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## NAVIGATING THROUGH 'LAYERS' AS A PEDAGOGICAL APPROACH IN ARCHITECTURAL TEACHING

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### Abstract

The pedagogical approach presented here looks at the benefits of teaching design by encouraging the creation of layers and layers of 'presented', as opposed to 'represented', material, the navigation through which can prove to be a quite creative process. For the longest time architecture has been using a rather narrow set of media; the sketch, the diagram, the orthogonal and perspectival views, and the model were the main means through which the student of architecture followed a rather linear design process which led from concept to an architectural proposal. And while acknowledging that the use of the computer clearly offers new possibilities, the focus of the present piece of research is the way alternative ways of thinking about the setup may trigger the development of novel pedagogies of teaching design through new means of representation or communication which may in turn result in new design methodologies. The virtual is here not understood as the digital but, rather, as potentiality.

### Keywords

Architectural pedagogy, media, layering, packaging, design methodology

## NAVIGATING THROUGH 'LAYERS' AS A PEDAGOGICAL APPROACH IN ARCHITECTURAL TEACHING

CH. CHATZICHRISTOU<sup>1</sup>

### **L 803: Abstract for paper 8**

The pedagogical approach presented here looks at the benefits of teaching design by encouraging the creation of layers and layers of 'presented', as opposed to 'represented', material, the navigation through which can prove to be a quite creative process. For the longest time architecture has been using a rather narrow set of media; the sketch, the diagram, the orthogonal and perspectival views, and the model were the main means through which the student of architecture followed a rather linear design process which led from concept to an architectural proposal. And while acknowledging that the use of the computer clearly offers new possibilities, the focus of the present piece of research is the way alternative ways of thinking about the setup may trigger the development of novel pedagogies of teaching design through new means of representation or communication which may in turn result in new design methodologies. The virtual is here not understood as the digital but, rather, as potentiality.

### **L 802: Keywords**

Architectural pedagogy, media, layering, packaging, design methodology

### **L 804: Introduction**

Rather than seeing the human subject as the author of manual tools and of language, it could be argued, as it indeed already has, that it was the use of tools and language which allowed human subjectivity to emerge and not the other way around. What is relevant here is not whether such a view is correct but, rather, the importance given to the media available for expression, communication or for praxis. Such a view is actually not that far away from Foucault's concept of Episteme as the discourse which influences, if not controls, the way knowledge is produced and used. If theoretical texts as well as built projects are considered as different yet legitimate forms of architecture, then the wide spectrum which these compose cannot but depend greatly on the ability to navigate between different 'registers', use different media, or acknowledge the co-presence of different reference systems.

Another parameter which adds to the complexity of the nature of architecture is its relationship with the dimension of time, not because there is a linear temporal progression between concept, drawings and construction since such a relationship can be disputed, but mainly because ideas, concepts and styles, together with buildings, are dynamic entities without a definite birth date or, for that matter, death date, and without very clear or distinct boundaries.

Such fluidity in so many aspects of architecture may not sit well with the traditionally perceived need for exactness in architectural communication and execution but are, on the other hand quite important to such concepts as diagrammatic design, sustainability and interdisciplinarity which are central to contemporary architectural discourse.

And while this fluidity is literally visible in the formal aspects of many built projects, it is not so clear if such fluidity can be found in the way these projects are produced, let alone in the way they actually perform. Built architecture may manage to become a formal image or frozen snapshot of fluidity but it

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may still, despite claims of concentrating on process rather than object, remain a representation, a mimesis rather than a living ever-changing entity.

And while the causes of such phenomena may be found in many different dimensions of what is referred to as architecture, the piece of research presented here focuses on the way architectural pedagogy through older, more recently acquired, as well as new tools could contribute in bringing about changes not only in the design methodologies taught and cultivated in schools of architecture but also, perhaps more importantly, in the ideological positions and conceptual frameworks used more broadly in academia. What follows is thus a proposal not only with implications regarding the way a student of architecture or a professional designer may go about coming up with a proposal, but with implications in the way a researcher contacts and reports her/his work.

Central to the proposal is a peculiar concept of 'Layering'. If the author of the present work had total freedom in writing this paper he would follow a format he developed and uses for some time now in which 'layers' travel between different papers as in the body of the paper which follows.

