizontal and vertical dispositions, and elementary-fragment ("parts") played a

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significant role in his method. These "parts" were typologies with basic geometric properties that promised easy combinations.

In his preface to the *Architecture and Continuity* (1982), Dalibor Vesely defined typology as "a result of abstraction – eidetic imagination of a particular experience and thus only the secondary expression of historical reality." Vesely claimed that the architectural typologies derived from the antiquity in the end of the eighteenth-century were the "reminiscences" and "idealized essences of historical experience."[57] Conceived as abstraction and idealization, the notion of type Vesely referred corresponds to the story of antique fragments that is discussed here. Although typology in architecture is a historical fact, Vesely discussed it in the particular case of planimetric standardizations around 1800, which were epitomized with the compositions of Durand in the *Précis des Leçons* (1802), Louis-Ambroise Dubut's plates in *Architecture Civile* (1803), and Quatremère De Quincy's theory in the *Encyclopédie méthodique* (1788) and his later *Dictionnaire historique d'architecture* (1832). However, since it would be a mistake to see Durand's compositions as types, a distinction had to be made between that which concerns the parts and that which concerns the whole in his compositions.

Despite the fact that the technique of elementary architectural composition that is promoted by Durand depends on geometrical reduction of historical motifs as well as the idealization of architecture as a functional ensemble, it never promotes building typologies. Durand's Précis of the course on architecture is about the endless possibilities for composing architectural ensembles through repetition of a number of primary architectural motifs ("parts"), and because of that, any type of architectural ensemble that

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appears in its plates is uniformly fragmented. In fact, Durand's expectation of the success

of his method depends completely on de-composition and re-composition of "elements"

and "parts" rather than rigid types that would not allow re-articulation in composition.

This is why the finished compositions in the "graphic portion" of the book are called

"*combinasions*." These combinations attest to the workings of the "mechanics of

composition," rather than development of fixed types ready for repeated execution.[58]

     There is another reason for why Durand is considered one of the promoters of

typology. It is due to the taxonomy he applied in his earlier publication, *Recueil et

Parallèle des Edifices de tout Genre, Anciens et Modernes* of 1799, in which he

illustrated at the same scale "all the architectural genres of the past and modern times."

(Fig. 42) Durand created only the plates for the *Recueil* and the text was written

independently by Jacques Guillaume Legrand who would republish it in 1809 as an

independent book, *Essai sur l'histoire générale de l'architecture*. The two architects

gathered their efforts and united this text with these plates.[59] The plates in fact

demonstrate a simple taxonomy of architectural elements, spaces, and forms, rather than

the promotion of architectural typology. Interpreting this publication only from the point

of view of types ("genres") and not as an illustration of the history of architectural

composition, results in the misconception that typology is at stake. In fact, Julien-David

Leroy's publication on the evolution of the Christian temple (1764), whose only plate can

be regarded as the precursor of Durand's plates in the *Receuil*, in fact suggests the

evolution of a type throughout history due to climate, culture, and technology.[60] (Fig. 43)

But Durand did not have the same intentions as Leroy. As Werner Szambien stated, the

Recueil is more like J.-A. Meissonnier's *Parallèle* (*c.* 1750), in which perhaps the first time the building typologies since Egyptians were represented in the same scale.[61] Durand's second and more significant textbook, the *Précis*, first published in 1802, must be taken into account when considering the *Receuil*, because the *Précis* is concerned with various possible configurations of contemporary types with given "elements" and "parts." It can be argued that the *Receuil* has overtones of the *Précis*, because it also presents a wide range of classical vocabulary from which the constituents of contemporary architectural compositions can be selected. However, taxonomy becomes a tool in architectural design only with the appearance of the *Précis*, where architectural types are not complete "typologies" but "combinations" of typological "parts" (elementary-fragments). The *Précis* offers a taxonomy of typological parts, rather than a typology of buildings.

The taxonomy of the "elements" and "parts" of architecture is only meaningful within a method of composition. In Durand's method, architectural composition depends on a system of inter-axes that organizes the assembly of "elements" and their consequent assembly into various "parts," which are in fact well-known antique fragments like the semi-circular auditoria, atria, porticos, etc. Durand justifies the use of antique fragments by their geometrical properties that give rationality of the design. By using these geometrical abstractions on the plan, Durand re-constructs fragments in standardized perfection and without their picturesque effects. Being a result of the composition and independent of the dramatic effects of the *caractère*, fragments in Durand's compositions are neither partial as in Fischer and Gondoin, nor too centralized as in De Wailly and

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Boullée. In Durand, fragments are re-created from within the project; they do not appear to be anachronic anywhere, nor do they imitate an ancient setting to create a mood; they are natives in any part of the synchronic composition. There is a relationship between turning a fragment into a "part" and the compression of the "time" - the historical experience in Vesely's words - of the fragment, although it is to the demise of the complexity of architectural settings made with antique fragments. Since Gondoin's isolation of the antique fragments at the Ecole de Chirurgie, this compression of time was continuing. In Durand's compositions, this isolation is no more necessary, because every "element" and every "part" belongs to the same time.

The synchrony of the "elements" is generated by the plan. Although the plan is still an orthographic representation of the architectural ensemble, it is not a simple horizontal section, created in the aftermath of the design. For Durand, the plan is more or less the generator of the project, where the "elements" and "parts" are assembled. The horizontal and vertical dispositions, that is, plan, section, and elevation, are all imprints, or, profiles, of those standardized parts. Therefore, in a composition by Durand, it is not surprising to see that the sections of the parts (*pièces*) are already known in their plan. A gallery space, for example, almost always appears in plan as a large rectangle made of several attached squares; and in the section it appears either as a cloister vault or a domical vault. The semi-circular auditorium appears like Boullée's salon for the Opera, changing in height in proportion to its size in the plan. Apart from several examples where alternative facades can be chosen, generally the facades of the buildings are "elevated" from the plan by the help of the known sections of "parts." In short, the

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architectural ensemble is simply represented by simultaneous profiles, but the plan is also

the domain of conception. This is not a blindfolded operation. On the contrary, it can be

said that architectural imagery is tightly attached to the information of the plan, where the

relationship between architectural form and its graphic representation was taken for

granted.

Because the technique of elementary composition is a synchronic method, each of

the two seemingly related steps of composition suggested by Durand, namely vertical and

horizontal disposition, is to be realized simultaneously. However, Durand's method also

proposes a process (*marche à suivre*) that starts from the plan and ends with elevations.

Therefore, the plan and its elevations are by necessity two independent graphic works,

given that the abstract plan has nothing but a simple geometrical relationship with

elevations and sections. This problem is solved simply by the connection between the

"elements" and "parts": the "elements" of the plan always compose certain "parts" from

which they were derived. What is left to the graphic method is to use the basic geometry

(circles, semicircles squares) of these "parts" and combine the given "elements" on these

forms. The elementary-fragments are composed out of these geometrical abstractions as

consistent structural and spatial "parts." Moreover, this assembly of the "elements" into

"parts" conforms to a system of axes, the distance between which determines the type of

structural "element," which in turn determines the type of the "part," which gives an idea

about its shape in the section and elevation, such as the galleries and semicircular

auditoria mentioned above.[62] Therefore, the modular measure of the axes creates the link

between the choice of specific "elements" and the expected outcome as one particular

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"part," and ensures a proportioned composition in an ensemble. This immediate link between "element" and "part," the synchrony, so to speak, reduces the accumulated references of the fragment on the one hand, and on the other, it increases the importance of the plan as a graphic drawing.

Charles Percier's "Institut", which won the *Grand Prix* of 1786, is one of the designs that Durand de-composed into "parts" and "elements" in the *Précis*. (Figs. 44, 45) Composed of Boullée-esqe fragments, this project is a derivation of Boullée's several designs for public buildings, such as "Palais de Justice" of 1782, and "Muséum" of 1783, and could in turn have influenced Boullée's own later "Projet de Palais National" of 1792.[63] (Figs. 46) These compositions forcefully demonstrate successive articulations of rectangular and circular forms, using a monumental classical language of colonnades, vaults, and walls. These plans show how "elements" are gradually submitted to the hierarchy of the axes. The plan replaces the function of the section as the birthplace of the fragment, for now the sections are embedded in the plans of the "parts," and the vestigial character of the fragment disappears in the process of de-composing of its "elements."

With the method of combining "parts" on a grid of axes, Durand creates the possibility of producing endless, functional Boullée-esque projects. However, Boullée's dramatic play with scale was controlled by the modular parts, for which the system of the inter-axis of the plan play the determining role. In a way, the direct relation between the elementary-fragment and the system of inter-axis restores what the abstraction of the plan destroyed. To the degree that architectural elements lose their definition as a result of the abstract measure of the axis, the scale of these elements become ambiguous. However,

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the "parts" that exist as definite entities control the possible overgrowth or shrinkage of the scale of architectural elements. In a particular example entitled "combination of parts of five and seven inter-axes with other semi-circular parts,"[64] Durand associates a specific "part" with each specific type of span produced by five and seven inter-axes. (Fig. 47) In this example, the structural system changes according to the difference of span and the "parts" are chosen according to appropriate structural system.

The two semicircular auditoriums on either side of the plan are familiar, as they have appeared in a number of projects since Gondoin built the anatomical theater at the Ecole de Chirurgie. They are so simply attached to the circulation spaces that the difference between roof levels is dramatic, which is also a reminder of the Roman baths that were subject of research by pensioners like De Wailly and Peyre. Durand does not need to replicate the oculus that was the leitmotif of both the coffered dome of the Pantheon and Gondoin's auditorium, because he is able to open a large clerestory window on the gable wall rising above the roof of the circulation space, like Piranesi's design for the sanctuary of San Giovanni in Laterano. The scale of the inter-axe, which obeys structural and functional rationality, governs the type of the fragment to be employed, and that the repetition of the fragment assures that it is not a formal attraction but a functional necessity. The form of the fragment is nothing but elementary in the sense that it naturally responds to necessity, and of course, to economy. Because Vitruvius used the Latin word *distributio* for the Greek word *oeconomia*, and because Durand eliminated the word distribution and used only disposition for design, it can be argued that Durand used the word economy in the place of distribution. Therefore,

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reading economy from a strictly rationalist point of view, the disposition has to be first of all economic.[65]

In the second part of the *Précis*, after having defined the "elements" and "parts" of buildings, Durand sets about producing compositions or "combinations" of large architectural ensembles by the method of *"entr'axes."* In this method, as in the particular example above, the "parts" made of larger inter-axes are hierarchically higher than the ones with smaller inter-axes. All of the "elements" that compose the "parts" are clearly distinguished in the plan, section and elevation, which are columns, vaults, window and door openings, stairs, semicircles and pitched roofs, all conform to the modular system of inter-axes. Door and window openings that do not exceed one inter-axe have the smallest size, followed by the colonnades. The vaults of the five inter-axes make the circulation spaces between the larger parts, and the higher vaults of the seven inter-axes attain the form of large vaulted Roman spans, such as in the public baths, with pitched roof. The three semicircular auditoriums are attached to the ensemble and they are the largest "parts," which are also the tallest. As a result, from colonnades to vaults and auditoriums, standard antique "elements" and "parts" are composed hierarchically, and the problem of scale and proportioning is resolved. The sections and elevations are made to result from the plan, which is the generator of the whole composition. In Durand's assembly method, the section does not play the significant role that it did for De Wailly, Boullée or Ledoux, because the design is almost complete before the section. Durand's section simply reveals the volumes inherent in the parts.

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One other consequence of the elementarization of the fragment is the disappearance of architectural space as a dramatic setting and the emergence of a new conception of functional-economic space, wherein the subordination of one space to another in the work of Boullée and others is replaced by simple hierarchical arrangement of volumes. In Durand's method, elementary-fragment ("part") is made of a rational and economic three-dimensional volume. Every part is a volume and the volumes of the architectural ensemble are perfect in themselves; although they can be increased almost incessantly, they always retain a standard volumetric character. Architectural fragments were the imitations of "ruins" made in time; elementary-fragments of systematic compositions are "parts" made outside time.

It was argued that the perfect harmony between plans and elevations of Durand's compositions was artificial and it would be quickly destroyed by the advance of historicism in architecture. It was shown that elementarization of antique fragments helped Durand to use the basic geometrical properties of fragments to create this harmony. Since the leading architects of the historicist trend who ended the artificial synchrony of plan and elevations were graduates of the Ecole des Beaux-Arts, their connection with Durand's method of composition must be explained. It will be shown that, at the Ecole des Beaux-Arts, architectural education was based almost on the same technique of composition and the same elementary-fragments.

Durand and Legrand's co-production, the *Recueil et Parallèle des Edifices de tout Genre*, was a well known reference source at the Ecole des Beaux Arts, and it was studied by students for general knowledge of architectural history, especially the forms

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and elements of classical architecture.[66] But there is no evidence of the use of the *Précis des leçons* by the students of the Ecole des Beaux-Arts, although its possession was obligatory for the students of architecture at the Ecole Polytechnique. Yet, the book was at least possessed by the library of the Ecole des Beaux-Arts.[67] It is also known that some of Durand's students, such as Auguste-Jean-Marie Guénepin, Prix de Rome in 1805, and Emile-Jacques Gilbert, Prix de Rome in 1822, forged a link between the Ecole Polytechnique and the Ecole des Beaux-Arts. Guénepin studied at the Ecole Polytechnique before he enrolled in the Ecole des Beaux-Arts, and he took over Huyot's studio in 1817 during the latter's journey to the East. According to Louis Hautecoeur, he is known to have had the habit of saying that "forms have to obey the rules of use and construction." Gilbert was also a student of Durand before he entered the Ecole des Beaux-Arts, where he introduced the doctrines of his former master. Hautecoeur claimed that he instructed his younger fellows at the Academy in Rome, and he had strong influence on the outstanding architects of the future, such as Félix Duban, Henri Labrouste, Simon-Claude Constant-Dufeux, and Léon Vaudoyer.[68] Although Louis Hautecoeur, Donald Egbert, and Joseph Rykwert claimed that these two architects spread the doctrines of Durand among the students of the Ecole des Beaux-Arts, it is difficult to argue that Durand exerted at any moment a direct influence on education at the Ecole des Beaux-Arts.[69] However, Durand's doctrine was itself a product of the Ecole des Beaux-Arts, simply a more radical and standardized version of the education at the Ecole. It can be shown that, besides the fact that Durand was a respected name also at the Ecole des Beaux-Arts, a common sensibility towards architectural composition was shared by the two schools.

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One cannot expect that the principal school of architecture in France, and perhaps in Europe at the time, would completely neglect the rapid reorganization of knowledge especially in the technical field, and the takeover of the technical aspects of the profession by engineering schools such as the Ecole des Ponts et Chaussés and the Ecole Polytechnique. The main reaction of the Ecole was the re-organization of its school of architecture with a full program of architectural education, most of which had previously been gained in apprenticeship.[70] A systematic teaching of architectural elements and architectural design developed from the courses at the Ecole. The technique of architectural composition became an object of education, which guaranteed its dissemination as well as its persistence across the generations. Although it cannot be argued that Durand's mechanistic method or his rather cold language was adopted at any time in the history of the *Ecole des Beaux-Arts*, the repetition of typological motifs and geometrical schemes became a common feature of the both schools starting at the end of the eighteenth-century.

As the notion of architectural design was transformed into architectural composition, one can see in student projects endless variations on the architectural motifs that had first appeared as articulated fragments in designs around the middle of the eighteenth-century. The short amount of time given to the student in the loge for creating an *esquisse* (a small-scale sketch of a plan, section, and elevation, showing the design concept in conformity with the given program, to be developed later) during the competitions of the *Grand Prix* (yearly competitions with limited participation) and the

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prix d'emulation (the monthly competitions) necessitated a quick method that would produce an acceptable solution.[71]

Charles Percier, a pupil of Boullée, whose project for an "Institut," Grand Prix of 1786, was borrowed and corrected by Durand in the Précis, was Durand's counterpart at the Ecole des Beaux-Arts, succeeding Boullée and occupying his place for two decades, until 1820.[72] Percier's influence was so great that eighteen of the Premier Grand Prix, and seventeen of the second Grand Prix between 1798 and 1820 were won by the students from the studio of Percier and Fontaine, where Percier played the major role. The number of the *prix* and *medailles* won by his studio was more than fifty.[73] Understandably, his students appreciated very much this man who had a profound knowledge of classical architecture and who designed freely with a vocabulary of classical elements; some of them even considered him a genius. Yet, like Durand, Percier was an ardent follower of the compositional methods developed by his master Boullée whose influence on younger architects had also been disseminated by the *concours* of the Ecole des Beaux-Arts, especially in the 1780s. Percier and other students like Vaudoyer, Réverchon, and Sobre presented for the *concours* of 1783 and 1784 compositions similar to those of Boullée whose project for a "Palais de Justice" of 1782 was especially influential.[74] As mentioned previously, Percier's Grand Prix project of 1786, the "Institut," was an offspring of the same influence. It is understandable that Durand, also a disciple of Boullée and disseminator of his style, could readily adapt Percier's project for his publication.

In the first two decades of the eighteenth-century, the influence of Boullée thus continued in two schools led by two of his disciples, Percier at the Ecole des Beaux-Arts

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and Durand at the Ecole Polytechnique. Durand's course on architecture at the Ecole

Polytechnique was marked by the elementary-fragments of classical architecture, most of

which were barrowed from Boullée and his disciples. Despite the lack of a treatise

comparable to that of Durand, it can be argued that Percier prescribed a similar education

for the members of his *atelier*. The evidence for this can be found in the projects

produced in this period by the students of the Ecole des Beaux-Arts for the *concours*

d'emulation and the Grand Prix, in which the studio of Percier-Fontaine had great

success. Luckily, many of these projects were published by A.-L.-T. Vaudoyer and L.-P.

Baltard, disciples of Boullée and professors of the school.[75] These projects suggest that

either the style of Percier was shared by other followers of Boullée, or the success of

Percier's students in the *concours* motivated others to adopt his style. In any case, these

projects reveal the degree of similarity between the compositions of the *Précis* and that of

the projects of the Ecole des Beaux-Arts; they also invoke the common roots for these

compositions, whose classical motifs were derived from archaeological research, and

whose simplification of these motifs was derived from the work of Boullée.

A very popular motif was the semi-circular auditorium in a square, which

Hautecoeur called simply a "habit of compass," where two smaller semi-circles fill the

interstices between the curved wall of the auditorium and the corners of the square.[76] The

ancient theater and a semi-dome had first been united at the Ecole de Chirurgie by

Gondoin, who used semi-circles at the corners for staircases, but the solution in a square

was first standardized by Boullée, who even flipped it over and created a perfect circle

and a perfect dome, an idea which was imitated in many student projects, such as

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Percier's "Institut" (1786), as well as in the Year II (1793) projects, such as Lahure's

"Arènes du Peuple" and Durand and Thibault's "Temple Décadaire." In the *Précis*, this

motif also appears as an important type. Like many of Durand's standard "parts," its

geometric abstraction can be found in Plate 20 of the Volume I, entitled "ensembles

d'édifices." (Fig. 48) It appears as a "central part" in Plate 15 of the Part II (*pièces*

centrals), and can be seen for example in Plate 8 of Part III, "Principal Kinds of

Buildings," as the central space of a composition named "Collège." (Fig. 49) Lucien van

Cleemputte, from the studio of Percier, won the Grand Prix in 1816 with this motif in the

center of his composition for a "Palais pour l'Institut." The motif appeared in many other

competition projects after this year, in Guillaume-Abel Blouet's "Conservatoire de

Musique" (Second Prix) of 1817, in Lesueur's "Cimetière Public" (Premier Prix of 1819),

in the same project by Callet for the same competition (Premier Prix), in H. Labrouste's

entry for "Cimetière" (concours d'emulation of 1824), in Villain's "Ecole de Médecine"

(Premier Prix) of 1820, and in Morey's "Bains d'Eaux Thermales" (Premier Prix of

1831). (Figs. 50-55) Like Cleemputte, Lesueur and Villain were also the members of the

Percier studio. For all these students this motif became the geometrical solution for

problem of uniting two essential elements of architecture, the square and circle. Callet

used it at grand scale for the layout of a part of his "Promenade Publique" (Second Prix

of 1818), Poisson used it in different scales in his Hospice Central (Troisième Prix of

1812) and H. Labrouste used it for the layout of the gardens of his "Maison d'un

Naturalist" (Concours d'Emulation) of 1822. (Figs. 56, 57) Durand had used this motif

for two different types of space in the same Grand Prix entry "Musée" (second Grand

Prix of 1779), one for the two large exedrae with colonnades, and the other for the central

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piece of the ensemble at a much smaller scale, recalling Boullée's "Palais National."[77] (Fig. 58)

Another recurrent motif was the subdivision of the rectangular layout of the project in the form of a cross-in-the-square. A perfect or slightly distorted cross located in the center of a square or a rectangle was a common feature of many projects by Ledoux and Boullée. This was first of all a geometrical solution, which enabled the opening of courtyards within large ensembles. Playing with different alternatives of openings in the corners between the rectangle and the cross or within the cross itself, one could create spaces around courtyards and also guarantee the connections between the blocks. The projects produced by Ledoux with different configurations of this motif were endless, but Boullée's themes were more appropriate for Grand Prix projects. For example, his well-known "Palais de Justice" applied the same principles and many students adopted this as a practical solution for managing the layout of an architectural composition for which the limits of the site and money did not exist. The main block of Landon's "Bibliothèque Musée" (Premier Prix of 1814) was a cross located within a square, having four courtyards at the corners, and therefore it was a direct descendent of his master Percier's "Institut." Also in 1816 Lucien van Cleemputte, who located his master Percier's beloved circle in the center of his "Palais pour l'Institut," kept the cross but omitted the surrounding rectangle. Henri Labrouste's "Cour de Cassation" (Premier Prix of 1824) preserved the main outlines of this motif, whereas in Blouet's "Palais de Justice" (Premiere Prix of 1821) it was a little blurred. Marie-Antoine Delannoy played with the proportions of the cross and the rectangle in his "Bibliothèque Publique" (Premier Prix of

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1828), and Morey played freely with the traces of the cross within the rectangle in his "Bains d'Eaux Thermales" (Premier Prix of 1831). (Figs. 59, 60)

Once again, it is possible to trace the same strategy of subdividing and combining geometrical motifs in Durand's plates. In Plate 20 of the *Précis* (*ensembles d'édifices*) Durand showed the "results of the divisions of the square, the rectangle, and their combinations with the circle." In this plate, various subdivisions of the square show almost all the schemes applied in these competition projects of the Ecole des Beaux-Arts, such as the cross-in-the-square. These geometrical abstractions were apparently products of the Ecole des Beaux-Arts education, and this is why it was common to both the projects of the *Précis* and the *concours* of the Ecole des Beaux-Arts. For example, in the Graphique Portion (1821) of the Précis (plate 15), there is a "*combinaison*" of five and seven inter-axis, which is a cross with a circle in the center. (Fig. 61) This is a further elaboration of the "Muséum" of the *Précis* (1805), which was derived from the 1779 Grand Prix competition in which Durand had the second prix, and it is a "condensed and simplified version of the three projects" by François-Jacques Delannoy, Alphonse de Gisors and Durand himself.[78] (Figs. 62, 63) Durand's plates are products of the *concours* of the Ecole des Beaux-Arts. As mentioned, his famous plate showing the "*marche à suivre*" is nothing but Percier's "Institut."

The cross-in-the-square motif usually comes with a concentration in the center, for which the "*Pièces Centrales*" prepared by Durand are appropriate solutions. One of these central parts is a square room with colonnade. This classical form is also a motif for many projects in which it is used either as a salon or as a courtyard, reminiscent of an

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image between atria and fora of the Romans. This motif appears in different scales in Lacornée's "Bourse pour une Ville Maritime" (Second Prix of 1810), in Macquet's and Normand's projects for "Le Laurentin" (prix d'emulation) in 1818, in Villain's "Ecole de Médecine" (Premier Prix of 1820), in H. Labrouste's "Cour de Cassation" (Premier Prix of 1824), as well as in many other projects. (Figs. 64-66) In fact, all the architectural elements and motifs used in these projects are either direct or simplified borrowings from the classical vocabulary of architecture, and the method of their assembly is essentially geometric, just like the "combinations" in the *Précis*. Macquet's choice of the order and roofing of the Roman baths (or the Basilica of Maxentius) for "Le Laurentin," the barrel vault with columns and skylight attached in the crossing to a Pantheon-like dome in Rumpf's section of the "Eglise Paroissiale" (Prix d'emulation of1816) and in Dobilly's "Baptistère" (Prix d'emulation of 1815), the galleries and corridors in Villain's "Ecole de Médecine" and in Vaudoyer's "Palais de l'Académie de France à Rome," the "basilicas" in Blouet's "Palais de Justice" and Labrouste's "Cour de Cassation," the long portico façade of Jolly's "Bains Publics" (Second Prix of 1808) are all in complete agreement with the "elements" and "parts" proposed by Durand. (Figs. 67-70)

This compositional technique did not disappear from the Ecole des Beaux-Arts after Percier. As late as1830, in Victor Baltard's "Collège" for the *concours d'émulation*, the semicircular auditorium was used so repeatedly that it became as ordinary as the colonnades and rectangular halls that dominate the project. His project for "*Une Ecole Militaire*," which won him the Grand Prix in 1833, incorporates nine small scale auditoria with flat ceilings, and applies typical galleries, classrooms and courtyards that

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pervade all the other projects in the both schools. (Figs. 71, 72) Similarly in 1835, François-Louis Boulanger's *concours* project for a "Jardin d'Hiver" shows a slightly different application of elementary forms and the same Roman vaults that appeared in Durand's *Prècis*. (Fig. 73) In the same year, again a winner of the Grand Prix, Charles-Victor Famin, adopted the semicircular auditorium in his design for an *"Ecole de Médecine et de Chirurgie"* as the most significant space in the project - a conference room. The anatomy rooms are six exedrae that stand on the edge of the botanical gardens. (Fig. 74) It is to be remembered that the repetition of the same motif in different scales is a characteristic of Durand's method. It is also notable that Famin applied almost the same section that Durand produced for the largest of the three auditoria in his building with 5 and 7 inter-axes. Apparently, the compositional techniques of the Ecole des Beaux-Arts had produced its own elementary-fragments for architectural design.

It has to be emphasized that Durand did not bring anything to the Ecole des Beaux-Arts that was not already there. Although the historians like Hautecoeur, Egbert, and Rykwert claimed that Durand's students brought his influence to the Ecole des Beaux-Arts, it was seen that the ateliers led by Durand's contemporaries produced compositions similar to that of Durand. In fact, Durand's method can be seen as a product of the Ecole des Beaux-Arts. The most significant contribution of Durand seems to be his rejection of *caractère* for the sake of *économie* and *usage*, which enabled him to relate spatial arrangements directly to economy and use. Yet, it cannot be argued that in the projects produced at the Ecole des Beaux-Arts issues of function were neglected.

Hautecoeur, Egbert, and Rykwert also implied that the opposition of Gilbert, Labrouste, Duc, Vaudoyer and others against Quatremère and the Academy was due to the influence of Durand's rationalism.[79] Hautecoeur and Egbert supported the thesis that Durand had influenced the leading architects of the young generation with the assertion that these architects were not romantics but rationalists. Like Hautecoeur, Egbert quoted Guénepin saying that "everything ought to be motivated by propriety [*les convenances*] and by construction," while also holding that the exteriors should express the interiors."[80] However, none of his friends were so interested in the expression of construction or function on the exterior of buildings. Although these architects were against the application of the same architecture and the same materials everywhere, there was not an essential difference between Durand's and the Ecole's project that they criticized.[81] It is almost impossible to classify the anti-academic opposition of the young generation as "rationalism" for the word "reason," as Hautecoeur himself stated, "had a different signification for each member of this group" led by Gilbert and Labrouste. According to Hautecoeur, "for Gilbert, following reason meant accepting the demands of the program, for Labrouste, it was also submitting the forms to materials, and even to new materials, and the decoration to forms, for Constant-Dufeux, it was recognizing the authority of the idea and by idea he understood symbol."[82] Therefore, the "rationalist" opposition of this group of young architects should be described, as did Hautecoeur, Egbert and Van Zanten, as but one of many student reactions against the establishment that was epitomized in the Fine Arts by the personality of Quatremère de Quincy. The imminent revolution was as much romantic as rationalist.[83]

When seen from the point of view of an anti-establishment convergence of historicist romanticism and a materialist rationalism, it can be argued that the opposition to Quatremère should also have meant opposition to Durand, who simply methodized the application of the doctrines of neo-classicism, and whose architecture was even more dry and robust than that endured by Quatremère. It should be remembered that the generation of the Revolution of 1830, that is, the generation of Labrouste, developed its opposition to Academism by arguing the importance of history, locality, functionality and the material aspects of architectural design, issues which lacked development in Durand's theory. In fact, the main difference between the architecture of the Ecole Polytechnique and that of the Academy and Ecole des Beaux-Arts seems to be the variety of classical vocabulary, which was more restricted at the technical school. The Academy and the Ecole des Beaux-Arts had always respected the Italian Renaissance and even Baroque, and were very careful to avoid the degeneration of classical taste. The Ecole Polytechnique, on the other hand, as a revolutionary institution, lacked this tradition and considered architecture as a practical skill to be learned by the military bureaucrats, and therefore it allowed a rudimentary classicism, and application of a design method imposed by one person.

The architectural compositions of the first three decades of the nineteenth-century at both schools shared the same elementary-motifs and the same techniques of composition. This was due to the influence of Boullée, who developed the technique of architectural composition with antique fragments that had been a part of the Academic system since the middle of the eighteenth-century and transferred it to Durand at the

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Ecole Polytechnique and to Percier, Baltard, and Vaudoyer at the Ecole des Beaux-Arts. According to Szambien, towards the end of his life Boullée started working on an anthology (*recueil*) of private architecture, which aimed at treating more directly the issue that Durand called the "mechanics of composition." Szambien claimed that this anthology was supposed to be about symmetrical arrangements rather than the "characters" of architecture. He has stated that Boullée's "research on the standardization of the process of composition" was already developing at the expense of the "character."[84] Although Szambien claimed that Durand took over Boullée's experiments, from which he developed his own method, Percier and others kept Boullée's influence alive at the Ecole des Beaux-Arts. A former student of Durand, Le Brun, accused architects of "ignoring the rules of stability and scientific necessities, and routinely depending on talent which they believe to be [an aspect of] genius." Le Brun's criticism, quoted by Hautecoeur, shows that Durand's education was far from bringing rationality to the Ecole des Beaux-Arts:

> Real infants; they are not even capable of reasoning for themselves in the matters they studied, let alone for others, because having only copied, measured or decomposed, they could do nothing but copy, measure or decompose.[85]

In both schools, the endless possible compositions assembled from the same motifs produced not building typologies but a regularly fragmented architecture. The most important and striking characteristic of the competition projects mentioned above is the graphic quality of their plans. These plans simply register the location of elements and the organization of volumes on an axial and virtually perfect platform. With the end of the Neo-classical tendencies and the rise of eclecticism, this ideal relation between a

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building's plan and its exteriors would disappear, and the compositional method would be replaced by variations with historical forms.

A significant effect of Durand's method on architectural theory was the adoption of the technique of elementary composition by the next generation for their eclectic compositions. The so-called rationalism of this generation was in their liberty of choice among the components of different "systems" of architecture, which quickly led architecture towards eclecticism. The students in the 1820s found themselves applying many of the techniques discussed above with a new liberty in the 1830s and 1840s.

Notes to Chapter 4

[1] Christian Norberg-Schulz, *Late Baroque and Rococo Architecture* (New York: H.N. Abrams 1973), p. 52; Emil Kaufmann, *Architecture in the Age of Reason* (New York: Dover Publications, 1968), p. 58.

