

# Architectology®: architectural knowledge construction

**M. Concepcion Diez-Pastor**

IE School of Architecture / IE University, Segovia, Spain

Recent theoretical debates on the sources of architectural knowledge tend to dissect architecture into a set of atomized disciplines, or else define it as a multidisciplinary matter. Such are for instance the most recent debates held by the EAAE on the issue of architectural theory between 2006 and 2010. However, as Pedro Vieira de Almeida (2005) and other theoreticians – i.e. Alexander Tzonis, Liane Lefaivre – have long claimed, architectural theory – here considered a part of architecture – has its own knowledge sources within architecture itself. Despite its lacking a clearly defined corpus which may let us establish clear boundaries, architectural theory does not belong to science, history, social studies, philosophy or aesthetics. All these fields have their own requirements and means to articulate a universal discourse of their own, not always or often coincidental with that of architecture. Thus it seems easier to define what architectural knowledge is not than to establish what it is in fact. Architectural knowledge does not own ‘the’ truth, but rather it is constructive in the terms described by Popper (1934), Kuhn (1962) or Bourdieu (1967). Architectology draws from the example of cousin disciplines like music – where it is but a natural, almost inherent consequence – or that of the ‘French school’ – where architectural theory is a discipline in its own right, established as such since 1968 – this article aims to claim for the right of architecture to own a global process of its own through which to understand architectural knowledge as a whole. It is constituted as a system of sub-bodies of knowledge central to the major field of architecture. All of these are considered as timely contributors of knowledge to this field, and therefore having played a central role throughout times, to the present moment. Architectology comes to adopt all of the methods needed in architectural research and knowledge construction.

**Key words:** architecture

## Some prior considerations

The way architectural thought is built remains a matter of big discussion not just for theorists but for architects in general as well. However, as most of them have pointed out – i.e. Torres Balbás, Benevolo, Montaner, Vieira da Silva, Pallasmaa, Tzonis and Lefaivre – architectural knowledge cannot be explained from one exclusive point of view. In fact, that is the reason why history, social science, construction, structural calculus or architectural theory are not enough to produce by themselves a sensitive explanation of how knowledge is constructed.

In general terms, the process of knowledge building starts with epistemology. Epistemological thought requires that knowledge building be understood in terms of truth. As such it must then answer a set of philosophical questions such as what counts as knowledge, how can it be acquired, how and to what extent a given object can be possibly known, or how can we know to what extent do we know? Therefore, epistemology is the major philosophical method in building knowledge in absolute terms. Be that the case of architecture, it would be subject to the same process as truth is in Foucault’s (1969) definition – shifting through various *episteme* (ἐπιστήμη) throughout history. Foucault’s is but a historical a priori judgement that grounds knowledge and the discourses from it derived. Yet, *episteme* should be claimed as a part of architecture in as much as it opposes *doxa*.

Architecture, as a major art, is not just partly *episteme*, but also *techne* (τέχνη) and *poiesis* (ποίησις). *Techne* is responsible for architectural production and its achievement of objectives. It resembles *episteme* in that both of them involve the knowledge of principles. But whereas

*techne* means making or doing, *episteme* relates to a disinterested knowledge or understanding of things. But still, *techne* reflects the imperfections of humankind and nature (Aristotle), resembles ‘craft-like’ knowledge (Socrates), and bares a negative aspect if associated with art. All of these would place architecture as *techne* in opposition to the principles of art – namely, in its claim for aesthetical emotion, perfection and beauty. Therefore, *techne* as ‘linear narrative in the presentation of knowledge’ proves limited (Popper, 2002), and opposes *poiesis* as ‘dynamic presentation of knowledge’. *Poiesis*, the nexus missing, reconciles thought, matter, time and spirit with the world. It is the key ‘to understand the secret’ (Tzonis & Lefaivre, 1986 ix) purpose of architecture. *Poiesis* explains the architectural aim for immortality through the search for beauty and perfection. In architectural terms, *poiesis* would produce commotion of the soul through the cultivation of virtue and knowledge.