### **L 800: Paper number**

Paper 8

### **L 801: Title**

Navigating through 'Layers' as a pedagogical approach in architectural teaching

### **L157: Layering in architectural education and practice**

First it was the tracing paper. Now, more and more, it is the layers in the different computer programs. Placing different sets of information in different layers has always been an important technique in the production of architecture. It is actually the very language used in the communication between the different agents involved in construction.

Still, layering's most crucial contribution in design is that it enables the designer to abstract and thus manage to deal with complexity. The recent tendency to work three-dimensionally from the start may prove disastrous if it reduces the designer's skill to consciously deal with sets of quite complex relationships. The ability of a student of architecture to produce complex-looking drawings with the help of the right software does not necessarily mean that the complexity of the situation or context has been dealt with accordingly.

### **L 805: The Pedagogical benefits of 'Layering'**

The most advanced course I teach at the Department of Architecture at the University of Cyprus, apart from supervising PhD and Thesis projects, is mandatory for 4<sup>th</sup> year students and open to Thesis and PhD students. Its main goal is to offer students a new design as well as research methodology. It attempts that by encouraging a rather irreverent attitude towards conventional attitudes and procedures. In its most basic level it questions the distinction between theory and practice and proposes a design and research methodology where the initial intention, history, tradition, context, and theory are seen as part of the practice of architecture. The stages which traditionally lead to an architectural 'result', as the 'result' itself are converted into layers which are dynamically interrelated. In such a setup, an important tool is the taking of 'snapshots' which 'depict' 'agents', human and material alike, and the relationships between them. Each snapshot is nothing but another moment in this dynamic layering process which goes on continuously. Such a snapshot is literally the access to the next layering state. In this sense, there is no final piece but potentially deeper layering.

Each layer is not necessarily homogeneous since, like any good traveler, it may collect elements from other layers or be positively 'contaminated' through processes of translation or 'metaphorization'. Such travels are encouraged since any such movement can allow for otherwise lost virtualities, in the Deleuzian sense, to emerge.

Emergence as the appearance of opportunities with the co-presence of two or more 'conditions' is an element to be studied in existing 'layerings' and a condition to be designed in design propositions.

### L 806: Media as tools for creativity

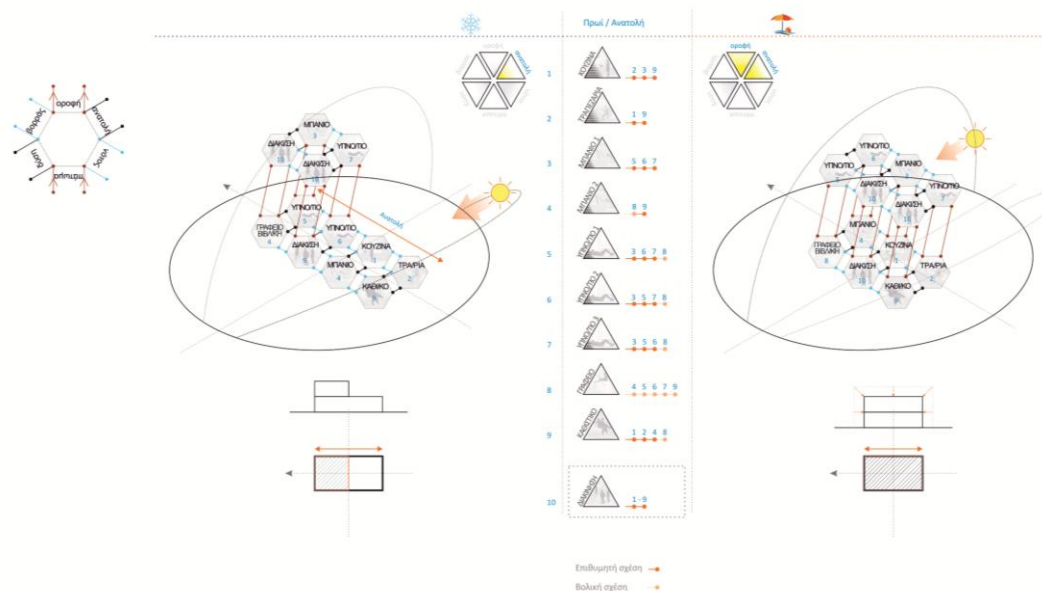
In teaching architecture in any level, be it a lecture or design course, but especially in supervising Thesis projects and doctoral research, I strongly encourage the students to use the media for representation, be it text, sketch or diagram not simply as pre-given communication tools but, rather, as means for being creative with the task ahead. There is an emphasis on the development of such media rather than on the end proposal resulting from them. Such a tactic may be seen as a translation into another 'language' or another reference system, or as the creation of a new language or reference system. When this is successful, something so common in architectural projects as a house for example may then be seen through a new lens, a situation which is pregnant with potential.

