The Tradition of *Spatial Writing:*
The Case of the Palindrome in Between Literature and Architecture

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In his paper *The History of the Lipogram* (1970), Georges Perec (1936-1982) talks about a tradition of 'writing as practice' that has been overlooked in dictionaries and respectful editions of literary history. Referring to the lipogram as a kind of writing under constraint consisting of writing paragraphs or longer works in which a particular letter or group of letters is avoided, and by consequence to all sorts of anagrams, observes that this tradition is not considered as important as other forms of literature. According to Perec:

> This lexicographical ignorance is accompanied by a critical misappreciation as tenacious as it is contemptuous. Exclusively preoccupied with its great capitals (Work, Style, Inspiration, World-Vision, Fundamental Options, Genius, Creation, etc.), literary history seems deliberately to ignore *writing as practice, as work, as play*. Systematic artifices, formal mannerisms (that which, in the final analysis, constitutes Rabelais, Sterne, Roussel…) are relegated to the registers of asylums for literary madmen, the 'Curiosities': 'Amusing Library', 'Treasury of Singularities', 'Philological Entertainments', 'Literary Frivolities', compilations of a maniacal erudition where rhetorical 'exploits' are described with suspect complaisance, useless exaggeration, and cretinous ignorance. Constraints are treated therein as aberrations, as pathological monstrosities of language and of writing; the works resulting from them are not even worthy to be called 'works': locked away, once and for all and without appeal, and often by their authors themselves, these works, in their prowess and their skillfulness, remain paraliterary monsters justiciable only to a symptomology whose enumeration and classification order a dictionary of literary madness.[1] [emphasis added]

But constraint writing and, in particular for this paper, palindromes, seem to have existed since writing itself, and until the nineteenth and twentieth centuries were considered important poetic compositions. For example, in ancient Greece palindromes were related to Orphic poetry and to the famous poet Sotades (palindromes are also called Sotadic verses). In Byzantium, palindromes were spiritual texts related to religious architecture and often seen in church fountains, as at Agia Sofia in Constantinople and Mount Athos in Greece, and in arches and domes. There are also numerous examples of anagrams, lipograms, pangrams, acrostics, chronograms or palindromes specially composed for kings and collected in beautiful and expensive editions,[2] or in religious texts, such as the Cabala.[3]

But palindromes have also been very powerful incantations.[4] According to a book about magic that is attributed to medieval philosopher and theologian Albertus Magnus (1193-1280), palindromes could be written in various ways in grids and triangles, folded in paper and cloth, and even eaten to:

> … extinguish Fire without the aid of Water…
> for the fever…
> an excellent way to Prove wether a Person is a Witch or not …

> When a Cow has Calved or has the Fever and to
> prevent that her Milk be taken during that year …
> An Amulet for the Colic …
> For Poisonous Air and Pestilence …
> For all sorts of Sorcery of Man and Beast … [5]

Possibly it is this connection to religion, mysticism and magic that determined the palindrome's eventual demotion from poetry to linguistic oddity, as lamented so vividly by Perec.

Mathematical and literary constraints underlined most of Perec's work. He wrote *La Disparition* (1969), a 300-page novel, without using the letter 'e' (apart from in the author's name), which is the most common vowel in French. Then he wrote another shorter novel as an answer to the previous one in which the only vowel used is the 'e'. He is credited with one of the longest and most fascinating palindromes ever written, *L a Grande Palindrome* (1969), comprised of 1,247 words or 5,566 letters. But his most well-known novel *Life A User's Manual* (1978) is also structured on a system of superimposed mathematical and linguistic constraints. The three main ones are: a) the 10´10 bi-Latin squares that determine the distribution of characters, stories and other elements in each chapter, b) the Knights move on the chessboard that determines the movement from chapter to chapter and c) a building with its façade removed.

