Pushing the Limits – Villalpando and the Temple
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1 *concinnitas* is the original expression, used by Alberti in *De Re Aedificatoria* to describe perfect harmony between all parts. In the 1755 edition by Edward Owen this term was translated as "Congruity". In Book 9, Chapter 5 , p. 654, he writes: "But there is still something else besides, which arises from the Conjunction and Connection of these other Parts, and gives the Beauty and Grace to the Whole: Which we will call Congruity, which we may consider as the Original of all that is graceful and handsome."

2 Essendo Ciriaco interrogato della ragione per la quale si affaticava, rispondeva: " Per far risuscitare i morti. Risposta di tant'uomo degna" (Lagemann, trans.) Istituto della Enciclopedia Italiana (1959).

Prologue

At the end of sixteenth century Baroque set new limits to the way fictional objects were dealt with in Architecture. To make this possible it seems worth noting that already before Renaissance had changed the designing process and introduced the geometrical scale model as a regular planning device. By utilization of the scale-model and the *lineamenta*, Alberti and his contemporaries outperformed the medieval master builders. Another reason why they could build palazzi and even churches within a few years instead of lifespans as before, may be searched for in the inheritance of the dead old orders from Antiquity. They no longer had to design every detail on site, but gained the ability to solve conflicts by notation. These orders were now deprived of mystical meaning and simply became geometrical elements to achieve *concinnitas*. [1] This may have been the motivation to examine the artifacts of ancient architecture. Alberti noted about one of the first trailblazers of Archeology as it is understood today:

> *When Ciriaco was asked, why he was so passionate about taking this effort, he answered: To raise the dead, they give answers to the dignity of all mankind.* [2]

Inconveniently these orders rooted back to pagan traditions. The Great Ancients, as Alberti called them, had many gods. This entailed two major disadvantages to the design of sacral or complex buildings. Firstly, it became a point of discussion whether illustrations, such as *La Scuola di Atene* was an appropriate image for the decoration of the *Stanza della Segnatura* inside the Vatican. Secondly, the thinking implied in the "manyness" of incommensurate Elements set limits to re-think order itself. For example, the Renaissance palazzi basically resembled the setup of the greek Peristyle house and the only way to create more a complex setup seemed to be just adding more elements. So, if one compares the floorplans of Palazzo Rucellai (1451) and Palazzo Massimo alle Colonne (1536), the limits of the play of elements in fixed configuration becomes obvious. A more capacious instrument for gaining order was requested; a new model to deal with complexity and to push those limits further.

A Search for the Origins

On a broader scale, Renaissance had left italy in turmoil. The system of city states had failed to institute a consistent political system at the North of the Alps and Reformation had aroused many conflicts about the true belief. This situation was also reflected in something which may be called the enclosed space of Renaissance. The palazzi were fortresses, granting comfort on the inside,

while keeping enemies out. At the same time, the situation was quite different on the Iberian peninsula and in France. Here strong monarchies did not allow for civil wars and the supremacy of the catholic church was undoubted. King Philip II of Spain, for example, saw himself as a successor of the biblical King Solomon and tried to prove this by invoking an impressive building program.[3] Under his reign, many churches and monasteries, such as the Monasterio de El Escorial had been built.

3 Morrison (2009), p. 5

To support the efficiency of this program, he did not just unify building regulations, but also supported the creation of a model of fictional ideality. This ideality should not just apply to one building, but as a template for keeping track on ways of gaining higher order within Architecture in general. To achieve this goal, Jeronimo del Prado and Juan Bautista Villalpando, two Spanish Jesuits worked out the three volumes of "In Ezechielem explanationes et apparatus urbis, ac templi Hierosolymitani: commentariis et imaginibus illustratus" between 1596 and 1605. A work to be mentioned as constitutive for the Baroque period. After del Prado prematurely died in 1595, one year before the publication of the first volume, Villalpando took responsibility and continued the work.

In contrast to previous authors like Vitruvius of ancient Rome or Alberti in Renaissance, who mainly documented their knowledge or wrote about their personal experiences, this was a methodological, continuous research project conducted by Villalpando and his huge staff of illustrators and collaborators. In these three volumes Villalpando did not just survey on architecture, but also on geometry, optics, urban conditions and other related issues. The project was financed by King Philip and the Curia in Rome provided working spaces. So apparently, at the end of Cinquecento there was an increased interest in this project at the highest level.

