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Paper 4: The Renaissance-Baroque System. A Critique.  
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***The Renaissance – Baroque System: A Critique***  
*A theoretical paper*

***A paper written and published by***  
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## **About the Author**

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## ***The Renaissance – Baroque System: A Critique***

*“Whether you can observe a thing or not depends on the theory which you use. It is the theory which decides what can be observed.”*

Albert Einstein  
(Carr, P.164. quoted from M. Polanyi. *Encounter*, January 1972.)

### **Preface**

This paper was first submitted to The School of Architecture at Kingston Polytechnic, London, United Kingdom, (now Kingston University) in 1991 as part of the submission requirement for the degree of Master of Art in Architecture: Design and Theory.

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## **Introduction**

In this paper I wish to investigate Emil Kaufmann's theory of an *Architectural System*, and its application to the Architecture of the Renaissance and the Baroque periods. For the purposes of this task, I shall draw upon the work by Michel Foucault and his hypothesis concerning an *Archeological System* or theory of knowledge.

In **Chapter 1** of the paper, I will outline Kaufmann's concept of an Architectural System.

I will show how this concept of an Architectural System is augmented by an overriding order of time, that is, time understood as a continuity implying notions of progress and development. As such I shall conclude that Kaufmann's System is still partly dependent upon the Hegelian model of history as a form of progressive evolutionary development.

I shall also note how a certain attitude is achieved through the temporary differences implicit in the two notions of a *system* and its *evolution*. A system implies something static or at least self-contained, and evolution implies change and development.

I shall argue that it is the inherent contradiction of the two notions that allows Kaufmann to avoid an analysis that might undermine his concept in its particular application to the Architecture of the Renaissance and the Baroque periods. For the differences between the two seem easily explained in the *evolutionary* terms of a 'rise' (The Renaissance), and a 'decline' (The Baroque) in the Architectural system. On the other, its static nature establishes a network of common elements and intentions which appear to bind the two periods together in one *system* of thought.

Perhaps on the level of observable differences this analysis holds good. However, I would like to suggest that Kaufmann's concept of a Renaissance - Baroque system has a number of difficulties, which should not be over-looked. In principle these difficulties refer to the relationship of Architecture to contemporary systems of thought. For, although Kaufmann refers to the dependence of an architectural system upon a "general mental attitude of an era," he does little to articulate the nature of this dependence. (Kaufmann, P.76.) Therefore, I shall conclude this section with the identification of three areas in which he fails to articulate this dependence.

These are:

- (i) A general reluctance to explain key visual differences between the built architecture of the Renaissance and that of the Baroque, due to a fixation with his theory of evolutionary development.
- (ii) A failure to acknowledge any significance in the clear break between the two periods as indicated by the style of "Mannerism."
- (iii) An apparent failure to relate his hypothesis to the broader switch in learning from 'Scholasticism' to 'Science.'

In **Chapter 2** of the paper, I shall then introduce the work of Michel Foucault. Foucault concerns himself with the historical development of Western thought. Therefore, his work seems to offer some opportunity of providing a sound basis from which a degree of constructive criticism is possible in regard to Kaufmann's concept of a "Renaissance - Baroque System" in the Architecture of the period.

Firstly, I will note that it is evident that some aspects of Foucault's approach to history are similar to Kaufmann's, in particular, the idea of a *system*. For at the head of Foucault's hypothesis is the notion of an "**archeological system of thought.**" It is this, he claims, that determines the content and limit of all knowledge within an era. He does not specifically refer to Architecture, but, in view of the universal nature of his theory, the application of it to the difficulties of Kaufmann's system are, I think, appropriate. However, I shall note that some differences do occur between the two theorists in respect to questions of change. I shall note that whilst Kaufmann shies away from the notion of radical reversals in history, Foucault does not. As such, Foucault does not consider the notion of a continuous and constant evolution with respect to changes *within* a system of thought. Instead, Foucault identifies complete breaks or reversals *between* (static) systems.

Secondly, I shall also note that Foucault's thesis seems to encompass a periodization which appears to coincide with key periods of Architectural history. However, differences in chronology are evident.

Thirdly, I shall introduce a general outline of Foucault's conclusions about the existence of two independent archaeological systems of thought, the first applying to the Renaissance and the second applying to the Baroque.

In **Chapters 3 and 4** of the paper, I will attempt to establish if Foucault's theory of two distinct (archeological) systems of thought can be found to exist within the Architecture of the Renaissance and the Baroque.

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For each period I shall try to identify the nature of their observable differences and intentions in their relation to the 'rules' governing the production of architectural thought at the 'archeological' level.

In the **Conclusion**, I will argue that whilst on the surface the idea of a Renaissance - Baroque System of Architecture appears to be continuous between the Renaissance and the Baroque, it is clear that general changes in contemporary thought did result in a fundamental change to the system of thought governing the discipline of Architecture. And that these changes hit the discipline with some force.

I shall conclude, therefore, that, given the **visual changes** in the architectural **form** of the Baroque period, it would not be unreasonable to state that the two periods of architectural history could be described as being founded on two distinct *architectural systems* of thought rather than the single system proposed in Kaufmann's theory.

And that, furthermore, these two systems are defined and limited by legitimate and fundamental links to changes in human thought, when Western learning moved away from Scholasticism and onto Science.



## 1. Kaufmann: Architectural Systems

### (a) The Idea of an Architectural System

Kaufmann introduces both the idea of an *architectural system* and its application to the Architecture of the Renaissance and the Baroque in his treatise, "Architecture in the Age of Reason," published in 1955.

An architectural system, he says, is that which determines "the interrelation of the parts." In short, it is an order of composition. Changes in this, he suggests, operate at a deeper level than those of "the periodic appearance and disappearance of **forms**" or changes in styles (although a change in style may indicate a change in the system.) "Systems (also) depend wholly upon, or better derive directly from the general **mental** attitude of a particular era." (*My italics*). As attitudes change, so architectural systems are also in a state of increasing "flux." "Moreover," he says, "a change of system does not merely concern a few elements, but affects the whole." Consequently it is responsible for the selection, invention or modification of forms at their first appearance in history. It is also responsible for the intensification of the characteristics (pictoriality, plasticity, etc). He also notes the antagonism between forms and the system, when forms of an earlier system 'recur' in a later one, due to some new scholarly interest or other reason. "This is why," he says "we have a feeling of something unusual in every revival, of even of something insane." (Kaufmann, P.76.)

When there is a change in the system, he says, this will usually be indicated by a change in **forms**. Initially these will be borrowed. However, the use of these will be short lived, and will undergo a "transformation" under the new system. Sometimes the sudden appearance of certain new forms will, he notes, give an impression of a break in development. However, behind these a long period of preparation has, he states, taken place.

Kaufmann's approach to history differs with that of Foucault. The latter's theory depends upon the recognition of complete and sudden reversals in **all** human systems of thought. For Kaufmann, there is "no sudden reversal except, perhaps, in the infinitesimal and therefore imperceptible moment of the conception of the new idea." (Kaufmann, P.77.) This difference between the two is, I would suggest, one of degree. However, with regard to the total critique, it remains a key issue when changes in Architecture are compared to those which Foucault cites as occurring in other disciplines during the Baroque period.

Finally, Kaufmann notes that each architectural system can be identified by its own particular *struggle*; that is, each aims to fulfill its specific concepts of the interrelation of the parts. However, none, he says, can ever completely fulfill this, due to both external opposition and internal contradictions.

In this respect, Kaufmann falls into the Hegelian Model of History. "The unity of an epoch in the visual arts," he says, "results from the predominance of an imminent *idea*." (Kaufmann, P. 77.) (*My italics*) The gentle switch from the word "system" to "idea" may not seem so important. However, such a switch reveals a certain inconsistency in his doctrine. For, whilst he seems to want to extract himself from Hegelian historicism, by denying any association of his "concept of the rise and decline of architectural systems" with that of the "nineteenth century concept of blossom, maturity and the decay of styles," (and indeed, by introducing the very notion of a "system,") the specific reference to it as an "idea" "struggling for fulfillment," prior to an inevitable 'death' remains, I would suggest, wholly within a dominate ordering principle of time. Such a principle, whatever it's content with respect to progress and development, still remains within the Hegelian tradition. As such, Kaufmann's ideology seems to rule out the possibility of an architectural system which is consciously chosen for itself and its utility alone, rather than one which exists *unconsciously* for some unconscious "fulfillment." This is a theme to which I should like to return. For, in reference to Foucault's analysis of the two periods, such a possibility appears crucial to a proper understanding of a Baroque architecture in particular. However, before dealing with these problems, I should now like to discuss Kaufmann's concept of "The Renaissance - Baroque system" to which, significantly, he shortens to the term, "The Baroque system." (Kaufmann, P.78.)

#### (b) The Idea of a Renaissance - Baroque Architectural System

Kaufmann identifies three fundamental principles which make the "Renaissance - Baroque system." These are concatenation, integration and gradation. Concatenation is a word he borrows from Robert Morris. ("Rural Architecture," London, 1750.) It refers to the harmonious relationship of parts with regard to each other. Integration is the integrated relationship of the parts to the whole. Gradation is the differentiation of the parts by distinguishing between the dominant and the subordinate. In support of his argument, Kaufmann draws upon certain passages in Andrea Palladio's, "*I Quattro libri dell' Architettura*," first published in 1570. (Kaufmann, P.11.)

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None of these ideas imitates the Ancients. However, Palladio seems to borrow certain aspects of Vitruvius's aesthetic categories and adapt them to a new post-medieval order. In particular those which refer to the ideal of quantitative beauty based upon the principles of proportion or perfect number relations. These were, *ordinatio, symmetria and eurythmia*; order, symmetry and rhythm.

What is not borrowed is the rule governing the equal value of a building's elements. "Each column," Kaufmann notes, "on an ancient building is of equal rank with the rest. The pediment is higher than, but not superior to the colonnade, the elements of the Greek temple were coordinated – whereas in the front of the Pazzi chapel the side compartments were subordinated to the higher and wider central bay. The dome of the Roman Pantheon is inconspicuous, where as that of St. Peter's rules in size and shape." (Kaufmann, P.79.)

At this point, I would like to remind the reader that I do not intend to take issue with the concept of an *Architectural System*, especially one which applies to architectural composition in general. However, I would like to question Kaufmann's **reasoning** behind his analysis of the two periods of architecture, and his conclusion that they are part of one architectural system of thought.

### (c) A General Critique of the Idea of a Renaissance - Baroque Architectural System

The first criticism of Kaufmann's theory of a Renaissance - Baroque Architectural System is his use of time as the governing principle.

Of course, the arrangement of events according to some chronological order is clearly one of the fundamental tasks of the historian. However, I would suggest that this task should not dominate the structure or the interpretive analysis of a historian's hypothesis. In this sense, I must question the temporal aspect of Kaufmann's concept and its conclusions. Kaufmann is quite clear as to what these are.

"The Renaissance was the first stage in an attempt towards a new organization of the constituents; the Baroque represents the last desperate efforts to reach this goal. The Renaissance was the preparatory stage of the Baroque; the Baroque made a harder effort to achieve the common ideal of organization."

(Kaufmann, P.78.)

Kaufmann supports his argument by focusing upon the relationships between the elements of his system, relationships which he seeks to condition by a further concept of “constant and slow evolution.” (Kaufmann, P.76-77.) In this, he cites the inherent difficulties of choosing to stress either concatenation or gradation. If concatenation is decided upon, should the emphasis be on the horizontal or vertical elements? If gradation is chosen, should the architect decide to accentuate one storey, or the main vertical axis of a facade, or should he compromise and underline both? (For example, in an inverted ‘T’ pattern.) (Kaufmann, P.81). Incidentally, such processes are, he says, carried out at the unconscious level; a factor, which Foucault also raises in regard to the construction of his own ‘system;’ the operation of thought at a *positive* unconscious level. (Foucault, P. XI)

Kaufmann also observes fundamental antagonisms between gradation, with its emphasis on the (hierarchical) distinction of the parts and Integration, with its tendency towards the sublimation of the parts with the whole. (Kaufmann, P.82.)

For Kaufmann, these inherent conflicts are basic to his hypothesis with respect to the “decline” of the system throughout the Baroque Period. (And, therefore, by implication proof of its gradual evolution during the Renaissance: Although, as Kaufmann notes, it was operative from the very start in the work of Brunelleschi.) He correctly recognizes a distinguishing feature of the Baroque; the radical intensification and self-assertion of the parts. And, although he questions whether or not this process is automatic, his previous assumptions with respect to a systems evolution, suggests that for him, such intensification is merely proof of his theoretical position. (ie: It is evidence of a system in ‘decline.’) (Kaufmann, P.78 & P.83.) As such, he fails to offer any in depth analysis of the phenomena, on the grounds that it refers to the “metaphysics of architecture,” and thus goes “beyond the scope of his investigation.” (Kaufmann, P.83). Considering his earlier statements on “the predominance of an imminent idea,” I find this choice of escape route somewhat surprising. In any case, the absence of any enquiry into the matter, from an alternative conceptual position, is clearly unscientific. As a result, it not only fails to place Baroque architecture in a particularly good light, it also undermines the very concept of a complete system covering the Renaissance and the Baroque periods.