Another thinker and philosopher who demonstrated interest in the anagram and particular the palindrome is Jean Baudrillard (1927-2007). Baudrillard, continuing Saussure's linguistic theory, uses the anagram to denote the arbitrariness of the signified/signifier relations, claiming that it is a mechanism of destabilizing symbols, dispersing them in an invisible but experiential world of a non-linear discourse between cause and effect. This poetic space hidden or revealed by the 'poetic form' and manifested by the anagram and the palindrome is where the solid structure of language is 'exter-

minated'.[6] Baudrillard, referring to linear notions of history that are no longer able to characterize or criticize social phenomena at the turn of the twentieth century, talks about a 'retroactive form of history'. This 'reversion of history'[7] is a non-linear history that has the ability to move in multiple directions 'in loops and curls, in tropes, in inversion of meaning'. Baudrillard turns to 'poetic form' in the anagram and, more particularly, to 'poetic reversibility' to provide an insight into such a history as well as to suggest how to deal with the events and periods it outlines and analyses. Baudrillard suggests that the palindrome provides an important tool to 'serve in this time of retroversion of history' and he uses the word 'palindromology' to introduce a rhetoric method, a kind of lecture that could express his concept:

> Are there social spoonerisms, an anagrammatic history (where meaning is dismembered and dispersed to the four winds of the earth, like the name of god in the anagram), rhyming forms of political action, events that can take on either this or that meaning? *The palindrome* [A word, verse or sentence that reads the same backwards as forwards. Ex.: HannaH.], this poetic and rigorous figure of palinode [recantations] would do well to serve in this time of retroversion of history with a burning lecture (perhaps Paul Virilio's dromology could eventually be replaced with a *palindromology*?).[8] [emphasis added]

By following Perec's or Baudrillard's references in the past it is easy to recognize that anagrams and constraints have been employed throughout history not only as magic spells to 'extinguish fire without water' or as word puzzles for someone's entertainment, but also as a powerful theoretical tools by very important thinkers, philosophers, architects writers and poets, including Cicero (106-43 BC), Vitruvius (c. 80/70-c. 15 BC), Giordano Bruno (1548-1600) and more recently in Ferdinand de Saussure (1857-1913) and Stéphane Mallarmé (1842-1898). In architectural constraints Cicero found a tool to distinguish and define the materiality of language

and memory within a linguistic system that could be called Latin sign theory. He once claimed that he could not make a proper argument indoors, away from the repository of signifiers that was the city with its buildings: 'One can use words [Cicero said] to reply to an argument made with words. But how does one reply to the self-evident fact of a building?'[9] This repository of signifiers that is the city needs its signified material to be expressed; words cannot stand by themselves and their body needs to be moulded in matter either in stone or memory – as matter needs words – otherwise they cannot speak, or at least cannot speak the same. Vitruvius, following Cicero's theory as well as Platonic influences, constructed his seminal work *Ten Books on Architecture* as a unified body and he used the Pythagorean building block of the world, the tetraktys, to provide the reader with the spatial coordinates to orientate him/herself within the ten books/scrolls that recreate the unified body of architecture.[10] Bruno in one of his poems/emblems provides the image of the palindromic tree as a non-linear or branch-like argument that generates a continuous process of 'two-member bipartite divisions'.[11] This process of divisions creates a 'growth' of pairs that enlarges constantly, pushing the multiplicity of these pairs to their 'extreme differences', until infinity. From that point and onwards and by squaring or growing the circle of this palindromic tree's shadow, together with its divisions, Bruno slowly starts to create the universe, the sun, the moon, the stars, the planets and the explanations of things. It is interesting in Bruno's image that a palindromic sequence made of pairs of extreme differences of concepts like 'light and shadows, cold and hot … thick and thin the foundation of rhetoric, language and the world itself, like a Pythagorean or a poststructuralist. Saussure developed his semiotic theory by looking back and studying ancient poetic anagrammatic forms like the Saturnine Verses. Similar research took place in the circles of the Parnassians and Symbolist poets, as for example in Paul Verlaine's (1844-1896) *Poèmes Saturniens* (1863), a collection of sonnets he wrote

based on the study of the ancient Latin poems dedicated to Saturn.[12] Mallarmé, possibly influenced by the same circle of thinkers and writers, constructed his famous poem *Un Coup de Dés* (1897) as a textual cube employing a number of mathematical and linguistic constraints. Using very careful mathematical and geometric calculations, mirror symmetry in the centre of his poem, different fonts and sizes he scattered seemingly in random words, images and meanings in the text's space, transforming the poem into the die itself. The outcome of this process is that the reader produces meaning by random outcomes of strictly defined gestures; like throwing dice.