Dewey (2005), for instance, tried to explain these sentiments from the perspective of architecture as a pure art, by saying that ‘The true artist sees and feels in terms of his medium’, and that ‘What makes a material a medium is that it is used to express a meaning which is other than that which it is in virtue of its bare physical existence: the meaning not of what it physically is, but of what it expresses’ (Dewey 2005:196). However true these statements may be for art in general, architectural objects and knowledge cannot be defined as just products of an ‘artistic feeling’, nor could the architectural matter be fully understood in terms of what it merely expresses in the hands of the architect. As Tzonis and Lefaivre (1986) well stated, ‘[architecture] works as a *formal system*...It tries to identify the kind of logic associated with this system, what Vitruvius called the *logos opticos*...’ (Tzonis and Lefaivre, 1986: 2; original stress). As their argument points out, the key question for architecture is how does it carry meaning and acquire social value. Is it legitimate to study buildings as formal objects only? And their implicit answer is ‘No’. That would contradict Focillon’s ‘world of forms’ (Tzonis and Lefaivre 1986: 2) by reducing such world to a ‘contour or a diagram’ which forms are not (Focillon 1943: 6).

In order to explain how architectural knowledge is produced

‘We have to envisage form in its plenitude in all its aspects, form as construction of space and matter, that becomes evident through equilibrium of mass, light and dark variations, tone, key, brushstroke that are ‘architected’, sculpted, painted or graved’ (Focillon 1943:6).

Otherwise, says Focillon, it would not be possible to explain architectural practice, that which made it knowledgeable, as in order ‘To exist...it is necessary that form measures and qualifies space’ (Focillon 1943: 7). Here Dewey’s claim of material as a medium ‘to express meaning’ (Dewey 2005: 196) appears as essential for architecture, its principal goal being to produce space. However, not any space qualifies as architectural: ‘It is a matter of proportion qualitatively felt. A lyric ode may have it when a would-be epic misses it...’ (Dewey 2005: 217). He too rejects considerations of form or appearance: ‘Volume, like roominess, is a quality independent of mere size and bulk’ (Dewey 2005: 218).

And still, architectural knowledge is not yet explained, nor can it be fully understood under either scope. Architecture is not only an art, or not just any art, hence the mechanisms by which it is ruled are not exactly the same as those that rule the other arts. There is not a single, universal architectural truth, as epistemology claims there should be, nor one single way to get to it. Experience has its say in architecture, as its knowledge is constructive. As Tzonis and Lefaivre (1986) explain, and architects well know, architecture is a long, time consuming, enriching and enlightening process aimed at building an object – the *archifact*®. To reduce such process to the mere object itself, namely the building, would be an error. It would mean not

just to disregard what it took to get to the *archifact*, but also it would reduce the object to the category of something that results from sensitive experiences, aimed at producing but sensitive experiences in turn.

As Popper (2002) suggested with his ‘theory of falsability’, never sensitive experiences precede theory. If that proved to be true, then what would be the need in answering how to get from sensitive experience to theory? Moreover, should we try by all means to find such an explanation, we would find ourselves committed to writing the ‘manual of creativity’ or even the ‘manual of architecture’ which was never the aim of architectural theory. Such a text-book does neither exist nor could Vitruvius (1<sup>st</sup> BC) be accused of ever having tried to write it, as some would like to think. All that he aimed at doing was to give a structure (Giddens 1984) to architectural knowledge, to explain its real contents, its technique, and that remains unchanged. Architecture too produces *ad hoc* ‘non-architectural’ hypotheses from which to justify itself, which are ‘false’. Moreover, in historical terms Popper (2002) comes to help us understand Benevolo’s (1984: 12) claim against historical determinism in architecture. As Popper, he too rejects the linear discourse as applied to describing knowledge.

Kuhn (1962) established a new concept of paradigm that aimed at tearing down any previous conceptual paradigms within which to work. The novelty consisted of including his ‘paradigm shift’, with which he translated into scientific terms the way in which architecture had been working for centuries. Changing paradigms is not an easy task, nor has it been so for architecture. In fact, it has required big individual efforts too. Central to Kuhn’s theory are contextualization and evolution. These, with the aid of cyclical revolutionary periods gave the impulse needed to put an end to the contradictions of former discoveries and rules. In that sense, architecture has the structure of Kuhn’s scientific revolutions.