### L 807: Representing each space in a house as a hexagon

A Thesis student, after examining the natural mechanisms of thermal insulation in the human body in different climatic regions of the planet as well as in other living organisms, attempted to use a similar logic in the design of the contemporary Cypriot house. The concept of layering was used but rather than concentrating on insulating materials, the study looked at the whole spatial arrangement of the house as a layered entity and then attempted to see what specific adjacencies between spaces would best achieve the desired results not only regarding functionality but also regarding the way the house can be cooled and heated by using purely architectural rather than mechanical means. In this arrangement, a whole space rather than a compact sandwiched wall boundary could act as the insulation or transmitter.

Acknowledging the role played by the degree of compactness of the design was followed by the acknowledgment of the role played by layering spaces not only on the horizontal but also on the vertical plane. This in turn led to the need to come up with a representation system which gave all six planes defining a space, the four vertical planes and the two horizontal ones, the floor and ceiling, equal importance. It was the hexagon which allowed such an equal treatment of all six boundaries and which then facilitated the study of the consequences of different arrangements between spaces.

### L 808: Figure 801: domestic 3-D spatial configuration expressed using hexagons



### L 809: 'Packaging' as virtualization of the real.

Sir Peter Cook, the Curator of the Cyprus Pavilion in the Venice Architecture Biennale in 2008, introduced the theme of the exhibition he was selected to curate by comparing it to the theme of the previous Biennale in 2006. The old theme was the Buffer zone dividing the island in two, while the

new theme was an invitation for architects to ‘reinterpret’ what it means to Relax in Cyprus. He jokingly expressed an indirect disapproval for the seriousness inherent in the previous theme and tried, with an attitude which was found patronizing by some, to challenge the architects of Cyprus to prove that they are indeed the creative individuals he had as students but who, according to his judgement, have not shown the same creativity as practitioners.

It was Sir Cook’s approach which triggered the first discussions between the members of our team composed by Panayiota Pyla, Theoulla Evzona and Giorgos Kallis, and myself. It was as if we were asked to ignore parts of our existence and concentrate on a lighter, happier aspect of what it is to be in Cyprus. It may be true that for most British visitors, Cyprus is associated with holidays, unless of course they are personally connected, in some way or other, with the British colonial rule of Cyprus or its remnants (the British military bases still on the island). The local population though does not necessarily see its identity shaped mainly by what, for the purposes of the biennale, was termed as relaxation. In a way, what the curator was asking us to do was to ‘bracket out’ or get ‘disinterested’ about some aspects of what we perceived as our Cypriot reality.

This kind of reasoning was expressed by the following train of thoughts: To relax in Cyprus, one needs to forget about the Cyprus Problem, the drought and human trafficking. In other words relax is actually ‘realx,’ or, reality minus/plus one or more of its aspects. For example, REAL – CATS = RELAXED MICE. It then follows that my ‘realx’ may not be the same as your ‘realx’, or, ‘your relaxation is not my relaxation’.

In such a scenario, rather than being at a physical distance from a plane which, irrespective of the subject’s actions, ‘contains’ a virtual image, the subject is actually immersed in an environment which may have different kinds and degrees of virtuality and which may, at the same time, be quite real regarding other parameters.

The removal and/or intensification of some aspects of the real can be seen as resulting in some form of virtuality. The act itself could thus be called *virtualization*. Degrees of virtualization that is, since as already mentioned, what is left is still quite real or actual regarding some aspects or parameters. In fact, what we have observed is that the whole built environment is virtualised. It could even be argued that the purpose of design is actually the virtualization of the ‘real’.