The main intention of this paper is not to create a comprehensive history of anagrams or palindromes, but instead to examine possible spatial relations between this form of poetry and architecture. Returning to Perec's idea of 'writing as practice, as work, as play', as he describes literature in the *History of the Lipogram*, is of great interest for architecture because it suggests that the architectural text might be more than an element complementary to design; that is, something that simply describes a project, tells a story behind a project or creates a project as a narrative. Recently there is a growing interest in the direction of writing as 'practice' in architecture and architectural theory, as in the work of architectural critic Jane Rendell who, having as a starting point 'the possibilities opened up for criticism by art- and site-writing', defines 'architecture-writing' as an interdisciplinary 'critical-spatial practice'. According to Rendell: 'Architecture-writing also demands that we consider the modes in which we write, as well as the medium in which we practice criticism, to be more than a description of content, but to define critical positions … '[13]

'Writing as practice', according to Perec, and 'architecture-writing', according to Rendell, bring text into the very heart of the creative architectural process. In this model text could be used

as a design tool inviting the designer to take into consideration not only how writing unveils, as Perec claims, 'Work, Style, Inspiration, World-Vision, Fundamental Options, Genius, Creation, etc.', but also how it becomes a 'critical position', a 'formal mannerism', or a drawing itself; an architectural text that takes into consideration both text's and architecture's formal values, their ability to create spatial experience and space.

In the example [fig. 1] from poet Publilius Optatianus Porfirius (fourth century AD), the poem takes the form of an altar.[14] The poem, following the ancient Greek example of Dosidas's altar poem, was likely written to be inscribed on an architectural feature but also, as a kind of formal writing, was carefully calculated to share the similar form and principles of the object it was meant to represent and be represented on. Such writing was not meant to be part of an edition, poetry collection or book and was not written to express solely, as Perec noted, 'Work, Style, Inspiration, World Vision, Fundamental Options, Genius, Creation, etc.', but formed as a writing for architecture, a writing like (or on) architecture and as part of an architectural feature. The poem was not treated separately from the object, the altar in this case, but together with the object on which it was written; text became the object itself. Such an idea is reinforced by the content of the poem, which reveals that it is an altar to Apollo. In other words, we can view the poem as an architectural drawing made with words.

Such examples of formal writing, a category in which palindromes also belong, demonstrate a form of tradition. This tradition is related not only to literary theory but also to architecture, architectural writing or 'architecture-writing'. These examples of formal writing operate as objects in which a poem's geometry and materials function together and can be experienced through reading, looking and touching. Some kinds of formal writing were specially composed and carefully calculated for buildings

and architectural elements, and it is not coincidental that we find them there. For example, it is not coincidental that when used in architecture, palindromes were traditionally placed on thresholds, domes, arches and fountains. In that sense palindromes could be considered very literally as a sort of architectural writing, in that letters shared similar values to the buildings blocks on which they were inscribed: the threshold, the stairs, the dome, the arch or the fountain itself.

This kind of writing, which can be expressed spatially in text and textually in architecture, I call *spatial writing*. *Spatial writing* includes examples from both text and buildings.

There are examples of *spatial writing* from different periods under the name of either pattern, visual, formal, concrete poetry, combinatory literature or literature under constraint. In the examples of *spatial writing* analysed from literature or poetry, this text-space is organized more like a building-space; it is multilayered, three-dimensional, temporal, based on movement, and the geometric characteristics of its elements can transfer forces, create bodies and as a result be experienced retrospectively over time, like a building. Such a context explains why, of all literature, types of *spatial writing* have been widely used as inscriptions written on buildings and architectural features; it is because the meaning of the text, its visual impact and spatial structure combine with the physical elements and spatial structure and work together to create a whole, an object, the building itself. When *spatial writing*, or in particular a palindrome, is written in a book taking a triangular or cyclical form, it is not only decorative but consists of a spatial structure that shares the same principles with architecture and helps to create and keep together the space of the book. In these examples of *spatial writing*, text and drawing, books and buildings are organized and experienced similarly.