When he introduced the concepts of ‘bulks of knowledge’ and ‘mutual knowledge’, Giddens (1984: 4) was tacitly subscribing Bourdieu’s (1967: 142) idea of *habitus*. All of these are central concepts for the construction of architectural knowledge in that architecture itself is a social, thus common fact and a cultural realization too. As such, it is highly dependent on its context. Therefore, as a natural, almost direct deduction from the former argument, it must be said that no single, unique, or uniform architectural truth would prove to be ‘architecturally true’, universally valid. This applies both in the general social context as established by Giddens, but also in the more individualistic one of the *habitus* which Bourdieu (1967: 142) used to connect the artist’s purpose with the world around – a world understood in terms of culture and society. Interestingly, it is the purpose that results from that context, and from the artist’s interactions with it (Bourdieu 1967: 142), rather than the reverse, as architects tend to think.

### **The role of architectural theory**

It is not with disregard to architectural theory that it claims for its own rights as a discipline. In a detailed analysis, Pedro Vieira da Silva (2005) studies three of the main relationships usually established in, and at times undifferentiated from architectural theory: those with science, philosophy and aesthetics. As Vieira da Silva says,

‘Today theory has lost its prescriptive, normative character, yet it has won a sense of *methodology* and framing, with which it aims to understand how to articulate people and things within the same consistent system, considered as structural variables of architecture; which expressive materials compose the architectural language de facto; how do these articulate and interact; how are the actions of the project chained so allowing to decipher, be it in its slightest amount, the process of the project making’ (Vieira da Silva, 2005:10; author’s emphasis).

It is true that, from this perspective it is not as easy to define what the role of architectural theory is, as it is to determine what it is not. The fact that it is lacking a corpus from which to establish its limits and boundaries clearly does not help. It is not a science, but neither is it a philosophy or fed by aesthetics.

As science, architectural science bears a certain artificial 'aggiornamento': the architect's reaction against technical blooming that produces a certain complex on her or him. Science would provide architecture with an added dose of credibility and prestige – as science often does with most disciplines (Macdonald 1995). Theory is necessarily related to not just science, but also with different kind of sciences – from physics and mathematics to chemistry, material science etc. However, this is a circumstantial kind of relationship limited to work hypothesis, suggestions of method and other such questions which architecture must admit and from which it must profit, yet renouncing any scientific pretensions, as Vieira da Silva remarks (2005: 8).

Theory has often been paralleled with philosophy as well. Yet philosophical thought is committed to its own requirements forcing it to articulate a kind of discourse universally valid. In front of it, the possible discourse of theory looks as the reverse (Vieira da Silva 2005: 8). Architects are not required to have, and usually do not have any kind of philosophical training. This is to say that architects and their activity must not be subject to, least ruled by a field of knowledge that is beyond their knowledge and control. As Vieira once again remarks, '...the fact that there exist philosophers who have studied the field of architecture with more or less success does not mean that their speculation derives in any practical orientation whatsoever' (Vieira da Silva 2005: 8). The clearest examples would be those of Bachelard (1994) wondering about the poetic sense of space, and Heidegger's (1993) wondering about the sense of dwelling. Vieira da Silva (2005:9) wonders about the real practical consequences of these for architecture as language, which to us is to say, architectural knowledge. In other words, the relationships between architecture and philosophy are not in the least cause-effect ones. The methodological consequences of applying philosophy to architecture or to its language have not yet been reported.

As to aesthetics, Vieira da Silva (2005: 9) again argues that there is no way to explain architecture through aesthetics, so opposing as much Adorno's (1984) thesis as Zevi's (1960). Yet, he assumes the risk of so doing by explaining that both of them are thus connecting the theoretical production with the aesthetical research. However, this is to us a needless risk, telling from the various other examples given above. As Vieira da Silva remarks, both of them '... belong to different knowledge universes which despite the relationships they may establish – as they would have been supposed to do – have no effective articulation of any possible mutual dependency or substitution' (Vieira da Silva 2005: 9), as the development of one of them does not essentially affect the other one.

However, there are other fields also affecting theory, and even almost fretting it, such as history. As Benevolo well pointed out, there are undeniable risks in applying the linear discourse to describe knowledge. That is, by the fact that every historical event must be determined by a corresponding fact of any kind, be it legal, economical, social or any other such. For this reason Benevolo (1984: 12) suggests that it is the architect's task to re-read history in architectural terms, producing both an analysis and an interpretation different from the traditional ones. And he goes on saying that it is the architects' competency 'to make explicit the methodological implications' inherent to the architectural experience (Benevolo, 1984: 12). Such an enterprise in search for the advancement of architectural thought, he continues, requires that the architect would introduce the 'methodological doubt' as the method of analysis of all the knowledge acquired.