[2] Heinrich Wölfflin, *Renaissance and Baroque*, trans. K. Simon (Ithaca (N.Y.): Cornell University Press, 1966), p. 5.

[3] Kaufmann used this expression for the architecture around 1800: "consolidated architecture, whether it includes worn out traditional features or not, is, approximately, cubism with all its implications of massiveness, horizontalism, and independence of the parts." *Architecture in the Age of Reason*, p. 58.

[4] Johann Bernhard Fischer von Erlach, *Entwurff Einer Historischen Architektur* (Leipzig, 1724).

[5] The illustrations of the first three books, as anyone with some knowledge of architectural history would realize, have little claim for accuracy, where Fischer used his imagination and his personal experience to create these images. Especially in the case of seven wonders and other buildings that belong to remote antiquity, Fischer's imagination had a greater freedom, because most of these structures were either in complete ruins or they had disappeared. The examples are many. To give some of them, Gardens of Babylon invokes French gardens, and they were reconstructed as cascaded terraces raised on arcuated structures. Fischer also ignored the image of the Tower of Babylon as a circular structure with spiral rampages, by depicted it as a stepped pyramid. The "Mausoleum of Artemisia" (Halicarnasus) is depicted as raised on arches with Trajan columns located on four sides, whereas the Pharos of Alexandria is a highly imaginative but structurally solid building that looks like a medieval castle with classical elements. The building has baroque concave recesses.

[6] Fischer started his "Preface" with an apology by stating that he completed this book in his free times when he could not get any commissions from the Court due to ongoing wars. He considered this work an "amusement" for himself and evaluated it as an essay on historical architecture that did not intend to instruct the learned but to enhance the imagination of the professionals of the art. Therefore, in the beginning Fischer emphasized the visual rather than textual material of the book, and implied that there was no theoretical material here. As Rykwert underscored, the book was also "dispensed with the usual section dealing with the orders of architecture." Joseph Rykwert, *The First Moderns: The Architects of the Eighteenth Century* (Cambridge, Mass.: MIT Press, 1980), p. 68. It is not surprising that Fischer justified his selection of architectural examples also from outside the Western sources as a matter of taste. For Fischer, as different nations had different taste for food, they also had different taste for architecture. Under this logic may reside the influence of British empiricism that was disseminated by Locke's *Essay Concerning Human Understanding* (1690). In 1712, under the influence of Locke, Joseph Addison published in his periodical Spectator a series of articles entitled "The Pleasures of the Imagination," dealing with the notion of sight which was regarded as the most perfect of our senses, and used the expression "the emotion of taste." See Peter Collins, *Changing Ideals in Modern Architecture, 1750-1950* (London: Faber and Faber, 1965), p. 45. On the other hand, Fischer did not forget to add that there were also universal principles for architecture that affected the aesthetic judgment of the building as perceived, "such are the rules of symmetry, that the weaker must be supported by the stronger, and the like." This idea must be barrowed from Claude Perrault who differentiated between positive beauty and arbitrary beauty, the latter depending on the conditions of custom, and the former on the universal principals of nature.

[7] Joseph Rykwert, *The First Moderns: The Architects of the Eighteenth Century* (Cambridge, Mass.: MIT Press, 1980), p. 70.

[8] Frances D. Fergusson, "St. Charles' Church, Vienna: The Iconography of its Architecture," *American Society of Architectural Historians*, XXIX (1970), no. 4, p. 319.

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[9] Rykwert, *First Moderns*, p. 75; Hans Aurenhammer, *J.B. Fischer von Erlach* (Cambridge, Mass.: Harvard University Press, 1973), p. 133.

[10] Rykwert, *op. cit.*, pp. 73-75.

[11] Fergusson, *op. cit.*, p. 321.

[12] Anthony Blunt (ed.), *Baroque and Rococo Architecture and Decoration* (New York: Harper & Row, 1982), p. 183.

[13] Edward Passmore, "Fischer von Erlach: Architect to a Monarchy," *Royal Institute of British Architects Journal*, LVIII (1951), 473.

[14] See Allan Braham, *The Architecture of the French Enlightenment* (Berkeley: University of California Press, 1980), chapter 1.

[15] See Pierre Pinon, "Comment fouillait-on au 18e et au debut du 19e siècle," *Archéologia*, September, 1981, no. 158, pp. 16-26.

[16] See James Ackerman, "Architectural Practice in the Italian Renaissance" in *Distance Points, Essays in Theory and Renaissace Art and Architecture* (Cambridge, Mass.: MIT Press, 1991).

[17] Jacques Guillerme and Hélène Vérin, "The Archaeology of Section," *Perspecta* 25, p. 226.

[18] Jean-Marie Pérouse de Montclos, *Etienne-Louis Boullée*, (Paris: Flammarion, 1994), p. 107.

[19] The previous anatomy theater in Paris built by Charles Joubert in 1696 on the former rue des Cordeliers had an octagonal plan, and its seats were elevated concentrically around the dissection table. See Pierre-Louis Laget, "L'Amphithéâtre d'anatomie de la communauté des chirurgiens de Paris sis rue des Cordeliers," *Bulletin Monumental*, CLVI (1998), no. 4, pp. 369-384.

[20] Jacques Gondoin, *Descriptions des Ecoles de chirurgie*, Paris: chez Cellot et les frères Jombert, 1780, p. 7.

[21] David Van Zanten described Paris in the nineteenth-century as "a city in which private and institutional architecture was strictly disciplined to serve as the background to a display of monuments standing as the representation of the government." David Van Zanten, *Building Paris: Architectural Institutions and the Ttransformation of the French capital, 1830-1870* (Cambridge: Cambridge University Press, 1994), p. 1. It can be said that this situation has its roots in the eighteenth-century public buildings like the Ecole de Chirurgie. Jürgen Habermas studied the connection between the transformation of the public sphere and the emergence of the bourgeois institutions in Europe. According to Habermas, the architecture of these institutions demonstrated the underlying theme of "communication" in the increasing power of the bourgeoisie, such as the salons, coffee houses, theaters and so on. Habermas's study is also interesting for the transformations of architectural interiors in this process, whereby "culture" was represented as a common property: "psychological interests also guided the critical discussion sparked by the products of culture that had become publicly accessible: in the reading room and the theatre, in museums and at concerts. In as much as culture became a commodity and thus finally evolved into "culture" in the specific sense (as something that pretended to exist merely for its own sake), it was claimed as the ready topic of a discussion through which an audience-oriented subjectivity communicated with itself. Jürgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*, trans. T. Burger (Cambridge, Mass.: MIT Press, 1991), p. 29.

[22] Charles Estienne, *La Dissection des parties du corps humain* (Paris: au cercle du livre précieux, n.d. [Paris: Simon de Colines, 1546]), pp. 373-374.

[23] Laget, *op. cit.*, p. 375.

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[24] Pierre Huard and Mirko Drazen Grmek, "L'Oeuvre de Charles Estienne et l'école anatomique parisienne," in Charles Estienne, *La Dissection des parties du corps humain* (1546; reprint, Paris: au cercle du livre précieux, n.d.), n.p.

[25] Jacques Gondoin, *Descriptions des Ecoles de chirurgie* (Paris: chez Cellot et les frères Jombert, 1780), p. 7.

[26] "Dans plusieurs autres villes, j'indiquerois, parmi les édifices publics, les théâtres, les amphithéâtres, les portiques destinés aux leçons de philosophie, les gymnases, enfin tous les lieux consacrés à l'instruction et aux exercices." *Ibid.*, p. 7.

[27] Barry Bergdoll pointed out the link between the calumniated courtyard of the Ecole and the courtyard of the Parisian town houses. *European Architecture, 1750 – 1890* (Oxford: Oxford University Press, 2000), p. 62.

[28] R. E. Wycherley, *How the Greeks Built Cities* (London: Mcmillan, 1949), p. 119.

[29] *Ibid.*, pp. 123-125.

[30] Cochin le fils et Bellicard, *Observations sur les antiquités de la ville d'Herculanum* (Saint-Étienne: Université de Saint-Étienne, 1996), pp. 41-44.

[31] Denis Bilodeau, "Type et Historicisme: L'École de Chirurgie de J. Gondoin et l'Émergence d'une Conception Généalogique de l'Architecture au XVIIIe Siècle", in *L'Architecture, les Sciences et la Culture de L'Histoire au XVIIIe Siècle* (Sainte-Étienne, 2001). However, Gondoin never mentioned anything of that sort in his short essay entitled "Observations préliminaires" on the design. See *Descriptions des Ecoles de chirurgie*.

[32] Thomas Julian McCormick, *Charles-Louis Clérisseau and the Genesis of Neo-Classicism* (Cambridge, Mass.: MIT Press, 1990), p. 120.

[33] Gondoin, *op. cit.*

[34]"L'avantage de la forme circulaire a donné le moyen de faire un plafond à compartimens arabesques, symmétrique; au milieu est un bouclier orné de la tête d'Apollon, et servant de trappe pour descendre le lustre; il est entouré des douze signes du zodiaque, pratiqués sous les lunettes des petites loges, et séparés par douze cotés qui montent à plomb de chaque pilier, et forment autant de rayons du cercle; ces cotés entourent des panneaux décorés d'enfans en arabesques, qui portent sur leur têtes des corbeilles de fleurs et de fruits analogues aux saisons; ils sont dirigés vers le centre comme pour rendre hommage à la divinité qui y préside." "Théâtre," *Supplément à l'Encyclopédie ou dictionnaire raisonné des sciences, des arts, et des métiers* (1751-1780), IV, 937.

[35] Although the authors referred to circle's symbolism of nature in Rousseau and Ledoux, they did not mention the possibility of a link between the arguments of Saint-Maux and the design of the Comédie Française. Monika Steinhauser and Daniel Rabreau, "Le théâtre de l'Odéon de Charles De Wailly et Marie-Joseph Peyre, 1767-1782," *Revue de l'Art* (1973) no.19, pp. 9-49.

The first two letters of Viel de Saint-Maux, where he talked about the circles and zodiac as cosmogonic symbols, were published in 1779 and 1780, but they were written in 1763 and 1764. See Jean-Marie Pérouse de Montclos, "Charles François Viel, Architecte de l'Hôpital Général et Jean-Louis Viel de Saint-Maux, Architecte, Peintre et Avocat au Parlement de Paris," *Bulletin de la Société de l'Histoire de l'Art Français* (1966), p. 263. Comédie Française was designed and built between 1767 and 1782.

[36] See especially his Lettre I, where Saint-Maux explains the agricultural origins of the orders : " ...sa sublime origin, au grand étonnoment de ceux qui se prétendent les plus habiles en ce genre, est l'agriculture elle-même, et le culte qui en fut la suite; IL EN EST LE POEME PARLANT...l'entablement retraçoit l'histoire des bienfaits du ciel, et des heureuses influences du soleil, pour la fécondité de la terre;

c'étoit un effet de la reconnoissance des hommes, que terminoit réellement cet ex voto ou construction théologique." Jean-Louis Viel de Saint-Maux , *Lettres sur l'architecture* des anciens et celle de modernes (1787; reprint, Genève: Minkoff, 1974), pp. 16-17.

[37] Steinhauser and Rabreau, *op. cit.*, p. 30.

[38] "... les cirques, emblème de l'univers et de ses révolutions, la forme circulaire des temples dédies à l'astre du jour, le nombre de degrés qui conduisoient à ces temples, relatif à celui des planettes, le nombre des colonnes toujours relatif à celui des jours, des saisons ou des mois, dans presque tous les monumens orientaux et asiatiques, tous ces objets etoient-ils faits pour être dédaignes?" Viel de Sanit-Maux, *op. cit.*, Lettre II, p. 17.

[39] Rabreau and Steinhauser showed the architects' excuses to use a circular form, but they simply saw in it an "aesthetic choice," rather than pre-classical derives of architectural form explained in Saint-Maux's *Lettres sur l'architecture*. Although they mentioned that De Wailly and Peyre had no intentions to follow Vitruvius, they did not show the link between the Comédie Française and Viel de Saint-Maux, the most aggressive anti-Vitruvian of the time, but referred to Laugier and merely claimed that the architects were interested in re-interpretation of ancients without the text of Vitruvius. Rabreau and Steinhauser, *op. cit.*, pp. 37, and 42.

[40] *Ibid.*, p. 35.

[41] Many historians referred to the architecture in the second half of the eighteenth-century as "return to rationalism." Although this may be true for the sciences, in architecture the imitation of Greco-Roman forms created many problems that could not be explained rationalistically. It is not surprising that the rationalists of the nineteenth-century vehemently criticized the neo-classical reasoning from the same point of view. For similar reasons, the rationalists of the twentieth-century vehemently criticized the eclectic Academic reasoning of the nineteenth-century. Today, the leaders of the avant-garde modernism are criticized for being "stylistic" rather than rationalistic, creating a fashionable "white" modernism.

[42] Sedlmayr interpreted the radical idea of "using a sphere as the basic form of an entire house" as "oddity," a "symptom" of the crisis in the Western art. Hans Sedlmayr, *Art in Crisis: The Lost Center* (Chicago: Henry Regnery Company, 1958), pp. 3-4.

[43] Ribart de Chamoust, *L'Ordre François Trouvé dans la Nature* (Paris, 1776)

[44] See Pierre Lavedan, "Une Fabrique de Jardin: De Soufflot à Menars. Esquisse d'Histoire d'une Forme: La Rotonde Ajourée," *Acte du Colloque Soufflot et l'Architecture des lumières* (Paris: C.N.R.S., 1980), pp. 204-212.

[45] See Monique Mosser and Daniel Rabreau, "Nature et Architecture Parlante: Soufflot, De Wailly et Ledoux Touchés par les Lumières," *Acte du Colloque Soufflot et l'Architecture des lumières* (Paris: C.N.R.S., 1980), pp. 222-239.

[46] Braham pointed out the relationship between an etching by Piranesi and the facade of this house. According to Braham, the decaying interior seen in the "View of the Roman Forum with the Temple of Venus and Rome," "recalls the portico of the Hôtel Guimard." Allan Braham, *The Architecture of the French Enlightenment* (Berkeley: University of California Press, 1980), p. 175.

[47] Sarvandoni was famous for his stage designs and temporary pavilions. See Braham, *op. cit.*, p. 24 *ff.*

[48] I am indebted to the lectures of David Leatherborrow for the concept of "subjunctive" form in architecture.

[49] The implication of the idea of representation of a building's duration in time was made in Mohsen Mostafavi and David Leatherbarrow, *On Weathering: The Life of Buildings in Time* (Cambridge, Mass: The MIT Press, 1993).

[50] Robin Evans investigated the symbiosis between the centralized churches of the Renaissance and geometry, in which he found the perfect incorporation of geometry within the reality of construction in the sections. Robin Evans, The Projective Cast: Architecture in Its Three Geometries (Cambridge, Mass., The MIT Press, 2000). See the chapter I: "Perturbed Circles." Looking at the section of the church of *Sant'Eligio* and discussing the original design of Raphael, Evans claimed that if the circular windows of the drum wouldn't have been built rectangular, "all the forms in the upper reaches of the interior would have been circular, cylindrical, and spherical." Evans goes onto say that despite this change, "as built, the tectonic framework... is identical to the lines of intersection between the spherical and cylindrical surfaces." According to Evans, this "untroubled and complete consciousness" of churches like *Sant'Eligio*, which is "irretrievably lost to modern man," is an "accomplishment in the hazy zone between the ideal and the real", and "a remarkable triumph." See pp. 37 – 43. Although Evans did not discuss the French architecture in the revolutionary period, it can simply be said that the correspondence between the two worlds of geometry and the symbolic form is not "untroubled" in either Ledoux or Boullée.

[51] Pérouse de Montclos, *Etienne-Louis Boullée*, p. 101.

[52] "*Il en résulte que l'éntendue du ciel qui orne la coupole deviant immense.*" Quoted by Pérouse de Montclos, *Etienne-Louis Boullée*, p. 101.

[53] Boullée explained his source of inspiration: "*profondément frappé de la sublime conception de L'Ecole d'Athènes par Raphaël, j'ai cherché à la réaliser.*" Quoted by Pérouse de Montclos, *Etienne-Louis Boullée*, p. 90.

[54] It is well-known that Boullée always supported and pushed his pupils to achieve success in building, instead of seeking for a building career for himself. Pérouse de Montclos claims that Durand and Thibault, two protégés of Boullée from modest backgrounds, owed their success to their master in the Year II competitions in which they had the "lion's share" by winning 36 000 *livres* worth of awards which were 98 000 *livres* in total." Jean-Marie Pérouse de Montclos, *Étienne-Louis Boulléee (1728- 1799). De l'Architecture Classsique à l'Architecture Révolutionnaire* (Paris: Arts et Métiers Graphiques, 1969), p. 35.

[55] See Werner Szambien, *Les projets de l'an II: concours d'architecture de la période révolutionnaire* (Paris: Ecole nationale supérieure des Beaux-Arts, 1986).

[56] Louis Hautecoeur, *Histoire de l'architecture classique en France (La Restauration et le gouvernement de juillet 1815-1848)* (Paris: Picard, 1955), VI, 25-47.

[57] Dalibor Vesely, *Architecture and Continuity* (London, 1982). See the introduction.

[58] Bernard Huet argued a distinction between the conceptions of typology in the *Recueil* and *Précis*. He stated that in the Précis, "the architectural objects will no more be classified solely by their functions, but by their common formal characters. This method will permit him to discover the mechanism of generation of spaces in the project." ("Les objets architecturaux ne seront plus classés par leur seule fonction mais par leur caractères formels commune. Cette méthode lui permettra de révéler les mécaniques d'engendrement des espaces mises en oeuvre dans le travail du projet.") Bernard Huet, "Les trois fortunes de Durand," Preface, Werner Szambien, *Jean-Nicolas-Louis Durand, 1760-1834: de l'imitation à la norme* (Paris: Picard, 1984), pp. 9-10.

[59] Both Durand in his *Précis des leçons* (1802), and Legrand in his *Essai sur l'histoire générale de l'architecture* (1809), published their correspondence for their cooperation in the *Recueil*.

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[60] Julien-David Leroy, *Histoire de la Disposition et des Formes Différentes que Les chrétiens ont Données à leurs temples, depuis le règne de Constantin le Grand jusqu'à nous* (Paris: Desaint & Saillant, 1764).

[61] *Paralèlle* [sic] *Général des Édifices les plus considérables depuis les Egyptiens, les Grecs jusqu'à nos derniers Modernes, dessinés sur la même Échelle.* Szambien, *Jean-Nicolas-Louis Durand,* p. 218.

[62] As mentioned in the first chapter, Durand eliminated the notion of character from his architectural discourse, arguing that the buildings conceived functionally and economically would naturally have the character of their own. Therefore, it can be inferred that the ambiguous notion of character, which had something to do with the appearance of buildings, was inevitably connected to efficient spaces. The architectural space has its own character. It is known that the foundation stones of the modern discourse on architectural space were laid by German scholars in the end of the nineteenth-century. Although Durand's influence on German architects was mentioned in a few studies, such as Werner Szambien, *Jean-Nicolas-Louis Durand, 1760-1834: de l'imitation à la norme* (Paris: Picard, 1984) and Henry Russell Hitchcock, *Architecture: Nineteenth and Twentieth Centuries* (Harmondsworth: Penguin Books, 1977), pp. 23-73, a research that intends to find traces of link between Durand's compositional techniques and the conception of architectural space is missing. The introduction of Harry Francis Mallgrave (ed.) and Eleftherios Ikonomu, in *Empathy, Form, and Space: Problems in German Aesthetics* (Santa Monica: The Getty Center for the History of Art and the Humanities, 1994), also skips a historical perspective. The influential German theoretician Gottfried Semper, although he criticized Durand as the "chancellor of the checkerboard architecture," seems to be one of the first to argue a functional necessity (*zwegmassigkeit*) in the formation of artefacts. See Gottfried Semper, *The Four Elements of Architecture and Other Writings,* trans. H. F. Mallgrave and W. Herrmann (Cambridge: Cambridge University Press, 1989); and also "London Lecture of November 11, 1853", *Res* 6, Fall 1983, pp. 8-11.

[63] Pérouse de Montclos pointed out the influence of Boullée on competition entries by students of the Ecole des Beaux-Arts, such as Vaudoyer, Percier, Réverchon, and Sobre. *Etienne-Louis Boullée,* p. 129. See also pp. 184 *ff.*

[64] "*combinaisons de pièces de cinq et de sept entr'axes avec d'autres pièces demi-circulaire.*"

[65] Durand repeated many times in the first volume that disposition was the only occupation of an architect, because it was in the origin of effects, character, and all those things that should please us in architecture; yet, more than any other, it was also the source of convenience and economy : "La disposition est la seule chose à laquelle doive s'attacher l'architecte, quand même il n'aurait d'autre but que celui de plaire; vu que le caractère, l'effet, la variété, en un mot, toutes les beautés que l'on remarque ou que l'on cherche à introduire dans la décoration architectonique, résultent naturellement d'une disposition qui embrasse la convenance et l'économie." J.N.L. Durand, *Précis des leçons d'architecture* (Paris: Ecole Polytechnique, 1802), 1, p. 24.

[66] The students of the Ecole des Beaux-Arts called this grand format "*Le Grand Durand.*" See Donald Drew Egbert, *The Beaux-Arts Tradition in French Architecture* (Princeton: Princeton University Press, 1980), p. 49.

[67] AN Aj52 831. (N°. 56 bis). Prise en charge en suscription sur les registres des inventaires, 1843, no. 447: Durand, *Le cour d'architecture pour l'Ecole polytechnique,* 2 vol., in 4°.

[68] "Les formes doivent obéir aux convenances et à la construction." Hautecoeur, VI, 239.

[69] Egbert, *op. cit.,* p. 50; Hautecoeur, VI, 239; Joseph Rykwert, *The Dancing Column* (Cambridge, Mass.: MIT Press, 1996), p. 12. Egbert claimed that Guénepin's election as a member of the Institut in 1833 is "a fact indicating that his study under Durand at the Ecole Polytechnique had hardly made his conception of architectural design unacceptably radical." Egbert also related Guénepin's influence to the

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awards that his students won in the Grand Prix competitions of 1834, 1837 and 1838. Rykwert did not mention any student of Durand active at the Ecole des Beaux-Arts, but claimed that "the method of design and the historical doctrine of the Ecole followed the teaching that Durand had originally proclaimed for the Ecole Polytechnique, and the Beaux-Arts never developed a rival doctrine."

[7070] For a history of architectural education in France and the reorganization of the *Ecole des Beaux-Arts*, see Arthur Drexler (ed.), *The Architecture of the École des Beaux-Arts: essays by Richard Chafee, Arthur Drexler, Neil Levine, David Van Zanten* (New York: Museum of Modern Art, 1977); Donald Drew Egbert, *The Beaux-Arts Tradition in French Architecture* (Princeton: Princeton University Press, 1980).

[71] Donald Egbert has stated that the monthly competitions were invented by Jacques-François Blondel, after 1762 when he became the chief professor of the Ecole, in order to compel the students to devote more time to the school. *Op. cit.*, pp. 11 *ff.*

[72] According to David Van Zanten, "Durand's strength was that he simplified the Percieresque." David Van Zanten, *Designing Paris: The Architecture of Duban, Labrouste, Duc, and Vaudoyer* (Cambridge, Mass.: MIT Press, 1987), p. 269, note 72.

[73] Hautecoeur, VI, 166. Hautecoeur gave a list of these students:

Premiers Grand Prix: 1789, Clémence; 1799, Grandjean and Gasse; 1801, Famin; 1804, J. Lesuer; 1806, Dédeban; 1808, Leclère; 1809, Châtillon; 1810, Gauthier; 1811, Provost; 1812, Suys; 1813, Caristie; 1814, Destouches and Landon; 1815, Dedreux; 1816, L. van Cleemputte; 1819, J.B.C. Lesueur; 1820, Villain. *Seconds Grands Prix*: 1797, Hurtault; 1798, Pompon; 1800 and 1801, Dédeban; 1802, Bury; 1803 and 1804, Châtillon; 1806, Le Bas; 1807, Leclère et Giroust; 1808, F. A. Joly; 1809, E. Grillon; 1810, Vauchelet; 1811, Rénie; 1813, Landon; 1814, Visconti; 1816, J.B.C. Lesueur.

Hautecoeur stated that Fontaine and Percier were easy-going partners, and that Fontaine, too busy with his duties as the official architect of the Emperor, left the education of the students to Percier. See p. 167.

[74] Pérouse de Montclos, *Etienne-Louis Boullée*, p. 129.

[75] A.-L.-T. Vaudoyer and L.-P. Baltard, *Grand Prix d'Architecture* (2vols.; Paris, 1818-1833).

[76] Hautecoeur showed that this motif was used in many different types of buildings, such as church choirs, public promenades, medical schools, ball rooms, natural history museums, and thermal baths. Hautecoeur, VI, 152.

Hautecoeur related the dissemination of this Gondoin motif to the school of Percier-Fontaine, but never mentioned Boullée and Durand. He usually looked at built architecture and skipped the issues of theoretical complexity. In fact both Durand and Boullée were almost completely ignored in his history: Durand was simply mentioned as a teacher with no illustration at all, whereas Boullée's extraordinary drawings were simply mentioned, again with no illustration. Many houses built by Ledoux were discussed with illustrations, but his *Architecture* was passed with no mention, no illustration.

[77] Szambien, *Durand*, p. 222.

[78] *Ibid.*, p. 225.

[79] Hautecoeur and Egbert stated that Labrouste openly opposed to the Academy and to Quatremère after the latter negatively criticized his reconstructions of the ruins of Paestum. Hautecoeur, VI, p. 239; Egbert, *op. cit.*, p. 51.

[80] Egbert, *op. cit.*, p. 50. The origin of this quotation is Hautecoeur, who cited it from a student of Gilbert, J.-L. Pascal: "La forme extérieure devait être la traduction de la structure intérieure; la nature des matériaux employés détermine les proportions et des rapports essentiellement variés, insuffisamment

observés jusqu'alors par les artistes qui avaient prétendu arrêter et formuler certaines règles fixes d'après les oeuvres de l'antiquité." Hautecoeur, VI, 240.

[81] Hautecoeur states that Labrouste was very critical about the rigid classicism. Hautecoeur, VI, 168-170, and 253.

[82] Hautecoeur, VI, 252.

[83] Victor Hugo and René Châteaubriand in literature, and Eugène Delacroix and Paul Delaroche in painting were the well known names of opposition to Quatremère, all known to be "romantics."

[84] Szambien, *Durand*, p. 58.

[85] "Véritables enfants, ils sont incapables de rendre raison à eux-mêmes et encore moins de rendre raison aux autres de ce qu'ils ont appris, parce que n'ayant fait que copier, mesurer ou décomposer, ils ne pourraient sinon copier, mesurer ou décomposer." Hautecoeur, VI, 238.
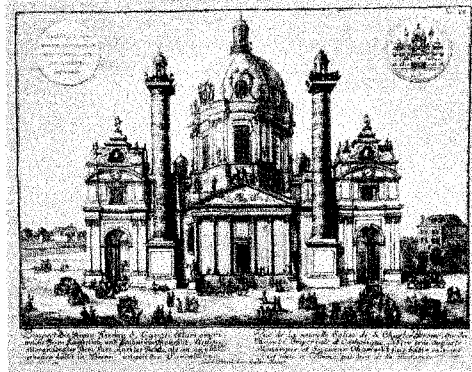
Fig. 1. Fischer von Erlach, Karlskirche
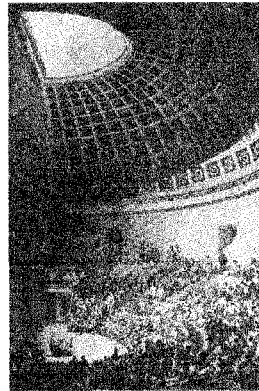
Fig.2. Jacques Gondoin, Ecole de Chirurgie
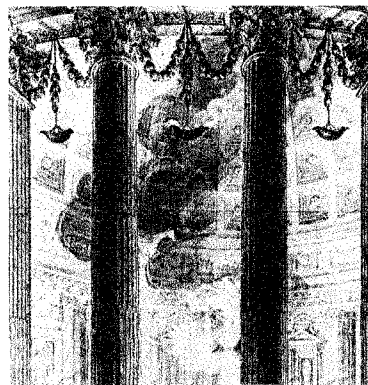
Fig.3. Charles De Wailly, Pantheon

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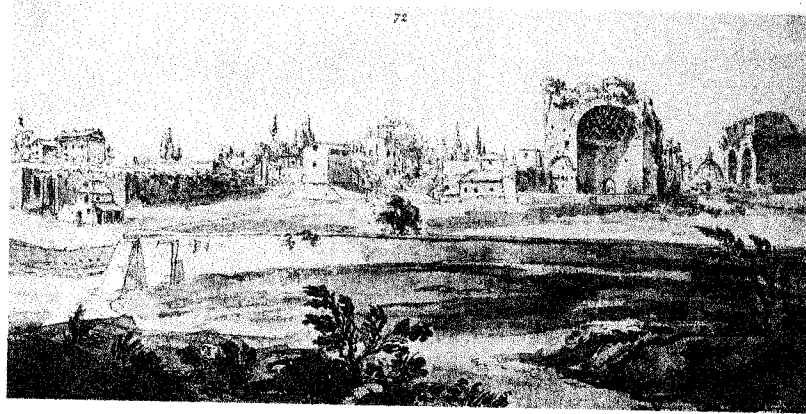
Fig.4. C.-L. Clérisseau, Temple of Venus and Rome
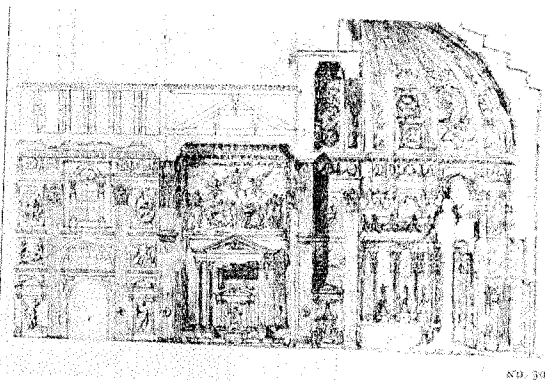
Fig.5. Piranesi, San Giovanni in Laterano
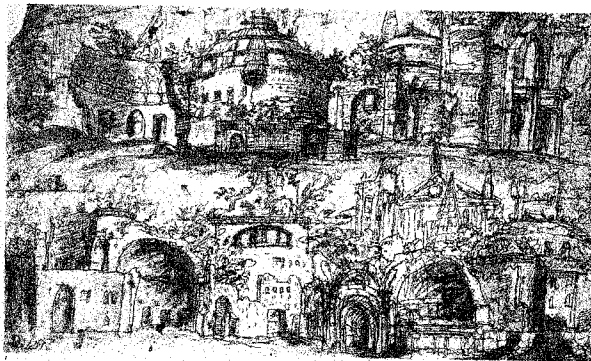
Fig.6. Ruins, attributed to Bramante