The second criticism is the apparent failure to explain the existence of a style of Architecture called 'Mannerism' in its relation to the historical context of the Renaissance - Baroque System. Kaufmann identifies it as a form of antithesis, disregarding its use of concatenation, integration and gradation. (Kaufmann, P.12.) However, having done so, its relevance is dismissed. Perhaps it should be seen in the negative. For as Kaufmann notes it failed to find a new order to architectural composition. However, its very existence clearly forms a significant break in the universal continuity of the 'Baroque System.' As such, the complete revival of the system in the seventeenth century clearly needs some explanation. However, Kaufmann dismisses the problem by referring his readers to "other historians" on the grounds that a 'Mannerist Style' has little to do with architecture. Perhaps this is true; but nonetheless, its existence seems to suggest an important alternative strain of thought, active throughout the world of *seicento* art. This too, should not be ignored.

The third criticism is the radical change in human thinking from Scholasticism to Science, an event which Foucault sees as a complete reversal, occurring at about 1650. Whatever it's precise date it is an event which no self-respecting historian can ignore. However, in Kaufmann's Architectural System for the period(s) it is an event which makes little impact on his theory.

In view of his earlier comments regarding the dependence of a system on the "general mental attitude" of an era, it is, I would suggest, an oversight, which again undermines the credibility of his hypothesis. (Kaufmann, P.76.) This situation ought to be corrected and relationships established between the useful idea of an *Architectural System (of thought)* with that of developments in other areas, or systems, of human thought. It is with this aim in mind, that I would now like to turn to the theory of Michel Foucault on *Archeological Systems*.

## **2. Foucault: Archeological Systems**

### **(a) The Idea of an Archeological System**

Michel Foucault first introduces his concept of an archeological system in his thesis, "*Les Mots et Les Choses*," published in 1966. In the English edition of 1970, this title was changed to, "The Order of Things."

Foucault's principle aim in this work was to test the validity of two hypotheses. The first of these concerned the possibility that all the intellectual activity of a given period obeyed the laws of a certain code of knowledge. For Foucault, such a code would be one which refers to the existence of common underlying structures, structures common to all disciplines, whether these be scientific, social scientific or artistic. This common basis is what Foucault refers to as the '**archeological**' level or system. It is a set of "rules of formation, which are found only in widely differing theories, concepts, and objects of study." (Foucault, P. xi.)

These systems however, undergo complete reversals or 'mutations' at various points in time. Therefore, connected to the first hypothesis the second deals with chronology. In this, he sets out to test whether or not the same 'periodization' employed in this previous work on madness and medicine, has any application to the first hypothesis. In short, to see if a 'classical age of thought existed between the mid-seventeenth Century and the end of the eighteenth, preceded by the Renaissance, and followed by the Modern period.' (Foucault, P. xxii.) (Sheridan, P.48.)

### **(b) The Chronology of an Archeological System for the Baroque Period of Architecture**

In a history of architectural thought, Foucault's 'classical' period seems to coexist with the Baroque. However this chronological equivalency does need some qualification.

It has been noted that the Baroque was produced in Rome between 1630 and 1670 (Pevsner, P.238). Indeed, some have even referred to it as “the style of 1630.” (Martin, P.11) Whilst others begin the Baroque at an even earlier date, seeing manifestations of it in painting, especially in the work of Carracci, Carravaggio and Rubens (Martin , P.12.) In Architecture, Pevsner also notes elements of it in Michelangelo’s designs for the dome of St. Peter’s in Rome, (c.1569); a similar view held by H. Wolfflin as early as 1888. However, more recently this opinion has received some strong criticism. (Ackerman, P.210.) Clearly, the question of its beginning is a difficult one. However, in view of Kaufmann’s theory concerning “the precocity of the architectural phenomenon,” the date of 1650 given to Foucault’s mutation in thought should not unduly affect the legitimate application of his general hypothesis. (Kaufmann, P.126.)

More serious, however, is the task of locating the finality of the Baroque. Foucault, cites 1800 as the point at which a complete change occurs between the ‘modern’ and the ‘classical.’ (Foucault, P. xxii.) However, like Kaufmann, he does establish a period of transition, a first ‘modern’ phase, which occurs some decades prior to 1800. In architecture this period coincides with the advent of ‘Neo-classicism,’ a ‘style’ of architecture, which follows the Baroque and ends with the ‘Modern’ as understood by Kaufmann himself. (Honour, P.13; Kostof, P.547; Kaufmann, P.X, P.208-215.)

At this point, I should note the following. For, although ‘Neo-classicism’ lies outside the immediate concerns of this paper, Foucault’s recognition of a certain organizational *continuity* in thought, between the Baroque and the ‘Neo-classical’ periods demands some attention: Firstly, because it underlines the basis of his periodization, and secondly, because his assessment of the intellectual content, taken as it is from three distinct disciplines concerning living beings, systems of exchange and language adds, in my view, considerable weight to his analysis.

In the light of Foucault’s observations, Kaufmann’s singular hypothesis of one system of Architectural thought underlying the evolutionary development of Architecture from the Renaissance through to the ‘modern,’ becomes questionable when compared to developments in other areas of human knowledge. In this he may be considered to have overstated the kinds of differences he seeks to establish between the Baroque and the ‘Neo-classical,’ in addition to overstating the *similarities* between the Renaissance and the Baroque, which are implicit in the idea of a combined *Architectural System*. (Kaufmann, P.12.)

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Before turning to the questions of Architecture raised by a comparison of the two theories, it will of course prove useful to outline in greater detail what Foucault's general ideas are on the two periods of history.

(c) A Description of Foucault's Renaissance Archeological System

Foucault describes his understanding of the Renaissance 'archeological system,' as "the prose of the world." It is a world held together by the power of **Resemblance**. (Foucault, P.17.)

He identifies four key systems of Resemblance; *convenientia* (adjacency), *aemulatio* (emulation), analogy and sympathy. The last of these however, was so powerful that it needed an equally powerful counter-force, antipathy, to keep things apart, thus avoiding total assimilation. This system, which held everything together, yet distinct, was 'revealed' to the human mind in the form of *signs*. The object of knowledge was to unearth and decipher these signs. However, these signs were not self-evident, and were thus inaccessible to the untutored eye. Furthermore, no distinction was made between the observation of nature, magic, the Scriptures and the writings of the Ancients. All were signs that had to be discovered and interpreted. But because all signatures mirrored or reflected one another, the knowledge generated was 'plethoric; it was limitless.' If a limit could be found in the system, it was found in God. For, it was God which lay at the heart of *all* meaning. (Foucault, P. 18-23)

"The truth of all these marks - whether they are woven into nature itself or whether they exist in lines on parchments and in libraries - is everywhere the same: coeval with the institution of God."

(Foucault, P.34.)



The word was of equal importance to nature observed. It too, had a being. "In its original form, when it was given to men by God himself, language was an absolute certain and transparent sign for things, because it resembled them." (Foucault. P.36.) It was only after Babel that this unity was fragmented into human languages and their original resemblances to things were lost. He states that even Hebrew, the closest language to the original naming of things is only a memory of it. Nevertheless like other 'Marks,' words assumed a divine like status, forming, along with others "a three fold system of knowledge: the marks themselves, the things designated by the marks and the similitudes that joined them together." As resemblance constituted the form and content of the sign, the three elements generated, operated as a single figure. In the classical age this pattern of signs becomes binary: "the connection of a *significans* (signifier) with a *significadum* (signified)." "The world was no longer seen as itself a depository of language; language was wrested free of things, entered an arbitrary relation to them as *representation*, as one form of representation." (Sheridan, P.51-2.)

(d) A Description of Foucault's Baroque ('classical') Archeological System

Foucault identifies Bacon and particularly Descartes as the foremost opponents of the order of resemblances and similitudes. For Descartes, 'resemblance was a confused mixture of different categories that had to be analyzed in terms of identity and difference.' (Sheridan, P.53.) Resemblance is replaced by comparison, which occurs in the form of measurement and order. "The one analyzes into units with a view to forming relations of equality and inequality; the other establishes the simplest possible elements and arranges differences according to the smallest possible degree." (Sheridan, P.53.) Whilst acknowledging a greater tendency to reduce all empirical knowledge to laws of mathematics, Foucault notes that what determines all intellectual effort throughout the 'classical' age is a belief that "relations between things are conceived in the form of **order**, it being understood that the problems of measurement are also reducible to problems of order." (Sheridan, P.53) Indeed in some fields of knowledge there is no mathematics at all. Instead, a system of signs operates. It is these which are ordered according to the taxonomy of identities and differences. In support of this new 'archaeological system,' Foucault discusses the order found in the empirical sciences regarding languages, living beings and needs; these being, general grammar, natural history and the 'analysis of wealth.'

Although a discussion of these subjects clearly lies outside the limits of the discipline of Architecture, a brief outline of Foucault's remarks will, I think, prove useful. This is particularly true in the case of the analysis of 'language,' as claims in regard to its association to Architecture as a discipline are often explicit. (Jenks, (1977); Summerson (1), (1963).)

Language, having been abstracted from things, obtains a privileged position in the order of 'classical' knowledge. For Foucault concludes that it is the role of language to represent thought. Indeed, language is thought. Language ceases to have 'a being' and instead, operates as a function: "Language has no other locus, no other value, than in representation." (Foucault, P.79.) This *representation* is analyzed in a successive order. It is the study of this verbal order, in its relation to the simultaneity of thought (discourse) that defines the new classical discipline of general grammar.

Each language is divided into its various parts or 'characters' (eg: nouns, verbs, adjectives etc.) according to a system of identities and differences. They are then subject to rules of arrangement or articulation (eg: syntax), which are also derived from the same system of identities and differences.

Finally, one should note the privileged position of naming within the classical theory of language. Indeed, it is central to it. To name is to give "the verbal representation of a mental representation." Yet, naming is also arbitrary on its relation to things and actions. Therefore the signification of a sign becomes dependent upon its comparative relationship to other signs as arranged in a table of meanings. (Sheridan, P.56.) This point draws Foucault onto a discussion of Natural History. For here, the problem of naming becomes more acute.

The ability to name things is fundamental to discipline of Natural History. (Foucault, P.157.) It demands a new way of looking at things. For naming "necessarily involves the concentration on certain parts of what one sees to the exclusion of others." Taste, smell, touch and even colour are excluded. What is left is a series of black and white objects, which can be analyzed according to four criteria: "The form of the component parts, their quantity, their relative distribution, and their relative size." (Sheridan, P.59) This simple analysis was easily communicated and understood: Words and things come together in a simultaneous act of seeing and naming. Foucault notes how this articulation between words and things ('object' or 'structure') had become so important to the study of Natural History, that Linnaeus even proposed a form of discipline in which the arrangement of words on a page would mirror the arrangement of the visual parts of the object. (Sheridan, P.60.)

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'However, this order of identities and differences between natural things referred only to surfaces and lines. It did not concern itself with functions, or invisible tissues.' (Sheridan, P.60.) Given this observation, Foucault argues that 'Natural History' cannot be considered as a part of the same order of knowledge as nineteenth century 'Biology.' Natural History is at most a prehistory of Biology. It should not be considered as part of the same discipline.

Foucault observes similar changes in regard to the analysis of wealth. During the Renaissance the value of money was based on its material reality. Its two functions, as a common measure of commodities and as a substitute in exchange, depended on it. In the 'classical' age this analysis is shown as reversed: the value of money becomes dependent upon its function in exchange. Metal coinage and later, printed money, becomes a representation of wealth, 'a token, accepted by common consent.' (Sheridan, P.61.)

Foucault's detailed analysis of 'classical' knowledge concerning language, living beings and wealth points to a complete break with Renaissance thought.

However, before Kaufmann's concept of a unifying Renaissance - Baroque *Architectural System* can be dismissed, some discussion concerning the possible application of Foucault's analysis to the discipline of Architecture will be necessary.

In Chapter 3, I shall apply Foucault's *Theory of Resemblances* to Renaissance Architectural thought. In this task, I shall pay particular attention to the most influential writer of the period: Leon Battista Alberti.

In Chapter 4, I shall apply Foucault's *Theory of Representations* to Baroque Architectural thought. To this end, I shall focus upon the play of Architecture as *built*.