And it is precisely here that we find what has been said to constitute the main traditional method in architectural theory: phenomenology (Aravot 2010: 8). The first one being hard to apply, Aravot says, it is phenomenology through the experiences of the surrounding life-world that brings architecture into being. In her statement, Aravot not only explains how is phenomenology ‘the method applied in architectural practice’ but also ‘the one tacitly forwarded as part of architectural education’ (Aravot 2010: 8), whether those who practice it may be aware of that fact or not. She establishes a new subcategory for the cases when it is applied by architects as their practicing method: “phenomenology in practice” [which] is however a “weak phenomenology” (Aravot 2010: 8). We will not get into the particulars of the method as described by Aravot (2010:8-9) through a detailed comparison with the transcendental phenomenology she terms ‘philosophers’ phenomenology’. Yet, the method so described does not explain architectural thought as a whole, other than ‘[focusing] on conscious experience *from a first person’s point of view*’ (Aravot 2010: 8; our stress).

Therefore, only the critical method seems to remain. That being the most needed within the architectural context, it is the very architects who have renounced it to a great extent. In their self-consideration as artists, they do not feel subject to self criticism hence the field of criticism is left for ‘others’, no matter if completely or partly layers in architecture. These tend to face criticism of architecture in the same terms and grounds as they would criticise any other art, with the undesired result of weak architectural criticism. Architects either do not cross the border line of critical inquiry for lack of interest or due to their lack of understanding of the purposes of such an effort (Vieira da Silva 2005: 9).

Through the will to join more prestigious fields of knowledge, theory seems directed towards what Tzonis (1972) explained as ‘the inability of the profession to explain its origin and evolution’ (1972: 14). This would seem to have led us to close the circle, where it not for one fact, interestingly pointed out by Vieira da Silva that the focus of theory rejects any tendency to simplify general accessibility to the architectural work. Instead, it searches for every thing that contributes to underline its global condition in terms of materials and dynamic articulations. Theory’s biggest concern then is the ‘internal structure’ of architecture due to which it will search for all that may be found within any of its cracks that may possibly contribute to enhance its sense of expression and its significance. These, Vieira da Silva says, are but ‘the collateral effects’ (Vieira da Silva 2005: 10) of theoretical inquiry.

### ***Architectology***

At times the theoretical field seems too tight so as to give an impulse to the claim for a bit more openness. In fact, the above explained would let us infer that theory allows for speculation, and little more. In spite of the fact that speculation is very much needed, it is true that architecture claims for greater investigation about the construction of architectural knowledge, as much as it would benefit from deeper, more serious criticism from inside.

Criticism, says Vieira da Silva (2005:11) should not be done, however, by making judgements, establishing hierarchies and interpreting and analysing the *archifacts* in a normative way. This, he asserts, would constitute a limited critical method. Instead, from the moment when theory rejected being normative, criticism must have renounced to produce judgements. In fact, so it should be as long as the *archifact*, as any other work of art, ‘needs no help from extra redeemers. It is by nature its own redeemer’ (Vieira da Silva 2005: 11). It needs not be aware of anything other than its own sake.

From the condition of academic research into architecture, *architecture* should include critical theory and architectural criticism within as much as the formerly referred constituents of architecture – from the science of materials, construction and structural calculus to history, social studies, theory or composition. Only considering all of these as a whole will the elements of architectural knowledge make sense letting us reach a broad understanding of architecture as a multifaceted discipline. Any apparent contradictions would then vanish as its condition as a major art reconciles with its practical aims. This way architecture could indulge to proudly show its internal equilibrium between *episteme*, *techne* and *poiesis* within which revolutions are possible (Dewey 2005: 196). Foucault's (1969) shift through various *episteme*, if understood as a means of exploration, would make full sense as an architectural method.