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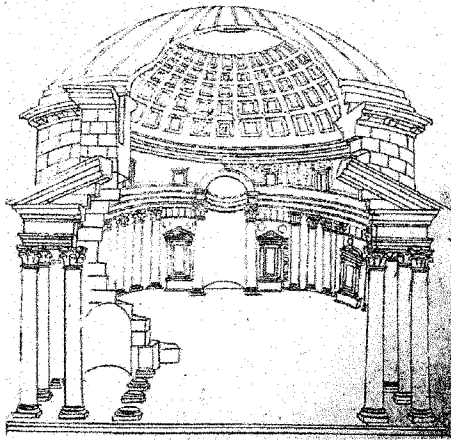
Fig.7. Pantheon, anonymous drawing from Chlumczansky Codex, *c.* 1500
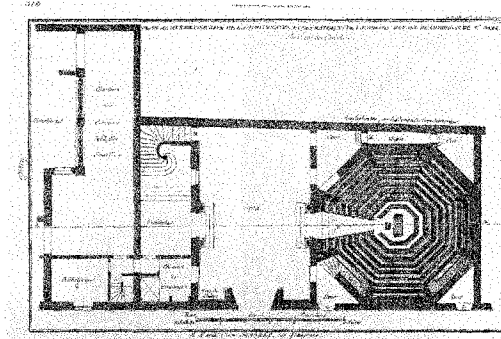
Fig.8. Joubert, "Amphithéâtre du collège des chirurgiens de paris," from J.-Fr. Blondel, *Arcitecture françoise*
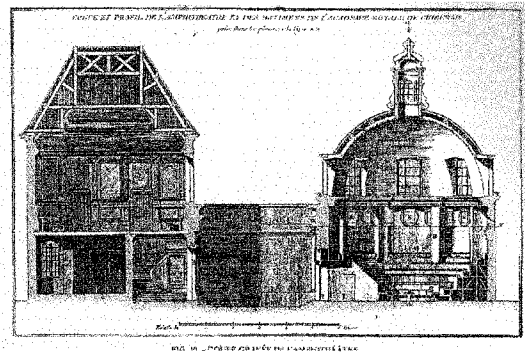
Fig.9. Joubert, Amphithéâtre du collège des chirurgiens de paris, from J.-Fr. Blondel, *Arcitecture françoise*

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Fig.10. Etching from the workshop of Geoffroy Tory, zodiac and body, 1533
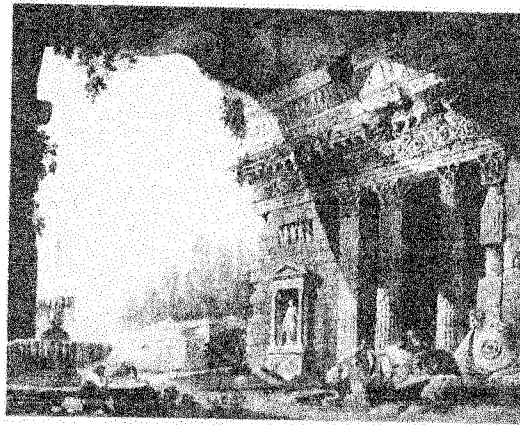
Fig.11. Clérisseau, "Italian Scene," 1759
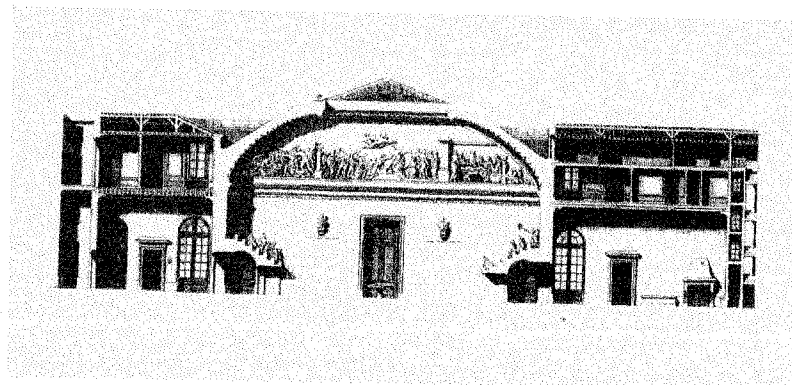
Fig.12. Gondoin, Ecole de Chirurgie, Cross Section

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Fig.13. Clérisseau, "Ruined Coffered Dome"
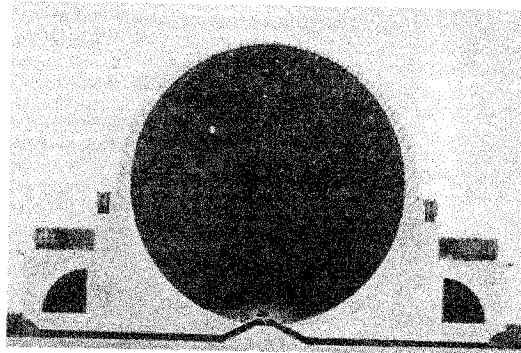
Fig.14. Boullée, "Cenotaph to Newton"
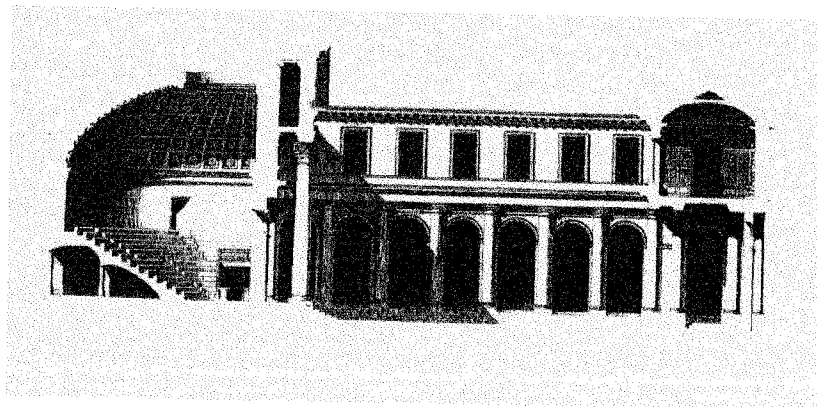
Fig.15. J. Gondoin, Ecole de Chirurgie, Longitudinal Section

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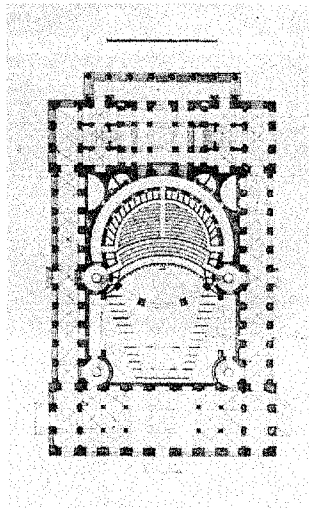
Fig.16. De Wailly & Peyre, Comédie Française
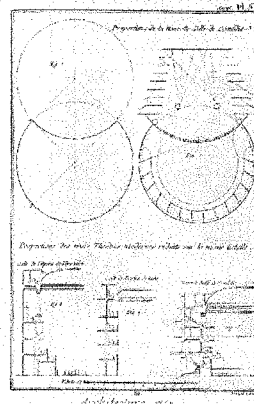
Fig.17. Proportions of the Comédie Française, from the Supplement of the *Encyclopédie*, 1777
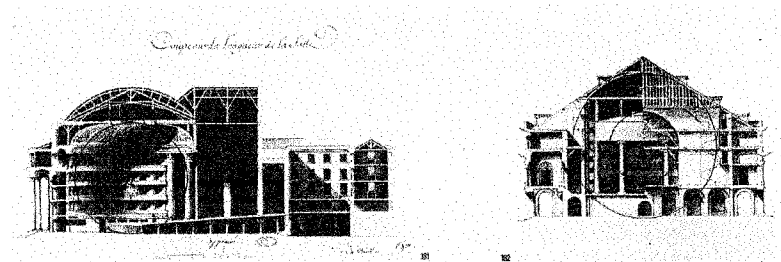
Fig.18. De Wailly & Peyre, Comédie Française

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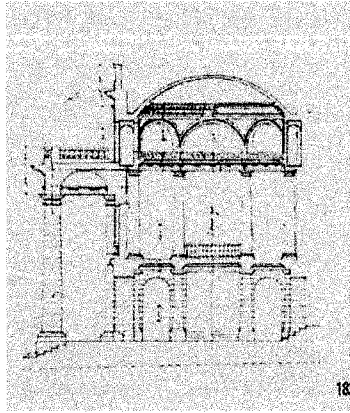
Fig.19. De Wailly & Peyre, vestibule of the Comédie Française,
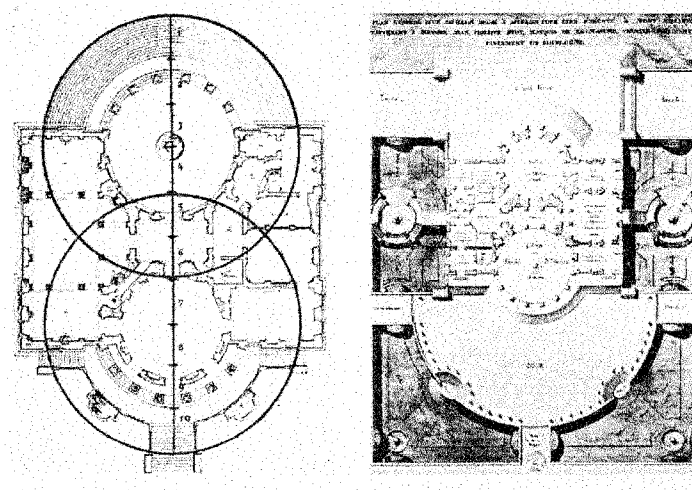
Fig.20. De Wailly, Château of Monmusart
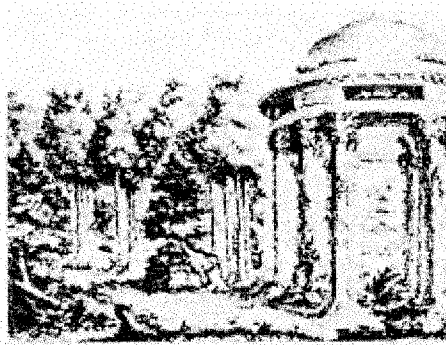
Fig.21. R. de Chamoust, "l'Ordre françoise," 1770

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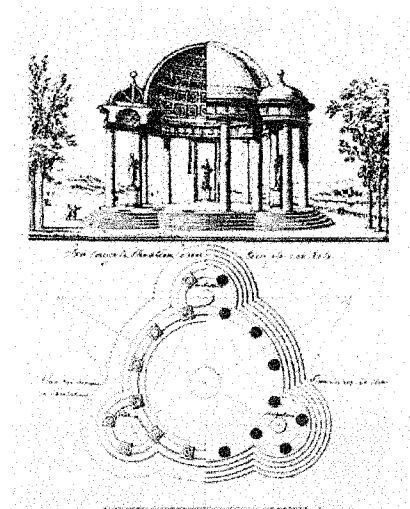
Fig.22. De Wailly, project for Temple des Arts for the Parc de Menars, 1770
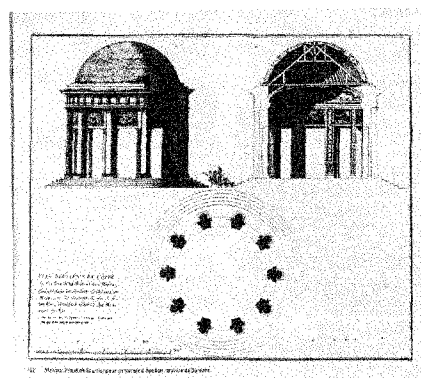
Fig.23. Soufflot, project for the Temple d'Apollon for the Parc de Menars, 1770
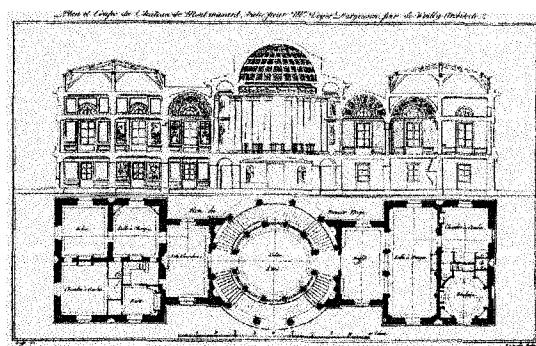
Fig.24. De Wailly, Château of Monmusart, second project

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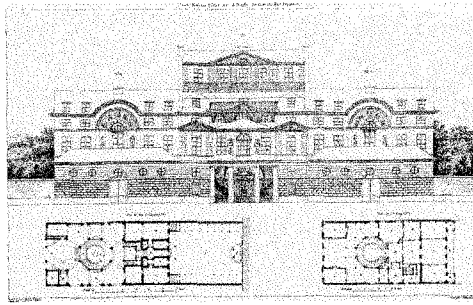
Fig.25. De Wailly, his own house built with two adjacent houses
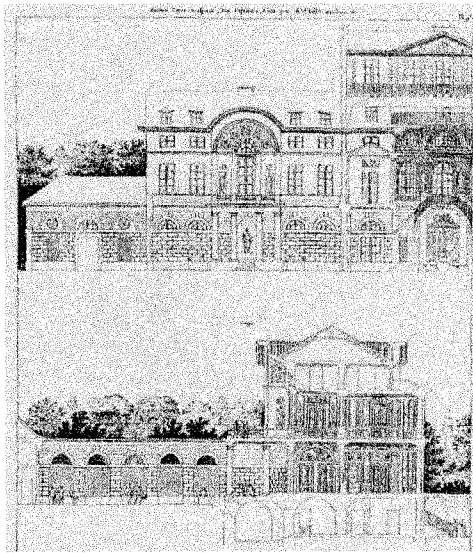
Fig.26. De Wailly, House for the sculptor Pajou
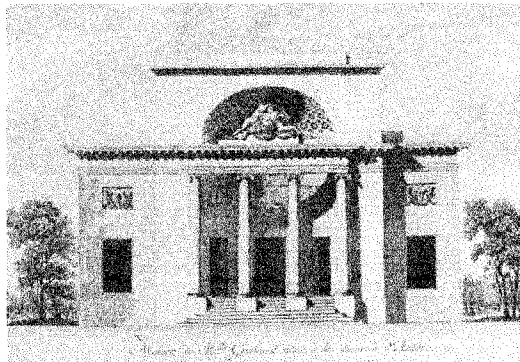
Fig.27. Ledoux, Hôtel Guimard

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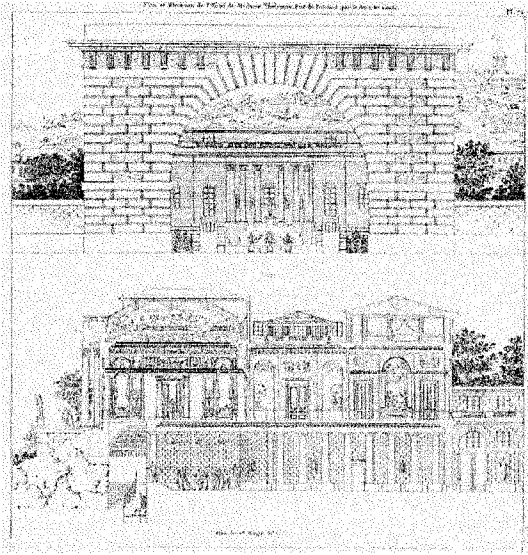
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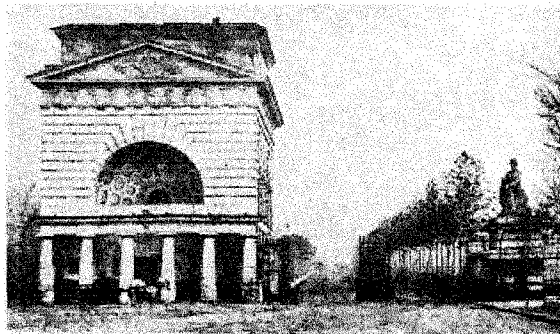
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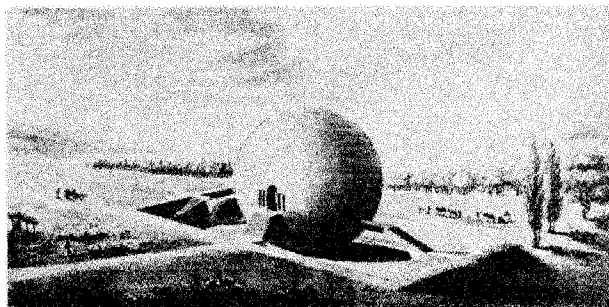
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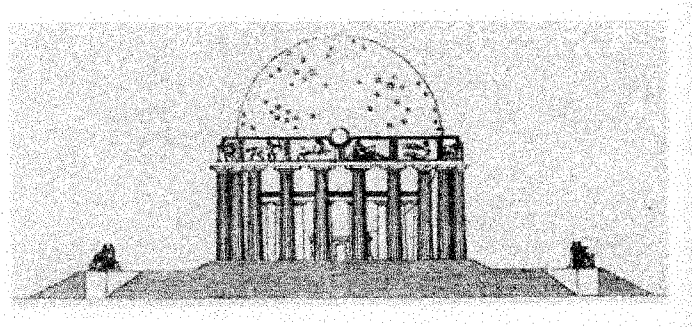
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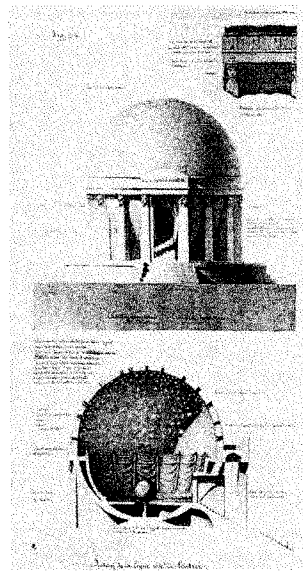
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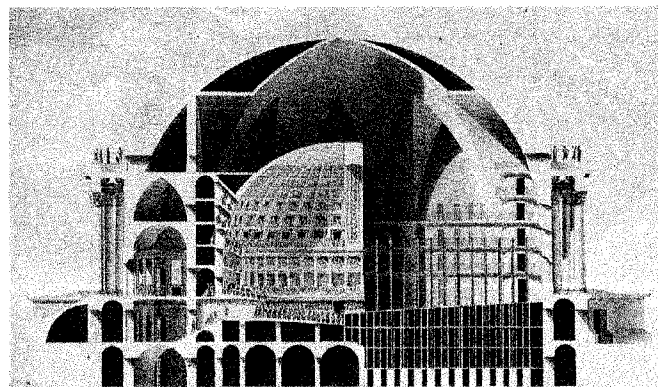
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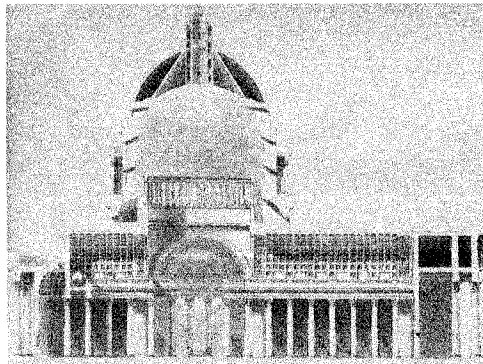
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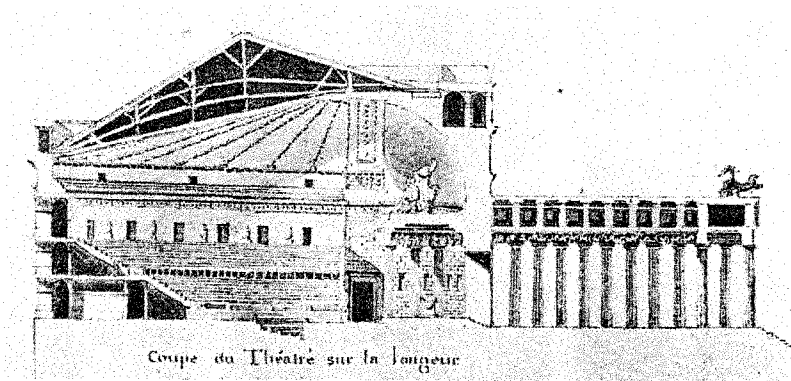
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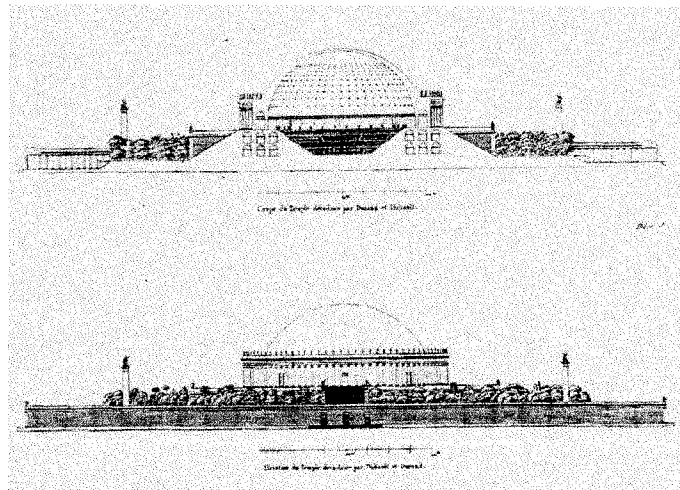
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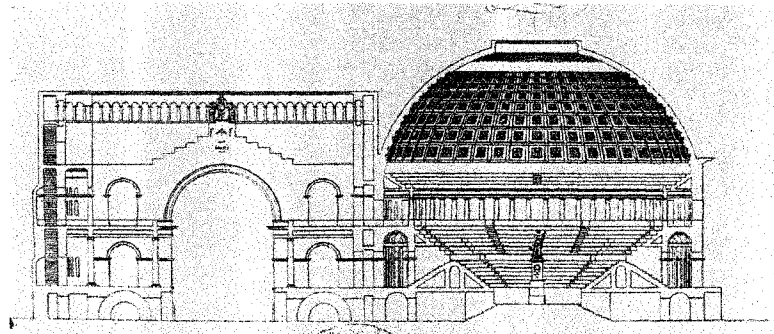
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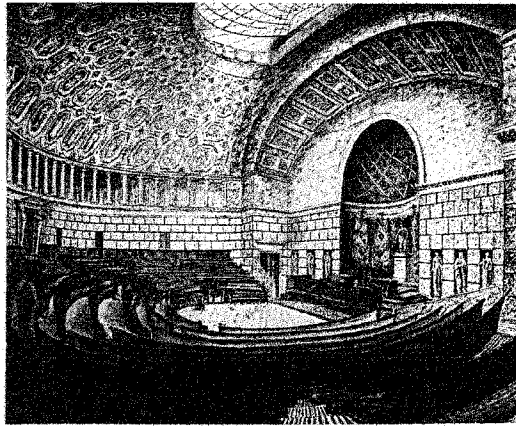
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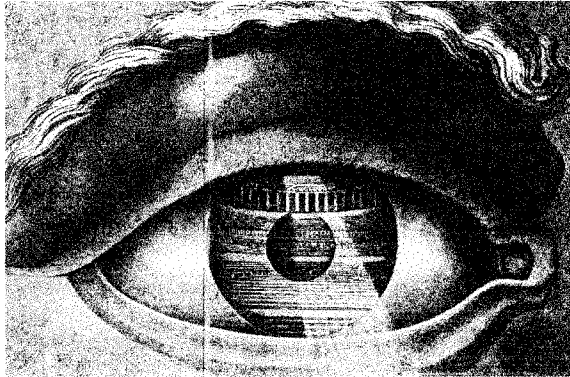
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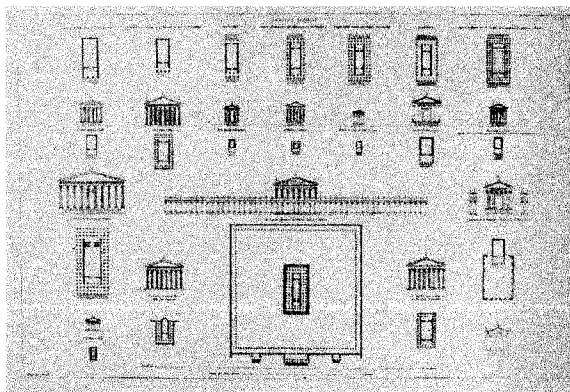
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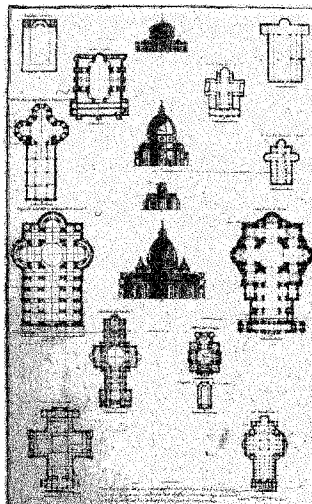
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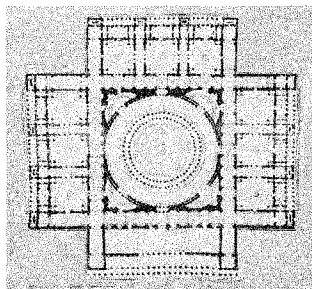
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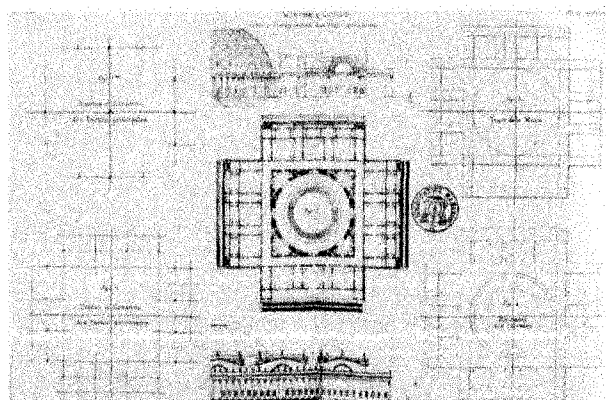
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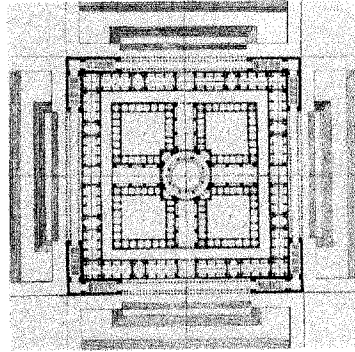
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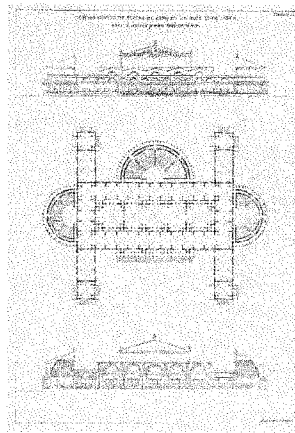
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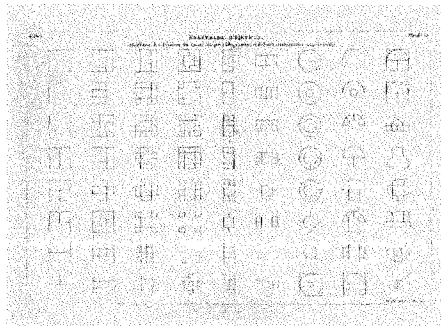
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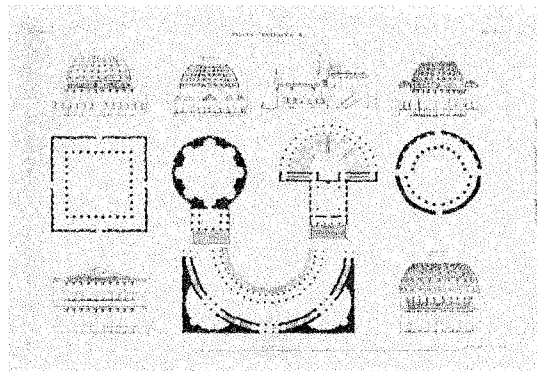
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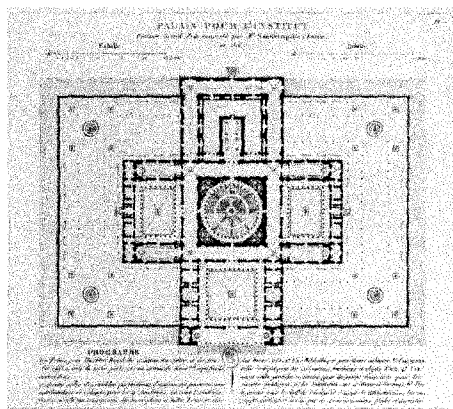
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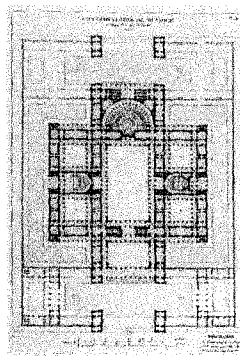
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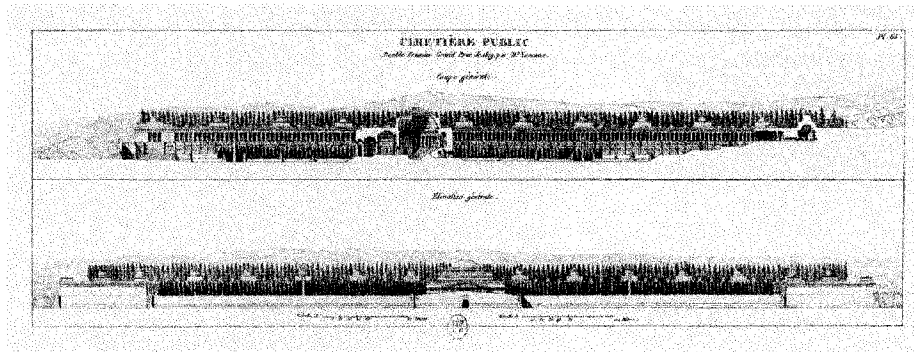
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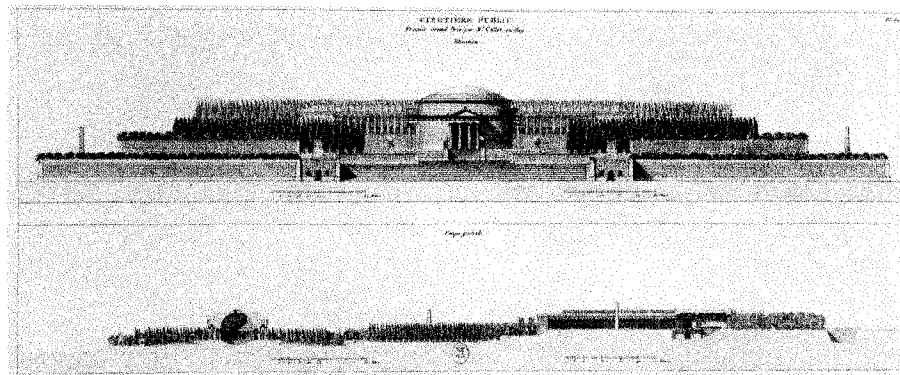
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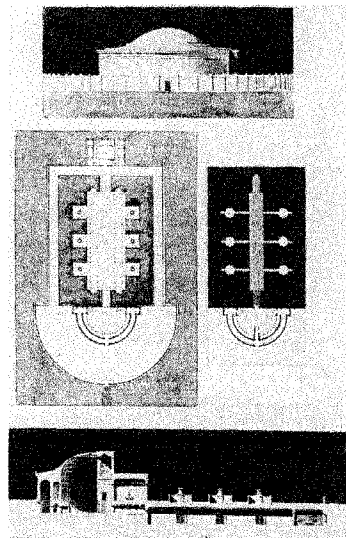
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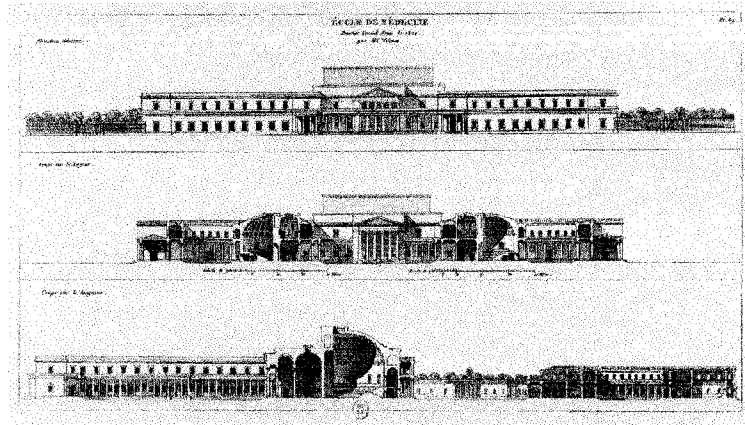
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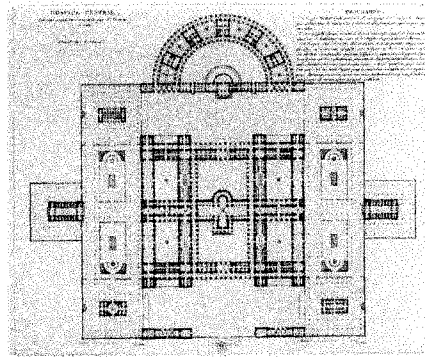
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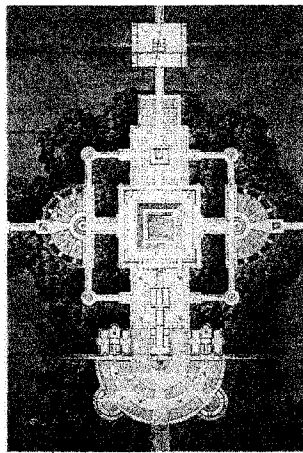
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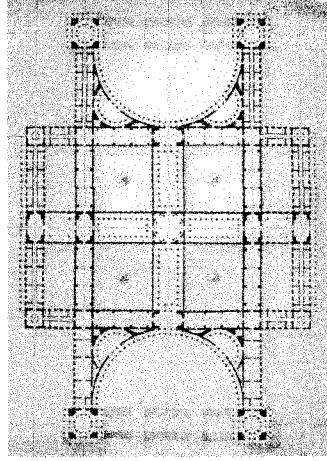
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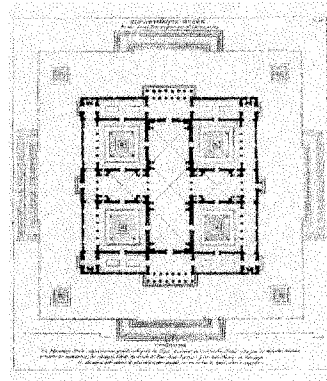
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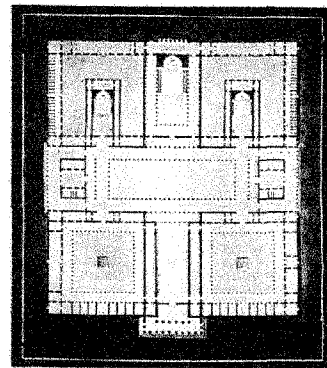
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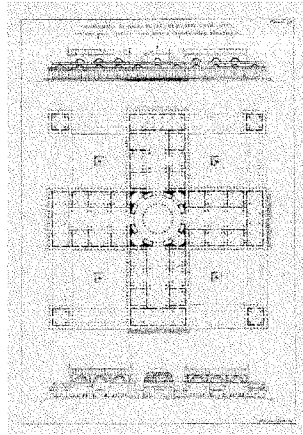
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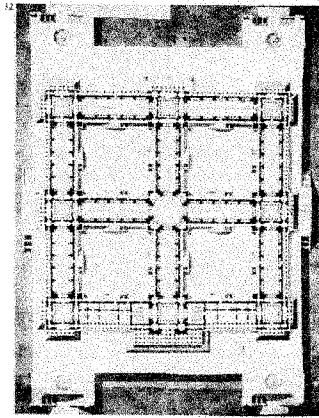
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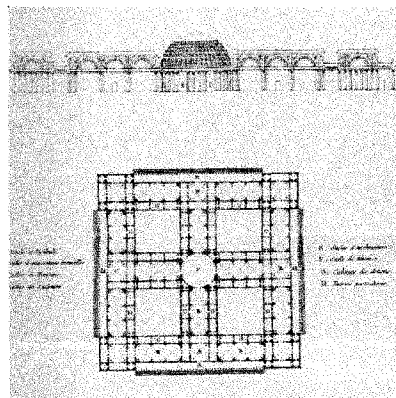
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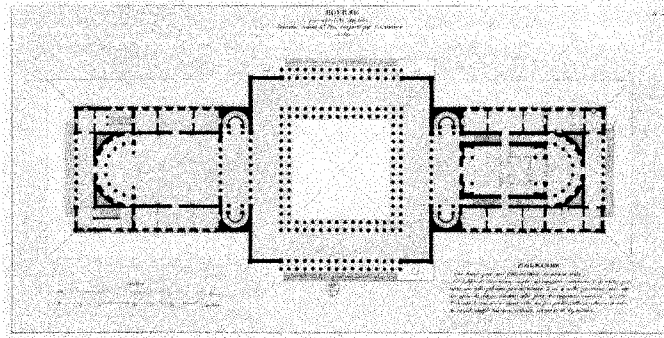
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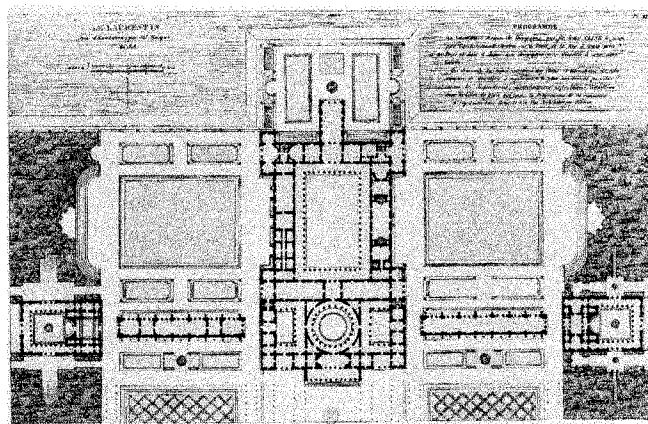
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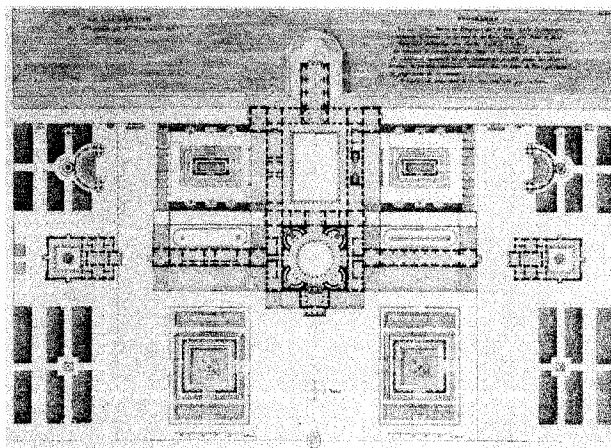
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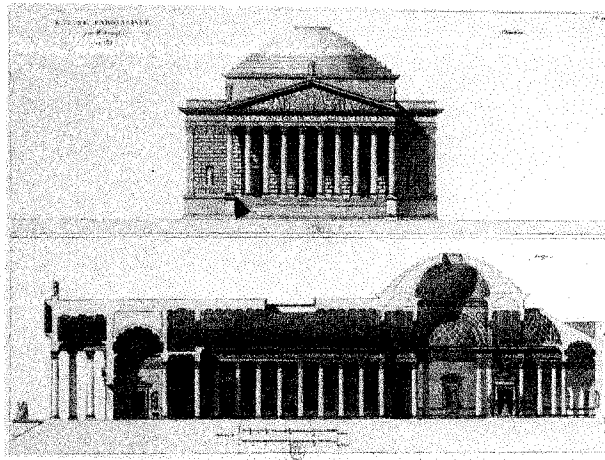
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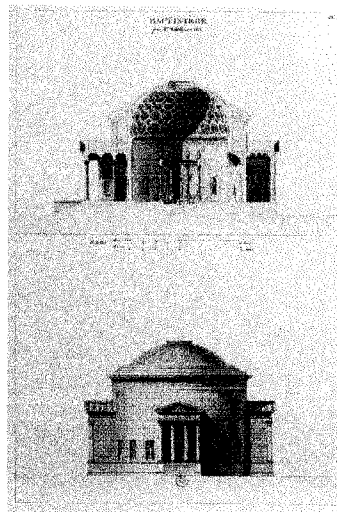
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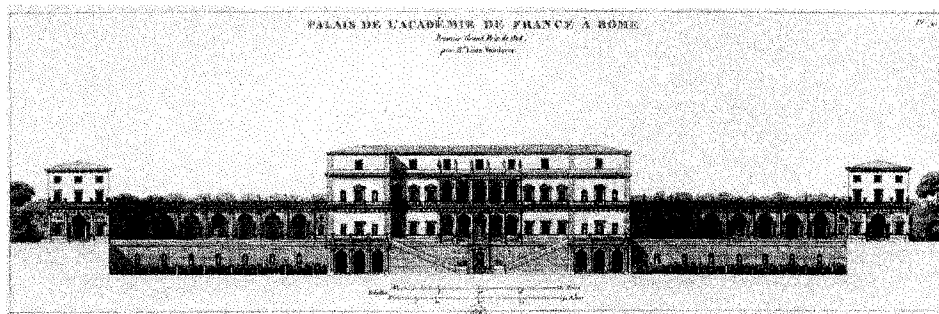
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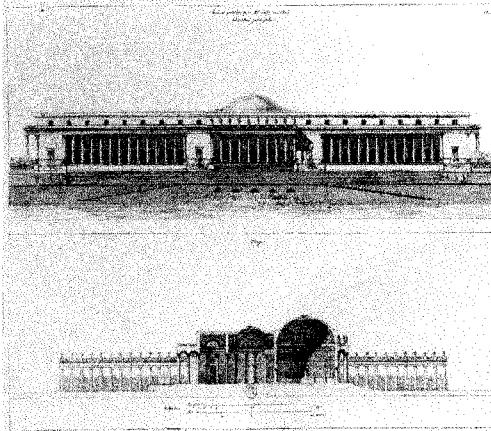
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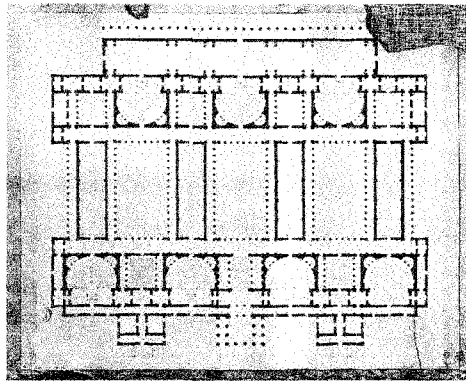
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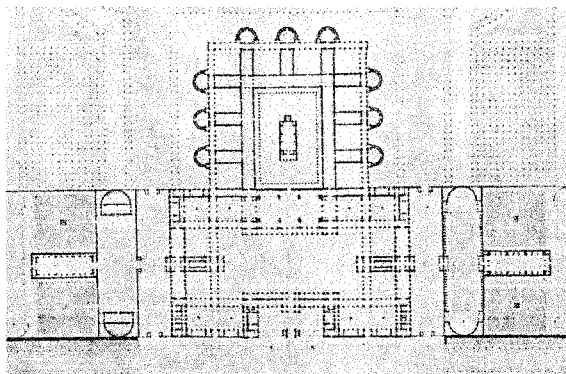
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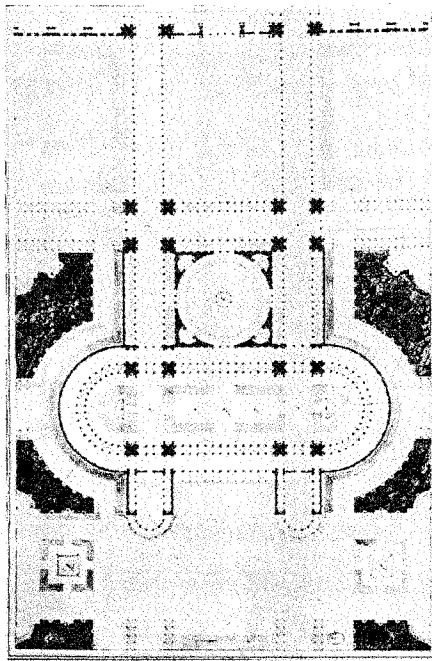
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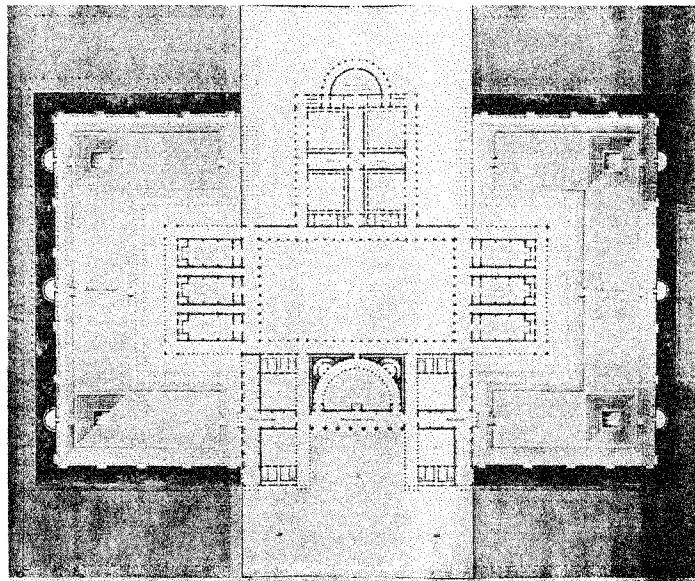
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5. Architectural Design and the Historical Fragment