An examination of a coastal region of Cyprus revealed that the whole area is loosely yet clearly arranged in strips which cater to the needs, or increase the relaxation level, of different users each time. Our observations were expressed in the form of equations. So, SEA - SEA BOATS = RELAXED SWIMMERS, or SEA - SWIMMERS = RELAXED SEA BOAT DRIVERS, and so on. We described the situation as a ubiquitous system of packaging.

Based on our observations, we decided to comment on the existing setup by amplifying the packaging through virtualization even more. The concept took form in two separate proposals: ‘The Conveyor Belt Project’ and ‘The Ultimate Souvenir Shop’.

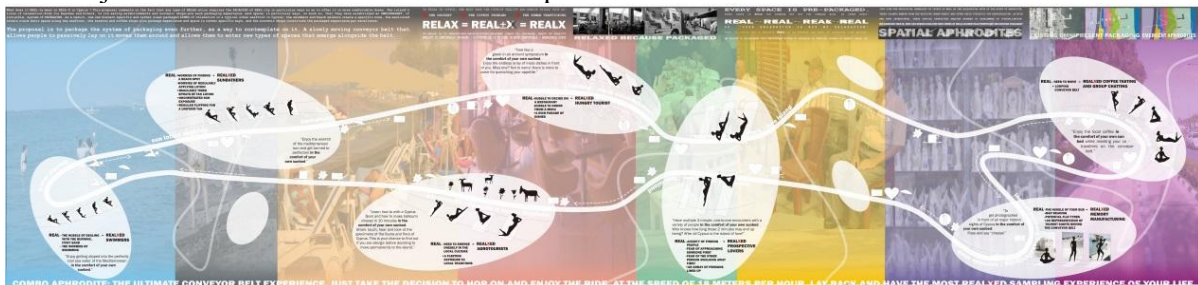


Figure 1: The Conveyor Belt Project

The Conveyor Belt Project proposed a real conveyor belt made out of sun beds which run in very slow speed in a large loop. Tickets could be purchased by anyone at any time and for any length of the trip. The riders would relax on their personal sun bed while it travelled through various sections, each offering a different experience. The purpose of the Ultimate Souvenir

Shop was to create instant memories of visits to Cyprus without requiring an actual trip to the island.

### **L 810: 'Packaging' as a pedagogical method**

Teaching design studio is always in desperate need of different and varied means of communication not only between the instructor and the student but, perhaps more importantly, between the student and her/his work. The concept of 'packaging' developed while working on our participation for the 2008 Venice Biennale offered such a medium. Students found the use of the equations of 'virtualization' quite useful in understanding the experiential aspect of their proposals, something less reachable through plans, elevations or even three-dimensional means of representation such as perspectives.

Such was the case with a Thesis project which used these equations in combination with a version of layering which identified the characteristics of public spaces of common relaxation for people of different faiths.

### **L 811: What is 'Tradition' in architectural pedagogy?**

If in a vernacular setting tradition regarding building was the knowledge, or perhaps more appropriately, the know-how handed down through generations of builders, each slightly 'adding' to what was given to them, then the teaching of design could be seen as a similar but much faster process. Precedents serve as starting points while layers of tracing paper or in a computer program are comparatively a 'fast-forward' operation of successive stages, layers that is, of 'learning'.

### **L 812: Artists in residence or on call in public parking lots**

An example of 'emergence' is the proposal as part of my keynote speech at Artos Foundation in Nicosia at the *Metapolis: Intervention in the City: Stock & Re-use Architecture Symposium* on October 9<sup>th</sup> 2015. The idea is to take advantage of three wasted resources: unwanted items found in any house small and light enough to be loaded into the trunk of a car by one person, the empty trunk of the car which is driven from home to a public parking lot and the large number of artists in need of an income. With the artist in residence the parking lot is not the same anymore since there is now an unloading/loading/display platform, a small enclosed studio space for the creation, by the artist, of 'surplus value' by converting the unwanted objects into works of art. Being open 24 hours it also contributes in making the place safer for its users.