### **3. The 'Archeological' System of Renaissance Architecture**

#### **(a) Renaissance Architecture as a System of Resemblances**

If Foucault's hypothesis is to be applied to the practice of Architecture during the Renaissance, it follows that it must be capable of being subject to a **System of Resemblances**. This means that, by definition, all 'architectural' knowledge must be *mirrored* in something else.

This fact has two consequences for historians. Firstly, if a proper understanding of the subject is to be achieved, it cannot be limited to matters purely architectural. This leads to the disadvantages of diffuse limits to the discipline, and the need to handle an endless stream of material, some of which really has no application to the discipline of Architecture as we currently understand it. However, the duplication of knowledge does allow the historian some advantage. For, in the second place, the system does provide the historian with a degree of 'proof,' with respect to what he may be saying. Under a system of resemblances, one would expect to find that Renaissance architectural theory and practice had certain verifiable or consciously acknowledged equivalencies with other disciplines, ideas and social practices by direct reference. Therefore, these equivalencies ought to occur between *written* architectural discourse and *Architecture as built*. Indeed, without an understanding of Renaissance theory a full appreciation of Architecture as built during the period would be impossible. Given this situation, it is my intention to concentrate the bulk of this chapter on the relationship between Foucault's hypothesis and written architectural discourse; in particular, that which refers to Alberti's theory of beauty, by way of example.

#### **(b) Renaissance Theory**

There appears to be three principle elements which form the structure of Renaissance theory and practice. These are the *interpretation* of Nature and the recognition of signs, the arrangement of these in some coherent order, and the practice of Architecture according to both the form and content of these signs thus arranged. I shall deal with each in turn.

At the end of the chapter, I shall then review the application of Kaufmann's "Renaissance - Baroque System" to Renaissance theory in the light of this analysis.

(i) The interpretation of Nature and the recognition of signs.

Grayson confirms the understanding of the architect as 'interpreter.' He notes that Alberti, "enhanced the status of the artist both in himself and in relation to society, from artisan to learned observer, re-creator and interpreter of Nature." (Grayson, P.9) Nature, it should be remembered, has a wider meaning during the Renaissance. In fact, the term includes everything that exists in the world. Thus, in common with Foucault's theory, it refers to magic, the Scriptures, ancient texts and even built forms, in addition to the things of the natural world. All were 'signs' which the architect had to interpret.

Of course, within this all encompassing world of Nature, it is known that certain aspects were of particular interest to architects. These being the study of Roman ruins, the theory of Vitruvius, music, numbers, proportion, geometry and optics. However, this list should not be seen as complete in itself. The fact is literally anything could be taken as a *sign* in need of interpretation and explanation. In this respect, the subject matter of Architecture was limitless. As such, much of Alberti's treatise includes references to things which now live outside the current 'limits' of the discipline. These include references to other ancient writers, myths and legends, hearsay, ancient and medieval symbolism, natural 'signs,' analogies to natural forms whether human, animal or vegetable, and of course 'cosmic' signs. All were contained in Nature and in some sense, all were limited by it. For, it is clear that Nature also referred to God. This is shown in the following statement by Alberti.

"Nature, that is, God united in man celestial and divine elements with those that make the best shaped and noble among things mortal."

(Alberti, *della famiglia*, P.236.)

(ii) The arrangement of signs

The content of Alberti's statement on Nature reveals something of the way in which 'signs' were given a coherent form. For knowledge about things was, in the first instance ordered according to a hierarchy of values. Elements of knowledge consisted of characteristic 'marks.' These 'marks' were valued according to their relative resemblances to one another, and in relation to notions about God. Thus in reference to the above statement, it will be noted that Mankind, within this system of values forms the apex in a hierarchy of living beings, because of a certain unity of "celestial and divine elements" with other elements, which make him the "best shaped and noble among things mortal."

This last part also shows the way in which certain 'marks' are identified and valued. Here, it is evident that aesthetic criteria have a major role in the determination of value in relation to an order of perfection personified in God. Given the coexistence of God with Nature, this view seems to be reinforced by further statements from Alberti. "For nature aspires to absolute perfection." (Alberti, Book IX, Chap.5.) "She is the best and divine teacher of all things." (Albedi, *della famiglia*, P.188)

### (iii) The practice of Renaissance Architecture

The system of ordering knowledge specific to the discipline of Architecture seems to be no different. It also depends upon a hierarchy of values in relation to notions of perfection. Wittkower, for example, is of the opinion that Renaissance architecture was "based on a hierarchy of values culminating in the absolute values of sacred architecture." (Wittkower, P.1.)

However, the application of a system of hierarchy in Architecture is not merely restricted to building types (see Vitruvius). It determines the order of architectural knowledge at every stage of design. Choay notes how Alberti suggests the operation of the system in the arrangement of his treatise, "*De re aedificatoria*," of 1552. (Choay, P.30) Books I, II and III deal with the problem of construction, Books IV and V with commodity or utility, and Books VI, VII, VIII and IX cover the problem of beauty. Book X deals with the problem of correcting defects. Choay notes that this arrangement is *operational*: the first stage being subject to the rules of the second, and the second being subject to the rules of the third.

It is also evident that hierarchy arranges both the forms and content of each division. This is particularly true of the third stage. In short, Alberti's analytical concepts on beauty appear to be subject to a system of hierarchy.

### (c) Alberti's Theory of Beauty

Alberti states that there are two kinds of beauty, 'innate beauty' and 'ornament.'

".....We may define ornament to be a kind of auxiliary brightness and improvement to beauty. So that then beauty is somewhat lovely which is proper and innate, and diffused over the whole body, and ornament somewhat added or fastened on, rather than proper and innate."

(Alberti, Book VI, Chap. 2.)

In this case, innate beauty seems to have a higher order. However, recent work by historians has shown that this arrangement is somewhat simplistic. That instead, the concept of hierarchy used throughout Alberti's work is augmented by relations of interdependency (Choay, P.30) derived in part from Neo-Platonism.

Thus, Rykwert observes that the concept of innate beauty is inherently dependent on a further concept, which is quite unique to the Renaissance. It is the concept of the "idea-building" of "true beauty." (Rykwert, P.3.) This idea-building or "essential building" however could only be *thought*. Therefore, he concludes that, in order to realize the idea-building in its corporeal form, "the phenomenon-building," Alberti needed this second 'dependent' concept of beauty, "ornament" as a corporeal *resemblance* to "innate" or "true beauty." So, for Alberti, the concept of "ornament" refers not just to "affixed" decoration, but to the entire building, as seen and experienced in its concrete form. Without "ornament" there would be no building. (Rykwert, P.4.) In this sense, both concepts are of equal value, the one cannot be demonstrated without reference to the other, and vice-versa.

In order to reinforce his analysis, Rykwert tries to establish a "triple relation" of architectural elements in which both "innate beauty" and "ornament" is revealed at one and the same time. Thus, in reference to Alberti's treatise, he states that both are appreciated, "firstly, by admiring the material of which it is made, the weight, density, purity and resistance to decay." Secondly, the grace which the craftsman has given it's massing, by connecting and disjointing or polishing the material. Lastly, its dignity depends on the intellect, the *ingenium*; the choice distribution of parts, and its "placing." (Rykwert, P.4.) From this it appears that Rykwert is attempting to establish an order of *similitudes*, by which the two kinds of beauty are united. In fact, it seems that Alberti is a good deal more explicit on the matter in Book IX, Chapter 5. To this end, he points to three "things" which are found in both kinds of beauty. These are "the number" (useful and symbolic numbers), "the finishing" (proportional ratios) and "collocation" (order, composition and hierarchy). Furthermore, Alberti notes that it is from "the conjunction and connection" of these three things that a fourth element arises: "congruity" (*concinnitas*). This congruity, I would suggest, is that which names the very process by which unity is achieved between "innate beauty" and "ornament." In short, this congruity is the similitude of 'beauty, proper.' (See App. 1, Fig. 1 and 2)

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It is also clear from Alberti's text, that this similitude of beauty, *concinnitas*, is only experienced in the human mind. "Its true seat is in the mind and in reason."  
(Alberti, Book IX, Chap. 5) This point is reinforced elsewhere, when he tries to distinguish the two forms of Beauty.

"But what (innate) beauty and ornament are in themselves, and what difference there is between them may perhaps be easier for the reader to conceive in the mind, than for me to explain by words."

(Alberti, Book VI, Chap. 2)

Elsewhere he states:

"But the judgment which you make a thing beautiful, does not proceed from mere opinion, but from a secret argument and discourse implanted in the mind itself."

(Alberti, Book IX, Chap. 5)

In this last statement, Alberti shows how the Renaissance theory of architectural beauty, a theory of similitudes, is translated into a theory of architectural experience. This point is, I would suggest, in full agreement with modern historians. Rykwert, for example, states that Alberti's "aim was to hold the idea-building of true beauty and the phenomenon-building of ornament in mind and experience at the same time." Whilst, Wittkower suggests that Renaissance Architects "saw no contradiction between objective proportions and subjective perception," given that for them "all objects perceived in finite space must be subject to unchanging optical laws." (Wittkower, *Introduction*.) (See App. 1, Fig. 4 and 5.)



Wittkower's observations lead back to the larger aims of Renaissance Architects, the *imitation* of Nature. (Alberti, BK IX, Chap. 5.) For Wittkower makes his above comments in relation to a further similitude in which he states, "Renaissance architecture was conceived as an image or mirror of a preordained mathematical harmony of the universe." As such he argues, if Renaissance architects thought infinite space was ordered according to "immutable metric laws," they must have also believed in the immutability of optical laws, given that these would be 'rationalized' in the same terms; that is, in the terms set by an order of resemblances. In this respect, the concept of central perspective becomes a similitude, in which the experience of *concinnitas*, in the human mind, is made possible: *concinnitas*, also being the 'reasoned' act of creating and 'experiencing' a similitude, or 'unity' in the mind, between the material harmony of the building (as seen) and the preordained mathematical harmony of the universe. This is a point which Grayson confirms, when he notes that *concinnitas*, which he translates as "harmony," exists in Nature and in human reason (Grayson, P.10.) (See Note – 1.)

Finally, I should also note that the process of architectural design practice is also subject to Foucault's three fold system. Here, "Design" is a similitude, in which *concinnitas* is achieved by uniting the "materials" (*De Materia*) - with the "lines and angles" (*De lineamentis*): Each in themselves being *the thing designated*, the 'order' and 'matter' of Nature and *the mark* by which they are recognized in their operation as similitudes with Nature. As a result, "Design" is both design as we know it, an action of human thought, by which the "materials" and "lines and angles" are brought together, and an act which is ordered as a resemblance to the way God or Nature designs. This point is said to be proven by the two similitudes of materials and lines and angles. Alberti makes this quite clear in the following statement:

"Nor has this Design anything that makes it in its Nature inseparable from matter; for we see that the same Design is in a multitude of buildings which have all the same form, and are exactly alike as to the situation of their parts and the disposition of their lines and angles."

(Alberti, Book 1, Chap. 1.)

It is a view which is also supported by Rykwert, who notes that "the architect, when drawing his lines and angles, in determining the *lineaments* of a building, would relate them to the Creator's procedure when he made the ordered universe out of chaos." (Rykwert, P.2.) (See App.1 Fig.3.)

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From this brief analysis of Alberti's thinking on beauty, it seems that Foucault's system of resemblances operates at every level of Renaissance architectural thought. It accounts for an order of similitudes in a highly complex arrangement, which takes the form of an endless, and even timeless, commentary on Nature.

#### (d) Renaissance Architecture as Built

Yet, this discourse, despite its incredible complexity, lead to a severely restricted form of architectural design. For the system was also a system of limitation. The exacting demands of *concinnitas*, as a discourse in the mind, lead to equally exacting demands on the choice of forms and their arrangements.

Only those forms and arrangements which had the right analogical link to God and His absolute perfection could be used. Wittkower notes that this lead to a particular desire for the use of circles, squares, spheres and cubes. (Wittkower, P.5.) Other shapes were seen as less likely to produce *concinnitas*. (See Note - 2.)

The arrangement of these simple formal elements was also determined by a system of analogies. Thus in sacred Architecture, it was believed that God's perfection was best achieved by an order of centrality about which forms were arranged according to a system of pure geometry and hierarchy (gradation). Perhaps the most beautiful example (and therefore, the most perfect) is that of *S. Maria della Consolazione* at Todi, designed by Cola da Caprarola in 1504. Its form takes the shape of a rectangle on a square plan, surmounted by a cylinder and dome. Four half-cylinder chapels surround the square along its walls, each surmounted with half-domes. The composition is well ordered and harmoniously proportioned and clearly meets those exacting mathematical demands of *concinnitas*. (See Note-3.) *S. Maria della Consolazione* is reputed to be the prototype design for St. Peter's in Rome.