5.1. The Historical Context of the Site

In the previous chapters, the development of the technique of elementary composition was analyzed in its relation to antique fragments that were introduced into architectural practice as a result of a romantic engagement with Greco-Roman ruins. Although the neo-classical age prepared the end of classical theory by eroding its basic principles, such as proportion, order, and propriety, it still conformed to these canons in appearance. However, the Romantic movement of the 1820s, which emancipated architectural theory from attachment to classical antiquity, brought the inherent problems of neo-classicism to the surface, and changed architectural theory profoundly. Neil Levine, David Van Zanten, Robin Middleton, and Barry Bergdoll have studied this period and discussed the essential transformations in detail, and their analyses are indispensable for this study, which will show how the technique of elementary composition and the related culture of restoration affected the built environment in the age of the historical fragment. This period, which started with the Revolution of 1830, is eclectic and complicated. A group of school mates united eclecticism with a historicist theory in their few but important works between 1830 and 1870, most of which were designed before 1850. Their eclecticism was not aesthetical as seen in later examples, such as Garnier's Opera; it was posed as an antithesis to the idea of architecture and history held by the Ecole des Beaux-Arts and the Academy. Four buildings that were built by these architects marked this period and revealed the radical change of understanding of the elements of architecture and their composition: the Ecole des

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Beaux-Arts by Félix Duban, the Conservatoire des Arts et Métiers by Léon Vaudoyer, the Bibliothèque Sainte-Geneviève by Henri Labrouste, and the Cathedral of Marseilles by Léon Vaudoyer. This chapter is about these few designs, because they will reveal the transformation of the architectural fragment from a classical to historical concept.

The few but well-known buildings by the romantic-rationalists of the 1830s were no longer about the articulation or incorporation of antique motifs. These works used historical references that extended from structural detailing to mural painting and pastiche, thus showing the emerging eclecticism; but in all cases, these references were linked to an intended message, which was construed here as a new conception of architectural context. This new conception of context was related to the specificity of the architectural site as the location of the reference. But before everything else, it was a historical context.

Site has been a complicated concept in Modern and Post-modern architectural theory. Many architects of the Modern movement denied the depth of the issues that underlay this concept, such as regional and cultural differences or the specificity of each place, becasue they had a contrary position. The emancipation of the modern site from locality was a strong concern for many strict Modernists, for whom the new techniques and resulting new constructions were to create the ideal universal context for the house and the city. Both before and after the peak of the so-called International Style in architecture, architects were interested in the primordial qualities of the site to different degrees. Le Corbusier, for example, advocated in the *Precisions* (1930) a universal sense of site that became meaningful through modern architecture, and made it a primary

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concern for architectural and urban design that he propogated through publications, lectures and conferences.[1] In fact, despite the negative criticism that grew after the 1950s, the theory of the site was institutionalized by the Modern architecture, although it had been initiated in the previous century. To be frank, except for the Vitruvian tradition of writing about the choice of the site and allocation of the parts of cities and buildings, no architectural text, or treatise before the nineteenth-century treated the concept of site as a potential for architectural design. The real discussion about the specificity of material and cultural conditions of architectural production began in the first part of the nineteenth-century, which gave birth to a general theory of the historical development of material culture in Viollet-le-Duc's *Entretiens* (1858), *Dictionnaire raisonnée* (1854-1868), and *Histoire de l'Habitation humain* (1875), and turned into the problem of style in German theory, such as in Heinrich Hübsch's *In Welchem Styl Sollen Wir Bauen* (1828), Gottfried Semper's *Der Stil* (1860), Otto Wagner's *Moderne Architektur* (1896), and Hermann Muthesius's *Stilarchitektur und Baukunst* (1903).[2] Camillo Sitte's *Der Städtebau* (1889), theoretically linked to Theodor Lipps's and Theodor Fischer's theories of empathy and August Schmarsow's theory of architectural space (1893), which dealt with the perception of the built environment from within the urban context.[3] Yet, it can be argued that before the appearance of these modern theories about the specificity of place, the material conditions of building, and the partial perception of the urban or architectural space, the locality of architecture was already a hot issue for the leading architects in France during the first half of the nineteenth-century.

As mentioned briefly in the previous chapter, the significance of local conditions - such as culture (*moeurs*), climate, materials, and the architectural patrimony – for architectural style was known and pitted against international neo-classicism in the eighteenth-century by several leading figures, from Soufflot to Ledoux. But this criticism was concerned with the style of isolated buildings, rather than the historical and material aspects of the locality in general, or the specificity of the site in particular. The imitation of ancient sites, on the other hand, underlay the neo-classical movement in the eighteenth-century, which, in relation to the romantic idea of the "picturesque" garden or the Roman ruins, tried to recreate the neo-classical building and its appropriate site simultaneously, in order to avoid isolating the building in nature or creating a pastiche in the built environment. This is exemplified by the isolated hôtels and their picturesque gardens framed by the rectangular walls (Ledoux built many of them) that can be seen in Krafft's *Le Plus belle maisons de Paris* (1801) and in Legrand and Landon's *Description de Paris et de ses édifices* (1809), in De Wailly's Chateau of Montmusart, in Ledoux's isolated City of Chaux, or in any project of Boullée. Despite the anachronic character of antique fragments that were integrated in these building and their environment, in all such efforts building and its site simultaneously constructed the image of an ideal context. Picturesque journeys to the ruins and the classical texts on architecture helped to create a romantic concept of architectural context, independent from the locality and time, and detached from the geography and history.[4] Although many travelers gave alot of information about the contemporary situation of the ancient sites they visited, when it came to deduce architectural lessons from them, everything except the ancient monuments was discarded. In fact, Desgodets had already eliminated contemporary

context from his reconstructions of Roman monuments, and almost all the production of

Piranesi was in the same line.[5] The site specificity was also neglected in imaginary sites

of the imaginary competitions at the Ecole des Beaux-Arts, which had long-term efforts

to transport the best of classicism from Italy. The emergence of interest in the locality of

architectural production and the related conception of architectural history was resisted

by the Académie des Beaux-Arts, the primary stronghold of classicism, which controlled

the official style through the *Prix de Rome*, whose laureates determined the higher

architectural discourse. Quatremère de Quincy was at the steering wheel of this

institution as its *secrétaire perpetuel* for over twenty years.[6]

In fact, an Austrian late-Baroque architect, Fischer von Erlach had seen that

history of architecture had never been composed of "pure" styles. His short but insightful

work on the history of architecture reveals such awareness; so does the church he built

for the Emperor Charles IV of Austria, as explained before in detail. Piranesi was well

aware of Von Erlach's book, and he was impressed by its imaginary reconstructions.

Unlike Fischer, Piranesi discarded the historical styles to create his own pseudo-

archaeological, imaginary drawings depicting the Roman antiquity.[7] As the analysis of

Alberti's approach to historical architecture showed, Renaissance architects had not

intended to obliterate the historical layers of architectural forms, which were collected

through stepping forward and backward in the history of design; however, like Piranesi,

the neo-classical architects wanted to compress the time between the Greco-Roman past

and the present in their architectural settings. On the contrary, the romantic-rationalists

like Léonce Reynaud and Léon Vaudoyer underlined the impurity of the Renaissance,

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and lamented that it was taken in Europe as the revival of the antiquity, rather than the birth of a new thing.

This generation was very well aware that French classical architecture had never been pure; it was always conservatively rooted in local construction and taste, the best examples being the works from the sixteenth-century, when the local masons and architects combined the elegance of the classical elements (*principes*) with the forms of the local construction and habits of use (*coutumes, moeurs*). But the direction of French Renaissance was changed toward absolute classicism, and this change created neo-classical thought, which called for an elementary and pure classicism, promoted by some of the most important graduates of the Ecole des Beaux-Arts and members of the Academy during almost a century from Leroy to Durand and to Quatremère. In the 1750s, Leroy was eager to discover the best of ancient Greek art and architecture during the times of Pericles. Durand's design theory showed the belief in the importance of total synchrony between the members of architectural ensemble at its highest at the turn of the nineteenth-century. During the first three decades of the nineteenth-century, Quatremère encouraged the research of the classical elements and forms of ancient architecture for the basis of architectural design, and he even tried to restrict this research to ancient Roman architecture. In any case, he used his authority to promote those who remained loyal to the academic doctrines of ancient architecture.[8] However, even the archaeological sites were not pure; the partial recovery of the remains of a destroyed and buried city in the contemporary urban context (Rome) influenced the architects of a generation that was moving beyond the strict boundaries of the doctrines of classicism.

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Although the *pensionnaires* had to isolate their restorations from modern constructions, they were also depicting the *état actuel* (present state) of ancient sites, which comprised contemporary structures that disturbed the temporal synchrony of the Roman buildings.

The discovery of the specific history of a locality and its specific architectural aspects was not encouraged by the Academy, and from this arose the conflict in which the *pensionnaires* Labrouste, Duban, Vaudoyer, and Duc were engaged. The conception of history shared by these architects allowed them to interpret the principles of classical architecture apart from the forms of its elements, which Quatremère never accepted.[9] These architects must have found in their realizations similarities to their archaeological work in Italy, where they had become accustomed to using the evidence of the remains and a known vocabulary of architectural elements and forms to reconstruct the buildings and their sites. It seems like in their response to the exigencies of the sites and programs of these buildings, they showed the habits of pseudo-archaeology that they had applied in their reconstructions when they were *pensionnaires*. Apart from the eclecticism or historicism attributed to the buildings realized by this group of architects, the most important aspect appears to be the recognition of architectural site as a context, be it historical, local, national, or technical. In any epoch such a preoccupation with the site was obligatory. But, in this case the attitude was historicist and deterministic, intending to relate architectural meaning to changing historical, material and urban facts. This is partly why these architects welcomed all the diverse data existed at the site and used them to justify their constructions. In a way, these architects were accustomed to finding architectural justification in the site, in previous architecture or in its remains.

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The Ecole des Beaux-Arts, Conservatoire des Arts et Métiers, Palais de Justice, the Bibliothèque Sainte-Geneviève, Bibliothèque Nationale, and the Cathedral of Marseilles are buildings that defined a new epoch in architecture, as David Van Zanten has underscored in his enlightening *Designing Paris*. However, one significant difference is that the Bibliothèque Sainte-Geneviève and the Cathedral of Marseilles were built from scratch, that their sites were either clean or cleared from previous constructions. The other four major works of the epoch, the Ecole, the Conservatoire, the Bibliothèque Nationale, and the Palais de Justice were in fact extensions and completions by the four fellow pensioners who were seeking important government commissions after long years of education at the expense of the state. On the other hand, each of these works demonstrates unique marks left by their completers, who had been doing nothing but completing on paper incomplete architecture at ruinous sites in Italy. The "complete architecture" taught at the Ecole can be seen as a contradiction of the reconstruction projects realized in Italy, yet it should be remembered that the whole archaeological effort behind these reconstructions was to complete, to re-compose those which were once composed in the golden age of classical architecture. However, the most important result of these works was that these architects, who were no longer carried away by the charm of the ruins, continued in theory and practice their efforts to create architectural history that respected local conditions and to restart the natural development of the French style, which had been interrupted by absolute classicism in the seventeenth-century.

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There seem to be two attitudes toward the interpretation of the relative aspects of architectural design, in the context of history and locality, both of which were manifested in the works of the so-called romantic-rationalists.[10] One is the re-interpretation of the historical context of the site, in which the configuration of the architectural elements was overtly made reliant on the historical references that physically exist in the site. The other can be called the re-interpretation of the structural language of classical and local architecture within the technical context of contemporary means of production, which was much less dependent on the physical aspects of the site.

The former attitude toward architectural context is epitomized by the buildings of the Ecole des Beaux-Arts (1832-1866) completed by Félix Duban and the Conservatoire des Arts et Métiers (1838-1872) completed by Léon Vaudoyer. In these works, the architectural elements and their compositions were carefully chosen to signify the historical, cultural, and functional context of the building with special emphasis on the site: the architectural site was treated as a patrimony, a historically or culturally significant locality. The place and the building are mutually identified through each other.

The second attitude can be seen in the Bibliothèque Sainte-Geneviève (1843-1850), built by Henri Labrouste, and the Cathedral of Marseilles (1849-1857) designed by Léon Vaudoyer. For these buildings, development of structures and typology was taken as the context, and the historical references were extended beyond the boundaries of the site. At the Cathedral, the context of the site comprised references to a region, and at the Library, it comprised responses to the facts of urban conditions. Although historicism surfaces in different ways in these two buildings, the unorthodox

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juxtapositions of architectural forms and elements in both buildings are because of the fabrication of an architectural context, which does not originate directly from the site. Yet, despite the relative isolation of these buildings from their surroundings, the unorthodox configuration of their form was justified by means of the exigencies of the site, although the conception of site was not patrimonial as in the two earlier examples. It will be shown that in all their differences, these three architects conceived architectural site as a matter of historical continuity; but their conception of continuity was related to historical progress, which they wanted to realize in modern architecture.

Neither Gondoin, nor De Wailly or Peyre had considered the architectural site in a historical context to which a new building had to respond. Their architectural inventions had always complied with the rules of *convenance*, and the aspects of representation – *caractère* – were realized by classical elements. As an example, Gondoin built the Ecole de Chirurgie within a courtyard that was common in Paris, whose peristylar street front was a theme frequently referred to in the architectural texts from Cordemoy to Neufforge.[11] The combination of the antique theater and the Roman semi-dome remained concealed within these urban elements and behind a classical portico that fit easily into the Parisian urban context.

The site-building relationship was dominated by the building form when the notion of *caractère* was thought by Ledoux and Boullée not as a signification of a cultural "aptness" but a mood or meaning that should emanate from the form of the building. In their works, any building could be meaningful and disseminate its meaning through effects of its form, as seen in the dramatic spaces of Boullée and the emblematic

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buildings of Ledoux, which "talked" about their functions. For these two visionaries, site could be specific in its natural qualities, for a building on water or for a monument in a vast and empty land, but it was not specific in its cultural or historical qualities. For Durand, the specificity of the site did not exist at all. He never considered a potential in an urban situation in which a building site was not perfectly flat and open, that is, completely neutral. Durand always situated his compositional samples on a *tabula rasa*, as plain as the surface of the drawing paper. Architecture has never been as abstract as in Durand's *Précis*, from which geography, materials, climate, technique, color, and even time were discarded. The architectural drawings produced by Boullée, Ledoux, and Lequeu at least provided references other than the assembly of architectural elements, such as a place, a moment, an occasion, or the origins of architectural symbolism. Ledoux's and Boullée's drawings were at least concerned with the realities other than those of architecture, such as the universal harmony or the societal function of architecture, and their drawings also represented these metaphysical ideas rather than schemes of assembly and circulation. However, the application of architecture to reality from the graphic work was never thought to be so easy before Durand. Durand applied the logic and process of construction to design. The *composition* that he promoted as a set of vertical and horizontal compositions was tightly bounded by its medium of representation: virtually complete orthographic drawings on plain paper.

As for the site as "urban context," it can be argued that Boullée, Ledoux and Durand did not continue the efforts of Gondoin, De Wailly, and Peyre to adjust the vicinity of the building in order to integrate it in the larger urban setting. Alberto Pérez-

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Gómez claimed that the painterly perspectival projections initiated by Legeay and developed by Ledoux and Boullée had "the capacity to construe the appropriate *caractére* of buildings in their urban or natural contexts."[12] However, none of these architects considered urban context as a significant element of design, for those drawings depicted imaginary and idealized settings. The origin of this imagery, as discussed above in detail, is the isolated ruin in nature. The modern conception of the architectural context would emerge when a historicist and semi-archaeological understanding of site developed from the sites of the ancient Rome and started shaping the projects of Labrouste, Duban, Vaudoyer, and Duc. Until then, the French reorganization of their capital city would be loyal to Italian Renaissance and Baroque examples.

Gondoin had designed a public square between the Ecole de Chirurgie and the prison he proposed, to whose wall he had attached a fountain. De Wailly and Peyre had designed three axes of roads emanating from the Comédie Française like the Piazza del Popolo in Rome, one of which connected the theater to the Ecole de Chirurgie, and they had imagined commercial buildings along these roads not only to fund the construction, but also to integrate the whole design into the older urban fabric.[13] (Figs. 1, 2) In both examples the architects were not satisfied with merely designing the building; they also wanted to create an appropriate urban setting that would save the building from isolation within the dense fabric of the city. The eighteenth-century penchant for public space had been best exemplified by the competition for the Place Louis XV (now Place de la Concorde); the plans published by Pierre Patte (1765) show not only the public squares created by synchronic surfaces, but also the efforts to justify the proposed square through

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a much larger urban context.[14] (Figs. 3, 4) In eighteenth-century, a homogenous expression was sought for the elements of the site that were to appear synchronous to the eye.[15] The urban context was the extension of the architecture of *bon goût* and the *propre caractère*, designed within the limits of the *convenance*. Therefore, new construction had to purge the anachronic elements from the site and create a specific zone in which the elements were all contemporaneous. Anachronic elements were also isolated in the interiors, only visible in the sections. Practical considerations such as the conditions of the site, materials, and the local climate, were always taken into account, but there is no evidence that the inter-relationship between these elements was ever conceptualized in terms of building a profound link to justify the design. The situation changed when a new element was added to the consideration of the architectural site, which could provide the conceptual depth for an enduring relationship: history.

The intention of the romantic-rationalist architects to theorize the historical context of architecture in the nineteenth-century compelled them to disclose the asynchronous elements on the outside for the public view, and to create intricate urban images that justified fragmentation in the building site, as in the Ecole des Beaux-Arts and the Conservatoire des Arts et Métiers, or in the urban fabric, as in the Bibliothèque Sainte-Geneviève and the Cathedral of Marseilles. The historical context understood as such broke with the classical synchrony of surfaces. Through the application of historical fragments and scripts on building surfaces, and propogation of a historicist theory of architecture, architectural exteriors became a manifestation of an ideology. This transformation constituted the essence of the Romantic reaction against idealism.[16]

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A quick survey of the conception and realization of several buildings mentioned above may help to substantiate the argument about the context of the site. In these examples, the specific approach to the historical fragment will be especially analyzed, emphasizing the transformation of *caractère* into historical reference. The new meaning of architectural propriety is realized through historical references, which were produced from the analysis of the elements of historical architecture, and by using the technique of composition developed in the Ecole des Beaux-Arts and Ecole Polytechnique, now used for creating the specific context of the building.