4 Villalpando, (T. Morrison, trans.), Morrison (2009), p. 115

Although Alberti and his successors already had assumed that the catalyst for *concinnitas* must be concealed in the proportions between the single elements, they could not clarify the reasons why the ancient artifacts looked how they looked like, or why their forms felt so pleasant. Alberti's *De Re Aedificatoria* rather reads like a collection of epistemes, set like markers, for the masterful mind to navigate in the sea of architecture. Opposed to this, Villalpando, who had studied at the office of Juan de Herrera, one of King Philip's favorite Architects, was more of a mathematician than an architect. A circumstance, which is not too surprising, since Herrera was famous for basing his designs on mathematical relations.

Thus, it was now up to authors like Villalpando to reconcile the intellectual and technical developments, which had emerged since the beginning of the Renaissance by rooting them back to an even more remote past and to recode them within a Judeo-Christian context. No surprise then that in search for an answer to the question, where the rules leading towards concinnitas originated, Villalpando turned to the only source which was not only expected to necessarily and exclusively contain the truth but, at the same time, to be the book on history that reaches back to the earliest beginnings of mankind, the Bible. In addition, Villalpando almost automatically assumed that at the origins of architecture there had to be a temple to the Lord. Accordingly, he postulated:

> *The sacred architecture constitutes the beginning of architecture, and the profane one is like a copy, or rather, a shadow of sacred architecture.*[4]

In fact in the Bible, there is a description of a monumental sacred building : the first temple of Jerusalem by Solomon in the visions of Ezekiel, respectively its restored counterpart, as foretold in the revelation of John. According to this passages, the temple of Solomon was a building instituted by God himself, and for its erection, the craftsmen were inspired by the divine spirit. So the origins and at the same time the highest perfection of architectural form were presumed in its instantiation. In the survey on these descriptions, Villalpando expected

5 Villalpando, (T. Morrison, trans.), Morrison (2009), p. 113.

6 Villalpando, (T. Morrison, trans.), Morrison (2009), pp. 388.

7 Villalpando, (T. Morrison, trans.), Morrison (2009), p. 10.

to reveal the sacred rules of architecture beyond the visible world.

Setting Limits for Pushing the Fiction

Thus it was in fact the aim of the project *Ezechielem Explanationes* to define a model template, out of which the rules for the forms of antiquity could be derived. The beauty in this approach was that he could generate a realistic image of the temple out of the description of a vision. On a purely fictional basis, he was creating a rule-based model-identity even if the real temple would be out of reach forever.

It was probably even helpful that the real temple of Jerusalem no longer existed, for only in this way could he show how to extrapolate an ideal from the descriptions of the scriptures. Architects who had previously been instructed by Vitruvius Pollio or Leon Alberti for the correct construction techniques and the appearance of the elements should now be able to ascertain the correct rules regarding the dimensions and proportions taken from this ideal, in order to decrypt the secret of beauty:

> But our purpose is not to instruct or prepare anybody for the practice of architecture, much less arrive at the foundation of the different parts of architecture. Our endeavor is to simply try to imply the rules of the architecture that were observed, by the order of God […].[5]

For this reason, Villalpando began to define the limits within which his model could unfold and by which he could separate his conception of architecture from that of his predecessors. While these boundaries had previously been given by the individual morphisms of antique structural elements, he now turned to the arrangements and the interval conditions which concerned the spacing of the structures he analyzed. For the way he did it, he referred to the way Daniele Barbaro described how to evoke a chord of multiple harmonic intervals through the partition of a string on the Monochord: pure mathematical relationality, starting from a whole and partitioning it into smaller sections.[6]

How to Filter Truth

And yet, despite all his effort, the Jesuit found himself confronted with the criticism of renowned Architects and so he sought for legitimization from his former mentor Herrera. In the foreword to the 2nd volume, he wrote:

> Herrera was so impressed by his designs that when he saw our descriptions, its proportions, the dimensions of parts and the most perfect coherence and beauty, as was gifted of an extraordinary ingenuity, all could examine it, and confessed ingenuously to have detected the Divine Wisdom that was hidden in the proportions of its architecture […].[7]

Another reason for the criticism on the *Explanationes* may have been that there were different approved versions of the Bible and it was quite possible to argue whether the solutions to which Villalpando came were correct. Officially, the church solved this circumstance very pragmatically. After the publication of the first volume, Villalpando was accused of heresy only to be subsequently released by the Inquisition and considered innocent in all charges; through this, he and the *Explanationes* were officially rehabilitated and accredited. He might have been released and absolved by the Inquisition, because he could actually claim to have created a logical, coherent picture of the temple, a picture that could be agreed upon.

The question related to this topic is of great interest for the presence: How can one possibly extrapolate a solution that yields a single coherent image out of an abundance of partially contradictory data, especially if all of this data is virtually true? How could he claim that a church-approved version of the Bible, or legal versions of Old Testament scripture, could be false?