Finally, one should also note the use of Roman decorative elements, by which the mathematical divisions are made manifest on its two-dimensional surfaces. The revival of Roman architectural elements should not be seen as an aesthetic whim. For it is clear that their use is also the result of decision-making arising from a system of Resemblances. Wittkower states that Emperor Constantine's Rome had a particular attraction to Alberti, "because it was then and only then that pagan antiquity was blended with the spirit of faith and purity of the early church." (Wittkower, P.9) This relationship led Alberti to imitate Roman elements on a large scale. In *S. Sebastiano*, Mantua, Alberti introduced the first 'Roman' temple front of the period. Whilst at *S. Andrea*, again in Mantua, he superimposed a complete triumphal arch at the entrance. Although they are not exact copies, their link to the past is explicit. So that one might conclude that in common with Foucault's hypothesis on language, architects during the Renaissance may well have believed in the existence of an original language of architecture, as "Designed" by God: a language, which they tried to find and reestablish. In Wittkower's view, they seem to have found in the Architecture of Rome under Constantine some kind of resemblance to that original language.

By 1650, however, this system of resemblance is radically reversed. Architecture, in both theory and practice, is wrested free from Nature, and enters an arbitrary relation to it as *representation*. The 'things' of Nature are represented by signs. However, these signs are no longer ordered in their relation to things by a system of similitudes. Instead, they are subject to a strategy of naming, in which things are compared with each other by an order of similarities and differences.

#### (e) Critique of Kaufmann's Theory

In the next chapter, I shall deal with the application of this new order to the discipline of Architecture as it is characterized in the Baroque. However, before turning to this, some assessment of Kaufmann's concept should be made in its relation to Foucault's system of resemblances as it might be applied in the architectural theory of the Renaissance. For without some criticism at this point, the differences between the two periods, as outlined in the next chapter, may be underestimated by the reader and so challenged unfairly.

At the outset, it is clear that Kaufmann's concept of a "Renaissance - Baroque System" deals only in one part of the total arrangement of Renaissance architectural thought. In Alberti's theory of beauty, it can be identified as that element which he calls "collocation." Given that Alberti gives equal value to two other "things," the number and the finishing, it is clear that Kaufmann's concept fails to meet the full requirements of Alberti's system. For without all three elements, acting together, the Renaissance Architect would fail in his principle aim, which is the achievement of *concinnitas*.

Of course, Kaufmann does acknowledge the importance of proportion ('finish') as a "prerequisite of unity." However, in Kaufmann's system, its place is clearly secondary to collocation. He states that the "supreme rule" of composition is hierarchy. ie: collocation. (See, Alberti, Book XI, Chap. 5) (Kaufmann, P.92.) But, in the context of Alberti's theory, this is not the case. Rather, it is *concinnitas*, which forms the principle rule by which all knowledge is governed.

The failure to recognize *concinnitas* as the main aim of the Renaissance architectural system, leads Kaufmann into a series of difficulties with respect to the handling of certain key elements within Alberti's treatise.

The first of these concerns Kaufmann's interpretation of "ornament." Here, he clearly fails to recognize "ornament" as a resemblance to "innate beauty" and therefore of equal value within Alberti's system. Instead, he falls into the trap of the nineteenth century interpretation, which identified "ornament" as "decoration." (Kaufmann, P.93, Rykwert, P.3.) This point leads him on to establish a false hierarchical relationship between composition and "decoration." For, as I have shown, without "decoration," there would be no building at all.

Secondly, it should be noted that Kaufmann also fails to understand Alberti's system of design practice.

In designating the *lineaments* as composition or 'Design' rather than identifying it as simply "lines and angles," he sets up yet another false hierarchical system in which *lineaments* are given pride of place over the properties of materials. This conclusion is particularly odd, given that in the same paragraph, Kaufmann quotes Alberti as saying, "Nor has (the) Design anything that makes it in its Nature inseparable from Matter." (Alberti, Book I, Chap.1.) (Kaufmann, P. 93.) For clearly this quotation emphasizes the true relation between Design, *lineaments* and Matter, which, as I have shown, is really one of mutual interdependency, based upon an order of similitudes in which each is mirrored in Nature itself.

With these comments in mind, I shall now turn to the task of applying Foucault's hypothesis to the development of the discipline of Architecture in the mid-seventeenth century.

#### **4. The 'Archeological' System of Baroque Architecture**

The transformation in human thought, which occurred in the mid-seventeenth century, is best exemplified by the switch in learning from scholasticism to science. Foucault interprets this change as a radical reversal in the way knowledge is ordered at what he calls the 'archeological' level. In this case, the system of resemblances is replaced by a system of knowledge based upon an **Order of Representations**.

In this chapter, I shall try to show how Foucault's theory of knowledge might be used to reevaluate the significance of Baroque Architecture, and to identify it as a new and completely distinct architectural system from that of the Renaissance. With this aim in mind, I will assess the extent to which Foucault's hypothesis may be adapted to the theory, practice and experience of Architecture during the 'classical' age.

##### **(a) Baroque Architecture as a System of Representations**

The idea that Baroque Architecture is a discipline based upon the principle of *representation* is not new to architectural historians. However, most historians have tended to emphasize its use (and perhaps, abuse) as a means of political, social and religious expression. (Pevsner, P.321 and 318, Kostof P.511-512, Summerson (1) P.71, (2).) Thus, the exuberant decoration of the Baroque is a sign of wealth, its monumentality a sign of power and its continued use of certain classical forms as a sign of permanency, feeding off notions about tradition and references to the greatness of the Roman Empire. Of course these aspects of Baroque Architecture are clearly important, particularly when determining the relationship of the discipline to the limits imposed upon it by the demands of society. However, these points of reference do not in themselves explain how architects *think*, and how they design within these limits. In short, how they operate within the terms of Architecture as an independent discipline.

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Ironically, Kaufmann is one of the few historians to tackle the problem of architectural design without resorting to socio-cultural causes. However, given the nature of the criticism outlined in this paper, it is also clear that his concept of a unifying Renaissance - Baroque System does not provide an open-ended and all inclusive means of determining what is unique about the architectural discourse of the Baroque. For though he identifies many of the visual changes which occurred with the move away from Renaissance thinking, he fails to provide adequate reasons for this event beyond vague references already noted to changes in "metaphysics." (Kaufmann, P. 83 and 86.)

In fact, Kaufmann's fears seem to be proven in Foucault's analysis. For, paradoxically, it is the very removal of metaphysics from architectural discourse that seems to characterize the Baroque discipline at the archeological level of knowledge.

This point initiates the change from a three fold system based on an order of similitudes with God and Nature, to a binary system of signifier and signified. Where knowledge is conceived in the form of *signs* which only represent the things of the world and *signs* become arbitrary in their relation to the things that they designate. Whilst their form and content is developed instead, by a system of comparison, in which the things of the world are designated according to their observable identities and differences. Furthermore, the same technique is also used to develop a system of ordering *signs* in their relation to each other in a *space* that is wholly artificial, which is to say, completely distinct from Nature. In Chapter 2, I showed how Foucault identified certain man-made rules of articulation in languages, by which words (as *signs* of representation) are arranged in a linear order. Whilst in Natural History, Foucault noted that things were arranged within a two dimensional tabular of classification. Here, it was shown, that words and visible things also *discovered* one another in an arrangement of *equivalences*: visible signs being of a different system of organization to words.

The discipline of architecture in the 'classical' age, it seems, is no different. Within the context of Foucault's hypothesis, it is possible to observe the same system of knowledge in building works. However, before turning to this phenomenon, I should like to review Baroque theory *as written*.

## (b) Baroque Treatises

In fact, the discipline in the 'classical' period is characterized in the opinion of some historians, by a relative absence of written discourse. This is a point which Hubala notes when he observes the absence of any independent theory of architecture during the Baroque period. This, he says, in full agreement with Kaufmann's hypothesis, is proof of the "ideological connection" between it and the Renaissance. (Hubala, P.9.) In fact a number of important treatises do exist from the period and these I have listed in Appendix 2. Indeed, Kaufmann himself refers to most of these works in support of his own theory of a continuous architectural system existing between the Renaissance and the Baroque. This is true for the written work by Campbell, Gibbs and Ware for example. (Kaufmann, P.4, 7 and 9.)

However, close analysis of the written discourse, seen in isolation, does seem to support Hubala's view. For what is also notable about these works and others of the period, in reference to both Hubala's observations and Foucault's hypothesis, is the relative absence of words in their relation to illustrations. (See Note - 4) This imbalance leads to an impression that the use of words is merely supplementary. This is particularly true of Colin Campbell's work, "*Vitruvius Britannicus*." Here, I would suggest, that the words are also used strategically. References to Renaissance theory, it seems, are used as a means of justifying the works as drawn by giving it some historical authority. This point is clearly evident in the very title of the work itself.

More revealing of the period is Fischer Von Erlach's "Outline of Architectural History." It is the first modern history of architecture, and was first published in 1721. It is also a pictorial history. Here, words are merely used as equivalencies to pictorial representations already arranged according to their visual identities and differences. The use of chronology is simply supplementary. In the first part, Fischer shows "the seven wonders of the world" and other peculiarities such as Stonehenge, Santa Sophia and the City of Peking (Beijing). Whilst in the second part he displays his own works, concluding with his design for *Karlskirche* in Vienna (1716): A design to which I shall return in more detail. Again Fischer seems to be using history for strategic purposes; in this case to justify the unusual nature of his own designs with those of the past. However, in the context of this paper, its real interest is in its almost complete reliance on visual representations, with only the verbal guide of a title to each plate. Even the studies of coins, neatly displayed in the corners of some of the plates, which seem to act as a form of visual 'evidence' in support of the main illustration, are presented without written explanation.

Two things may be concluded from this. Firstly, words were simply not needed to explain the discourse of architecture: It being understood, that the works displayed spoke for themselves in a 'language' which was immediately comprehensible to the Eighteenth Century reader. From this, one might conclude that the designs illustrated, literally *represented* architectural thinking on each subject as it arose in each plate. In short, that the work shown was the thought. This point makes a complete break with the Renaissance System, in which, as I have noted, a work of Architecture could not be fully comprehended without the aid of a written commentary such as Alberti's discourses. (See Chapter 3.)

Secondly, and perhaps as a result of the first conclusion, it might also be possible to say that there was in fact no equivalent verbal system available in which to speak or write about a theory of Architecture, which might be suggested in the presentation of drawings and illustrations. So that Fischer could not supplement these with words even if he had wanted to.

This last point leads us back to the problem of Hubala's observations with respect to the 'dependency' of Baroque architecture on Renaissance theory. For, though it seems that the *written* theory of the Baroque has a certain dependency upon the *written* theory of Renaissance architecture, it would be wrong, I think, to assume an equivalent relationship between the building work of the two periods. For, given the absence of written commentary in Fischer's treatise, it is also clear that Baroque architectural design could exist without reference to a *written* work of any kind. Therefore, with the continued application of Renaissance theory in Baroque treatises, as identified by Kaufmann, it seems highly probable that either Renaissance theory was used strategically, in order to justify the new style by reference to traditional authorities, or simply because a verbal 'equivalency,' with respect to the new discipline, had not been fully developed. This last point would have meant that Baroque architects would have had no alternative, but to use written Renaissance treatises as a limited source for 'relevant' verbal 'representations,' no matter how inadequate or inappropriate: It being assumed that the alternative to this, complete 'silence,' as demonstrated by Fischer, would, in certain cases, be unacceptable to a lay audience not trained in the visual language of design.



(c) Baroque Architecture as Built

Given the possibilities for misinterpretation and the idea that works of architecture can be understood, in this instance, as *direct* representations of architectural thought, it would seem more fruitful to turn to the task of analyzing Baroque Architecture as *built*. And to see if Foucault's hypothesis provides an adequate means by which it might be identified as a distinct *architectural system* in its own right. With this aim in mind it would prove useful to set up the following hypotheses:

- (i) Firstly, that the Baroque architectural system will be differentiated from the Renaissance by an "order of representations" based upon a system of identities and differences.
- (ii) Secondly, that it will be possible to see the new system of thought in building works by applying the self-same system of analysis: ie. by noting its observable identities and differences.
- (iii) Thirdly, that this analysis can and will provide evidence of the following:
  - a) New thinking.
  - b) New form.
  - c) New composition (based, not upon the conceptual limits of gradation, concatenation and integration, but one based on a system of comparison.)
  - d) A new discipline of Architectural design.

I shall cover this analysis under the following sections:

- (i) The architectural representation of metaphysical thought during the Baroque.
- (ii) Baroque architectural form and composition.
- (iii) Baroque exterior design.
- (iv) Baroque planning and interior design.
- (v) The representation of Baroque structure.