### **L 111: Layering as more of a process than a product**

The paralyzing effect of commitment accompanying the notion of finality or concreteness, is neutralized by the liberating promiscuity of Layering; rather than laboring over any kind of work, whether this is a piece of architecture, a painting or a text, in order to clearly and forever define it, the practice of layering allows for a shift of focus: from being concerned with fixing identities and products to being continuously creative with processes. In its refusal to stand still and reach a destination, Layering is clearly much more of a process than a product.

### **L 116: What if layers can...**

The examination of different works from a variety of fields allows for a still far from comprehensive outline of the characteristics of Layering:

- layers are separated by an in-between space which allows for their co-presence;
- each layer may be a pattern, or a composition made up of discrete entities;
- each layer potentially extends indefinitely in its plane;
- the sequence between layers is not fixed. The observer/creator of the setup can bring forth one layer and make others recede;
- not one layer is privileged in any absolute fashion by the setup. The observer/creator may use any hierarchical ordering system he/she desires at any specific moment;

- layers can be opaque, translucent or transparent, or they may be rendered so as desired;
- the observer is not situated outside the setup but is immersed in it and is part of it. It could be said that the observer is part of the in-between space which partly defines spatially the foremost layer;
- time is part of the setup, not in any linear sense but in the sense that change is inherent in the setup. Travelling from one layer to another, or shifting positions while staying within the boundaries of the same layer cannot take place while fixed at the same point on the dimension of time;
- elements from one layer can “contaminate” the other;
- new layers can be created at will;
- layering can be a physical arrangement available to vision, but is predominantly a conceptual frame of mind, an attitude. This explains why a literally two-dimensional entity may be perceived as layered while a clearly layered three dimensional entity may be perceived as not-layered. The key player in both scenarios is the perceiving/creating subject.

### **L 120: Layering, collage, folding**

Layering does not depend on fragments as collage does, nor does it use one continuous entity like a Mobius strip implied by the fold. It is rather in need of layers. Layering, collage and folding are thus different. Still, a fold, even if it involves one continuous entity, superposes or layers, while a product of collage may be seen as layered if it is composed of pieces which overlap rather than form a mosaic.

### **L 124: The position of the subject in relation to the layered**

Acknowledging the presence of layering is not an inevitable consequence of the way a work is presented. Layering is a creative process undertaken, consciously or otherwise, by the subject who perceives the layers.

Juxtaposition in layering does not have to be literal in a physical and/or temporal sense. It, actually, *always* takes place in the mind. Consequently, two or more works (paintings, pieces of music or works of literature) can be miles and decades apart and still be layers in a subject’s mental composition. However, they cannot be involved in the same process of layering if they are not found within the same subjectivity. To experience or perceive layering is to perform layering. To layer is to get layered. We are all moving onion hearts. We are always in a layered environment which is either concentric with our own position as perceiving subjects, or allocentric, rendering us more as entities in a curved or spherical layer which has its center somewhere other than our position.

Layering implies a submersion of the observing subject within the setup. Unlike a geological or historical form of sedimentation or stratification, Layering allows for the rearrangement of layers and a potential change in the relationship between the subject and the described setup. Consequently, real time is also implicated. Such a state resembles Deleuze’s claim that in the “superfold,” “each located observer is the opening of a fold, a world folded around its contemplations and rhythms.”<sup>1</sup>

There are as many spaces or folds as there are styles of perception. If a fold is the way perceptions “curve around” or are oriented according to an acting body, then the thought of these curves produces a life that can think not just its own human world—the space of man—but the sense of space as such.<sup>2</sup>