5.2. Historical fragments in disunity: Ecole des Beaux-Arts and Conservatoire des Arts et Métiers

The detailed history of the public buildings, built between the1830 and 1870 by the famous *pensionnaires* of the 1820s, has been studied by the well-known historians mentioned above. Supported by the well-documented literature of the period, their analyses of these buildings are insightful, and also do justice to the intentions of the architects who showed determination to pursue their theoretical ideas to the end by realizing few, but important projects, given that these were the first important public buildings that diverged from classicism.[17] The analysis of the exteriors appears to be especially significant in these studies. Naturally, architectural exteriors are one of the primary concerns of architects and historians, but the difficulty of comparison of these exteriors with historical precedents is striking. It will be seen that these historians had to study a lot of information from various disciplines to analyse these exteriors, which

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meant that there is something about them, which was historically unprecedented. The same problem must have attracted in 1939 the wrath of L.-P. Baltard, who could neither support Romanticism nor wholeheartedly defend the classical orders, simply claiming that the exteriors must result from the harmonious arrangement of the interiors.[18] In fact, each of the four architects specially treated exteriors that would publicly reveal their theoretical ideas, and therefore created peculiar compositions that astonished the public as well as the critic.[19] In the light of the problem between the form and the content, and in the context of the historical fragment, the exteriors of these buildings will be reconsidered. It will be argued that the new definition of architectural history, and the justification of architectural design through this definition, transformed the concept of architectural character. It will also be argued that in this transformation the architectural exteriors composed of historical references became the pretext of the architectural design, which became meaningful in the special context of the building sites and programs.

This study starts with the first of the two groups of historicist buildings mentioned above, in which the historical references physically exist in the site: the Ecole des Beaux-Arts and the Conservatoire des Arts et Métiers. These buildings have many similarities that extend from their sites to their designated functions and realizations, and a survey of their exteriors can give interesting results concerning the issues of architectural site and context. Both of the buildings are for public education and they were realized on sites with ruins and remaining buildings of a convent and a monastery respectively, which became state properties after the Revolution.

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The Ecole's site belonged to the Convent of the Petits Augustins, founded by Queen Margot in 1608, which after the Revolution was turned into a depot/museum of French monuments in 1790 by Alexandre Lenoir, who stocked here the fragments he could save from the nation-wide pillage and destruction of the buildings of the Church and aristocracy.[20] The site was surrounded by residential buildings to the north, west, and south, and had a narrow opening to the east with a long courtyard connecting the site to the rue Bonaparte. François Debret was charged with building the Ecole Royale des Beaux-Arts on this site, and throughout the 1820s he produced a plan and started the construction that comprised mainly the Palais des Etudes, and the narrow block of the loges for the competitions. When the new regulations imposed by the minister Thiers restricted every architect to one state commission at a time, Debret chose the Basilica of Saint-Denis and left the Ecole to his brother-in-law Duban in 1832.[21] When Duban took over the Ecole, the Bâtiment des Loges was almost finished and the foundation and some of the structure of the southern wing of the Palais des Etudes was completed. Duban finished his work between 1833 and 1838 without remaining loyal to Debret's project.[22] (Fig. 1) He developed a complicated but convincing thesis concerning the fragments and historical buildings that existed on the site and sought to combine the old with the new. Having divided the complex into two distinct areas for instruction and research, he retained the cloister, now called Cour du Mûrier, for the classrooms, transformed the church into the Museum of Renaissance entered by the frontispiece of the Château of Anet, and reserved the Palais des Etudes for the study of casts, library and the archives, entered from the second courtyard separated from the first by the Arc de Gaillon.[23] With later acquisitions the Ecole expanded to the north, and Duban designed in 1858 new

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studio spaces called the Salle de Melpomène that connected the Cour du Mûrier to the Quai Malaquais, finished in 1866.[24] (Fig. 2)

The site of the Conservatoire des Arts et Métiers belonged to the monastery of Saint-Martin-des-Champs, which included mainly a medieval refectory, church, and a cloister to which was added an eighteenth-century dormitory block with an *escalier d'honneur*. Except for a narrow entry to the church from the rue Saint-Martin (today rue Réaumur), the site was open only to the narrow rue Vaucanson laying to the east. (Fig. 3) This was a dense area with houses and narrow streets that included many workshops, and the development of the Conservatoire in the 1840s was slow because of all these restrictions. The building continued growing in the next two decades with new acquisitions of land and new additions until 1872. As Thédore Ballu said, when Vaudoyer became the architect of this establishment in 1839, he was charged to create a museum and transform this old "sanctuary of religion" into a "sanctuary of science." He added that Vaudoyer achieved this goal by blending in medieval ruins with the later constructions.[25] Bergdoll has shown that Vaudoyer blended the medieval buildings not only with other constructions, but also with the "weaving looms, steam engines, mechanical inventions, and agricultural tools," which were "arrayed under Gothic vaults and in palatial eighteenth-century buildings," all singing "a hymn to progress which had replaced the daily chanting of monks".[26] Like Duban at the Ecole des Beaux-Arts, Vaudoyer reserved the cloister for education, and separated it from the large block used for exhibition. Between 1839 and 1843, he designed the new wing that faced and imitated the refectory, and the gateway of the rue Saint Martin. Finished between 1848 and 1850,

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these constructions created a symmetrical courtyard that resembled a *cour d'honneur*.[27] Vaudoyer also built a large auditorium within the cloister across the semicircular auditorium built by M.-A. Peyre, and renovated or restored the other buildings, notably the refectory where he installed a library. In the 1860s, he designed and started building two large blocks and two corner pavilions symmetrically placed on either side of the gateway block. (Fig. 4)

In these two contemporaneous buildings, located on two equally complicated sites, Van Zanten and Bergdoll found similar efforts to integrate the historical and contemporary elements, but they also argued for the overlapping of the successive surfaces in depth as a solution intended by the architects, in a similar way as Colin Rowe and Robert Slutzky read the exteriors of Le Corbusier's Villa Garche in their influential article entitled "Transparency" (1963). David Van Zanten claimed that Duban imagined a certain picture of the Ecole to be seen from rue Bonapart, through the main gate and the Arc de Gaillon that covered the front of the Palais des Etudes.[28] He also argued that the Conservatoire's view from the rue Saint Martin provided a framed vision, which was a compression of different layers onto one plane, both physical and historical: the allegorical "Néo-Grec" gate and the Baroque portico of the main block.[29] Barry Bergdoll adopted Van Zanten's point of view and claimed that "just as Duban had calculated his tableaux to be read in perspective as overlapping images both formally and historically, so Vaudoyer conceived of the two in tandem. The arch of the gateway [of the Conservatoire] would frame the great central arch of the gallery entrance when seen from the narrow rue St. Martin."[30] (Figs. 9, 10) Given the architects of these two buildings

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were arguing for historical, material and cultural juxtapositions to be represented in architectural form, this reading cannot be an over-interpretation. However, one can also interpret the juxtaposition of formally and historically diverse surfaces as a variety of responses by the architects to different exigencies of the building site and its surroundings. In other words, these surfaces may be juxtaposed as contextually linked fragments, rather than overlapping layers.

In his eulogy for Duban, Charles-Auguste Questel gave a poetic description of the Ecole des Beaux-Arts, in which he took the audience for an architectural promenade accross the building's site, which best explained Duban's intentions. Duban never intended a dominant view of the complex, and the juxtapositions within the site were intended to be (historical and physical) transitions from one place to another. He recreated different smaller sites within the overall site by means of making use of its pre-given elements: a pretext for re-vitalizing the historical-local contexts of the site that extends from the Palais des Etudes' reference to the Forum Romanum in the second court, to Duban's favorite, the tranquil and frescoed Pompeian atrium[31] recreated at the Cour du Mûrier, and finally to a gesture to French Renaissance in the latest and final work by the architect at the Quai Malaquais, with its reference to the Louvre across the river, where Duban had an unfortunate work experience in the late 1840s.[32] (Figs. 11, 12, 13)

Duban's arrangement of the building site respected the partial views and dicoveries resulting from perception in motion. Van Zanten's analysis of the site as an open-air museum of architectural history, which was already suggested in C.-A. Questel's

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eulogy, and his superb decoding of the story of historical progress narrated in Delaroche's wall painting in the "Hémicycle" (Salle des Prix) proves that Duban wanted to put things in chronological order in the site, such as the French Middle Ages (the buildings and fragments of the convent of Petits Capucins), the Italian Renaissance and its Roman-Latin roots, Pompeii (Cour du Mûrier), the transition (Portico of Anet, Arc de Gaillon, the fragments from the Hôtel de Tremoille), and the Renaissance of the arts (Palais des Etudes), which is "crowned" by the Greco-Roman "Hémicycle" for the Grand Prix prizes. Yet, one should not forget that all these "monuments" were found on the site as fragments or as complete buildings, and their physical position on the site was a matter of chance. Duban made his best out of these chance accumulations to create a sense of an architectural promenade, for his idea of the chronological order of architectural history is not as precise as it has been claimed.

Moreover, it can be said that the independent reading of the parts of the complex shows that none of the buildings within the complex was intended to create the overall sense of an educational institution that Gondoin had assumed for his Ecole de Chirurgie. Having completely different characteristics, the meaning of these buildings cannot be justified by the characteristics of educational buildings of Greeks. For the Ecole des Beaux-Arts, the justification of form was architectural history, and for the same reason the order of the Palais des Etudes was reduced to a reference to historical elements. This facade became meaningful among other historical styles, medieval, French Renaissance and Pompeian. In the design of the Ecole des Beaux-Arts, the conventional aspects of architectural propriety were replaced by a cognitive understanding of the historical

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context of architecture.[33] There can be no better proof of this than Duban's insistence on keeping the Arc de Gaillon in front of the main facade, which also testifies to the transformation of architectural character by the exhibition of history. In short, the physical context of the site as the accepted arbitrary juxtapositions of the fragments and buildings in particular, and the historical context of architecture in general, mutually define and give sense to each other, thus create a context for architectural design and justify its site-specific history-laden character.

Although everything about architectural history seems to be explained by the thin layers of the architectural surfaces of the Ecole des Beaux-Arts, the historical depth - the diachronic reading of architectural elements - does not result from the overlap of these surfaces, but from the experience of the site. The places Duban had visited and the architectural sites he investigated seem to have enduring impact on his imagination. Yet, if Duban's Ecole des Beaux-Arts is a *promenade architecturale* in the sense of a ""*résumé*" of French national architecture,"[34] it is definitely not about the framing of the instances of the promenade. As said, the new constructions and the historical fragments mutually define each other, because this was the only reason with which Duban defended keeping the historical fragments on the site. For the Comission des Bâtiments Publics, the Arc de Gaillon hindered the beauty of the classical Palais des Etudes, whereas for Duban, this new building was a meaningless imitation without the other elements of architectural history. The role that the surfaces play here is different from the elaborate arrangement of the classical procession that starts at a triumphal-arch-like gate and similarly ends in a hemicycle in Gondoin's Ecole de Chirurgie, since in the Ecole des Beaux-Arts the

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mixture of different historical times on the same site was not avoided but intended. The anachronism between historical and modern elements, hidden so far by means of separation and isolation behind the guise of the *caractère*, was set free for the dialectic interplay between the historical fragments of the Ecole des Beaux-Arts.

The theory of architectural progress is definetely behind Duban's design. However, the origin of his imagery of the mixture of different historical times was not explained by the architect. Charles-Ernest Beulé rightfully showed that Debret's concept of Palais des Etudes was taken from the Borbonico Museum (now National Museum) in Naples, even in its smallest details, which Duban altered, and stated that Duban's arches could be inspired by the Vatican loggia.[35] Hautecoeur pointed out the similarity between the Palais des Etudes, the Bibliothèque Sainte-Geneviève, and the Chancellery in Rome, because of the high subbasement of these buildings.[36] Marmoz stated that the ground floor of the Palais des Etudes could be taken from the Chancellery and the first floor from the Vatican loggia, but being not sure, counted a number of sources that Duban may have combined in his design, from Wren's library at Trinity College to Klenze's Alte Pinakothek in Munich.[37] Clearly, all looked for a source in a classical or neo-classical building, disregarding the extraordinary care that Duban gave to his site. Even if there is one source or a variety of sources, the building's appearance is definitely more than that, because it is about the combination of various images. It may as well be the image of an ancient site.

The ancient Roman archives, Tabularium (Palazzo Senatori), which occupy the slope of the Capitoline Hill, was a favorite subject of painters, archaeologists and

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pensionnaires, because it dominated the background of the monuments of the Forum Romanum. As mentioned in the second chapter, the *pensionnaires* came up with different versions of the restoration of this building which had gone through substantial transformations during the Middle-Ages and the Renaissance, which had hidden its antique form. Duban must have studied the ruins and seen some of the restorations of the Forum Romanum, where the Tabularium is seen behind many temples and monuments, including the Arch of Septimus Severus, the columns of the Rostra, and the Temple of Vespasian and Titus, buildings juxtaposed in time to embellish the magnificent city of Rome.[38] Although there were few clues about the appearance of the *Campidoglio Antico,* the image of the *Tabulario* was well known through the reconstruction of Famiano Nardini (1666) in *Roma Antica,* re-published by Antonino Nibby in 1818.[39] (Fig. 14) This and other publications of Nibby were among the primary sources of the *pensionnaires* in Rome,[40] and Duban must have seen this plate during his four years of study around the hills of ancient Rome. Nardini's Tabularium had a massive subbasement on which were located two arcaded floors with pilasters of Doric order on the first story and Ionic on the second. The Ecole des Beaux-Arts has a rustic ground floor facade very similar to the subbasement of Nardini except for the windows, and a first floor facade with arched windows decorated with Corinthean order. What is even more relevant between the design of the Ecole des Beaux-Arts and the reconstruction of Nardini is the relationship between the Arch of Septimus Severus and the Tabularium which resembles the relationship between the Palais des Etudes and the Arc de Gaillon, the fragment brought by Lenoir from the Château of Gaillon. The translation of the Roman Forum into a French scene had already been done in an imaginary setting appeared in the frontispiece

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of Laborde's *Monuments de la France* (1816), in which a scene made of the juxtaposition of Celtic, Roman, Gothic, Renaissance and neo-classical monuments is seen through an open window.[41]

There is no doubt that Duban constructed a relationship between the elements of the Arc and the Palais, as he himself explained on many occasions during his struggle against the Conseil de Bâtiments Civils for keeping the Arc on the site. As his colleagues testified, his Italian experience had profound impact on sensitive Duban that surfaced in this, his only major work. It can be argued that he must have recalled the example of the Roman Forum when he took over the site from Debret with the foundations of the Palais laid behind the fragment of the Arc de Gaillon. Having found it like a ruinous site, Duban could have reconstructed the facade of the Palais as if it was the Tabularium behind the Arch of Septimus Severus. Although he did not mention any Roman source, in his letter in 1833 to the Conseil des Bâtiments publics, he tried to prove that the Arc de Gaillon's masking the Palais des Etudes was not something negative, and stated that many ancient and modern monuments had similar arrangements. He pointed out that the Portico of Octavius stood in front of the Temple of Jupiter and Juno in Rome, and that the Basilica of Ulpia was surrounded tightly by many other things, like the Column of Trajan. As for the Arc de Gaillon, this "mark of the establishment," Duban said, masked the building like Arc du Carrousel masked the Palace of the Tuileries.[42] The Portico of Octavius had been the subject of Duban's fourth year (1828) *envoi*. The Arc du Carrousel was erected by Napoleon to celebrate his military victories, and it was an almost exact replica of the Triumphal Arch of Septimus Severus in Rome.

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In the same letter, Duban claimed that the masking of one major building by smaller monuments increased its beauty by means of "the picturesque agglomeration of the edifices that precede or accompany it."[43] Among the many sites in Rome, the imaginary reconstruction of the Forum Romanum offered the best of this kind of picturesque agglomeration of edifices, in which accidental juxtaposition increased the variety of visual experience, which had been restricted to a single point in the ideal settings of the Renaissance. However, the picturesque effect here was not a matter of the dramatic effects of ruins in nature; it was an abstraction of the Roman lesson: the dialectic and spatial relationships that occur in the juxtaposition of elements on the site. It is also plausible that the Palais des Etudes could have influenced the later restorations of the Roman Forum. Perhaps feeling that their pictures would be incomplete without it, the *pensionnaires* always added the Tabularium behind the monuments of the Forum. A comparison between the state of the Ecole before and after Duban's intervention, and the actual and restored states of the Forum Romanum in the *envois* of Normand (1850) and Moyaux (1865) reveals an interesting affinity. (Figs. 15-20) Although Tabularium connection is a speculation, there is no doubt that Duban's imagination was strongly influenced by the sites he had seen in Italy, and the technique of reconstruction of the ruins he applied many years remained with him. As a result, he created a potpourri made of the Palais des Etudes, the Arc de Gaillon, and the monumental column, a juxtaposition of "monuments," not overlapping of layers.

The building of the Conservatoire des Arts et Métiers faced the same conditions as the Ecole des Beaux-Arts. This was going to be a school and a museum of industry

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where the objects to be copied were not classical sculpture or paintings, but machines and the plans of machines; the site belonged to a former monastery with historical monuments to be preserved; and the construction was partially realized by other architects. Bergdoll stated that "for Vaudoyer the problem of crafting a monument to technical and industrial progress within an array of French medieval buildings provided the challenge of defining in stone precisely the issue that was preoccupying him in print in the pages of *Le Magasin pittoresque.*"[44] Bergdoll added that such congruence between the ideas defended by Vaudoyer in print and the historical complexity of the site could not be a mere accident. Like Van Zanten, Bergdoll related the happy coincidence of the events to the new appointments made by the July Monarchy, and especially to the influence of Adolphe Thiers, who rearranged the distribution of state commissions in 1832 in order to give the group of Vaudoyer the opportunity to realize their ideas.[45] Bergdoll underlined Vaudoyer's difference by pointing out to the fact that all the other architects preceded him had proposed destruction of the medieval buildings in order to give the school a homogenous expression, whereas Vaudoyer spent much of his time with restoring the historical buildings or integrating them with the few additions he built.[46] Van Zanten claimed that the solutions Vaudoyer offered to problems of the design "were all worked out in the context of one general objective: preserving and articulating the specific architectural history manifested in these buildings, gathered over a period of seven centuries at this spot in Paris."[47]

Both Van Zanten and Bergdoll analyzed the origins of the forms chosen by Vaudoyer for the configuration of the main gate (*porte cochère*), the frontispiece of the

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vestibule, and the new wing. Bergdoll even discovered a sketch by Vaudoyer in which all the historical examples of gates and facades chosen as a source for the frontispiece were written down by the architect.[48] Like Neil Levine, Bergdoll made the connection between the functions of the medieval buildings and Saint-Simonian and positivistic purposes of the renovated building, and in his analysis of the relationship between the new wing and the Gothic refectory, he showed how Vaudoyer created specific responses to the exigencies of the site. These recent historians emphasize three different issues of architectural context: history, function, and site specificity.

As he said of the buildings of the Ecole des Beaux-Arts, Bergdoll also argued for a chronological sequence of architectural history in the layout of the Conservatoire, and claimed that the "juxtaposition of elements was such that the axis of entry itself served as a metaphor for the development of architecture in time." (161) He found in this sequence a "new concept of linear movement through the site." The Conservatoire functions as a real, and the Ecole as a symbolic museum, and the circulation in both sites offers similar perspectives. Like Duban, Vaudoyer also "juxtaposed the existing and the new, and interwove different systems of architecture." (152) This linear movement at the Conservatoire echoes that conceived by Duban at the Ecole in the early 1830s. Although the main objects of Vaudoyer's promenade were machines, drawings and industrial models, the different architectural styles constituted another exhibition that starts at the Néo-Grec gate (*propylea*), passes by the medieval refectory and arrives at the mixed style of the frontispiece of the former dormitory. Both the gate and the frontispiece were designed by Vaudoyer. However, had Vaudoyer intended to underline the idea of

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historical progress through movement, why would he want all the aspects of the promenade to appear in the same view at once? For the same reason, it can be argued that as at the Conservatoire, the instances of the promenade were not intended to be framed; they were arranged to appear physically independent and only contextually related, emerging one after another during the promenade. (Figs. 21-23)

Begdoll gave a brief history of the Conservatoire.[49] When Vaudoyer took over the building in 1838, he found the church and the refectory in decay, and the cloister partly destroyed. Although Delannoy could not destroy everything from the Middle Ages, Jallier had demolished more than he built, including the belfry of the Gothic church, and M.-A. Peyre had already built the semi-circular auditorium for public lectures on science and industry in the cloister attached to the southern wall of the refectory (147). Vaudoyer's predecessors, Dubois and Lelong had not achieved anything significant, but they produced plans, and Vaudoyer adopted many ideas from these plans, such as "carefully creating separate zones for the school, museum, and administrative functions, and creating distinct systems of circulation." (150) Having decided to preserve everything he could on the site, and having studied the complicated program of the Conservatoire which required spaces for education and exhibition, Vaudoyer had to fit the program into these spaces and in the additions he proposed. Like his predecessors, he must have found the U-shaped dormitory with a monumental staircase irregular and incomplete, for he immediately produced schemes of courtyards to complete it and make it proportioned within the whole. He reserved the cloister for classrooms and added a larger auditorium to its southern wing, adopted the refectory for the library and the church for the

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exhibition of big machines. He refused to add an additional storey in the refectory, which had been built in the thirteenth-century by Pierre de Montreuil, the architect of the Saint-Chapelle (169). Most of the dormitory block was to be used as exhibition spaces, and a new wing (*aile neuve*) housed the Ecole Gratuite de Dessin Industriel on the ground floor, and the great model gallery on the first floor.

The new wing was the keystone of Vaudoyer's whole design. It imitated the refectory and created symmetry in the composition, defined the courtyards, and signaled the layout of the future development of the complex. Moreover, it included both medieval and classical elements with which Vaudoyer created a "hybrid solution" by building arches in between the pilasters made in the shape of buttresses, reminding the struggle of synthesis in the churches of "transition," such as St. Eustache and St. Etienne du Mont in Paris (168-170). Bergdoll showed that the proportions of the refectory facade set the example for the new wing, and he explained the lack of buttresses at its rear facade from a rationalist point of view. He argued that "the rear facade was not only more restrained because it faces an entirely different context, as Neil Levine has suggested," but also because the smaller rooms on this side required a smaller span which exerted a smaller thrust on the walls.[50]

Vaudoyer's articles in the *Magasin Pittoresque* and his *Histoire de l'Architecture* show that he believed in the progress of architecture by means of the mixture of different architectural systems. The mixture of two things was supposed to yield a new system that was expected to be in development, in the state of transition. As mentioned before, this theory led him to refute the doctrines of both the older generation of classicists and the

younger generation of Gothicists He considered the architects who preferred the middle way as the generation of transition. In the light of his belief in transition, it can be argued that the configuration of the new wing is the resumé of Vaudoyer's architectural theory, for its imitates the Gothic refectory, but the nature of this imitation has nothing to do with adherence to the classical canons, nor is it an interpretation of nature's inherent rules. In any case, the new wing would be nonsense without the existence of the nearby Gothic refectory, whose configuration, proportions, and elements it repeated symmetrically. (Figs. 24, 25) Although Vaudoyer imitated in a way what the Philibert de l'Ormes, the Jean Bullants, and the Pierre Lescots had done in the sixteenth-century, the historically-conscious nineteenth-century architect, who neither belonged to the Middle Ages nor to the Renaissance, needed a justification for the new architectural mixtures he created artificially. Historical transition was the justification, which permitted to imitate the elements of architectural patrimony. In short, the new wing of Vaudoyer becomes meaningful because of the existence of the refectory, and the refectory is revalued by the building of the new wing: this is the real nature of the new sense of imitation that rejected idealism, based on a dialectic understanding of history.

The buttresses of the south facade of the new wing are an important part of the dialectic relationship between two systems. Vaudoyer drew the buttresses on this side of the new wing as early as 1839 and may have intended to demonstrate here the structural rationality of the building that Bergdoll mentioned. However, neither of the facades of this wing results from the type of the span. In the plan of 1843, Vaudoyer drew buttresses attached to the whole of the southern facade, but nowhere in the northern walls of the

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wing can be seen an element of counterforce that would be needed if these buttresses of the southern walls were really functional. (Fig. 8) Moreover, the wooden roof slab of the new wing has no similarity with the Gothic vaults of the refectory, and the lateral force of the beams of the first floor slab are transferred to the walls vertically by means of the internal corbels (that probably have iron brackets) that make the buttresses unnecessary. (Fig. 27) Finally, the western gable facade of the new wing have also buttresses similar to those seen on the same face of the refectory, but here the structural system is completely different from that of the refectory, and the buttresses are not needed. The buttresses of the refectory are functional, and those that support its southern wall are hidden within the thick wall that once belonged to the cloister. Bergdoll mentions that Vaudoyer discovered these buttresses during his restoration of the refectory.[51] But these buttresses would never see the day, as they remained hidden also after the restoration within the same wall now belonging to the auditorium. Therefore, for Vaudoyer the refectory had only too facades, the north and the west, and this is what he repeated in the new wing. (Fig. 21) It can be concluded that the buttresses Vaudoyer built were intended to refer to the nearby Gothic building, and Neil Levine's thesis that the rear facade responds to a different context is correct.

Although Vaudoyer accepted in the new wing the general external configuration of the refectory, for the facades he used round arches instead of the pointed arches of the Gothic building and omitted the rose-windows. These arches spring from the buttresses of the southern facade and from the pilasters of the northern facade, thus interweaving the surface of the building like the "ligaments" of the quattrocento buildings. But there is

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something peculiar about these surfaces which cannot be found in the Italian or French Renaissance examples in which the struggle for applying the classical orders and forms was visible. Vaudoyer never used columns, and he used whatever order he liked in a given context: a classical order for the facade of the wall facing the rue Saint Martin inspired by the Roman walls and gates he had studied in Italy,[52] a mixed classical order in the frontispiece of the main entry; and a mixed order of Gothic and classical elements in the new wing.

All these orders are inflected with foreign elements, as the preparation for the next step of mixtures: the classical facade facing the rue Saint-Martin lacks a balustrade or a high parapet and reveals its pitched roof that is interrupted by the portico. The reverse side of this short block is an arcade, whose arches are repeated on the ground floor of the Conservatoire's main facade, whose first floor has French windows. (Fig. 28) The frontispiece of the entry to this main block, which seems to be intentionally made as complicated as the frontispieces of the Châteaux of Anet and Écouen, is topped with a round gabled roof and a belfry. In the new wing, the buttresses replace the elements of the classical orders that transform into pilasters on the rear facade, but adopt the arches of the main block. The peculiarity of this wing stems from this inflection that created something new. The arches are cut short by the vertical elements, and these arches in turn cut short the French windows on top. The merge between the arch and the window creates a segmented arch, and this arch is repeated on the ground floor without the extrados. This figure Vaudoyer repeats at the two sides of the Néo-Grec gate and at the ground floor of the main block is the product of a mixture, but it also signifies the

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transition between the rectangular window and arched window as seen, for example, in the courtyard facade of the Château d'Azay-le-Rideau (1518-1527). Vaudoyer will apply the same window type in his project of the extension of the Sorbonne in the 1850s, and it will be adopted by Duban at the Ecole's Quai Malaquais facade and become a frequent element of French architecture in the rest of the century. This situation summarizes the theory of transition in architecture: the marriage between the two different elements of two different systems gives birth to a new thing, the germ of a future system.

The complexity of historical references at the few constructions built by Vaudoyer in the site of the Conservatoire des Arts et Métiers explains why the exteriors of this building should not be read as a framed image of overlapping surfaces. What is at stake here is the justification of innovation by means of the given context – historical and physical – which is found in the site either as historical elements or physical conditions. The site is the primary context of the Conservatoire des Arts et Métiers.

The classical doctrine of propriety in architectural design had stemmed from the text of Vitruvius that was discovered in the Renaissance. The Romantic-rationalist architects re-visited the French Renaissance by omitting this text, and historical change became the content of propriety in any context. At the Ecole des Beaux-Arts, Duban accepted the situation of the site as a context to begin with, as at Roman sites he worked, and he ended up using different elements and producing different compositions on the exteriors of his buildings. Despite the neat classical facade of the Palais, this site-specific approach meant a rejection of Academic idealism as well as the belief in the immediate relationship between plan and elevations, either as the expression of the *caractère*, or as

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the vertical disposition of the elements of the plan. The gateway and the new wing of the Conservatoire are also compositions made of historical elements deduced from the historical examples chosen according to contextual situations. However, it can be said that both the new wing of the Conservatoire and the Quai Malaquais facade of the Ecole show a liberty of invention that became the characteristic of these architects.

The transformation of architectural character into historical and contextual reference cannot be explained only from the point of view of theory; it is also a result of the technique of composition and the architectural archaeology with which the romantic-rationalist architects were educated. The blending of historicist-progressivist theory with the techniques of composition and restoration is a site-specific, history-laden architectural practice that is unprecedented in the history of architecture. The articulation of historical fragments is a matter of perception of space like the articulation of antique fragments. This perception of space created by historical fragments also depends of seeing through juxtaposed elements as in the neo-classical examples, but in a rather arbitraty way. Although the four buildings discussed above were significant for their surfaces, it was emphasized that these surfaces were in dialectic relationship with one another, which makes the site, and therefore the exterior space, the paradigmatic aspect of this architecture. It should be remembered that the spatiality of the neo-classical architecture was significant and innovative at the interiors. Designed to create an antique decor, the exteriors of the neo-classical buildings were devoid of the dialectical relationship between the architectural elements, such as at the Ecole de Chirurgie, or any other

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building that followed, such as Rousseau's Le Monnai (1775), Antoine's Hôtel de Salm (1785), or Brogniart's La Bourse (1826).

If it is possible to talk about a specific sense of spatiality at the Ecole des Beaux-Arts and the Conservatoire des Arts et Métiers, it must be about the dialectic relationship between the elements of the exteriors; hence the importance of the modern surfaces in relation to the site. The historical fragments in particular and the architectural patrimony in general are in the source of this new sense of exterior space. Two sections of the Ecole des Beaux-Arts and the Conservatoire des Arts et Métiers may help to show the new extrinsic qualities of architecture that submits itself to its site. (Figs. 29, 30) The complexity of the neo-classical interiors can be read from their sections; the complexity in the age of romantic-rationalism is at the exteriors. Divided between the history and utility, architectural exteriors cease to be the prologue of architectural propriety and begin to offer a promenade of contextual references.

5.3. Historical fragments in unity: Bibliothèque Sainte-Geneviève and Cathedral of Marseilles

The site-specific treatments of the surfaces at the Ecole des Beaux-Arts and the Conservatoire des Arts et Métiers resulted from the application of a new architectural theory born from the marriage of architectural archaeology and eclectic philosophy. Local architectural history – patrimony – was an important notion in the revolutionary and post-revolutionary France, parallel to the emerging consciousness of national heritage testified to by Alexandre Lenoir's founding of the Musée des Monuments

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Français (1790), and by Alexandre de Laborde's *Monuments de la France* (1816). The technique of elementary analysis was applied to the local architecture first by the romantic-rationalists.

The two buildings discussed above showed the result of the re-composition of the newly invented historical fragments, which involved classical (antique) and non-classical (medieval) elements. The same mixture of historical elements can also be seen at the Bibliothèque Sainte-Geneviève and the Cathedral of Marseilles. However, the seeming isolation of these two buildings on their sites differs from the efforts of integrating old with new in the first two buildings, for which the historical aspects that exist on the site were extremely important. Despite this difference, the studies by Neil Levine and Barry Bergdoll show that both the library and the cathedral were formed in a context that was invented by their architects, albeit very differently. These building were neither directly integrated in their surroundings, nor completely isolated, but linked to history through their conceptual sites. In these two buildings, isolation appears differently: the library does not recall any form around and it lacks "appropriate character," whereas the cathedral is full of historical references, whose mixed style is not matched anywhere else. Both designs developed not from the actual historical context of the immediate locality, but from a conceptual context, which was also justified by historical progress.