(i) The architectural representation of metaphysical thought during the Baroque

Perhaps the most important difference between the Renaissance architectural system and the Baroque is found in their approach to metaphysics; a point which I dealt with earlier in the chapter. In this, I made the claim that metaphysics had been removed as a founding principle in the order of knowledge. However, in church architecture, metaphysics is not removed completely, but forms a subdivision within the order of representations. This aspect is most felt in the magnificent ceilings which depict the three dimensional perspectival visions of heaven and the infinite, so beautifully painted in the *Gesu*, *S. Ignazio*, *S. Maria* in Vallicella and others. It is the presence of these visions in sacred architecture that mark the end of a system of architecture based upon a system of similitudes. For, as I tried to show in Chapter 3, the Renaissance system was geared towards an architecture which was wholly metaphysical in its composition, and in its principle aim of *concinnitas*. Given this situation, the order of resemblances demanded the use of white interiors, which were seen to resemble God's perfection and purity most aptly. (Palladio, Book 4, Chap. 2.) From this one may conclude that the introduction of these heavenly visions became possible only because architects recognized a difference between the material world and the metaphysical. Indeed the very appreciation of these heavenly representations demands that the observer acknowledge his own mortal presence in his material reality, in relation to the difference he has with that which is depicted, a 'spiritual world' or 'space,' beyond his grasp. In the discipline of architecture, these representations *localize* the metaphysical world in relation to the total composition. The remaining part being more material in nature, although still bathed in the light of the heavenly depiction (both literary and metaphorically). (See Note – 5.)

Even more dramatic of this system of comparison between the 'Metaphysical' and the 'Material' world is the introduction of a system of differences between three dimensional spaces. In *S. Maria della Vittoria*, Bernini depicts a sculptural group of S. Teresa and the angel within a 'divine space' framed by double columns and a curved broken pediment; the whole displayed above the altar in the Cornaro Chapel, and designed in 1645-52. Behind the floating figures gilt metal shafts, which conceal the back wall of the niche, appear as beams of Gold "whilst high up behind the curved entablature and pediment, an opening, glazed with a yellow pane models the scene with a magical light." (Pevsner, P. 255.)

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Pevsner also notes how the whole design of the chapel (the material space) contributes to the scene.

“Along the walls on the right and the left there are also niches opened into the chapel walls, and there Bernini has portrayed in marble, behind balconies, members of the Cornaro family the donors of the chapel, watching with us the miraculous scene, precisely as though they were in the boxes, and we in the stalls of a theatre.”

(Pevsner, P.255.)

He also comments on the ‘difference’ between the two spaces.

"The boundary line between our World and the World of Art is in this most ingeniously effaced. As our own attention and that of the marble figures is directed towards the same goal we cannot help giving the same degree of reality first to them as to ourselves, and then to the figures on the altar too.”

(Pevsner, P.255.)

Of course, the sculptural group behind the altar is not a representation of “the World of Art” but is rather, a representation of divinity. In any case, our ability to distinguish between it and the space from which one observes the scene clearly depends upon the action of comparison, as based upon an order of identity and difference. Here, in a literal sense, the observer shares an identity with the Cornaro family as ‘observers’ of the altar group. Of course, it is also clear that the observer differs from the Cornaro family in so far as they are made of stone, where as the observer is naturally, a living mortal. To this extent, the family group is also similar to the altar group in its ‘concreteness.’ So that even as one differs to the altar group as a living observer, fixed within the ‘material’ world, so the altar group, in its ‘divine’ space, is also similar to the observer in his material reality. In this sense, one may agree with Pevsner’s interpretation, which suggests some degree of equality between the two spaces. However, I would argue against the theory that the altar group is merely a material representation, (of the world of art) given its divine qualities already noted. Instead, “the world of Art” really disciplines the entire design, of which the ‘divine space’ forms one part.

Given the richness of the contrasting spatial relationships, the Cornaro Chapel is special. However, it is not the only design which seeks to differentiate between the 'material' and the 'spiritual' in spatial terms. Other examples include the altar pieces of *S. Francesco a Ripa* in Rome - the blessed Ludovica Albertoni, also by Bernini, (1674) - The Abbey Church at Weltenburg (1717-21) by Asam, and the *Transparente* in Toledo Cathedral by Narciso Tome. All of these, in some sense, represent the change in the discipline to an order of *representations*. For, in isolating the metaphysical world, the *remainder* becomes that which differs from it. This *remainder* is of course the Material World in which man now finds himself. Furthermore, it is this new Material Space in which Architecture as a function of human thought now resides. To this extent, the way is opened for a new materialistic classificatory system by which architectural thought becomes *represented in built form*.

#### (ii) Baroque architectural form and composition

As with other disciplines of the period, Architecture, it seems, exists in two parts; its signs and their arrangement. Within the confines of the system, both are of equal value. Together they form the principal components of an order of architectural representation. In the more usual language of the discipline, one may consider these as 'the parts' or 'elements of architecture,' and their 'compositional' arrangement within the 'tabular' space of a building work.

In fact, this realignment of the value of the parts in relation to the whole is something which Kaufmann himself observes. He recognizes the "intensification" and "self-assertion of the parts" (Kaufmann, P.83), the "exaggeration" of the details and the systems tendency towards "self- representation" (Kaufmann, P.86 and 87), and finally, in reference to the problem of composition, he witnesses the "divergent claims" between the single parts and the whole. (Kaufmann, P. 84) However as previously noted, Kaufmann fails to provide an adequate reason for this process of "intensification" and seems well aware of his problem. (Kaufmann, P. 83 and 86) In this respect, Foucault's hypothesis seems to provide some means of redress. It recognizes the individuation of the parts (as signs) within the context of a consistent system of thought, whose application extends beyond the problem of formal composition. In short, the same system of thought is recognizable in other aspects of the discipline, aspects, which Kaufmann fails to acknowledge. However, before turning to a discussion of these in their relation to architecture *as built*, some attention should be paid to the context of the system of representations within the broader framework of the discipline and its traditions.

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For in architecture, the meaning of 'signs' exists at two levels; their symbolic value and their architectural value. Whilst the second of these, in theory, operates in a 'space' unaffected by social traditions, the first of these operates within the wider social realm. (See Note - 6.)

In Baroque architecture few historians will not disagree with the view that the use of classical elements results principally from a continuation of their revival, which was first begun in Italy in the *quattrocento*; in short, because of a social need for tradition and a sense of continuity with the past. However, the move away from an order of resemblances to an order of representations seems to have had its affect upon the use and meaning of traditional forms. So, although the Baroque is characterized by its use of classical elements, there is a sense in which these are reinterpreted, not as resemblances with an 'original' language of architecture, but rather as representations of the social concerns already mentioned. These ideas were seen as inherent qualities, which were now instantaneously recognized and understood by the lay person.

But, it would be a mistake to think that Baroque architects only used classical elements in their designs. Other forms from the past were also revived and new forms and geometries used. Often these were the result of old forms combined in different ways; for example, Wren and Hawkesmore's designs for the spires of London City churches. Furthermore even old classical forms were manipulated and contorted to suit the demands of the architect: Bernini's curved entablature and pediment in the Cornaro Chapel is a typical example.

From these observations one can begin, it seems, to build a true picture of the Baroque attitude to the use of traditional forms. For it is clear that the architects of the period saw them as a kind of ready-made depository of representational forms, each of which had the power to generate particular mental associations, whose roots were found in the long term memory of society. However, in line with Geoffrey Scott's analysis of the discipline, it also seems that these representations were merely used as to supplement architectural discourse. In short, that their mental associations helped to reinforce the principle aim of Baroque architecture, which, in the context of Foucault's hypothesis, would be to convey architectural thought in as clear a way possible. (See Note -7.) This goal, as I shall hope to show also depended upon the arrangement of the *elements* of architecture, be they solid or void.

Just as the *individuation* of formal elements resulted from a new ability to distinguish one element from another, so the same system of identities and differences was applied in the order of their arrangement. Within the physical limits of a building, the parts could be compared to one another, and from the discourse of this comparison, representations of specific architectural thought might be revealed.

In order to *fully* illustrate this process in building design during the Baroque, I shall deal first with aspects of formal composition as applied to the exterior of buildings. Secondly, I shall illustrate the system within interior composition and planning. Finally, I shall turn to aspects concerning building structure and its (compositional) integration within this new order of representations.

### (iii) Baroque exterior design

In the first instance, one can observe in the arrangement of their exterior parts, a clear desire to retain their individuality as previously conceived during the Renaissance.

Thus, in the church of *S. Carlo alle Quattro Fontane*, designed by Borromini in 1667, one can see the continued individuality of architectural forms made prominent in their relations to one another; relations which depend upon a system of identities and differences in their design and in their appreciation, augmented by the analysis of quantity, shape, position, size and depth.

In the study of the exterior, one will note the distinctions made between the facade and its surroundings. For, far from integrating with its environment, the facade forms a (two-dimensional, though deep) 'tabular' space, wholly distinct from the building to its right and the corner tower (actually part of the church) to its left. (Both of which are *similar* in their projection, height and cornice detailing.) This 'separateness' is made possible by the forward projection of the facade, its complex relief, its greater height (given that the corner tower lantern is set back from the street wall), and the outward curve at the edge of the facade, boldly defined in the two entablatures and the large columns at its edges. In fact, the whole is so distinct from its surroundings (and indeed from the church behind) that one has the impression that even the walls on either side are linked together by a further section, which remains hidden behind the facade itself. (See Note - 8.)

In short, as a unity, the facade *represents* itself as a *façade*, a mask behind which a more 'mundane' building structure is 'hidden.' It is wholly 'artificial' and wholly distinct from its 'natural' (urban) environment (See Note - 9), and apparently 'removable,' (and perhaps, even replaceable with another facade if necessary - though, of course, unlikely.) For the facade is also given a certain 'lightness' of touch in its representation of *movement* from bottom to top; as indicated by the convex - concave - convex rhythm in the lower entablature and wall (From below, the concave element will appear higher, relative to the convex elements on either side); the broken effect of the same rhythm in the centre of the upper entablature; and in the thrusting, graduated movement up the central axis of the facade, as indicated by the angels wings, crossing slightly over the lower entablature, the transgression of the onion roof and ball to the drum (with window) on the 'first floor' over the small 'secondary' entablature, and finally, by the complete break made in the upper entablature, by a large oval medallion seemingly lifted upwards by angels in flight. Whilst above the medallion and entablature, an ogee Gothic arch, with scrolls, points an 'arrow' to the sky.

Of course, the effect of this *movement*, not only has implications with respect to the 'weightlessness' of the facade, but also directs our attention to a metaphysical end. Our eye is drawn from the stone statue of *S. Carlo* above the entrance door, up the facade, past the drum and onto the medallion which depicts a painted image of the Saint. Here, we clearly read a narrative, in which the Saint leads an earthly life among angels, dies and is resurrected (or is at least in the process of being so). Incidentally, the absence of statutory in the upper niches, also suggests that the monks depicted in the lower, have also 'risen.' Of course, the ability of architecture to make such representations depends upon its ability to establish distinctions between things. In this case, a distinction is again made between the 'metaphysical' realm, (really by its absence) and the material through an order of identities and differences.

Returning now to a more abstract analysis of the arrangement of forms within the physical limits of the facade, one sees that in fact, there are two facades: one layered over the other. The first of these consists of a curved wall plain with openings and niches, whilst overlaid is a framework of four complete columns, base and entablature below, and four complete columns, base, entablature and balustrade above. The two sets divide the entire facade into two equal halves. Each half is again divided by a smaller (curved) entablature which rests on two columns, half the height of the larger columns in each bay. The entablature juts forward between the large columns, and it is on this that 'picture frames' rest, like miniature facades. The whole effect apart from the figures is mirrored about a central axis. But here the similarities end. For though the two 'colonnades' seem to reflect each other in elevation, there are in fact a number of subtle differences. For example, in the upper entablature, where the medallion sits, the central bay is actually convex and somewhat forward of the two convex bays on either side. The entablature is not broken. It is only due to the drum and its 'concave' surface, that our eye is drawn upwards and across the lower entablature without resistance. Differences also occur in the location of the niches. Below, these occur within the 'picture' frames, above, they occur between the small columns at the same level as the drum (also apparently in a niche between two small columns). Given that the latter are empty, the contrast between the convex curves of the back of the niches, and the 'concave' curve of the drum is more emphatic. This, of course, contrasts to the niches below, which are 'full' in all *three* bays and therefore similar.

In the facade of *S. Carlo*, the system of ordering elements is clearly one derived from a system of identities and differences. Its 'space' is one of layered two-dimensional plains. However, the system is also evident in the order of external three-dimensional masses. Perhaps the most uncompromising example is Fischer Von Erlach's *Karlskirche* in Vienna (1716-1737).