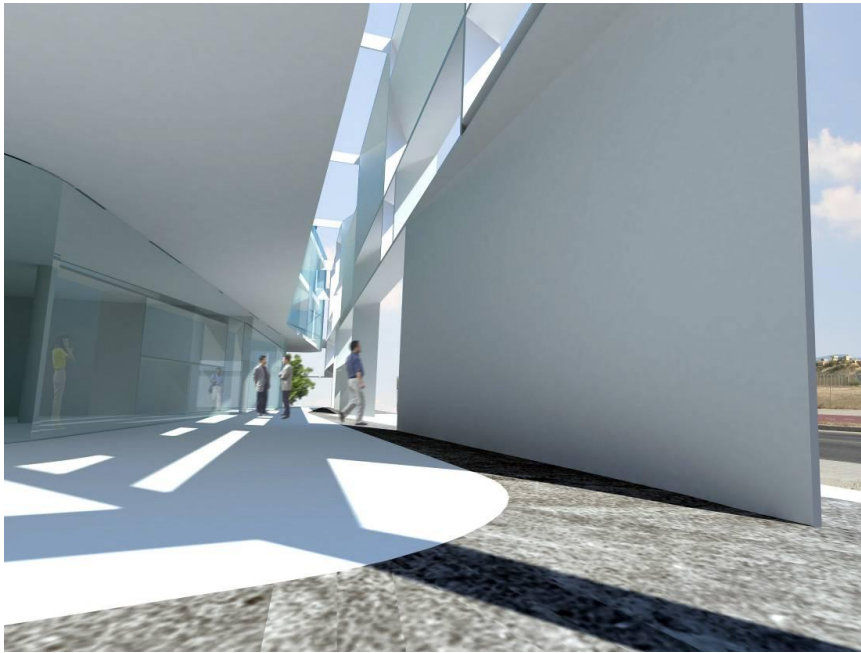
The subject itself is created and recreated with every act of Layering. ...

1 Deleuze and Space. Ian Buchanan and Gregg Lambert (editors). Edinburgh University Press, Edinburgh, 2005. p.12

2 Colebrook Claire, The Space of Man: On the Specificity of Affect in Deleuze and Guattari. In Deleuze and Space. Ian Buchanan and Gregg Lambert (editors). Edinburgh University Press, Edinburgh, 2005. p.190



### **L162: Between two layers**



(Entry for the Architectural Competition for the Cyprus News Agency, Nicosia, in collaboration with Aimilios Michael, Vasilis Ierides, MariaKoupi, Stefani Kesi, Andreas Savvides, Odysseas Kontovourkis)

### **L 503: Abstract for Paper 5**

...The interest in Layering occurred while painting. The need to 'complete' a work, whether by adding on, by 'erasing', or by 'covering over' what already existed on the canvas, brought about the idea that nothing can be totally erased and that all is layered. From the specifics of oil painting on a canvas the concept jumped out assuming a more theoretical form which, since then, has been travelling around in fields such as literature, philosophy but also architectural pedagogy, and architectural and urban design...

### **L 118: A painting**



### **L 208: Layering used in design studios**

For the first year, first semester design studio (at the School of Architecture, University of Cyprus, for the period 2003-present) the project involves a version of a rather common exercise in architecture studios: each student is asked to study the relationships found or expressed in a painting by a local artist and then use them in order to create a new two-dimensional composition. This in turn served as the initial material for the design of a three-dimensional object which in turn inspired an intervention

in the urban fabric. The whole process can be seen as a series of layers which may be linked linearly. It could also be that some layers are actually more linked between them than with intermediate layers, creating jumps and discontinuities. It is the juxtaposition of the layers that allows such features to surface. So, while in the drawing class the exercises encourage a de-layering of an existing object, in the design studio the task is first to delayer the specific work of art and then create new layers with the purpose of composing a new entity. Needless to say that the creation of a layer in de-layering as well as in layering in both classes, is not carried out in a mechanistic fashion. It is rather more of a process that requires both analytical as well as synthetic activity.

For the second Semester, the studio asks students to analyze an area and come up with a proposal for an intervention. For this exercise they work in groups. The different kinds of analysis produce different layers of data, information or design moves. Each team ends up with a pack of layers. Each layer in the pack produced by each team may be a sketch of an idea, a configuration of solids and voids, or a pattern of flows. These layers are sometimes found one on top of the other, other times pinned up on the board, or simply floating around, travelling between the students in the group. The order of the layers is continuously changing and with each new arrangement new layers are generated. What is gradually evolving is the ability to deal with parameters from different layers, allowing the group to focus, control and eventually stabilize an otherwise chaotic situation.