The Bibliothèque Sainte-Geneviève was built on the site of the former Collège de Montaigu demolished completely in 1838 in order to create space for the new library on the privileged Sainte-Geneviève hill in the Quartier Latin of Paris, the heart of the higher education in France. The old library had been installed in the Lycée Henri IV, former

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Abbey of Sainte-Geneviève-du-Mont, which had a library for many centuries. This library had several damp reading rooms that were insufficient for the students who gathered in this part of the city. Labrouste produced the project of the new library in 1839, to which the Conseil des bâtiments civils responded with two reports in 1840 and 1842. In 1843, the project was approved and money allocated. Construction started in 1844, and finished in 1850. The library opened to public in February 4, 1851.[53] (Figs. 31, 32) Similarly, the site of the Cathedral of Marseille was created at the cost of a historical building. Vaudoyer and the other authorities who were involved in the project looked for a proper location for six years (1845-1851). When they chose the site of the Sainte-Marie-Majeure (La Major) near the Vieux Port, they decided to clear the site by demolishing the crumbling church, in which Vaudoyer had even made minor restorations in 1850. Vaudoyer produced a project in 1852 which was presented to the Bishop and the Emperor in Marseille during his tour of France. The plan remained mostly the same, but the form was gradually altered and refined between 1855 and 1857, and the construction continued until the end of the century.[54] (Figs. 33, 34)

The box-like exterior of the Bibliothèque Sainte-Geneviève and its strangely expressive flat surface was emphasized by every one who wrote about it. Having thus left the ornamentation to the books on the interiors and to the inscriptions on the exteriors, Labrouste repeated the same logic he used in the reconstruction of the ruins of Paestum, studied in detail by Neil Levine. This and the testimonies for the life and works of the architect prove that Labrouste believed that the exteriors had to result naturally from the interior organization and the available technology, which was also the case for the

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Bibliothèque Sainte-Geneviève. Van Zanten described the astonishing appearance of the new library, which he considered expressive:

> What one encounters set on the edge of the Montagne Sainte-Geneviève is a narrow, rectangular box wedged onto a long, constricted site ringed by a continuous range of arches on tall, narrow piers - a sort of viaduct doubling back on itself - not disturbed by pavilions, projections, or pilasters.[55]

Van Zanten explained the lack of site-specific references as the result of the dominant presence of the inimitable Panthéon. Labrouste's special interpretation of site specificity explains the curious appearance of the building, which looks incomplete when seen isolated from neighbouring buildings. His concept of history was more materialistic than that of Duban and Vaudoyer, and therefore his historicism was different, too. This may have led him to see the site as a material condition, to which the response was historically determined. The building was to be formed by the limitations and the possibilities of the site, the time, and the building's program. In this sense, the modernity of architectural production, the building's program, and the resulting architectural expression create a context for the Bibliothèque Sainte-Geneviève. This context is also that of the site as plot where all the building facts and limitations took place, in other words, the *locus* of the building.[56] But beside this materialistic determination of the shape of Labrouste's building, it can be also shown that the building was not at all isolated in the site; it is strangely connected with the surfaces of the nearby buildings.

As mentioned, in Labrouste's Paestum reconstructions, the reason behind deviation from a classical type was the specific conditions of the locality, which required the adjustment of the type according to the new needs, materials, and technology.[57] In

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those restorations, Labrouste had also attempted to prove that the architectural invention was possible through readjusting the composition of the architectural elements for new needs. The types evolved, and the stylistic aspects of the Greek architecture were not due to the servile imitation of a type, but the determinant factors of the time and place. Similarly, the two libraries built by Labrouste show the intentional detachment of the building from its surroundings, the refraining from referencing to anything specific in their sites except the boundaries. As mentioned before, in the reading room of the Bibliothèque Nationale, the combination of the wall paintings and the structural system created the image of the Jardin de Luxembourg, an idea which Labrouste had used before in the murals of the vestibule of the Bibliothèque Saint-Geneviève. In this building, Labrouste wanted initially to have a garden in which the trees would create an intimate environment for the tranquility of the library, but he was restricted by the dimensions of the site, and found the solution by creating a tall sheltering wall pierced by windows. The Bibliothèque Sainte-Geneviève, like the later Bibliothèque Nationale, is a hermetic building that lacks references to the specificity of its site. As Levine put it, "set between the porticoes of Soufflot's Faculté de Droit and Panthéon, the stretched skin of the library is both a thin casing and the descriptive edge of a porous volume."[58] The facade of this hermetic box, resembling the facade of the stage of the Roman theater at Orange, may intend to prove that architectural form, historical or modern, result from needs and techniques.[59] At first glance it seems impossible to locate this universal materialist context on the Montagne Sainte-Geneviève. The only immediate connection between the building and its site seems to concern the physical conditions of the site. However, there can also be another explanation for the monotonous facade.

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The particularity of Labrouste's historicism explains his choice of Roman

elements (arcs of viaducts, theaters) on the outside and "Gothic" columns inside. Neil

Levine's explanation of the structural system of the library is to the point. He claimed

that a range of historical sources for the structure had already been proposed, such as the

Gothic refectory of the Saint-Martin-des- Champs, renovated by Vaudoyer to be the

library of the Conservatoire des Arts et Métiers, and the central columns of the Temple of

Hera I (*le portique*) in Paestum, reconstructed by Labrouste for his fourth year *envoi*.

Levine approved these sources but added that the library was also something more than

all these.[60] Levine's idea can be outlined as this: by using the inherited techniques of

medieval and classical tradition, and by applying the materials and techniques at hand,

Labrouste wanted to create something new, something more than its historical

components. On the other hand, Van Zanten contested the historical sources Levine and

others had put forth for the structure by claiming that the cast-iron arches that support the

roof were independent of the stone arches of the walls. As a consequence, Van Zanten

claimed, "Labrouste's use of iron in the Bibliotheque Sainte-Genevieve has no structural

relation to the Cathedral at Albi, the refectory of the monastery of Saint-Martin-des-

Champs, the Vatican Library, or any other masonry-vaulted historical sources that

present themselves."[61]

However, as Levine already pointed out, the thick pillars between the recessed

arches of the library work as buttresses that counter the thrust of the iron roof. (Fig. 35)

One can only speculate that Labrouste must have chosen to solve the problem not with

the Gothic buttresses, but with the Roman arches, because this helped him to achieve

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three things that he could not achieve with purely Roman or Gothic elements: the easy

circulation of people, light, and (heated) air is made possible by the thin cast-iron pillars

and arches (as at the monastery of St.-Martin-des-Champs); supporting this structure

outside is made possible by the pillars between the recessed arches; and good filtered

lighting is made possible by these large and deep "aqueduct" arches that counter two

forces, lateral and perpendicular (as at the Basilica of Maxentius). These were the

material conditions of the building's program. As for the conditions of the site that

affected the facade, it can be said that the first floor was given small windows and the

reading room was carried to the first floor because of the impossibility of the library's

retreat into an isolated garden.

Despite all these material and technical requirements, this building is not totally

devoid of diachronic juxtapositions that are so much the property of this group of

pensionnaires. Levine's analysis of the interior spaces of the Bibliothèque Sainte-

Geneviève reveals the existence of an architectural promenade that starts at the flat

facade, the skin stretched between the city and the interiors, "incised with words and

symbols, like the exterior of the Egyptian temple at Denderah." The next step is the

passage through the dark vestibule which Levine likens to an Egyptian hypostyle hall, a

stoa, and a Pompeian interior with illusionistic paintings depicting the sky and the trees,

which ends at the staircase whose "enlightened" landing reveals the imitation of

Raphael's School of Athens, alluding to the Renaissance knowledge. The staircase

arrives at the reading room, the "Gothic vessel" of the French Renaissance court of the

Château at Saint-Germain-en-Laye, an allusion to the nineteenth-century sense of

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"universal openness of the spatial experience" in the architecture of the Gothic Middle Ages.[62] (Figs. 36, 37)

But if the historical succession within the building was arranged so meticulously, why were the exteriors so ignored? It can be argued that although the specific conditions of the library seem to necessitate its isolation from its surroundings, the locality from which the building emerged creates a natural bond with other artifacts present in the neighborhood and produced at different times. The *Portique* [Temple of Hera I] was thought by Labrouste to be a different product of the same site of the *Temple de Neptune* [Temple of Hera II] and the *Temple de Ceres* [Temple of Athena], and the Roman Forum where he worked for many years must have shown him similar situations, the most important being the Basilica of Maxentius, whose structural complexity led to its isolation from the neighboring buildings. All the evidence suggest that Labrouste shared with his friends the same attachment to images of historical accumulation of buildings at specific urban locations, but his desire to represent architectural progress precisely allowed him not to bother with adopting the historical references from the surroundings in this building, for the building should immediately become a part of the history of the locality.

In the Bibliothèque Sainte-Geneviève, the exteriors are part of an urban situation in which the idea is to represent architectural progress by means of the historical accumulation of buildings. When seen in a larger context, the flat surface of the library is part of the image of a Roman situation. The classical elements of Soufflot's buildings bracket Labrouste's facade in the view from the top of the rue Soufflot and end the

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isolation of the Bibliothèque Sainte-Geneviève. Like ancient Roman sites, the hill of

Sainte-Geneviève provides a perfect opportunity for partial vistas. The giant Corinthian

columns of the Panthèon and the concave Ionic portico of the corner of the Faculté de

Droit complete the facade of the Bibliothèque Sainte-Geneviève, which, with the rhythm

of its arches appearing in the background like a viaduct or a theater, becomes the

backdrop of an historical - albeit modern – setting. (Figs. 38, 39) The moldings of the

cornices and are also among the few carvings on the flat surfaces of the library and the

former church. Moreover, the garlands of the Panthéon were repeated between the patera

of the Sainte-Geneviève, and this decoration was even added to the adjacent residential

building. (Figs. 40, 41) In short, at first glance the flat surface of the library seems to be

disinterested in its surroundings, but the connection exists on a different level. When it is

seen through the neighboring buildings, the facade of the library is completed. In fact,

although the facade of the library can be justified as being the product of the site and the

building program, it was designed to be a part of its environment. The juxtaposition of

different monuments from different times is also present in this composition, as in the

two previously discussed buildings.

The Cathedrale of Marseilles (Sainte-Marie-Majeure) is a similarly isolated

building, although it is the complete opposite of the Bibliothèque Sainte-Geneviève in

terms of the choice of the architectural elements. Except the Romanesque vaults and

windows of the old church, La Vieille Major, whose destruction was intended and partly

realized, no part of the cathedral shows signs of its immediate surroundings. (Fig. 42) As

Bergdoll said, the building is a "dissertation" on the history of church architecture, which

mixed the forms and images as diverse as the Byzantine, Romanesque, and Tuscan churches, Cairene mosques, Roman triumphal arches, Ottoman turrets, and Islamic minarets. Bergdoll showed that Vaudoyer had chosen the Latin-cross layout of the building in the first place, and although the building went through several transformations, this layout never changed, and in fact Vaudoyer drew it on many potential sites in the city before the actual site was decided. (Figs. 43-45) Although the Byzantine structure of the cathedral with Provençale Romanesque touch can be related to the idea of mixture of the Latin-cross and the central plan scheme, which was admired by Vaudoyer at the Florence Cathedral, the rest of the building configuration is a result of a theoretical display that went through transformations independent of the plan.

Van Zanten and Bergdoll explained the choices of historical sources in this building, which stemmed from the intersection of diverse motivations, such as the Saint-Simonian ambitions of the technocrats, the political ambitions of Bishop Mazenod and Emperor Napoleon III, the growing population and importance of the city, and last but not the least, the imperial ambitions of France. The Cathedral was to be situated in Marseilles, the port and the gate (*"port et porte"*) of France to the Mediterranean and to the East; uniting the East and the West was also a matter of uniting the architectural systems of the Eastern (Byzantian) and the Western (Romanesque) churches; finally, the Islamic architecture of the Mediterranean, which in great part had issued from the Byzantine architecture, was a part of the symbolic context of the cathedral, since France persevered her campaign to bring civilization to the Mediterranean through this port, Marseilles, a former Greek colony and the earliest city in France.[63]

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The political and cultural background of the cathedral is very detailed, as are the sources of its eclectic configuration; but although the choice of the Latin-cross was mandated by the building's typology, and the chapels that surround the apse were as in the pilgrimage churches of the region, all the other elements were chosen from a very large region and composed unconventionally by the architect. For Vaudoyer, the meaning of the site of the cathedral was different from that of the other buildings discussed; it was an imaginary construction, an artificial site that was neither a physical limitation like the site of the Bibliothèque Sainte-Geneviève, nor a real historical product like the sites of the Conservatoire des Arts et Métiers and Ecole des Beaux-Arts.[64] The building was not a result of material conditions either, but of imaginary historical processes.

Curiously, by avoiding direct allusions to specific church types of the Provance, Vaudoyer managed to attribute a contemporary specificity to the site of the Cathedral. As in his work at the Conservatoire des Arts et Métiers, he intentionally blurred the historical references that would attribute to the building a stylistic label, such as Romanesque, Byzantine, Islamic, or Tuscan. The development of his design shows that as soon as a part of the building became recognizable, as soon as it revealed the source of a reference, in the next step of the design this reference was deflected by another source by omissions or additions. The transformations of the domes and the portico, as well as all other elements of the surfaces, testify the architect's persistent escape from ideal and consistent motifs: in the project of 1852, the central dome of the nave imitated the dome of the Duomo in Florence, and the two domes of the crossing were Byzantine-Ottoman in appearance and structure; in the project of 1855, Vaudoyer added the zigzagged bands

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around the three domes that repeated the external shape of the bays of the nave in a smaller scale, and eliminated direct allusions to the Tuscan and Byzantine sources. (Figs. 46, 47) The front elevation has a similar story: in the project of 1852, it was purely medieval with the large rose-window topped with the gallery of kings; in the design of 1855, the facade was turned into a triumphal arch by a simple omission of the rose-window and the inward extension of the arch. (Figs. 48, 49) In 1857, when Vaudoyer finally decided to cover all the exteriors with green-white stripes, the triumphal arch with medieval elements was also confused with the Tuscan and Mamluk architectures, especially with the Duomo in Florence and the Mosque of al-Mu'ayyad (1415-1422) in Cairo. (Fig. 50) Vaudoyer's exteriors carry the elements of the exotic sites that are contextually close to the site of the cathedral. Like their original sites, the images that intermingle on the surfaces of the cathedral are both close to and distant from one another, blurring the times and places to which they allude, thus emphasizing the modernity of the time and place to which they now belong.

The configuration of the cathedral can be read as a story of architecture in motion, starting at the Roman triumphal arch, passing through the Romanesque nave, and arriving at the Byzantine dome, which gave a start to the Renaissance that is represented here by the dome of the Duomo, maybe the most important historical case of the writings of Vaudoyer and Reynaud.[65] (Figs. 51, 52) Bergdoll read the structure as a metaphorical construction of architectural evolution:

> The nave was not a pure statement of the basilican type but rather a
> record of the type in evolution. It bore witness to the process that made the
> domed crossing possible historically. Its vaults, for example, already strove
> toward a domical section and merged almost with the pendentivelike supports

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that connected them to the massive piers. Nor was the crossing an ideal statement of historical finality. Its succession of domes on squinches and domes on pendentives reproduced the structural evolution of the dome. At the same time it commemorated the Provencal style of successive squinches, and in particular the crossing of the old cathedral. And finally the chevet, if based in plan on a French pilgrimage type, drew on all the resources of the Mediterranean family of architectures...[66]

Given the typology of the building is imposing and the historical references changed during the design, it is difficult to prove that the architect had intended a precise reading of architectural evolution, but he definitely took the history of the building type as the design context. Yet, the image of the modernity to be represented in this type in evolution seems to have created difficulties for Vaudoyer. Having broken completely with the classical canons, the propriety that Vaudoyer sought in the church was only to be justified in history. The situation was in fact the same for Labrouste's library, which hides the problem behind its pseudo-classical facade. Vaudoyer overtly exhibits the historicism that Labrouste had hidden within the building. The idea asserted by Van Zanten and Bergdoll for the Ecole and the Conservatoire, the image of different historical buildings juxtaposed in perspective is also an issue for this building, whose conception must be related to the creation of a cityscape seen from the sea and from different parts of the city, composed of buildings accumulated in time in a specific place, like in Rome.

After this brief analysis of these two peculiarly isolated buildings, one can conclude that the two different conceptions of the architectural site result from different demonstrations of the same idea of historical context, which assigned these sites a sense of modernity by means of the exhibition of the development of architecture in time. It can be said that both the neglect and the exaggeration of locality are due to the historicist

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conception of architectural design. Inherent historicism is revealed by the exteriors of these buildings in different ways, one as the expression of particular "urban facts,"[67] the other as the symbolic silhouettes of historical architectures on the Mediterranean horizon. Seen from this point of view, Labrouste's library is not isolated from its surroundings; it is in fact in a dialectic relationship with it, given the historical facts (read progress) that continuously shape the environment. Vaudoyer's Cathedral, on the other hand, brings the dialectic interplay of the historical forms in the same site, which embodies the idea of progress for the Mediterranean (read French) world.

5.4. Recapitulation

The transformation from the neo-classical to non-classical theory and practice has been analyzed here by looking at the transition from antique to historical fragments in architectural composition. While discussing the Ecole des Beaux-Arts and Conservatoire des Arts et Métiers, the role that historical fragments played in the creation of the new sense of exterior space was underscored. The Bibliothèque Sainte-Geneviève and the Cathedral of Marseilles are two other buildings whose exterior forms cannot be imagined without the specific theory that make architectural history – and therefore locality – an integral element of design. With their extraordinary compositions, the architects Labrouste and Vaudoyer emphasized the distinction of their buildings in their immediate surroundings.[68] This neglect of visual unity was also a statement about the new urban space: it was a repudiation of the synchronic neo-classical compositions and a call for promenades across the diachronic urban fabric. This diachronic reading of the exteriors

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created eclectic surfaces with historical fragments, as seen in the four examples above, which became the sign of modernity in architectural design.

Architectural theory at the turn of the nineteenth-century, with which the romantic-rationalist *pensionnaires* were formed, had been based on the systematic and synchronic composition of architectural forms with standard antique motifs. The synchronism of the neo-classical design was the direct result of the architectural archaeology in Rome, and an integral part of the Academic theory of imitation that refused the mixtures of asynchronous elements. For this generation, the rejection of the Academic doctrines meant the possibility of the representation of different times in the same setting by means of the same methods of analytical historical study and composition that had created the neo-classical architecture. As a result, while the sites like the Ecole des Beaux-Arts and Conservatoire des Arts et Métiers exhibited a succession of architectural history on the same site, the Bibliothèque Sainte-Geneviève appeared to be the latest chain in the historical development of the urban fabric, and the Cathedral of Marseilles represented all the historical accumulations of a chosen region in one building. All four buildings implied an architectural promenade made in history, and this gave them a modern character.

Surely, this was also the sign of eclecticism. Despite the fact that the architects of these buildings went through the same education at the same time and in the same places, the surfaces of their buildings do not show the stylistic coherence of a period. This proves that the "good distribution of the interiors, and the formation of a good plan," is no longer the generator of the exteriors, as claimed by L.-P. Baltard in1839. Influenced by

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historical determinism, architectural configuration now depended on contextual references created by the architect's own interpretation of history, modernity, and society. As the public expression of political, theoretical and scientific matters became an essential element of the modern urban societies, architectural surfaces gained a textual quality, and the plan became a secondary, professional tool. This textual quality was expressed most literally in the Bibliothèque Sainte-Geneviève, but it is in fact the main link between the four buildings discussed above. The non-classical facadism that prevailed in the most of these works, for which the justification was found in the French "transition" architecture of the sixteenth-century, definitely pointed out the end of classicism in architecture. Believing in their historical mission of ending one thing and starting another, these architects made the promenade in history the central theme of their designs, for they also believed that this promenade would lead architecture to the future.

The architectural promenade for this generation was in fact the rationalization from historical perspective of the old concept of picturesque journeys. By replacing the Italian with the local, and by turning the antique into historical, they managed to re-direct attention from journeys in Italy to journeys in France. With the habits of seeing accumulated monuments on the same ancient sites, the *pensionnaires* sought to recreate the process of historical mixture that classicism had banned. Post-revolutionary theory was already supporting the reconsideration of architectural theory within the French patrimony, and the juxtaposition of historical fragments in the same picture was already conceptualized in Laborde's compendium, *Les Monuments de la France*, in which he illustrated and described a window that opened to a variety of historical monuments. In a

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pamphlet added to the publication entitled *Description des planches*, Laborde described

this scene, which is the theme of the first plate (*frontispice*) of the first volume, and has

important resemblance to Duban's defense of his historicist composition at the Ecole des

Beaux-Arts fifteen years later. Here, Laborde represented monuments from different ages

seen through an "Arabic window, improperly called Gothic." The two statues close by

the window are of Turenne and Duguesclin, whose pedestals are decorated with antique

bas-reliefs and Gothic ornaments. In the background, the history of French architecture is

represented:

> In the background, by the sea, we discover Celtic monuments erected
> by the ancient Gauls. At a close distance, the beautiful temple of Nîmes
> forms a group with two medieval bell towers. On the right is the fountain of
> the Innocents, restored a few years ago, whose figures and bas-reliefs are
> from the hand of famous Jean Goujon. The column of the Place Vendôme
> faces this fountain; one of the most beautiful monuments of the century
> erected to the glory of the French Army and built in bronze on the same plan
> as that of the Trajan's Column in Rome.[69]

The desire to control time in architecture by the exteriors of buildings is a result

of the historical determinism in architecture, hinted at by this view from Laborde's

window. This mechanism works by reflecting on the past through the ideas of today and

interpreting today and future through the reflection on the past. As the past becomes an

important element for the future, its preservation becomes equally important. The

anxiousness of the new generation of preservationists in France about the ruination of the

historical monuments shows that the nineteenth-century theory is anti-ruinist. This theory

was developed against the power of time, and used history selectively in order to shape

the future. Taking up the belief in the cycling of the historical phenomena from a

Romantic position, and adhering at the same time to the progressivist intentions to

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determine the future from the present by means of the continuation of the lineage of the historical progress, the romantic-rationalist architects represented a picture in which time was de-composed into past, present, and future, and than recomposed arbitrarily.[70]

First, the cyclical interpretation of history encouraged the application of the idea of transition in design, which caused buildings to appear foreign to any historical epoch: for the past, they appear futuristic; for the present, either retrospective or progressive; and for the future, in between now and then. Secondly, the linear interpretation of history led them to demonstrate the historical succession in the locality. The historical context imagined for these buildings did not only mean the events of the past, but also the events of the present seen from the future. These buildings were determined to become historical monuments as soon as they were completed. The rejection of the classical conception of history also created a break with the classical conception of character. As a result, the buildings ended up with the problem of representation, as testified by critics of the time, who reflected the general confusion of people about the appearance of these new monuments.[71]

Architectural character was maintained as a concept of criticism in nineteenth-century terminology. In 1842, the Conseil des Bâtiments Civils had stated that the Bibliothèque Sainte-Geneviève exhibited *"grande simplicité, caractère sévère et grave."*[72] However, in 1851 Achille Hermant claimed that the recently finished library lacked character, by which he meant a quality that "cannot be measured only by its [building's] purpose; [but] the idea it represents in the eyes of the public is [...] the essential part of it."[73] In 1872, Beulé found in Duban's Cour du Mûrier the "interior

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character of the houses of the Campagna," such as the Pompeian atrium,[74] and Questel stated that the facade of the Palais des Etudes had "monumental character."[75] Finally, for many people the Cathedral of Marseilles had a Byzantine or Romanesque character. Although classical concepts like "serious character" or "monumental character" remained from the Academic doctrine, architectural character became associated with resemblance to a historical style, such as "Pompeian," "Romanesque," or the style of "transition." What is important in this new definition of character was not the replacement of antique by eclectic motifs, but the replacement of classical theory by historicist theory. In this replacement, historical references took over the role of the old metaphors, giving architectural surfaces a textual quality.

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Notes to Chapter 5

[1] Other than his famous five emancipatory principles of architecture, Le Corbusier's concept of "artificial site" is significant for the modernist paradigm of emancipating the site through construction.

[2] See Gottfried Semper, "Style in the Technical and Tectonic Arts or A Practical Aesthetics," in Harry Francis Mallgrave (ed.), *Gottfried Semper: The Four Elements of Architecture and Other Writings* (Cambridge: Cambridge University Press, 1989), pp.181-264; Heinrich Hübsch, "In What Style Should We Build?," in J. Bloomfiled and K. Foster (ed.), *In What Style Should We Build*, (Santa Monica: The Getty Center for the History of Art and the Humanities, 1992); Hermann Muthesius, *Style-Architecture and Building-Art* (Santa Monica: The Getty Center for the History of Art and the Humanities, 1994); Harry Francis Mallgrave, "From Realism to Sachlichkeit: The Polemics of Architectural Modernity in the 1890s," in Francis Mallgrave (ed.), *Otto Wagner: Reflections on the Raiment of Modernity* (Santa Monica: The Getty Center for the History of Art and the Humanities, 1993), pp.281-322; and Otto Wagner, *Modern Architecture* (Santa Monica: The Getty Center for the History of Art and the Humanities, 1988).

[3] Camillo Sitte, *L'Art de bâtir les villes: notes et réflexions d'un architecte*, trans. C. Martin (Genève: Atar, 1900). For Schmarsow and Fischer, see Harry Francis Mallgrave (ed.), *Empathy, Form, and Space: Problems in German Aesthetics* (Santa Monica: The Getty Center for the History of Art and the Humanities, 1994).

[4] In the Academic language, the sources of antiquity, the authors, records, historians, contemporary intellectuals are considered *"autorité."* Quatremère has an entry with this subtitle in his *Dictionnaire*.

[5] Pinon pointed out Desgodets's "abstractions" of the Roman buildings from modern constructions, such as the San Lorenzo in Miranda that occupied the site of the Temple of Antonine and Faustine. Pinon also counted Piranesi among those who represented a purely antique Rome. Pierre Pinon & François-Xavier Amprimoz, *Les Envois de Rome (1778 – 1968): Architecture et archéologie* (Rome: École Française de Rome, 1988), p. 203.

[6] Even the romantic-rationalist and anti-Academic architectural theory owes its development to the Prix de Rome and government employment. As for this generation, D. Van Zanten asks that if the ex-*pensionnaires* suffered from not being able to produce enough after around ten years of architectural education, "what the government was paying for?" Van Zanten's answer is that they were not only architects, but also bureaucrats. David Van Zanten, *Designing Paris: The Architecture of Duban, Labrouste, Duc, and Vaudoyer* (Cambridge, Mass.: MIT Press, 1987), pp. 115 *ff*. However, the architectural theory that these people developed could not be possible without the state employment that demanded from these architects their theoretical and technocratic knowledge.

[7] Piranesi was impressed by the *Enwurff Einer Historichen Architektur*. See Werner Oechslin, "L'Intérêt archéologique et l'expérience architecturale avant et après Piranèse," Georges Brunel (ed.), *Piranèse et les Français; colloque tenu à la Villa Médicis 12-14 Mai 1976* (Rome: Academie de France à Rome, 1978), p. 403.

[8] After Labrouste's disturbing fourth year envois, Quatremère "launched a campaign to prohibit travel outside of Rome by students prior to their fourth year and to restrict its scope thereafter." Neil Levine, "The Romantic Idea of Architectural Legibility: Henri Labrouste and the Neo-Grec," in Arthur Drexler (ed.), *The Architecture of the Ecole des Beaux-Arts* (New York: The Museum of Modern Art, 1977), p. 359. One of the *protégés* of Quatremère was Huyot, the professor of history at the Ecole, who travelled to Italy, Greece, Turkey, and Egypt. Louis Hautecoeur, *Histoire de l'architecture classique en France* (Paris: Picard, 1955), VI, 161.

[9] As mentioned before, Quaremére's theory of imitation was an excuse for the imitation of Roman forms, and application of Vitruvian principals. In a report from 1834 on the *envois* of the *pensionnaires*, "Quatremère claimed that it sufficed to study the monuments of Rome to see the basis for everything else: "By studying the same monuments, [the young architect can] assimilate the principles in diverse ways. A small number of works have served as models for generations. They have acquired a sort of natural right."" Moreover, he emphasized that imitation of nature in the arts was best exemplified in Roman antiquity, which should not be confused with the romantic concept of innovation: "The Academy... spurns the mania of this false point of view, which considers invention to be innovation – as if artistic imitation, being nothing other than that of Nature, could invent a new Nature – as if Nature, being infinite, could lack for new aspects in the eyes of those with the proper genius to see and to grasp her innumerable characteristics." "Rapport de la Section d'Architecture sur les travaux envoyés de Rome, pour l'année 1834." Quoted by Neil Levine, "The Romantic Idea of Architectural Legibility: Henri Labrouste and the Neo-Grec," in Arthur Drexler (ed.), *The Architecture of the Ecole des Beaux-Arts* (New York: The Museum of Modern Art, 1977), p. 360.

[10] Van Zanten called this generation the "Romantic *pensionnaires*." Although Van Zanten statesd that Labrouste was conspicuously absent from this group's theoretical affaires in Paris, he tried to justify that he was not simply a rationalist. See David van Zanten, *Designing Paris: The Architecture of Duban, Labrouste, Duc, and Vaudoyer* (Cambridge, Mass.: MIT Press, 1987). In fact, as kindly explained to me by Peter McCleary, Van Zanten's reading of the structural system of the Bibliothèque Sainte-Geneviève is wrong, and the fact that Labrouste was not a mere materialist was proven better in Neil Levine's analysis of the Bibliothèque Sainte-Geneviève, although Levine argued that Labrouste's interpretation of architectural history was positivist. See Levine, *op. cit.*, pp. 325-416. Yet, as Hautecoeur also pointed out, structural rationalism was a common treat of the generation. Hautecoeur, VI, 227 *ff.* Therefore, it is more suitable to call the group romantic-rationalist, for the term covers the varying degrees of the both aspects of the combination. Hautecoeur, VI, 227 *ff.*

[11] Cordemoy described the good effect that results from the separation of a courtyard by a colonnade. Abbé de Cordomoy, *Nouveau Traité de toute l'architecture, ou l'Art de bastir* (Paris: Le Mercier, 1736). A good example to Corderoy's description is the early sixteenth-century portico of the S. Maria Maggiore in Rome, which may be the source of Neufforge's drawing in the *Recueil élémentaire*.

[12] Alberto Pérez-Gómez, Architectural Representation and the Perspective Hinge (Cambridge, Mass.: The MIT Press, 1997), p. 221.

[13] Monika Steinhauser and Daniel Rabreau, *Le théâtre de l'Odéon de Charles De Wailly et Marie-Joseph Peyre, 1767-1782, Revue de l'Art* (1973), no.19, pp. 9-49.

[14] Pierre Patte, *Monumens érigés en France à la gloire de Louis XV* (Paris: Desaint, 1765).

[15] The terms "synchronic" and "diachronic" are used here in the same sense that the Swiss linguist Ferdinard de Saussure (1757-1813) used in his linguistic theory. De Saussure interpreted synchronic approach in language as the negligence of the changes of meaning that a word went through in time, and diachronic as the interpretation of a word in its temporal context.