Instead of giving an overview over every related

text and then constructing a truth by eliminating false parts, he was synthesizing the most likely variant. He established his version of a realistic truth from those predicates, which can be composed without conflicting each other. He affirmed those parts of the descriptions to which one can agree and rather gave indication that in this or that version a transcription error must have happened, by drawing out an etymological survey with Hebrew or Aramaic originals. [8]

8 Villalpando (1595 - 1604) Tomi III, Liber Primus, pp. 9 – 13.

In terms of today's language, one could say that he filtered from the mass of available data, that which would create a realistic image, aware of the fact that it was fictional. Within the limits of the framework he set, his fiction could unfold. In this sense, he comprehended the descriptions of Ezekiel and other writings as material from which he can open up the architecture of the temple by the means of a model logic. This depicts a peculiar fact on the limits of fiction: no matter how realistic the model retrieved from real world data appears to be, it will always remain to be a projection of possibilities and a reflection of intentions.

Villalpando's Masterful Trap

Thus, what appears to be a limitation in the flexibility of designing, emerges as a new dimension in the question of how to deal information. Villalpando identified the description of a building by words in the way the idea of a plan was handed down from the times of Vitruvius: A text-based description holds a collection of the essential information to organize the spatial layout and specifications of a building, while the particular technical requirements can be reconstructed with the skills of literate persons: the educated architect and the competent craftsmen.

If Alberti had described different approaches as equivalent points in a potential field in which the master could navigate through his own abilities, Villalpando filtered out a single possible solution from the variety of data points by laying down the rulesets for the temple as a whole. By doing so, he has developed a communicative code. The tricky part was that Villalpando defined himself practically as the person who is able to read the divine will out of the 'plan' of Ezekiel with his rational competency, which made him vulnerable towards accusations.

But maybe, precisely because Villalpando's model remained disputable, it led to a further qualification by other authors. And since he made no less than the claim of "not coming to the origins of the elements of architecture", but "to imply the rules of architecture [...] by God's direct instruction", his fiction naturally produced criticism and skepticism, provoking those who thought they could counterpose it by turning his own logic against him. The ingenuity of his approach was that he almost laid out a trap into which the others who dealt with the topic stepped into: even if they may have come to draw different conclusions, they had to approach him on his level of extrapolation. The most famous among them are: Augustine Tornielli "Annales sacri et profani", 1610; Matthias Portreffer "Templum Ezechieleis", 1613, John Wood "The Origin of Building", 1741; and certainly Isaac Newton's reconstruction "Transcription of the Temple of Solomon" from 1728, as well as countless treatises on individual sections of Villalpando's work or images based on his illustrations, from Matthäus Merian d.Ä. in his "Icones Biblicae" from 1625 to Fischer von Erlach as he published it in his "Entwurf einer historischen Architektur", 1721.

By shifting the working model from the realized to the virtual level, which in turn allowed for the shift from the reflective to the projective plane and to produce identical patterns instead of individual facsimiles, he produced a highly dynamic formally communicative model.

New Limits

It remains to be noted that Villalpando expanded the intuitive mastery of architects to create beauty by the

element of logics through the definition where this beauty comes from and how it arises. However, this logic is founded in fiction; in the reconstruction of a building, which never really was as laid down in his *Explanationes*. For example: as Alain Balfour explicates in "Solomon's Temple: Myth, Conflict, and Faith"[9], in his case and also in the case of Fischer von Erlach's interpretation of it, the reflection of intentions resulted in a massive demonstration of power to reconcile the manifold approaches of Renaissance to a singular track to root them back to a common origin.

The projections from this virtual model to realistic renderings created a framework that began to grow inwards: which means that complexity and density, especially information density, are increasing the smaller the surveyed entity becomes.[10] The model of the Renaissance, which was the means of solving geometric conflicts between principal spatial objects was now a virtual model, which shifted to the level of fiction by realism to investigate the conflicts of an underlying logic.

Villalpando pushed the limits and yet found them anew: no matter how realistic the result will be, it will always be a projection of available data and the reflection of the author's intentions.

9 Balfour (2012), pp. 203.

10 This can be deemed to be the starting point of the Baroque fold. (A.N.)

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Related Ressources

- Alberti, L. B. The Architecture of Leon Batista Alberti in Ten Books, 1755, London, Edward Owen
- Balfour, A. Solomon's Temple: Myth, Conflict, and Faith, 2012, Chichester, John Wiley & Sons
- Fischer von Erlach, J. B. Entwurff einer historischen Architectur, 1721, Vienna
- Morrison, T. Juan Bautista Villalpando's Ezechielem Explanationes, 2009, Lewiston, Edwin Mellen Press
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- Enciclopedia dell'arte antica classica e orientale, 1959, Rome, Istituto della Enciclopedia Italiana