### **L 701: Paper Title**

**Well, I say you are already 'Layereding'**

### **L 704: Introduction**

Layereding is, like everything else, many things at the same time. It is a conceptual framework, an activity, a condition, a perception, an affect, a value judgement. Aware of the huge implications I will dare claim that as a conceptual framework it allows such a smooth oscillation between polarities that in effect renders those polarities relative if not practically meaningless. Background-foreground, subject-object, before-after, authentic-copy, being-becoming, are but a few of such polarities. Instead of 'Layering', a term which privileges the active component of what actually takes place, 'Layereding' brings the more passive component to the fore as well.

### **L 705: ANT and the layereding 'subject'**

With Actor-network Theory, Bruno Latour develops a concept for 'assemblage' which when used in defining the subject, or a subjectivity for that matter, seems to reinforce the concept of layereding... 'To be an 'actor' is now at last a fully artificial and fully traceable gathering'. (Latour, 208) In his scheme even our idiosyncrasies are due to downloading 'plug-ins'. Furthermore, any such 'gathering' or 'assemblage' is not a stable phenomenon but what results from the ability to continuously shift between different frames of reference. The shifts are carried out by 'mediators' which "transform, translate, distort, and modify the meaning or the elements they are supposed to carry. Any action is seen as "borrowed, distributed, suggested, influenced, dominated, betrayed, translated" (Latour, 46) in the sense that 'any given interaction seems to overflow with elements which are already in the situation coming from some other time, some other place, and generated by some other agency' (Latour, 166). 'Form' is seen as 'something which allows something else to be transported from one site to another. Form then becomes one of the most important types of translations.'

He stresses that no interaction is 'isotopic', 'synchronic', 'synoptic', 'homogeneous' or 'isobaric' in the sense that 'in most situations, actions will already be interfered with by heterogeneous entities that don't have the same local presence, don't come from the same time, are not visible at once, and don't press upon them with the same weight (Latour, 202). What is consequently 'fabricated' by these gatherings are not 'matters of fact' but rather they are 'matters of concern' while he sees both objects and persons as 'made of multiple layers' (Latour, 114).

Bruno Latour *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford University Press, Oxford, New York, 2007

### **L 711: Xenakis and Layered topographies: acoustic, visual, textual and other**

...With his 'polytopes' Yannis Xenakis used the principles or strategies behind his sound compositions to create relationships between different media or parameters such as space, light, text and of course sound. ...

And while the polytopes were meticulously designed and planned events, one could suggest that our daily experience is made up of such layered topographies which may not have a single author, are not announced and may thus go unidentified as such. Still, they are there and they may be identified by someone who has been informed of their existence and is looking. One could go further and claim that even in a project which is designed from scratch what is actually arranged are the relationships between selected layers of virtualities or potentialities.

### **L 813: Conclusions**

- A. Layering, whether involving the superposition of sheets of tracing paper or the digital layers in computer software is invaluable in architectural education and practice.
- B. The 'expression' of any data in different forms and registers call enrich the designer's understanding and increase her/his creativity
- C. Travelling between layers and upsetting their homogeneity by selectively collecting some 'relationships' while ignoring others allows for emergences to appear.
- D. Such pedagogical techniques can become part of the student's as well as the professional architect's design methodology

### **814: List of papers layered in the present one**

Paper 1: *Layering is not*, chapter in *Layering: Rethinking Contact, Historicity and Critique Across the Humanities*. Forthcoming

Paper 2: *Layering in software, drawing, thinking, designing*, in Teaching and Experimenting with Architectural Design: advances in technology and changes in pedagogy, ENHSA-EAAE Architectural Design Teachers' Network Meeting, EAAE Transactions on Architectural Education no 35, 2007, pp431-439)

Paper 5: *Layering and its travels between theory and technique*. Fourth EAAE-ENSA Sub-network Workshop on Architectural Theory, October 2009, Fribourg, Switzerland.

Paper 7: *Well, I say you are already 'Layered'*, Proceedings, The Continuum and its development in Music & Architecture: from Xenakis to the present day, Universite de Rouen, Ecole Nationale Superieure d' Architecture de Normandie, Rouen, France, 3-4 November 2015 (forthcoming 2016)

### **L 815: References**

The references are placed at the end of the layer so that each of these layers can indeed travel across papers.