Moreover, it is within such wholeness that 'the art of established "orders"' can be overcome by 'revolt against fixation in social classes as by technological developments in cement and steel', as Dewey (2005: 196) plainly put it. However, rather than be just a cause attributable to 'the very nature of the artist's work' (Dewey 2005:197), in the case of architecture the technical revolution ought to take pace, and be validated before the architect shows her or his nature. Only such a fact could explain that the revolutions in architecture are keen to take place as much outside the classical canons, as Dewey argues (2005: 196-97), as within them, in the way exposed by Tzonis and Lefaivre (1986). As they thoroughly explain, architectural logic can thus be traced from classical times so that 'classical logic' (Tzonis and Lefaivre 1986: 243) is not privative of ancient Greece and Rome. Rather, it is a way of understanding and assembling architecture, 'the classical system and its poetics of order' (Tzonis and Lefaivre 1986: 243) feasible even nowadays. It can be applied in the strictest way, yet it admits criticism in what Tzonis and Lefaivre termed 'critical classicism' (1986: 273). Throughout time both systems and many others have coexisted with as many interpretations could ever be imagined. From Palladio's interpretation of Vitruvius – to name just one – and Inigo Jones or Lord Burlington's interpretation of Palladio, to the ways in which 'classical architecture[has] been engaged in many contradictory meanings and uses since the Reinassance' (Tzonis and Lefaivre 1986: 274). It has been attached as a sign of the bourgeois identity as much as an 'agit-prop' for the Stalinist regime (Harbison 1998:181), central to the Nazi identity (Macdonald 2006) or innate to that of the Franco regime (Diez-Pastor 2012). From what Tzonis and Lefaivre define as 'strangemaking', (1986: 276), they establish a critical line through which to look for 'new ways of expression outside the classical canon' (Tzonis and Lefaivre 1986: 279), thus exploring a completely different path: the absolute destruction of the classical canon. This process aimed to 'forge another formal anticlassical canon' that gave birth to many of the most remarkable works of the 20<sup>th</sup> century – from Lissitzky's, Chernikov's or Rietveld's to Le Corbusier's Villa Savoye, Mies van der Rohe's Crown Hall and Seagram or Aldo van Eijck's orphanage in Ijsbaanpad (Tzonis and Lefaivre 1986: 280-81).

Such a timeless system has only been able to subsist for the single reason that it holds criticism within, as it informs each and every one of the many subsystems by which architecture is constituted. That is, it does not give way to a closed process, but rather to an open one. It is an open process where change and transformation are accepted as much as assertion and dissention, whereas in any case it proves rigorous and full of potential and dynamism. In their final visionary statement, Tzonis and Lefaivre (1986: 281) picture the actual situation:

'The world of classical architecture today is a world of scattered forms that in their incompleteness can be seen as icons of decomposition...The time direction of the classical fragments that still surround us points to two diametrically opposed paths...The critical potential of classicism might arise from the fact that we belong to a generation of crisis, and frequently, of counterfeit culture, in

which there is a disintegration of human relations at every level of association...Children of happier times might find [in the classical system] a discipline of the mind...They might see in this imperative for order and rationality a quest in the domain of thinking – but also what Thomas Mann (1957) called “the highly cherished idea of a perfected humanity” (Tzonis and Lefaivre, 1986: 281-87).

Therefore, as Tzonis and Lefaivre (1986) seem to point out any other system is somehow related to the classical system, hence ready to be explained and understood through it. The classical system is thus central to *architectology* – or as expressed by Wallace Stevens (1923), ‘Required, as necessity requires’.

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Concha Diez-Pastor, Doctor Architect, obtained her PhD from Madrid School of Architecture-ETSAM (Spain). She is a registered Architect and Master of Research (MRES, University of London). As a Professor of Architectural Composition and Theory, she has taught at IE School of Architecture (Segovia, Spain) and ETSEIA – Universidad SEK (Segovia, Spain), and at Universidad Camilo José Cela (Madrid, Spain) as Assistant Professor. Her research interests are in the interface between culture, space and the generation of architectural thought throughout time. Therefore, they combine the reciprocal relations between architecture, society and culture and their implications for architecture as an art with its own corpus of thought. She has presented and published papers on Architectural Research Methods, Modernist and Avant-garde Architecture, Social Housing, Vernacular Architecture, Architectural ‘Difficult’ Heritage, Architecture for Tourism and Leisure, Visual Culture, and Romanesque Architecture. She is also the author of Carlos Arniches and Martín Domínguez, Architects of Madrid’s ‘1925 Generation’ (2005), about these two central figures of Madrid’s Modernist Architecture. She has also contributed to several works, the latest of which is ‘Architectural Koinè and Transnational Spanish Architecture’, in R. Quek, D. Deane and S. Butler (eds.) *Nationalism and Architecture* (2012), published by Ashgate.