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            V I D E S V T A R A S T E M D I C A T A P Y T H I O
            F A B R E P O L I T A V A T I S A R T E M V S I C A
S I C P V L C H R A S A C R I S S I M A G E N S P H O E B O D E C E N S
  H I S A P T A T E M P L I S Q V I S L I T A N T V A T V M C H O R I
    T O T C O M P T A S E R T I S E T C A M E N A E F L O R I B V S
      H E L I C O N I I S L O C A N D A L V C I S C A R M I N V M
        N O N C A V T E D V R A M E P O L I V I T A R T I F E X
        E X C I S A N O N S V M R V P E M O N T I S A L B I D I
        L V N A E N I T E N T E N E C P A R I D E V E R T I C E
        N O N C A E S A D V R O N E C O O A C T A S P I C V L O
        A R T A R E P R I M O S E M I N E N T E S A N G V L O S
        E T M O X S E C V N D O S P R O P A G A R E L A T I V S
        E O S Q V E C A V T E S I N G V L O S S V B D V C E R E
        G R A D V M I N V T O P E R R E C V R V A S L I N E A S
        N O R M A T A V B I Q V E S I C D E I N D E R E G V L A
        V T O R A Q V A D R A E S I T R I G E N T E L I M I T E
        V E L I N D E A D I M V M F V S A R V R S V M L I N E A
        T E N D A T V R A R T E L A T I O R P E R O R D I N E M
      M E M E T R A P A N G V N T D E C A M E N A R V M M O D I S
    M V T A T O N V M Q V A M N V M E R O D V M T A X A T P E D V M
  Q V A E D O C T A S E R V A T D V M P R A E S E P T I S R E G V L A
E L E M E N T A C R E S C V N T E T D E C R E S C V N T C A R M I N V M
H A S P H O E B E S V P P L E X D A N S M E T R O R V M I M A G I N E S
T E M P L I S C H O R I S Q V E L A E T V S I N T E R S I T S A C R I S
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Fig. 1: Optatianus poem in the form of an altar. Reconstruction based on: Porphyrius, *Publilius Optatianus*, Ency-clopædia ad aram Pythiam Publilii Optatiani Porphyrii (Patavij, 1630).

It seems plausible that such examples of *spatial writing* in poetry and literature were initially composed as objects or 'bodies', closely related to the physical values of the materials as well as to the structures on which they were supposed to be written. Carved in stone or written with metal as architectural features and other objects, their purpose was to create powerful images, signs, which would teach, convey easily remembered directions or demonstrate something from the external reality of the gods and their divine logic. With the invention of printing, such kinds of *spatial writing* were categorized and classified in printed works and anthologies, but they carried something from their original material characteristics. It seems that *spatial writing* was used in printed works to transfer something from the solidity, credibility and experience of other objects or 'bodies' to the page or the book. Later, in structural and poststructural linguistics, *spatial writing* was used to express the abstract and material character of language and its ability to be used as an independent system capable of creating its own space: the space of language.

In an attempt to contextualize palindromes and demonstrate how *spatial writing* operates, let us examine a case where the practice of writing palindromes becomes an image-poem-book, or in different words a literary object. 'Playing' the palindromic game and looking towards one direction I call these examples *Spatial Palindromes* as intrinsic spatial structures of texts and their relation to architecture.

Through such examples this research aims to study how the act of writing could relate to the architectural object, or to take the opposite direction in the next example and see a *Palindromic Space*, how an architectural object (or the object of architecture) could become an act of writing and what the actual experience of space in text and architecture is. The terms *Spatial Palindromes/Palindromic Spaces* could refer to both literary and architectural

objects and here I am going to examine one from each discipline.

As an example of a palindromic space in a book, let us examine the image and palindrome [fig. 2] from a 1745 pamphlet entitled *Coelum Orbis Teutonici*,[15] which is part of a bigger collection of Latin poems gathered under the general title *Tracts*. This anthology of pamphlets collects poems from 1650 to 1778, a time span of 128 years. The link between them is that they all consist of anagrams, cabalas, chronograms or other types of constraints, either religious or dedicated to important religious figures or rulers. In the pamphlet there are, among other anagrams and chronograms, seven illustrations of Latin palindromes.