[16] Viollet-le-Duc's position is related to Victor Hugo's famous statement about the text replacing architecture for cultural signification ("this will kill that") as a negative criticism. Violet-le-Duc started his Lectures on Architecture with an agenda to disprove the thesis that great art had something to do with the degree of civilization. According to him, every nation had always been somewhat barbarous, and that the Middle Ages were not different from the time when the Greeks were at the peak of their civilization. *Lectures on Architecture* (2 vols.; New York: Dover Publications, 1987). Moreover, although Viollet-le-Duc is known to be a Gothicist, how his rationalism supported a regionalist approach to design can be seen in his reaction to Vaudoyer's eclecticism in the Cathedral of Marseilles, and in his preference for the Romanesque church design in this part of France. See Van Zanten, *Designing Paris*, pp. 154 *ff.*

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[17] Van Zanten compared the practice of these *pensionnaires* with that of leading contemporary architects from Germany, England and United States, and found the number of achieved buildings of the French lamentably poor. *Op. cit.*, pp. 116 *ff.*

[18] Louis-Pierre Baltard, *Discours d'ouverture du cours de théorie d'architecture (1839)* (Paris: Ecole Royale des Beaux-Arts, 1840).

[19] Van Zanten and Levine quoted the critics of the time from different journals to explain the reactions to the buildings of the Ecole des Beaux-Arts and Bibliothèque Sainte-Geneviève, some of whom welcomed enthusiastically, others expressed their astonishment or confusion.

[20] Catherine Marmoz, "The Building of the Ecole des Beaux-Arts," in Robin Middleton (ed.), *The Beaux-Arts and the nineteenth century French architecture* (Cambridge, Mass.: The MIT Press, 1982), pp. 125. See also Françoise Choay, *L'Allégoire du patrimoine* (Paris: Seuil, 1992).

[21] Marmoz, *op. cit.*, p. 128.

[22] Charles-Ernest Beulé, *Eloge de Duban, lu dans la séance publique annuelle du samedi 9 novembre 1872* (Paris: Institut de France, 1872), p.7.

[23] David Van Zanten, *Designing Paris: The Architecture of Duban, Labrouste, Duc, and Vaudoyer* (Cambridge, Mass.: MIT Press, 1987), p. 74.

[24] Charles-Auguste Questel stated that the realization of this project took place between 1862 and 1866, whereas it is between 1858 and 1863 for Marmoz. *Notice sur M. Duban* (Paris: Institut de France, 1872), p. 6; Marmoz, *op. cit.*, p. 132.

[25] Théodore Ballu, *Notice sur M. Léon Vaudoyer* (Paris: Institut de France, 1873), p. 7.

[26] Barry Bergdoll, *Léon Vaudoyer: Histroicism in the Age of Industry* (Cambridge, Mass.: MIT Press, 1994), p. 141.

[27] *Ibid.*, p. 160.

[28] He argued that when seen from the rue Bonaparte, the attic of the Palais des Etudes seemed hovering over the Arc de Gaillon. Since the Arc blocked the view of the elegant facade, Zanten claimed that Duban must have intended this arrangement. David Van Zanten, "Félix Duban and the Buildings of the Ecole des Beaux-Arts, 1832-1840," *Journal of the American Society of Architectural Historians*, XXXVII (1978), no. 3, p. 172.

[29] "When imagined in perspective, the gate would have anticipated the pavilion, but on a smaller scale and with its angular pediment of the pavilion attic. That in turn would link visually with the rounded roof to the whole stairblock, and the little belfry would be the last topmost term in this compressed composition of planes in space;" and "he has neither imposed a single historical style nor restricted himself to a consistent "modern" style (although he has modified the Gothic and the Baroque in his additions and framed the whole, when seen from the Chautemps, behind a Neo-Grec frontispiece)." Van Zanten, *Designing Paris*, pp. 108, and 111.

[30] Barry Bergdoll, *Léon Vaudoyer: Histroicism in the Age of Industry* (Cambridge, Mass.: MIT Press, 1994), p. 160.

[31] Questel cites Duban's Pompeian imagination: "Enfin, l'ancien cloître des Augustins lui-même, Duban a réussi à le transformer en atrium pompéien. L'étage qui forme attique a le caractère intérieur des demeures de la Campanie; le grand mûrier, le gazon, les fleurs, le jet d'eau, les mosaïques du sol, les tons vifs des enduits, les statues plus petites que nature, nous font deviner la maison gréco-romaine ou plutôt nous y transportent... l'architecte a su exprimer ce qu'il sentait, faire revivre ce qu'il avait aimé et perpétuer, pour les autres aussi bien que pour lui-même, les jouissances qu'il avait éprouvées dans ses voyages." Questel, *op. cit.*, p. 11.

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Pinon stated that Duban was particularly impressed by the houses of Pompeii he visited in 1825 with his friends Vaudoyer and Duc, where the mural paintings attracted his attention. Pierre Pinon, "Le Séjour en Italie: Les Dessins et les envois," in Sylvain Bellenger and Françoise Hamon (ed.), *Félix Duban 1798-1870, Les Couleurs de l'architecte* (Paris: Gallimard, 1996), p. 35.

[32] Marmoz pointed out that this facade with extra-large *oeil-de-boeuf* openings and windows was a free interpretation of "the Petite Galerie du Louvre, on the opposite bank of the Seine, a facade that Duban had himself partially restored with scant respect for Le Vau's early seventeenth-century work." *Op. cit.*, pp. 134, and 137.

Questel considered this facade a mature work, and implied that the extraordinary proportions of the openings were due to need for lighting in the studios, which gave the building a monumental character: "il s'agissait en effet de pratiquer, en grand nombre, dans cette façade, des ouvertures analogues à celles qui servent à l'éclairage des ateliers, et cependant il fallait, avec cette donnée peu architecturale, imprimer à la façade le caractère monumental qui convient à un édifice consacré aux arts et à l'étude." *Op. cit.*, p. 7.

[33] Rykwert referred to the relationship between the famous expression of "this will kill that" in Hugo's Notre Dame de Paris and Labrouste's Bibliothèque Sainte-Geneviève, and claimed that such understanding of architectural experience was Hegelian and "primarily cognitive. Architecture might therefore be retrieved, and it could take fire again from a new kind of embellishment of structure, which would return that cognitive element by relying on the letters of the alphabet and on natural motifs." Joseph Rykwert, *The Dancing Column* (Cambridge, Mass.: MIT Press, 1996), p. 376. The feeling of the site Duban created goes beyond a simple cognitive experience of the exhibition of architectural history.

[34] Van Zanten, "Félix Duban and the Buildings of the Ecole des Beaux-Arts," p. 164.

[35] Beulé, *op. cit.*, pp. 5, and 9.

[36] Hautecoeur, VI, 258. It must be remembered that Labrouste was Duban's *inspecteur* for the constructions of the Ecole buildings before he was appointed as the architect of the Bibliothèque Nationale.

[37] Marmoz, *op. cit.*, p. 134.

[38] Duban passed four years of his studies in Italy in the fora of Rome: in the first year (1824) he studied the Temple of Fortune Virile, and the details of the Arch of Titus; in the second year (1826) the Temple of Mars, Forum of Nerva; in the third year (1827) Temple of Vesta; and in the fourth year (1828), the Portico of Octavius. See Pinon, "Le Séjour en Italie," pp. 32-33.

[39] Antonino Nibby, *Roma Antica di Famiano Nardini, Edizione Quarta Romana* (4 vols.; Rome: Nella Stamperia Romanis, 1818).

[40] Pierre Pinon and François-Xavier Amprimoz, *Les Envois de Rome (1778 – 1968): Architecture et archéologie* (Rome: École Française de Rome, 1988), p. 99.

[41] It is very plausible that Laborde was inspired by the Roman situation, if not particularly by the Roman Forum, given that he stated in the introduction the superiority of France over any other country in Europe for the architectural patrimony. It is no doubt that Laborde had Italy in his mind. Alexandre de Laborde, *Monuments de la France classés chronologiquement et considérés sous le rapport des faits historiques et de l'étude des arts* (2 vols.; Paris: Joubert, 1816).

[42] Catherine Marmoz, "Félix Duban et l'Arc de Gaillon l'Ecole des Beaux-Arts," *Bulletin de la Société de l'Histoire de l'Art Français* (1977), pp. 221-222. After the destruction of the Tuileries Palace by fire and the completion of the Louvre, the triumphal arch of Napoleon remained in the middle of the large open space between the Tuileries Garden and the wings of the Louvre.

[43] "... comme tous les Edifices de tous les temps, dont la beauté s'est toujours accrue de l'aggromération pittoresque des Edifices qui les précédaient ou qui les accompagnaient." *Ibid.*, p. 222.

[44] Bergdoll, *Léon Vaudoyer*, p. 142.

[45] Van Zanten, *Designing Paris*, p. 116; Bergdoll, *Léon Vaudoyer*, p. 149.

[46] Vaudoyer took over the building in 1838. Before him, the building had changed four other architects: François Delannoy (1798-99), C.-J.-B. Jallier (1800-1806), A.-M. Peyre (1806-1832), and Victor Dubois (1832-38). Begrdoll, *Léon Vaudoyer*, p. 141.

[47] Van Zanten, *Designing Paris*, p. 111.

[48] "The triumphal arch at Rimini, the arch of Hadrian at Athens, the arch at Orange, the entrance of Château de Gaillon in Normandy, the Cour Ovale at Fontainebleau, the Château de Nantouillet, and Pierre Lescot's wing at the Louvre." Bergdoll, *Léon Vaudoyer*, p. 154.

[49] *Léon Vaudoyer*, pp. 146 *ff*.

[50] Neil Levine, "Architectural Reasoning in the Age of Positivism: The *Néo Grec* idea of Henri Labrouste's Bibliothèque Sainte-Geneviève" (Ph.D. Dissertation, Yale University, 1975), pp. 597-598. Quoted by Bergdoll, *op. cit.*, p. 170.

[51] Bergdoll, *Léon Vaudoyer*, p. 168.

[52] Vaudoyer studied triumphal arches and city gates for his third year envoi, such as the Augustan Gate at Fano and Arch of Trajan at Ancona. Bergdoll, *Léon Vaudoyer*, p. 91.

[53] For the history of the Bibliothèque Sainte-Geneviève, see Marguerite Wintzweiller, *Les origines de la Bibliothèque Sainte-Geneviève* (Paris, 1986); and Jean-Michel Leniaud (ed.), *Des Palais pour les livres: Labrouste, Sainte-Geneviève et les bibliothèques* (Paris: Maisonneuve & Larose, 2002), pp. 25 *ff*.

[54] Bergdoll, *Léon Vaudoyer*, pp. 207 *ff*.

[55] Van Zanten, *Designing Paris*, p. 88.

[56] The term "locus" is used in the same meaning that Aldo Rossi has used in his *L'Architecture de la ville*, trans. Françoise Brun (Paris: L'Equerre, 1981). See chapter iii: "La Nature des faits urbains. L'Architecture." In page 129, Rossi defined locus: "par ce terme, nous entendons le rapport à la fois particulier et universel qui existe entre une situation locale donnée et les constructions qui s'y trouvent."

In page 133, Rossi parallelled the "limits" of the construction to that of the topography and implied that the place was born from this mutual remaking: "ces limites enferment toute la problématique de la nature spécifique des monuments, de la ville, des constructions. Il s'agit... d'analyser la dimension local d'architecture, ce qui en fait le "lieu" d'un art; et donc également ce qui permet de définir le "locus" comme un fait particulier, déterminé par l'espace et par le temps, par sa dimension topographique et par sa forme, par le fait qu'il est le lieu d'événements anciens et récents, par sa mémoire."

[57] On Labrouste's Paestum reconstructions, see Levine, "The Romantic Idea of Architectural Legibility," pp. 325-416.

[58] *Ibid.*, p. 350.

[59] Neil Levine referred to the elevation of the Coliseum restored by Labrouste's friend, Louis Duc. Yet, the facade of the Théâtre d'Orange, illustrated in Alexandre de Laborde's *Monuments de la France* (1816), is more similar.

[60] Having in mind Saint-Simonian division of history in superstitious, religious and scientific epochs, Bergdoll stated that Vaudoyer's proposed to turn the thirteenth-century refectory into the library of the Conservatoire des Arts et Métiers, because "it symbolized a historical progression from spiritual to positivist research which Labrouste was exploring in these very years as the basis for his *parti* of a space divided in the center by a range of columns in the Bibliothèque Ste. Geneviève." *Léon Vaudoyer*, p. 165.

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The term positivist is directly used by Bergdoll, whereas it was implied by Levine, given the Auguste Comte's publications on positivism coincided the construction of these buildings. Levine, *op. cit.*, pp. 325-416.

[61] Van Zanten, *op. cit.*, p. 98.

[62] Levine, *op. cit.*, pp. 354-355.

[63] Berdoll showed that the legend about the existence of an ancient Greek temple (Temple of Diana) on the site of the cathedral was supported by the findings of fragments of an ancient temple and a fifth-century church during the excavations. *Op. cit.*, p. 246.

[64] Berdoll claimed that the stones of the cathedral were chosen from diverse quarries in the region and the Mediterranean world, and this made the building "both literally and symbolically an amplification of the hidden resources, both physical and cultural, of its site." *Op. cit.*, p. 249. However, this seems to be a little exaggerated, since there is nothing more logical for a construction than bringing the materials from the nearest possible distances.

[65] The dome of the Duomo signified for this group the "transition" from the medieval and Byzantine to the Renaissance. Arnolfo di Campio was the hero of this transition, which was also depicted in Delaroche's famous mural at the Salle des Prix at the Ecole des Beaux-Arts. Léonce Reynaud explained the significance of this dome in his article "Architecture," (1836), I, 770-778.

[66] Bergdoll, *op. cit.*, p. 259.

[67] "*Faits urbains.*" Aldo Rossi used this expression as the motto of his architectural and urban theories. The similarity between this expression and "*faits historiques*" that appeared in the title of Alexandre de Laborde's *Monuments de la France classés chronologiquement et considérés sous le rapport des faits historiques et de l'étude des arts* is striking, given that Rossi referred to Laborde three times in his text.

[68] Although Bergdoll defended the opposite for the Cathedral of Maresilles, it was shown here that the references that were supposed to be site-specific were in fact alien to the local culture, and purely conceptual.

[69] "Dans le fond, sur les bords de la mer, on découvre des monuments celtiques et pierres levées par les anciens Gaulois. Près de là beau temple de Nîmes groupe avec deux clochers du moyen age. A droite est la belle fontaine des Innocents, restaurée depuis peu d'années, dont les figures et bas-reliefs sont du célèbre Jean Goujon; et vis-à-vis de cette fontaine, la colonne de la Place Vendôme, un des plus beaux monuments du siècle élevée à la gloire des armés françoise, et exécutée en bronze sur le même plan que celui de la colonne Trajane à Rome." Alexandre de Laborde, *Monuments de la France. Description des planches* (Paris: Didot l'âiné, 1816), p. 1.

[70] The idea of bringing the (French) Renaissance to its completion is part of the idea of combination, transition and formation shared by the Romantic-rationalists and the eclectic philosopher Cousin. As Van Zanten stated, in his 1829 lecture series at the Sorbonne, Cousin noted that it was "France's task, as the great central power in Europe, to carry the Renaissance to completion." Van Zanten, *op. cit.*, p. 60. Cousin's philosophy shows certain similarities with Hegel's dialectic understanding of history that progresses through the combination of a thesis and an anti-thesis which ends up in a synthesis. Cousin befriends Hegel during his visit to Germany.

[71] David Van Zanten noted the different reactions after the completion of the Ecole des Beaux-Arts in 1838, which shows the confusion about the timeliness of the building by the critics: "Hippolyte Fortoul, representing the moderate Saint-Simonians, considered the building a model." Théophile Thoré, representing a more resolute point of view, questioned it in a pair of articles in *L'Artiste*, I (1838), pp. 220-222; 305-307)." According to Thoré, Duban had three choices for his design, such as doing a historic

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pastiche in the style of the fragments on the site, inventing a new style of architecture, or following the established academic practice, and he was disappointed because Duban failed to chose the second option. Van Zanten, *op. cit.*, p. 67.

Neil Levine, on the other hand, cited the confused critics of the Bibliothèque Nationale, most of which were astonished by its facade. *Op. cit.*, pp. 346 *ff.* In 1852, the editor of the Revue Générale de l'Architecture, the fervent anti-Academic critic and supporter of Labrouste, César Daly considered the building "not only a "monument," but a fundamental work." (RGA, X (1852), col. 380) In *L'Artiste* of 1851, Achille Hermant " 'found the facade "rather puerile" and "something shocking,' " and "blamed this on Labrouste's too "rigorous" adherence to the *Néo-Grec* doctrine, "that architecture is nothing but decorated construction.' "

[72] "Great simplicity, serious and solemn character." Marguerite Wintzweiller, *La Bibliothèque Sainte-Geneviève de jadis à aujourd'hui* (Paris: Université de Paris, 1951), p. 49.

[73] Achille Hermant, "La Bibliothèque Sainte-Geneviève," *L'Artiste*, 5th ser., VII (Dec. 1, 1851), pp. 129-31. Quoted by Levine, *op. cit.*, p. 348.

[74] Beulé, *op. cit.*, p. 11.

[75] Questel, *op. cit.*, p. 7.