*Karlskirche* is not a design which Kaufmann investigates, principally because it does not fall into the regional geography of his analysis. However, if it did, I think he would have had considerable trouble explaining it in terms of his “Baroque system.” However, like *S. Carlo*, elements of it can be admitted, or at least in its illustrated depiction. Graduation of the main elements occurs between the dome lantern, the columns copied from Trajan’s column and the towers at either end of the narthex. Integration and concatenation of the parts occurs, as in *S. Carlo*, around a bilateral central axis. However, certain aspects contradict these ordering principles. In reality, the columns compete with the dome, frame it and in some sense, even sub-ordinate it. The columns and the narthex towers dominate the temple front entrance to such a degree that the eye is hardly drawn to it at all. The sense of ‘integration’ and ‘concatenation’ is even more tenuous. The main elements, so far described, differ so widely in size, shape, relative position, surface texture and style that even to speak of such notions would seem somewhat absurd.

Fischer’s church is clearly best understood as a bold experiment in contrasts. The columns with their rough surface texture of sculpted relief differ widely from the smooth surfaces of the narthex. Yet they are in some way ‘contained’ by the composition and stabilized. For, just as they form the limits of the ‘space’ in which the dome is contained, so they are framed at their base by the narthex towers (which also frame the narthex like book ends) and the curved wall leading to the entrance colonnade. Indeed, the narthex ‘wall’ seems to provide the same function as the curved back wall in the facade of *S. Carlo* - to provide a ‘tabular’ space within which the individualized elements are arranged according to their identities and differences. This point is reinforced by the similarities of the two in plan. For, like *S. Carlo*, the narthex ‘doubles’ as a facade: an element which is virtually separated from that what occurs behind it. Like *S. Carlo*, *Karlskirche* also has an oval shaped plan, though in this case an extended choir is added and larger side chapels attached. In short, Fischer has applied Borromini’s principles, but achieved the effect of creating a facade grand enough to represent an imperial statement.

#### (iv) Baroque planning and interior design

In turning to the analysis of plan form and interior design, it should be noted that both *S. Carlo* and *Karlskirche* provide evidence for a change in the system. *S. Carlo*, however, built prior to 1650, is somewhat transitional. For it still seems to aspire to at least some of the formal demands of the Renaissance discipline: In particular, a preference for a centralized interior arrangement. However, even in this he anticipates a change in the ‘rules’ of composition.

Two plan drawings for *S. Carlo* exist intact at the *Albertina*, Vienna. (See Kostof, P.516 and 517.) (See Figures 1 & 2. Pages 47 and 48.) The first of these is a preliminary design, the second shows a design development drawing of the building as constructed. The first seems wholly within the Renaissance tradition, its chapels arranged around it along the central axis and the diagonals. The design is complete within itself and expresses its form on the exterior with the entrance at the top of a large flight of steps and crowned by a perpendicular double columned pediment. None of the energizing movement so characteristic of Baroque design exists, either on the exterior or interior despite its oval shape. However, Kostof notes one significant observation: that is the use of geometry to generate plans "irrespective of modular proportions." (Note -10.) In the first plan two equilateral triangles are set base to base, with two circles surrounding each triangle. The centre of each circle being the same as the centre of each triangle. As a result, the circles overlap at the centre and so establish at least some form of centrality from the start. Diagonals, which divide the circles into six parts about the main axis, determine both the location of four elongated Hexagonal chapels, and the points between which a further radius connects the two circles on either side. This forms the unifying 'oval shape' - the focal point of each 'added' radius, being the point at which the two triangles meet at their corners, along the cross-axis of the plan. (See Figure 1.)

The final plan for *S. Carlo* is also generated from two equilateral triangles set base to base. However in this case the circles are inscribed within the triangles. (See Figure 2.) The connecting radii between the circles is also generated from the points at which the corners of the triangles meet, and travel between the diagonals, which divide the circles, as before, into six equal parts. (Again the diagonals position the locations of side chapels and entrances outside the oval. The chapels are wholly distinct and separate spaces.) Given that the two circles are now separated, the oval is more elongated than the 'traditional' Serlian motif of the earlier plan. Furthermore, the oval, which spans the dome above, is now wholly distinct from the side walls: For the back walls of the 'transept-bays,' the entrance and the high altar bay are positioned where the four points of the two triangles meet. Between the bays a set back between the edge of the oval and wall, along the diagonals of the circles, provides a 'space' for the structural support of the dome above, which rests on pendentives.

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In terms of this paper the change from one design to the next witnesses a clear move away from centrality, integration and the gradation of parts. For though the whole is somehow united beneath the dome, the separation of the geometries below indicate a clear desire to individualize form, and so create a feeling of movement along the central axis, via a sequence of 'separate' forms. In this way the plan of *S. Carlo* may be considered as five distinct elements about its longitudinal axis, the facade, the half-circle entrance, the two full circles and a further half-circle altar piece. Incidentally, the 'difference' between the interior elements and the facade are emphasized by the off-centre angle of the latter, an angle which follows the line of the street. In the *Albertina* drawing (Fig.2), Borromini also 'emphasized' the difference between the church interior and the facade, by a deliberate *exclusion* of all other elements, except the fountain. The articulation of the two was clearly a major concern. It also indicates a new awareness and acceptance of the problems inherent in the articulation between the contrasting demands of the inside and the outside.

However, to reiterate, the planning in *S. Carlo* is in a sense transitional. In later Baroque churches, the move away from centrality and the organization of the interior spaces along the main axis took the form of increasing compartmentation, augmented by strings of differently shaped plan forms; differences which were sub-divided according to their own 'centrality.' Eg: *S. Maria della Pace*, in Rome, 1656-57, by Pietro da Cortona; *S. Maria in Campitellie*, 1663-67, by Carlo Rainaldi; The Church of Brunau (Brevnor), near Prague, 1708-15, by Christoph Dientzenhofer; The Benedictine Abbey of Banz, in central Germany, 1710-1718, by Johann Dientzenhofer; and of course, *Karlskirche*, by Fischer Von Erlach. (For illustrations of these see Summerson (2), P. 40-53, and Kostof, P.514.)

Perhaps the most sophisticated design of the Baroque, using separated geometries on a longitudinal axis, is *Vierzehnheiligen*, 1743-72, by Balthazar Neumann. It stands at the end of the period, and so, in a way, it celebrates the achievement of the whole era. Here, differences in plan, section and exterior are clearly combined in a discourse of contrasts. On the exterior, the plan appears as a typical Latin cross. The church entrance facade, however, continues to dominate, despite its country site. Thus, as with *Karlskirche* and others, such as *S. Andrea al Quirinale*, 1658-70, by Bernini, the difference between the 'front' and the 'back' is clearly and unashamedly stated. Twin towers stabilize and frame the facade, however, in doing so they reverse the pattern of gradation, by reducing the significance of the centre, compressing it between them. Furthermore, as the eye moves up, so the decorative elements become bolder, making the towers top heavy. Inside, the plan is made up of three distinct oval shapes, end to end, along the main axis. The centre oval, which contains a centre-piece, the shrine of 'The Fourteen Saints,' is the largest of the three. At the first junction between the first two ovals, two oval bays meet on either side, each with side altars, whilst at the second junction two circles are placed on either side. These form the transepts seen on the outside. However, we are deceived. For, from the outside it appears that this part of the church is the centre, whilst in fact, the real centre is the centre oval and shrine within the nave. Elsewhere, further contrasts are made between the 'inside' and the 'outside.' At the east end a distinction is made between the curved walls of the interior and the straight walls of the exterior, which enclose the ends of the circular forms in half-hexagons. Along the nave a further contrast is made between the pillared oval interiors and a straight wall, leaving an 'in-between' space for the side altar bays and a balconied side aisle. The differing structural treatment is supplemented by bold lighting contrasts between solid and void, and the nave space and its brightly lit aisles.

The difference between light and shadow is also used to great effect in Bernini's masterpiece of Baroque illusion, the *Scala Regia*, 1663-6. In the Baroque, staircases became a major architectural feature in building design. Pevsner notes that it was "too dynamic" to meet with the approval of Renaissance architects, and comments on Alberti's apparent disapproval of them, in support of his view. (Pevsner, P. 278). In the context of Foucault's hypothesis, one can only assume that the new analytics of architecture lead to a new understanding of its potential as an individualized form, set within a new 'taxonomy' of architectural elements. (Note -11) As a means of *representing* movement, direction and changes in spatial qualities, it must have seemed irresistible to Baroque architects and their clients, whose desire for theatre, pomp and majesty could be fulfilled by such an element. The position of the *Scala Regia* is no accident in these terms. It is the main entrance to the Vatican Palace, a staircase contained within a tunnel-vaulted colonnade of diminishing size. One enters the space, either on its axis from the colonnade of St. Peter's square or at right angles to it from the Galilee porch off St. Peter's itself. Where the two meet there is a large landing space, dominated by an equestrian monument of the Emperor Constantine, positioned opposite the church entrance. The statue, brightly lit from the right, serves to arrest our attention and enable the change in direction. From this high vaulted 'static space' the tunnel-vaulted colonnade begins. This is a 'different' space framed by the start of the colonnade itself and a large arch. Our eye is immediately drawn first to the sculptural group which 'announces' the entrance by two angels blowing trumpets on either side of the Papal coat-of-arms, and secondly up the darker tunnel to the window lit at the end of the staircase, pausing briefly at a landing half way up. This is marked by a break in the colonnade and vault and brightly lit from the left. Light and shadow clearly serve to state a difference between 'static spaces' and 'movement spaces.' These are perceived both by the eye in its changing speed and movement, as it pauses and focuses on light, and the body which follows it. A person will pause at each well lit landing and traverse the darker lit stairs rapidly and without pause.

Changes in light are also used in Brushal; the Episcopal palace designed by Neumann, 1730. Here, *movement* up the curved staircases, on either side of an oval plan, is marked by a more gradual change from dark to light, from enclosed space to open space. In terms of Scott's theory of architectural experience the change in light 'draws' one up the staircase with a feeling of growing expansion, until at the top of the stairs one enters a large brightly lit oval space that encompasses both staircases, which 'sink' on either side of a balustraded platform.

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(v) The representation of Baroque structure.

Finally, I should also mention the affect of the new analytics on *structural* 'representation.' Readers of Baroque histories are usually told that optical illusion is so important to the architecture of the period, that the more 'mundane' problems of architecture, its 'commodity' and its 'structure' are always subordinated to the visual demands of the system. However, what is often overlooked is the ability of architects to express precisely these elements within a coherent and ordered system, which encompasses a variety of elements, or signs at one and the same time. So far I have noted some examples of this in the use of light to differentiate the functions of movement in staircases, and its use in the differentiation of structure with voids in *Vierzehnheiligen*. But perhaps the most delicate expression of structure is in the play of arches, which go to make the dome of *S. Lorenzo* in Turin, by Guarino Guarini. Here light bursts through the lantern and defines the complex geometry of the structural arches in sharp contrast. The whole, in its simplicity of idea seems to represent the system of representation in its true application to a unity of all three disciplines of Architecture: structure, and commodity (with the provision of interior light), and delight.

## **Conclusion**

In this paper I have sought to question the validity of Kaufmann's theory of an architectural system, which encompasses the Renaissance and the Baroque. In this task, I have drawn upon the more recent work of Michel Foucault. In applying his analysis to the architecture of the two periods some degree of equivalency has, it seems, been possible. Indeed, the ease with which Foucault's theory adapts, suggests that a case can be made in favour of two distinct systems, encompassing each of the two periods.

### (a) The Case against a Renaissance - Baroque System

Before turning to a more general critique of Kaufmann's observations in the light of the present state of the discipline of Architectural History, I would first like to summarize the case against Kaufmann's concept of a unifying Renaissance - Baroque System, as seen in the light of my previous analysis of Foucault's work in its application to the architecture of the two periods. In this task, I would like to limit the discussion to those aspects which Kaufmann himself identifies with respect to the recognition of change between one system and another: These being, the changes in the "mental attitude" of an era, the change in the aims and objectives of the discipline of Architecture, the effect of this on the arrangement of the parts, and the visual changes identifiable in architectural form.

#### (i) Changes in "the mental attitude" of an era

Kaufmann states that a change from one architectural system to another is consistent with and dependent upon changes in "the mental attitude" of a society. However, what is clear about his theory is an obvious failure to recognize the profound change in learning from Scholasticism to Science, given that some historians had already tackled the problem prior to this thesis, this oversight seems all the more surprising. (Eg: Summerson (4).)

Foucault, however deals directly with the 'problem' of thought in his hypothesis, and in doing so, recognizes a radical reversal, which characterizes the move to scientific thinking. In Chapters 3 and 4, I have tried to show how his analysis of this event might be adapted to the history of the discipline of Architecture, in its (written) theory, practice and appreciation. The study revealed fundamental differences between the Renaissance and the Baroque in all three areas.