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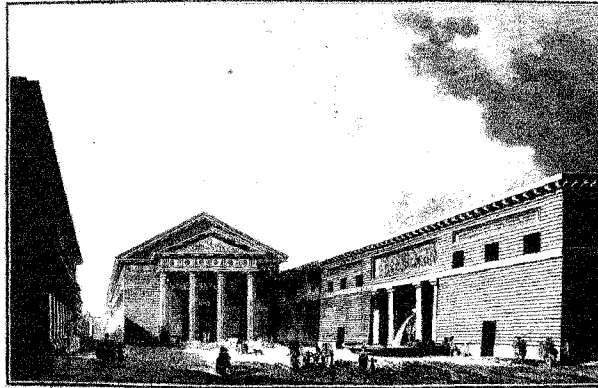
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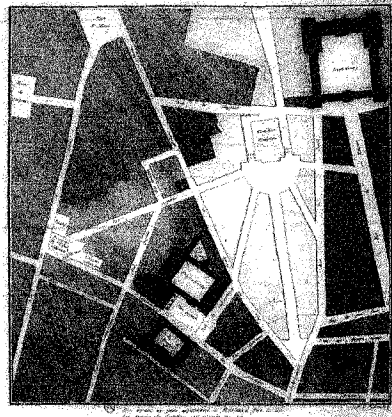
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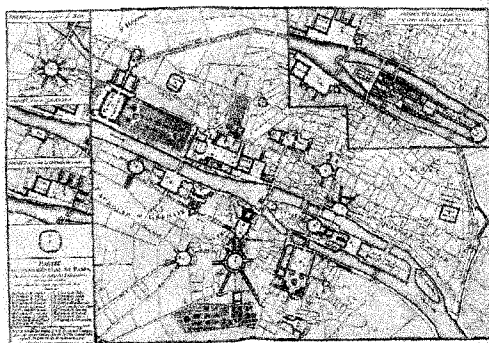
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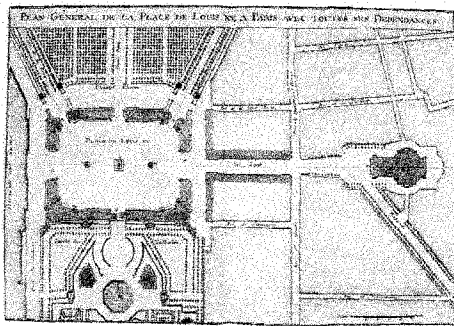
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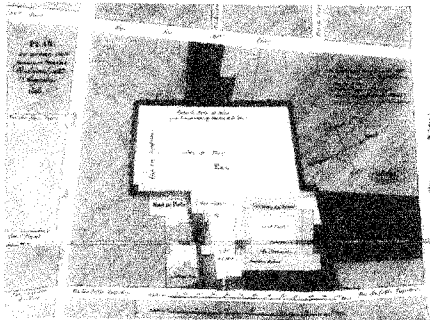
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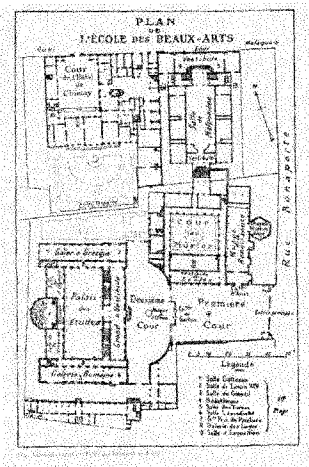
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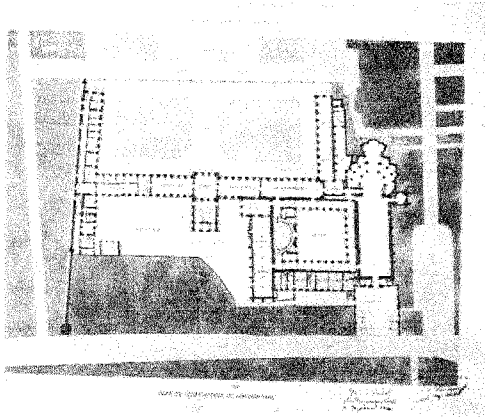
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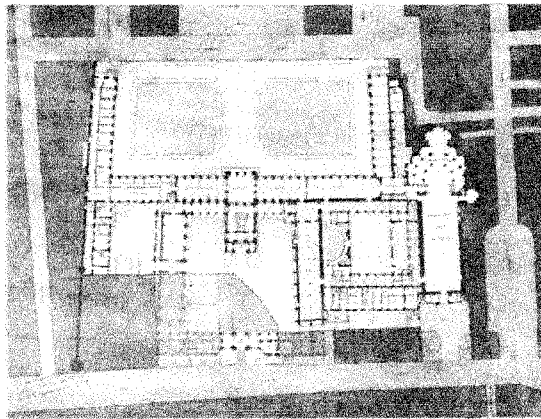
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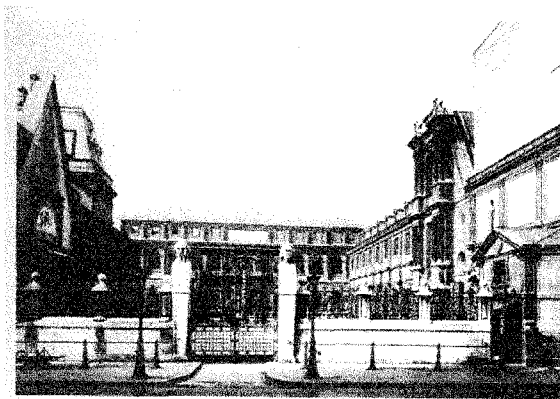
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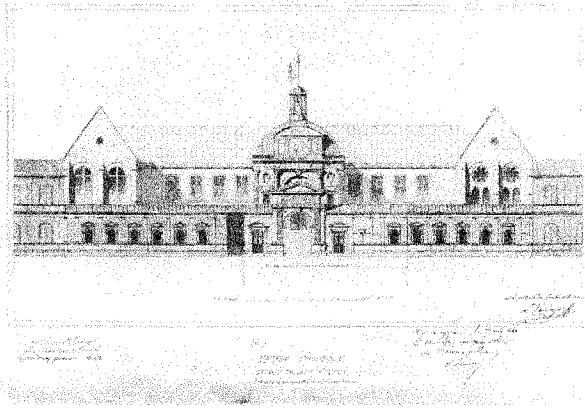
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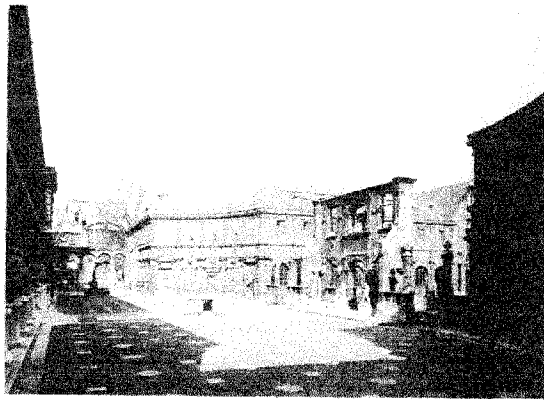
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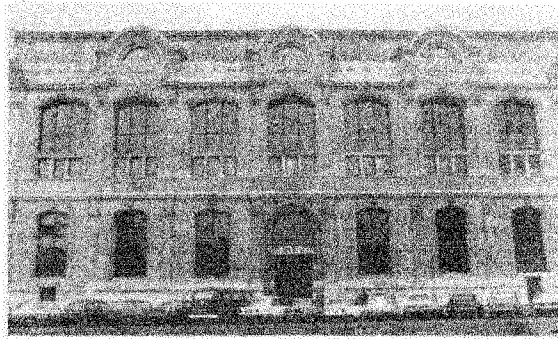
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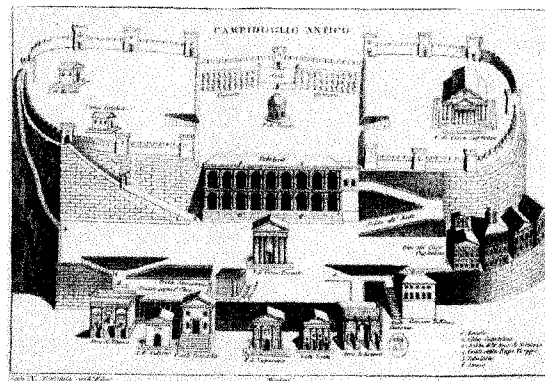
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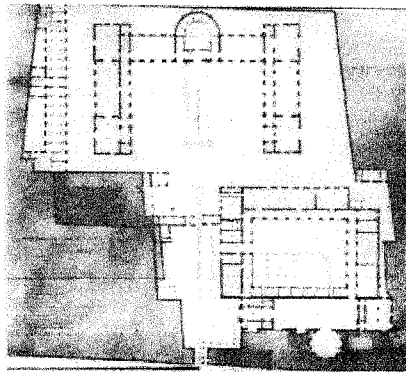
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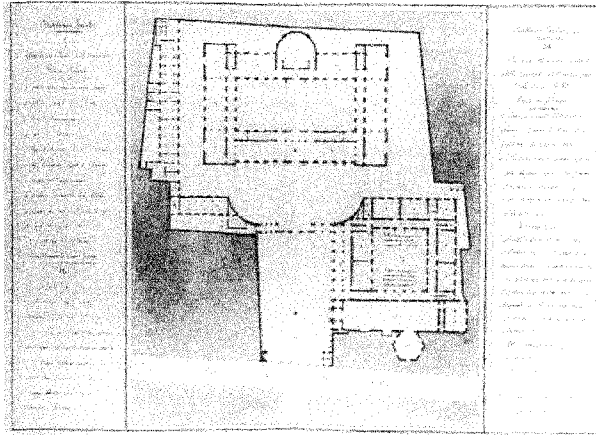
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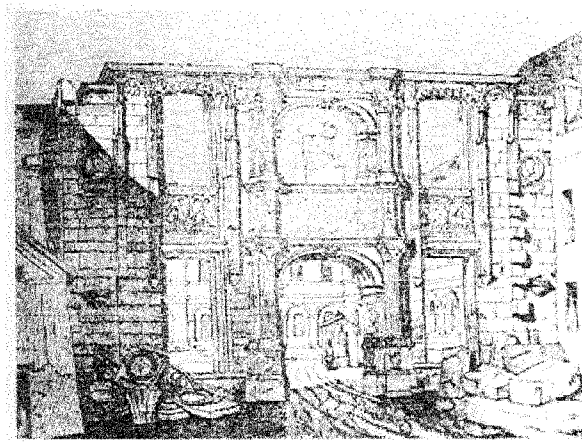
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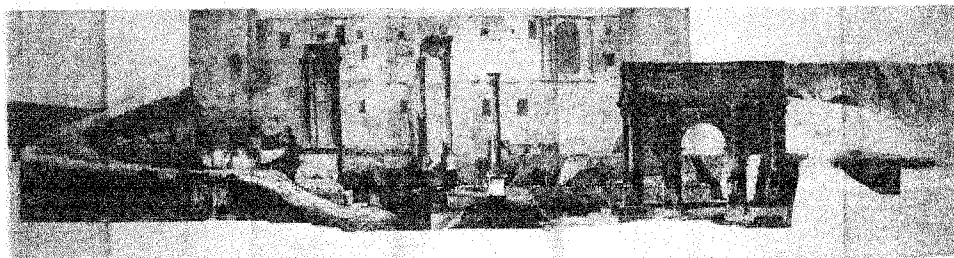
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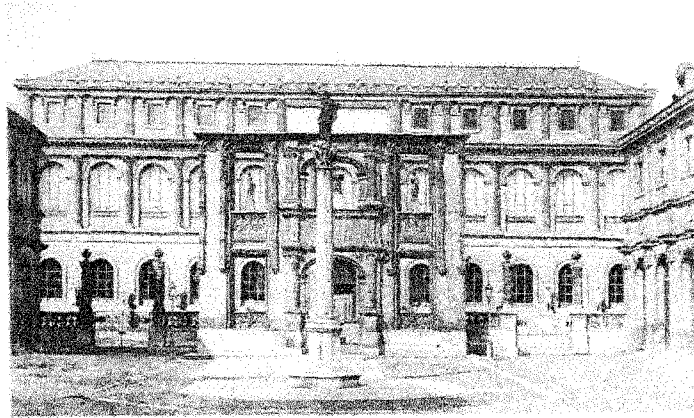
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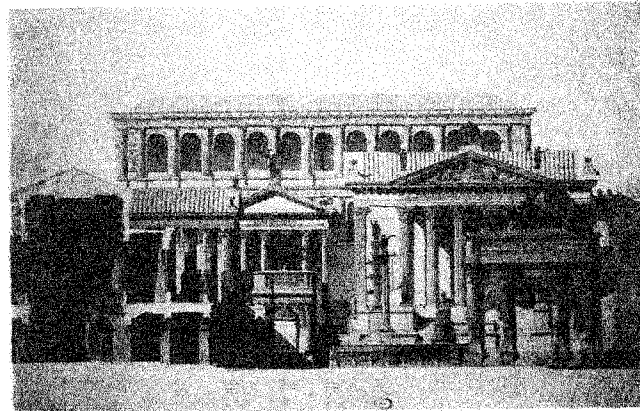
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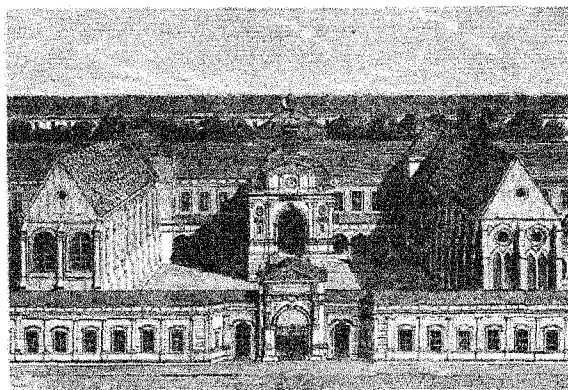
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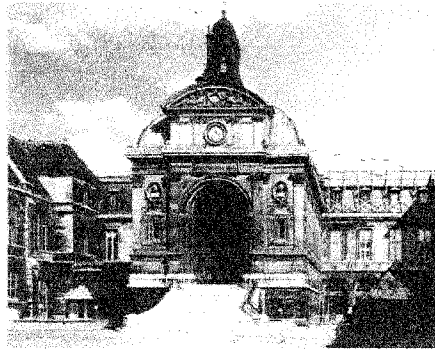
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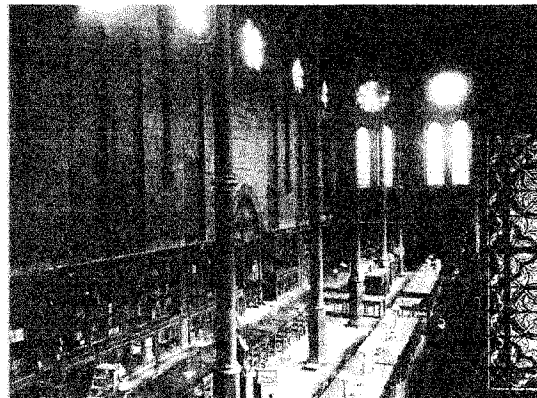
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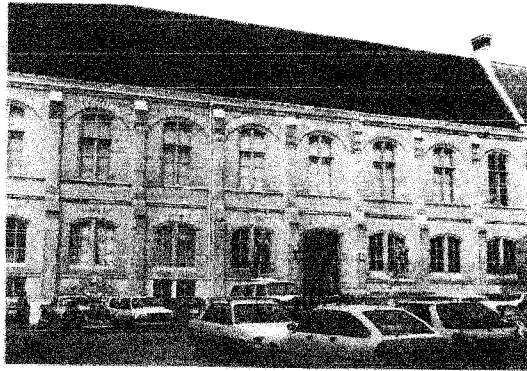
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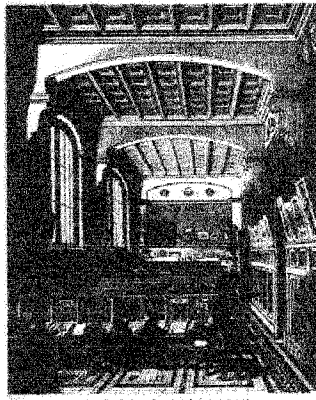
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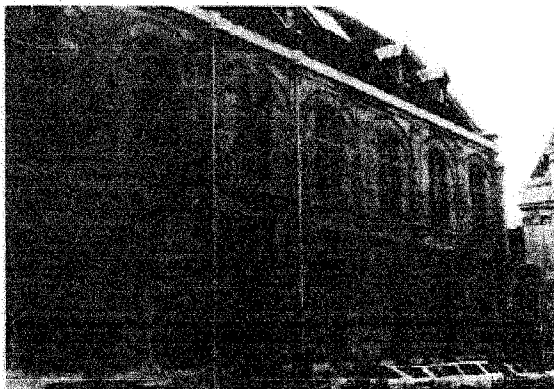
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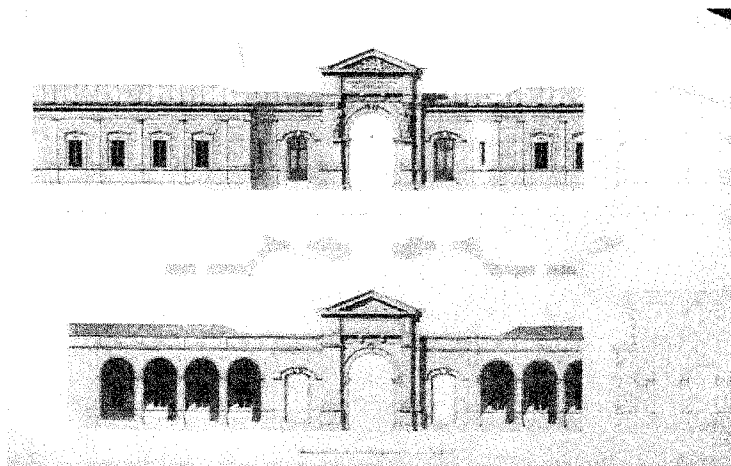
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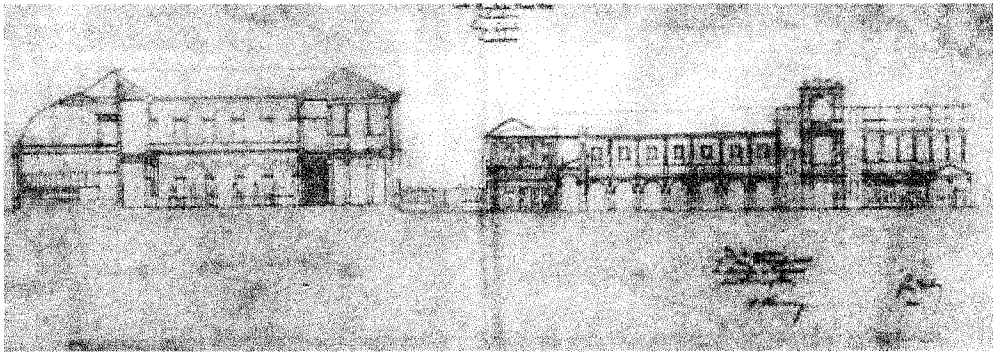
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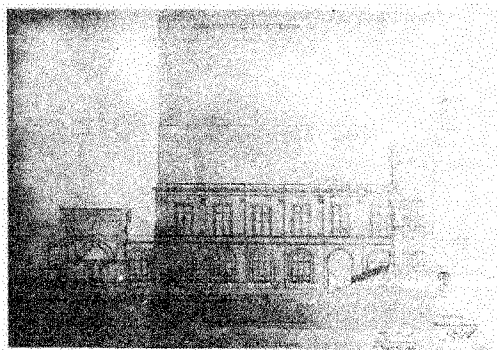
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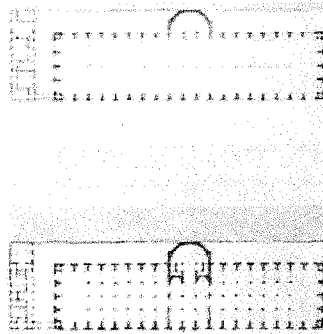
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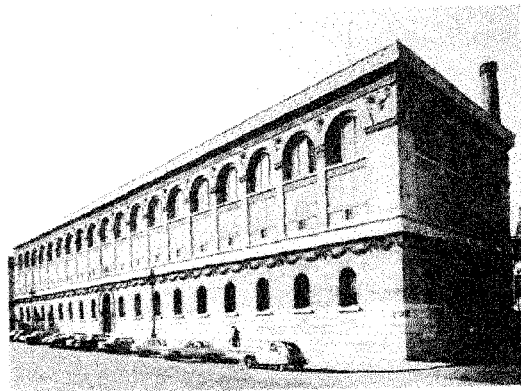
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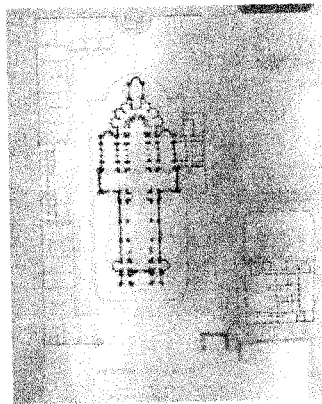
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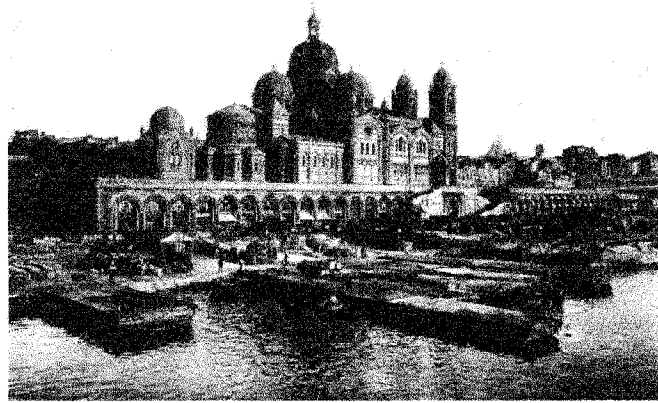
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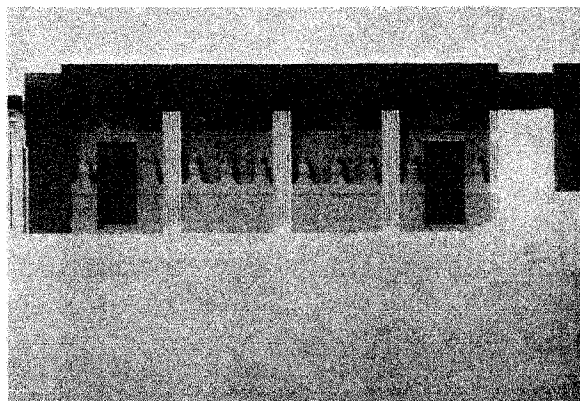
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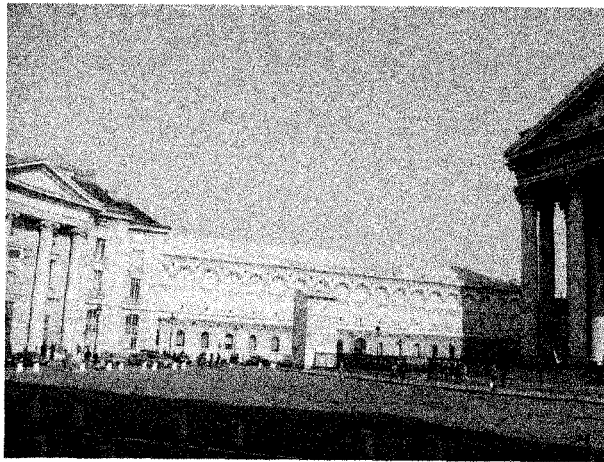
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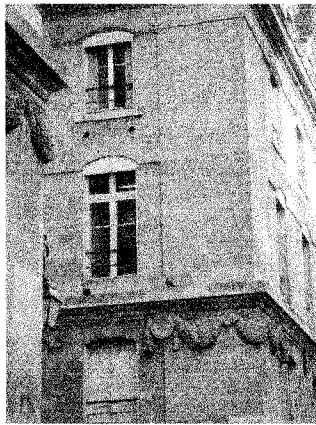
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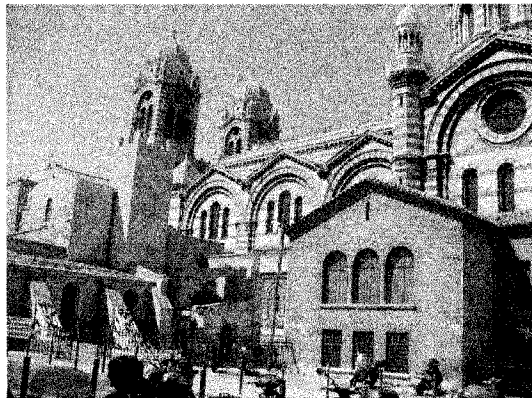
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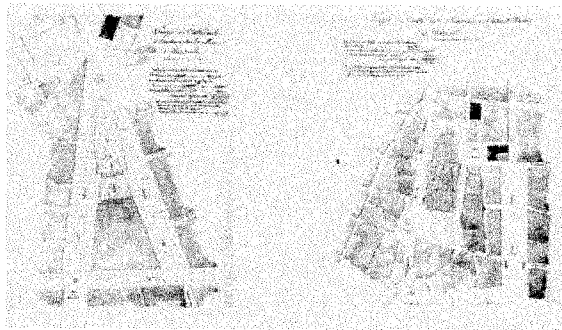
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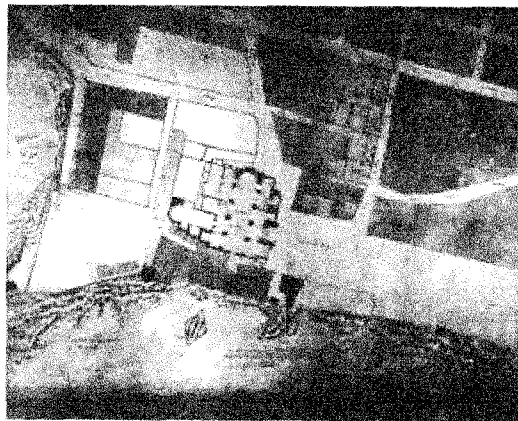
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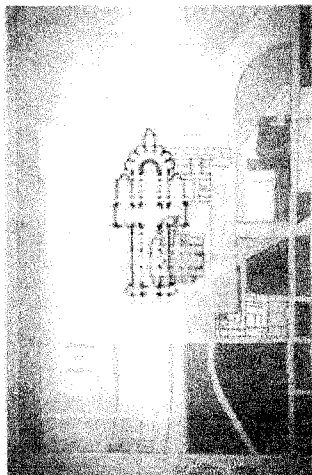
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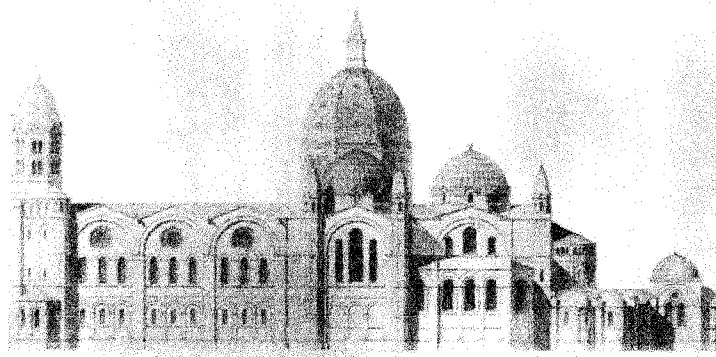
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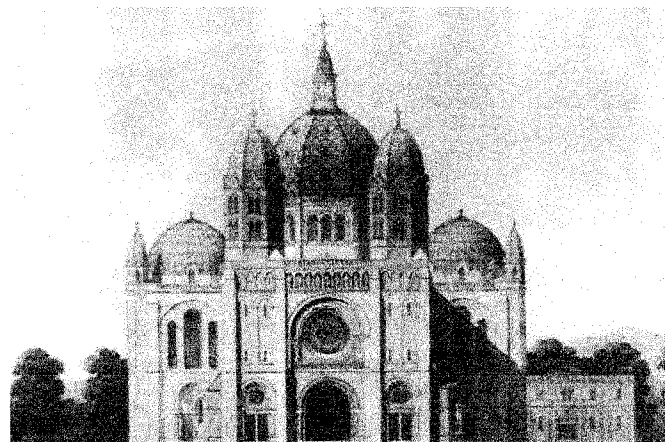
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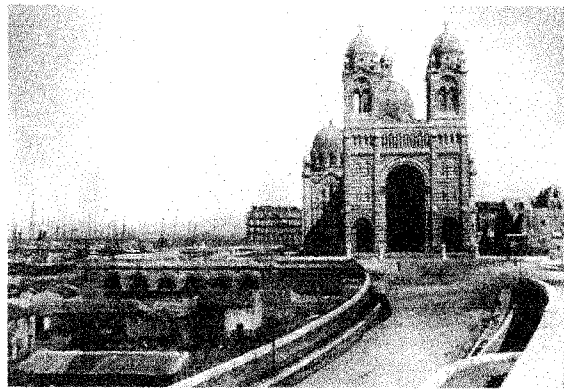
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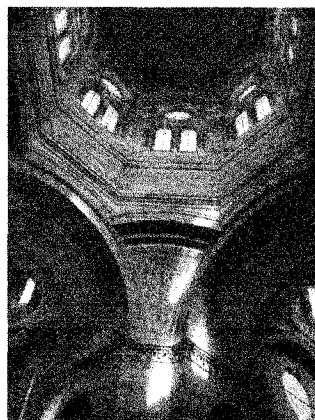
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Fig.52. Cathedral of Marseilles, dome of the crossing

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Conclusion

The vistas created by the juxtaposition of historical fragments in the nineteenth-century intended to represent the historical context of architecture. This is ironic though, because with the elementarization of antique fragments it was aimed to detach architectural forms from their historical associations and to use them in modern compositions. Contrary to the antique fragment, the historical fragment represented nothing but history of architecture. Architectural representation thus became a representation of historical representations. This representation of representation was a product of neo-classical theory, which lacked the ability to create appropriate links between the object of representation (content) and the architectural form (antique fragments), and which led to eclecticism in architecture. To reiterate for the final time, the problem posed itself when two different antique fragments were combined to create the anatomy theater at the Ecole de Chirurgie. This building, "the first chance given to a *pensionnaire* to realize his ideas," inaugurated a period in the history of architecture which ended with the dissolution of classical principles and also the classical elements themselves. In this building, signs of future compositional techniques can be seen.

Although classical understanding of history dominated eighteenth-century, which appreciated the timeless aspects in ancient forms, neo-classicism developed a theory of imitation that sought to hold together the classical elements by means of a technique of composition. An abstract sense of architectural composition emerged toward the end of eighteenth-century and became the medium with which architecture could be re-produced from its basic elements and parts, and those parts alone. Half a century earlier, neo-

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classical architecture had been born from the picturesque representation of the ancient world. Having such an origin, it set out to imitate the appearances of ancient settings already represented in other media. These ancient settings gradually became the focus of architectural design, which, as a spatial art, assumed superiority over painting, sculpture and music. The earliest signs of the autonomy of architectural design can be seen in non-classical settings made with classical elements, such as Boullée's design for the Paris Opera, whose auditorium was a spectacle itself, the exhibition of an antique fragment. The justification for such compositions was left to the antique fragments, assuming they were self-justificatory. Boullée and his students developed compositional methods that regularized the use of the antique fragments. At the end of the eighteenth-century, the most effective method was the "mechanism of composition," whose backbone was a grid of axes. In such a conception architecture was supposed to result from the methodical combination of members.

Since the Renaissance, classical principles such as propriety, order, symmetry and proportion were understood through antique forms. However, Neo-classical architects seem to have reversed the order of things by considering the principles to be the results of these forms. In so doing, they imagined and tried to achieve a perfect method for the re-composition of architectural elements. This conception was a rigid fabrication that was shattered in the nineteenth-century under the attacks that came from both a new conception of the historical time and a dialectical interpretation of the causality between the principles and forms.

The problem of the neo-classical interpretation of the imitation in the arts was with historical forms that were not considered historical. Greco-Roman forms constituted the models of imitation. The elementary-fragments were created to imitate the ancients in modern compositions, but this meant the total submission of architectural design to historical forms. This paradox, the invasion of architectural imagery by historical forms considered to be a-historical, signaled the beginning of something within neo-classicism. The first generation of historicist architects condemned the juxtapositions of antique fragments and Greco-Roman settings, but they were not able to detect the real problem that had reduced the notion of imitation to pastiche, be it classical or romantic. In their attitude toward the representation of historical progress, they continued the representation of representation by using the same technique of juxtaposing architectural fragments to create the historical context of design. Their fabrications of historical context by mixing historical fragments revealed the detachment of the building's form from its specific content, for the representation of historical progress has become the content of all buildings.

The eighteenth-century *"ruiniste"* architect's conception of time was related to his understanding of imitation, although this understanding lacked the profundity of Renaissance theory. As in the Renaissance, architectural ruins revealed to the neo-classical architect the effects of time, but these effects had deteriorated only the materials, not the principles and forms of ancient buildings.

In fact, for the neo-classical architect the future never posed itself as a problem, since a deterministic conception of historical progress did not exist, or was simply not

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represented. This is how Jacques Gondoin could imagine the future ruination of the Ecole de Chirurgie, and consider it an agreeable situation for a monument - like the presently admired ruins of the past - for which he prepared a book testifying to the original state of the building at the end of the eighteenth-century.[1] This awareness of the present as a temporary state between the past and the future, and the expectation of the birth, deformation and the final ruination of architecture pointed to a transhistorical conception of time which was different from the idea of transition that would later relate historical change to changes in material culture.[2] Gondoin's conception of ruination of the "classical" building, however, does not show an understanding of imitation as metaphor, and seems to be simply concerned with the picturesque effects produced by the potential ruination of the building. Such loyalty to the antique forms of imitation resulted in the disinterested application of antique metaphors that came with these forms. Like Gondoin, De Wailly and Peyre successively incorporated antique fragments in the Palace of Prince de Condé, in the Comédie Française, and in the Château de Montmusart - always alluding to ruins - but with perverted metaphors, such as the "Temple of Apollo" for a circular porch, or "recycling of the nature" for the ceiling of a theater. In these designs, it was assumed that the ancient values attributed to such forms were still relevant and applicable in any modern building.

The classical concept of character was also conceived within the confines of imitation as a universal and timeless expression of the building's content. Although character was given to the building by the architect, he could simply imitate the effects of nature, not control them. In this understanding, architecture sometimes expressed its

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material content as a metaphor, as in the hierarchical organization of a facade from the base to the top, the roughest stones being the closest to the level of the earth. Neo-classical architects did not show a similar refinement in character, and they rather sought monumentality with antique forms. The Comédie Française, for example, was completely covered with a rustic surface, whose uniformness contradicted the idea of changing seasons depicted on its ceiling. Contradiction as a rhetorical motif could be used at the facade, but many proposals by the architects show that they were looking for a monumental facade that would convince the client. Later, character became limited to severe, simple and noble features of ancient architecture. Quatremère's concept of imitation was to follow the examples of the ancients, for these were the purest examples of the imitation of nature, because their time was the closest to the time of the primitive hut. Similarly, architects adhered to the classical time, but by creating perfect settings and carefully avoiding the juxtaposition of the asynchronous elements, they ignored the sophisticated response that Renaissance architects had produced vis-à-vis the antique ruins. This conception of time was challenged by the works of Boullée and Ledoux, whose search for spatial effects negatively affected classical principles. These architects substituted architectural spaces with voids that introduced the cosmological scale of time, which crushed the timeless classical settings underneath. Especially in Boullée's compositions, the scale of time corresponded to the inhuman architectural character he produced by sacrificing human proportion.

As proportions became less of an integral part of architectural design, the relationship between nature and the building lost its most important aspect. The meaning

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of architectural character became vague without the key concept of proportion, which had heretofore every aspect of propriety, from the structural soundness to the distribution of the spaces. While Boullée's construction of a void within a spherical mass could not be possible without the exclusion of proportion from the making of the architectural space, De Wailly's spherical proportioning of the space was symbolic, as his circles represented merely the ancient wisdom and were devoid of the Renaissance conception of proportioning. Moreover, the application of the same motifs to different types of buildings revealed the problem with architectural character, and critics like Legrand and Landon complained in the beginning of the nineteenth-century about the lack of "*caractère propre*" and the "*etiquette de bienséance*," which resulted in the confusion of houses with palaces, and palaces with public monuments, such as in the Hôtel de Salm, which later became the Palace of the Légion d'Honneur. Seen in this context, Durand's rejection of "applied" character was a reaction against the arbitrary and simplistic use of this concept. Romantic-rationalist theory largely ignored the neo-classical conception of character. In its re-discovery of the French Renaissance it found not the imitation of the nature, but the imitation of the historical progress of architecture. Parallel to the erosion of the classical principles, what had been seen in character has found in historical context – propriety.

Within this simplistic understanding of imitation in neo-classical architecture is hidden the imitation of architecture's own history. For the romantic-rationalists, the interpretation of architectural representation (character) shifted to reading the historical references. The eighteenth-century construction of the picturesque spatial effects of ruins

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was transformed into the juxtaposition of varied historical forms. The elementary method of re-composition was used to blend the historical elements for the purpose of initiating a progressive transition. The extraordinary emphasis given to the surfaces was an implication of the replacement of picturesque effects by historical signs. For example, the hemicycles of the Assemblé Nationale and the Sénat were two typical examples of an elementary-motif that achieved permanency at the end of the neo-classicism. In these two auditoriums Gondoin's picturesque effects were gone, but the remnant of that dramatic setting was perceptible at least at the background. In the hemicycle of the Salle des Prix of the Ecole des Beaux-Arts, however, it can be seen that after some eighty years of use this antique fragment had become devoid of any allusions to picturesque ruins. Its surfaces were not the places on which the light cast from the oculus progressed slowly, but the background for Delaroche's panorama of the architectural progress - an allusion to a historical promenade in architecture.

The difference between the treatment of the triumphal arch in Alberti's churches and in Vaudoyer's cathedral shows how the meaning of a classical form shifted from the content of the building to something else. In the Tempio Malatestiano in Rimini and in the San Sebastiano in Mantua, Alberti had interpreted the triumphal arch for the representation of the building's content and had given it an appropriate character. Bergdoll's study showed that in the Cathedral of Marseilles, on the other hand, the triumphal arch was one of the many possible historical sources, all of which were used to underline the commercial rhetoric used to justify the design: *"la porte de l'Orient."* This comparison reveals the detachment of the iconography of the church from its theological

content, given the rhetorical expression that had been given to this pagan motif by Alberti was the "triumph over death." The comparison can be extended to another building discussed before. At first glance, the antique fragments of Fischer von Erlach's Karlskirche are more ostensible and fragmented than the Renaissance and Baroque treatments, and the frontal composition heralds the neo-classical *"dégagement"* of the classical elements. However, the mortar that held the antique elements of the Karlskirche's facade together was a complicated iconography, justified by the whole culture that gave its meaning with all the metaphors, historical allusions, and textual interpretations. Vaudoyer's building did not have a similar meaning, and his final efforts to lessen the fragmentation by applying a homogenous surface texture and repetitious elements did not solve the problem of proper metaphors for the church.

The Karlskirche became a recurrent theme in the story of the antique fragment, not only because of the combination of Trajan's columns and the temple front in its facade, but also because the juxtaposition of these fragments had made a nineteenth-century critic remember a certain vista in Rome. In fact, Edward Passmore revealed something interesting while trying to balance the negative comment by this anonymous critic that the inspiration for the Karlskirche was an accidental juxtaposition of forms in Trajan's Forum. He said that "the church of the Santissimo Nome di Maria, also near the column, and designed by Dérizet in 1738... was obviously inspired by the Karlskirche."[3] The juxtaposition of the actual antique fragments with modern forms had its precedent in the earlier eighteenth-century, but this juxtaposition was not at all about creating a historical context. In fact, the purpose behind the juxtaposition of the triumphal arch, the

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minaret-like corner turrets, arches from the Roman baths, Byzantine pendentives, and the Duomo's dome in the Cathedral of Marseilles is not very different from that of the juxtaposition of the Trajan's column, temple front, and St. Peter's dome in the Karlskirche: to create a specific image by using historical fragments. However, while at the Karlskirche these fragments served for the representation of something embodied by the building (church), at the Cathedral of Marseilles the building (architecture) itself was the object of representation.

Between the specific images created by the juxtaposition of fragments in the Karlskirche and the nineteenth-century examples discussed above is the neo-classical period of pure antique settings that eliminated the possibility of diachronic readings, which, for example, had enabled Fischer to put the "victories" of Trajan, Saint Charles Borremeo, and Charles VI in the same context. The iconography of Soufflot's Sainte-Geneviève, for example, was reduced to the bas-reliefs of its pediment that were replaced twice during the Revolution and the Restoration. In the Panthèon, the juxtaposition of the portico with the ancient temple reminiscent of Perrault's "*edifice circulaire*" could not be justified by anything else than the "*bon goût*" of the ancients. The nineteenth-century romantic-rationalists were aware of the shallowness of neo-classical theory, and in their reaction they depended on the idea that Renaissance was not the rebirth of antiquity, but a combination of medieval and ancient systems that gave birth to a new architecture. Yet, in their interpretation of the combination of different "systems," they concentrated on structures and formal elements and ignored the rhetoric that was the mortar of the Renaissance world.

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It can be claimed that the idea of progress was duly exhibited at the Conservatoire des Arts et Métiers, since it was a part of the building's program, which was conceived for the exhibition of industrial progress. It can also be claimed that at the Ecole des Beaux-Arts, nothing could be more natural than the representation of the architectural history. However, in both cases the building's content is directly related to the forms of architectural history. Despite the coincidences, in these buildings the program is simply an excuse for the representation of the historical progress of architecture. Progress in the arts became synonymous with progress in industry, history and society, and architecture was artificially made the indicator of this progress. At the peak of its autonomy from the other arts, and after the reclamation of its own history, architecture ceased to be the owner of its own form. From then on, architectural form would be directly determined by the conditions that developed in society. Until the emergence of the early modernist discourse, when the meaning of the building's content would be considered to be equally determined by the external conditions, the problem of form would remain the biggest challenge of the nineteenth-century architect.

It should be repeated that the independence of form from content was temporarily controlled in Durand's composition method. This method did not suggest typology but endless combinations of typological parts (elementary-fragments), and the building's form depended on these predetermined parts. Durand's method was one step before the total dissolution of classical forms, since it depended simply on forms and compositions, and it would suffice to change simply the vocabulary of the architectural elements to have non-classical compositions. The most important result of the impossibility of typology in

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the age of historicism was eclecticism. Paradoxically, the eclecticism that would be rejected by future architects as a retrospective attitude was born from the historicist idea of progress. For the nineteenth-century architect, the separation of form from the plan was an established fact. While criticizing the "romantics," the Academician Louis-Pierre Baltard declared in 1839 that the orders were decorative elements. He also postulated elsewhere that the elements of architecture constituted a unique category, not to be confused with the elements of painting and sculpture. His son, Victor Baltard, the designer of the famous Les Halles of Paris (1851-1857), created stylistically and technically eclectic buildings like the church of Saint-Augustin (1860-1871) in Paris. Although eclecticism had by then ceased being related to the romantic-rationalist theory of the historical progress through transition, it had become synonymous with the modern sense of progress, which was no longer theorized.

It has been suggested that eclecticism suoght to "situate the modern building in the context of the moment", and in this respect it is different from historicism, which is only about the "ideological construction of history."[4] This criticism stems from the idea that eclecticism is the product of the conditions of the market, whereas historicism reflects the ideology of the state whose buildings were built by the most prominent *pensionnaires*. However, government commissions would remain for a long time the most important factor behind the architectural developments, and train stations, market halls, operas, schools, and buildings of the world fairs would be carried out by such commissions. But architecture was defeated in its challenge against history, and as the ideological re-construction of the history ceased to justify eclecticism, each new

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condition of modern society would have its word about architectural form. The next

challenge would be making these words architecture's own words by looking for the

elements of a modern architecture and the new principles of architectural composition.

Notes to Conclusion

[1] "Lorsqu'en 1780 Gondoin offrit à l'Académie, qui l'avait accueilli en 1774, les gravures de son oeuvre, celle-ci proclama que "ce monument ferait une époque dans l'architecture et assignerait avec distinction l'état ou elle était vers la fin du XVIIIe siècle.' " Hautecoeur, IV, 246.

[2] It should be stated that Viollet-le-Duc added the societal changes to the factors that determine changes in architecture, such as the transformation from a "monarchic spirit" into an "intellectual spirit" in the French society during the Middle Ages, which corresponded to the transformation of Romanesque into Gothic. Eugène-Emmanuel Viollet-le-Duc, *Lectures on Architecture*, (2 vols.; New York: Dover Publications, 1987), I, 236. The societal factors were also implied in Labrouste's reconstruction of the monuments of Paestum, and this is why, it seems, Viollet-le-Duc defended Labrouste against the Academy in an article appeared in 1877 in *Le Journal*, entitled "Le XIXe Siècle." See *Souvenirs d'Henri Labrouste, Notes recueillies et classées par ses Enfants* (Paris, 1928), p. 22.

[3] Edward Passmore, "Fischer von Erlach: Architect to a Monarchy," *Royal Institute of British Architects Journal*, LVIII (1951), 473.

[4] "L'eclectisme en architecture procède d'une attitude complètement différente. Son objet n'est pas d'inscrire l'édifice moderne, par le moyen du pastiche, dans une construction idéologique de l'histoire, mais au contraire de le situer dans la conjuncture du moment." Jean-Pierre Epron, *Comprendre l'écléctisme* (Paris: Insitut Français d'Architecture, 1997), p.12. Epron supported this somewhat vague statement by the facts of the changing professional conditions and technical development that affected architectural production. One important case is the birth of the *société d'architecture* in 1816, emerged as a response to the questions of "who the architects are" and "who will represent them," as a result of the increasing competition from the engineers. See pp. 40-41.

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