(ii) Change in the aims and objectives of the discipline of Architecture

A key difference between the two periods is in their aims and objectives. In the Renaissance, the analysis of written theory showed that the principle aim of all design was the achievement of *concininitas*. In contrast to this, Baroque Architects simply aimed to represent architectural thought.

Foucault shows that during the Baroque, thought was simply conceived in the form of order. Knowledge about the things of the world was no longer seen as an intrinsic part of it. Instead, it took the form of *representations*, or abstract signs determined by a system of comparison by which things could be arranged in a tabular space according to their identities and differences. Architectural thought (and therefore, knowledge) might be 'revealed' in the same way. The limits of this tabular space in Architecture took a variety of forms: the point, the line, the area, the volume and the solid (Mass). These elements also formed a part of a taxonomy of architectural signs within which other elements were included, such as traditional forms and decorative elements, mathematical geometries, shapes and solids, even texture, colour and light. It was the arrangement of these within the limits of the various kinds of tabular space which revealed *representations* of architectural thought.

Thus, in Bernini's *Scala Regia*, the interplay of light and form, characterized by an order of identities and differences, serves to represent a discourse on *movement* within the spatial limits of a line. In this case, 'movement' is identified by its difference to the 'static' breaks along the axis. These breaks establish points along the line to which our eyes are drawn and 'controlled.' As our body follows, so Bernini shows us how to 'assist' and 'arrest' the movement of people in a building, simply by controlling the sequence of spatial events.



(iii) The arrangement of the parts

Kaufmann's concept also fails to recognize a change in the way the parts are arranged.

In fact, Kaufmann's "Baroque system" seems to be more suited to the Renaissance, than it is to the Baroque. For, as I noted in Chapter 3, at least something of the Renaissance system of arrangement is apparent in it. However, as noted "collocation" only forms one part of the total system. Of equal importance to *concinnitas* is proportion ('finishing') and number. (Alberti, Book IX, Chap. 5.) So that, given the arbitrary relation of proportion and number within the new order of Baroque Architecture, as seen in the light of Foucault's hypothesis and my own analysis of Borromini's work in particular, one might suspect that Kaufmann's concept depends more upon his ability to ignore much of the learning, which is evident in Renaissance Architecture.

Systems of proportion and number seem to have remained secondary to the general arrangement of plan forms especially within the Baroque, many architects did continue to design with the three principles of integration, concatenation and graduation still foremost in mind: or at least with respect to certain major elements. For the application of these is still evident in church facades in particular. However, given that these seem to have a certain separateness when seen, it is difficult not to think of them as a 'remainder' or as something of a survival, which is used as a signature; perhaps even as a 'façade' for tradition and permanency, in the same way that classical elements seem to be used. In any case, with respect to the discourse of movement within these facades, Kaufmann's system offers no explanation, beyond a vague reference to a "natural intensification" of the parts, which he says all systems undergo towards the end of their lives. In fact, as I have already indicated, it is precisely because of this "intensification" or rather individuation, which allows for their rearrangement and for the use of form to represent ideas, about movement for example. In short, this "intensification" could be considered as a symptom of a change in the system itself, a possibility which he does not wish to acknowledge.

(iv) The visual changes identifiable in architectural form

Finally, in reference to these forms, now individualized, I shall also like to note Kaufmann's apparent failure to recognize the development and use of new *forms*, which he says, usually indicate a change in the system. Indeed, this failure is particularly surprising in view of the semantics of the word, "Baroque." For as Pevsner notes, the term "Baroque" originally signified "odd" particularly, "odd shape." (Pevsner, P. 238)

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(b) A General Critique of Kaufmann's Observations

In the light of the above criticisms and the apparent equivalency of Foucault's hypothesis to the discipline, it would seem that Kaufmann's concept of an architectural system which unifies the discipline of Architecture throughout both the Renaissance and the Baroque periods is flawed.

At the heart of the problem has been Kaufmann's failure to link the discipline of Architecture to general changes in *human thought*. For without identifying the over-riding metaphysical direction of Renaissance Architecture (and its subsequent removal in the Baroque) it was perhaps inevitable, given the 'tradition' of a secular view of Architecture prior to the 1960's that the two periods were handled together as one system of thought.

However, it is clear that this secular view brought with it severe limitations in the application of the idea of an Architectural system. For, in order to link the two periods together similarities had to be identified and differences excluded.

One of the consequences of using an over-riding order of time (ie: evolution) to explain the excluded differences, has clearly lead Kaufmann to establish a prejudicial attitude to the Baroque by labeling it as a style in decline. In this paper, I hope that I have provided some evidence to the contrary. For, far from being a style in decline, the architecture of the Baroque marks the beginning of a new approach to Architecture. Its legacy was the foundation of a system of architectural analysis, whose application and development still provide the discipline with a crucial design resource of considerable potential. (Note -12)

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## **Epilogue**

In the course of this paper, I hope that a case is made for a continuing application of **theory** in the analysis of Architectural History. I say this, because some historians have lamented on “theory-hunting,” and one would suppose from this that they also doubt the value of a deductive approach. (Porphyries, P.2.) However, without the continuing development of architectural theories, new ways of looking at things might be impossible.

In 1925, Einstein remarked to Heisenberg that, “whether you can observe a thing or not depends on the theory which you use. It is the theory which decides what can be observed.” (Carr, P.164. quoted from M. Polanyi. *Encounter*, January 1972.)

However, there is a need for caution. For new theories cannot guarantee new insights or knowledge, and may even lead to unsound conclusions.

This paper may demonstrate that one way of reducing the risks involved in the creation of new theories, such as Kaufmann’s idea of an *Architectural System*, is by an active transgression into other disciplines of human thought. This is the value of Foucault’s work.

However, it would still appear that the call for a wider study of human thought may need to be made on a regular basis by architectural historians to ensure the continuing validity of the discipline. (Watkin, P.115)

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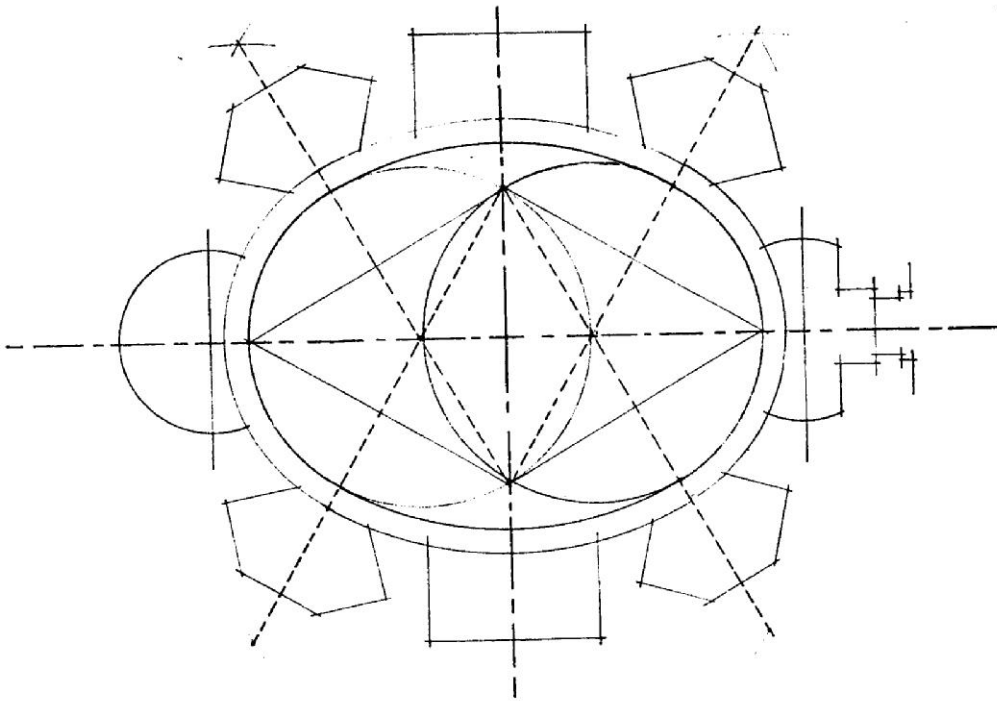


Figure 1: Study of the Preliminary Plan of *S. Carlo alle Quattro Fontane*

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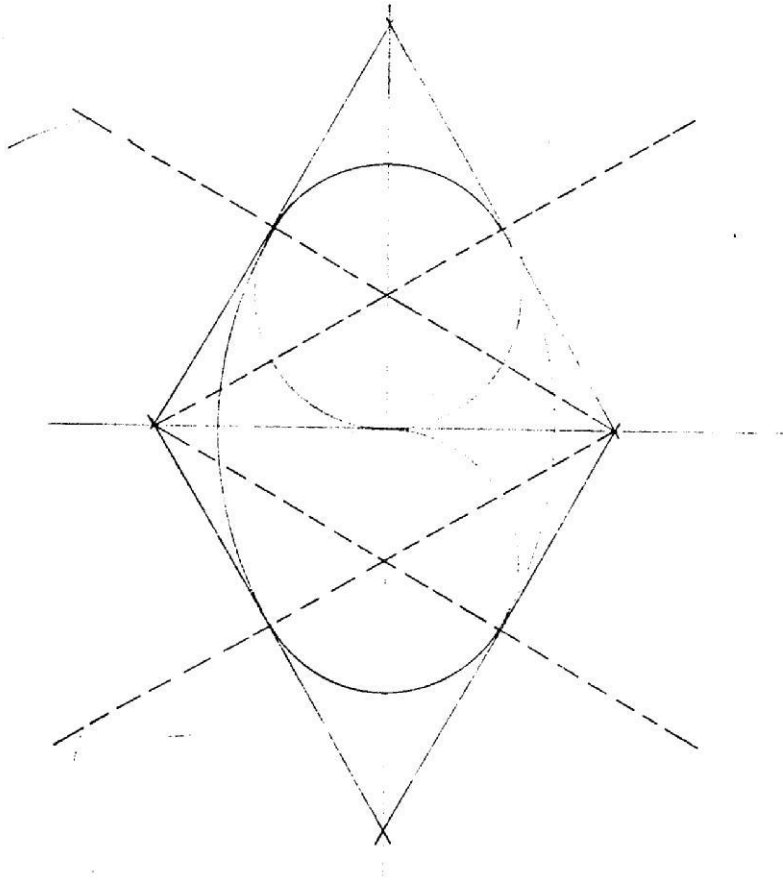


Figure 2: Study of the Final Design of *S. Carlo alle Quattro Fontane*

END

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## **Notes**

**Note-1:** The correct meaning of the term '*concinnitas*' is still of some controversy. In Leoni's edition of *De Re Aedificatoria* of 1755, it is translated as "congruity." Grayson's translation of it as "harmony" is more typical of modern historians. (eg: Wittkower, P. 27.) In this paper, I have already referred to it as "beauty, proper." I should like to suggest that "beauty, proper" is also a similitude of the beauty, which results from the mental realization of the similitude between the microcosm and the macrocosm, as spoken of in the main text. In this sense *concinnitas* ought to be read in its original translation as "congruity." For with "congruity" we may understand *concinnitas* as that similitude, which best expresses the continuity or agreement between the microcosm and the macrocosm. This point may be supported by Choay, who states that *concinnitas* has two meanings attached to it. These are "functional beauty" and "mathematical beauty." (Choay, P.32.) From this one might conclude that a strong relationship between the human world of microcosm and the divine world of macrocosm are inherent in the use of the term.

**Note-2:** It is clear that both the circle and the square (and forms derived from them) were seen by Renaissance Architects as signs of similitude, or *concinnitas*, by which the microcosm of man was linked to the macrocosm of God. This is best exemplified in the fascination that Renaissance Architects and scholars had for the Vitruvian figure. (Vitruvius, Book III, Chap. 1.) Wittkower, P.16.) Wittkower notes that for Francisco Zorzi (or Giorgi), "a neo-platonic friar," Vitruvius's figure holds for him a dual quality: it discloses through the visible, corporeal world (*'homo-mundus'*) the invisible, intellectual relation between the Soul and God: for God is the '*intelligibilis sphaera.*' (Wittkower, P.16.)

**Note-3:** The most important analogy is the system of proportions derived from musical harmonies, with its attendant similitude to the "harmonies of the spheres." Wittkower devotes much of his treatise to the subject in his book, "Architectural principles in the age of humanism." (1962)

**Note-4:** This point is also true of treatises from the "Mannerist" period, and can be observed in works by Palladio, Vignola, Serlio and Scamozzi. It is not true for the earlier works of the Renaissance, notably Alberti's "*De Re Aedificatoria*" (1452), which is particularly verbose. The reduction in supporting text and the corresponding increase in architectural drawings during the Mannerist period (1527-1603) is due to a number of reasons. Firstly this was due to a narrowing in the identity of the discipline into a system of perfected classical rules derived from more careful study of Roman ruins and secondly, technological advances made in printing and acid etching made it possible to produce high quality illustrations.

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**Note-5:** It is of course true that in the Renaissance, paintings using perspective were often depicted in building works. However, their presence may appear to be purely technical in nature. In short, their role was to 'extend' the existing material space as a material space, and not to set up a system based upon the principle of difference. Eg: Da Vinci's 'Last Supper' in the refectory of *S. Maria della Grazie*, Milan, and Bramante's perspectival choir at *S. Maria presso S. Satiro* (1470), also in Milan. However, during the Sixteenth Century, it is notable that 'differences' between 'material' space and painted perspectival spaces were deliberately aimed for, with the painted spaces representing classical allegories and Arcadian landscapes; For example, that of the Villa Farnesina, by Peruzzi (1509-11), and the Villa Maser by Palladio (1560). However, these differences were not applied to sacred architecture, so that in this respect, one cannot conclude that the system of resemblances had been fully rejected in all architectural discourse.

**Note-6:** In this paper, I shall call the 'architectural' value of a 'sign' as that which refers to an element of architecture, be it solid or void, which reveals its representational meaning through a system of comparison in the abstract. Of course, I do not deny that the discipline of architecture, as defined in a period, will include an aspect which looks to the past, and makes its contents a legitimate and integral part of its discourse. However, in the case of Baroque Architecture, though Architects clearly regarded their discussion about the Classical as being an integrated part of their discipline, I would still regard it as secondary, or peripheral to questions which define its 'spatial' limits. To this extent some distinction needs to be made between the methods of architectural thinking, - which define the 'limits' of a discipline within each period - and its 'cultural' baggage.

**Note-7:** In his treatise, "The Architecture of Humanism" (1914), Scott does not specifically refer to the idea of representing "architectural thought." However, his treatise would not be possible without the ability to analyze architecture at the conscious level in the way that he does: Firstly, this ability to 'read' architecture enables him to identify and designate certain key architectural 'signs' in the abstract. In short, to establish an taxonomy of 'signs' prior to their use in a building design, these being 'line,' 'space,' 'mass' and 'order.' Secondly, his ability to identify the operation of these elements within works of Architecture indicates that through their arrangement, specific kinds of architectural thinking can be communicated at the conscious level between the Architect and the user.

Of course, Scott also includes within his analysis, a discourse on the means by which 'thought' may be communicated. And though this refers to a transfer of 'knowledge' via the body senses and "physical memory," I do not think that such a theory need be incompatible with a conscious appreciation of architectural discourse. For the latter eventually arrives for the more aware among us, no matter what route it takes. In any case, the job of 'representing' human physical states should still be considered as a representation of thought, even though its attention is directed at the body in the first instance.

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Incidentally, the appreciation of a building at the physical level still seems to depend upon a system of comparison, although in this case the comparison is not so much between elements, as between a buildings *total* affect and our own bodily states, or at least, our own memory of them.

One further note should be made in reference to Scott's relation to Foucault's (and indeed Kaufmann's) periodization of history. For Scott identifies a 400 year period of "Renaissance" Architecture, beginning in 1430 and ending in 1830. (With Nash (Scott, P. 184.)) Given that Scott's system is by definition secular in nature, his assessment of architecture from 1430 to 1630 ought to be treated with caution. Nevertheless, his aesthetic criticism of architecture for the period seems to confirm the metaphysical aims of Renaissance Architects, as outlined in the previous chapter. "Classic design - the style which in Italy culminated in Bramante - aims at authority, dignity and peace. It does this by conveying at every point a sense of equipoise. The forms are so adjusted amid the surrounding contours as to *cancel all suggested movement*: they are placed, as it were, each at the centre of gravity within the space, and our consciousness is thus sustained at a point of rest." (Scott, P.167.)

With respect to Baroque Architecture, however, Scott's theory seems to provide an ideal system of architectural appreciation. This is particularly evident in the light of his classificatory system of signs, already mentioned, and the way in which these seem to operate most easily with Baroque architectural arrangements. A point which seems to be born out by Scott himself in view of his many references to Baroque examples. (Scott, P.167, P.172, P.187.) Indeed Scott also recognizes the special nature of Baroque as a particularly good source for illustrating his theory of architecture. "The Baroque is in the highest degree interesting, because of its purely psychological approach to the problem of design, its freedom from mechanical and academic 'taboos,' for its use of scale, its search for movement, its preoccupation with mass, composition and spatial Values." (Scott, P.187.) All these points, and especially the last three are born out most aptly it seems within the analytical framework of the Baroque system of thought, as derived from Foucault's hypothesis. (See main text.)

**Note-8:** Indeed, given the time lag between the interior design of the church (1637-41) and the exterior (1669-7), for 24 years it will have had a completely different façade, a facade which would surely have matched the existing wall design around the monastery.

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**Note-9:** Of course, such a view will be in opposition to some interpretations of the Baroque, which tend to stress a kind of sublimation between a building and its environment, on account of an interest in the 'infinite' of space and time. (Eg: Kostof, P. 536-7; Kaufmann, P.87; Martin, P.14.) Kaufmann, for example states that;

“In due course the Baroque system had to pass from the finite to the infinite. This becomes manifest in the increasing dominance of voids over walls; the vistas opened through the interiors; the replacing of the panels by mirrors; and the illusionistic paintings on ceilings and walls.”

(Kaufmann, P.87.)

Whatever the truth of this, it is clear that what is not stated is how the 'infinite' is comprehended. In short, we know the infinite only because we are able to compare and contrast it to the finite. From this one can conclude that the Baroque Architect must also have accepted the expression of the 'finite' with equal significance. This point raises a particular 'problem' with respect to the theory of environmental 'integration' upheld by Kaufmann and others. (Kaufmann, P. 86) For in the acceptance of the 'finite,' Baroque Architects must also have accepted architecture's materialistic 'limits;' in short its essential *artificiality* and therefore its essential *difference* to nature.

In respect of the French architecture of the period, the 'integration' of building, landscape, garden and country, at Versailles especially, should not be treated as an equal relationship, but rather as a representation of domination over nature.

**Note-10** Kostof states that: “Geometry is clearly central to Borromini’s design. Now of course all Baroque Architects worked with geometric figures, but once basic choices were made as to shape, the design progressed primarily in terms of a module, *the commonest still being the diameter of a column*, and both the overall plan and its parts were derived from this module. Borromini’s thinking is consistently geometric. His plans are generated by shapes that are divided into geometric subunits, *irrespective of modular proportions.*” (Kostof. P.515.) (*My italics*)

Clearly Kostof is of the view that Baroque Architecture was predominantly ordered by a modular system based on the classical orders. However, there is a sense, that even in this acknowledgement Kostof suggests that their continued use (from the Renaissance) was merely due to a desire for order per se, and not because it was seen as a necessary rule for the creation of beauty. As such the concern for proportional ratios in the Baroque has none of the critical implications inherent in the 'Renaissance System,' but is really just a matter of (aesthetic) pragmatism. In this sense Borromini’s experiment with an alternative ordering system is perhaps proof of a change in attitude and purpose with respect to the 'problem' of order in design.

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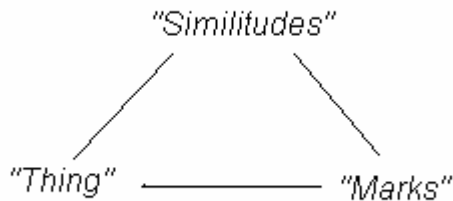
This is perhaps born out by critics of the time. In “a tale of a tub,” (1633) Ben Jonson mocks Indigo Jones’s obsession with numbers. Jones is Britain’s first major classicist, and last Renaissance Architect. However, Summerson also states that this criticism should be seen in the light of their deep rivalry. (Summerson (3), P.109-101.)

**Note-11** In fact, there is one exceptional example of staircase design during the Renaissance that is a design used with architectural intent. This is Michelangelo’s staircase in the anteroom of the *Biblioteca Laurenziana*, Florence, designed in 1526. However, it is an exception.

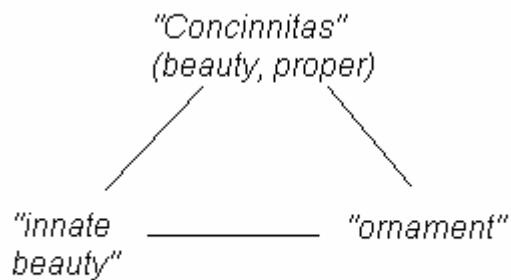
**Note-12** Kaufmann’s periodization on the Baroque within a closed-system of fixed components also means he fails to acknowledge the real source of individuation. Instead he tries to designate this as a distinct characteristic of Neo-classicism, whose development he says was the result of social progress and a new restlessness. Under Foucault’s analysis, Neo-classicism is still part of a system of *representation* (and therefore dependent on the individuation of parts as signs) but is augmented by an equal concern to represent personal style.

## **11. Appendix - 1**

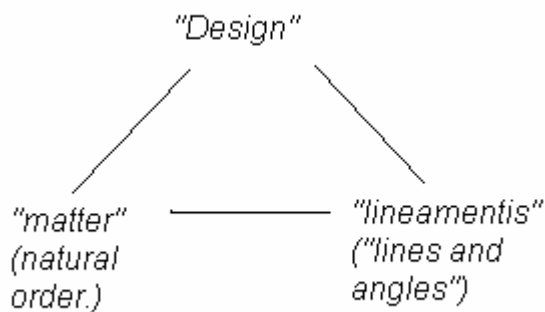
**Figure 1:** Foucault's "three fold system" of Renaissance Knowledge.



**Figure 2:** The Theory of Renaissance Architectural Beauty. (Alberti)

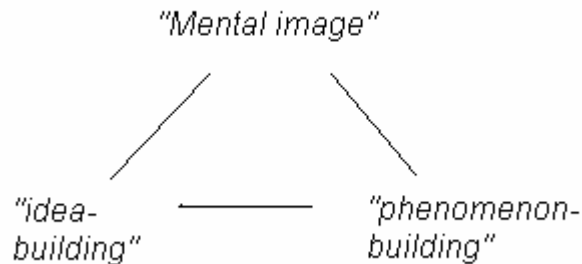


**Figure 3:** The Practice of Architecture. (Alberti)

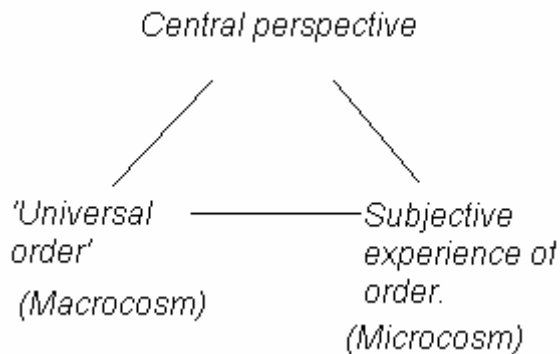


## **11. Appendix – 1. (continued)**

**Figure 4:** The Renaissance Experience of Architecture. (Rykwert.)



**Figure 5:** The Renaissance Experience of Architecture. (Wittkower.)



**Note:** The awareness of all 'similitudes' in Renaissance Architecture is an experience of "congruity" (*concinnitas*) in the mind. Thus true beauty, or 'beauty, proper,' 'Design,' 'the mental image' and the central perspective are all mentally perceived - All are perhaps different ways of being aware of *concinnitas*.

(See also Note - 1)

## **12. Appendix - 2**

### **Baroque Treatises**

#### **Britain**

- Campbell, Colen.            "*Vitruvius Britannicus*"  
Volume I, 1715.  
Volume II, 1717.  
Volume III, 1725.
- Gibbs, James.            "Book of Architecture." 1728.
- Gibbs, James.            "Rules for Drawing The Several Parts of Architecture."  
1732.
- Kent, William            "The Designs of Inigo Jones, with some Additional  
Designs," 1727.
- Ware, Issac.            "A Complete Body of Architecture." 1735.

#### **Italy**

- Guarini, Guarino.        "*Architettura Civile.*" 1737.

#### **France**

- Freart, Roland.        "*Parallele de L' Architecture Antique et de La Moderne.*"  
1650.
- Blondel, Francois.       "*Cours d'Architecture.*" 1675.
- Perrault, Claude.       "*Ordonnances des Cinq Especies de Colonne.*" 1676

#### **Austria**

- Fischer Von Erlach,  
Johann Bernhard.       "*Entwurf Einer Historischen Architekur.*" 1721.



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