The first image [fig. 2] is the double-headed eagle crowned and holding a sceptre, a sword and an orb. The double-headed eagle was the symbol of the Byzantine Empire: later used by the Russians and popular in the rest of Europe, it is still the symbol of the Christian Orthodox Church. In general the double-headed eagle is a symbol of royalty translated as one body that looks in two different directions. In the case of Byzantium, it symbolized an empire that existed geographically, culturally and politically in between the West (Rome) and the East (Constantinople). Like the eagle, another symbol of the palindrome in the past has been Janus, the Roman god who simultaneously looks in two different directions, east and west; from the beginning to the end of the day.

If we focus mainly on the images and how the poem is structured, the double-headed eagle carries a crown, a sword, a sceptre and an orb, each of which becomes an individual palindromic poem, object or image [figs. 3-6]. In all of the following images, the palindrome is written on the object itself, as well as left to right and mirrored underneath.
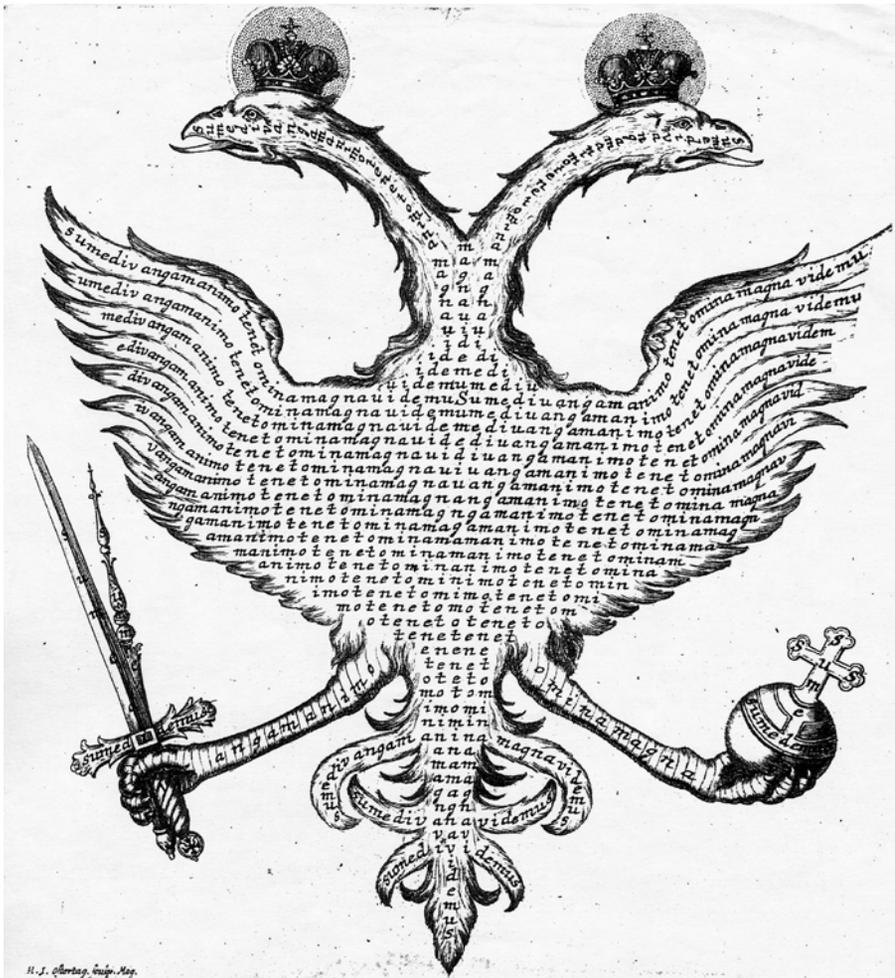
CLAVIS.

Habetur hæc in aquila carmen literaliter cancrinum five, ut alii vocant diabolicum, variè divifum & diftributum, poteft enim legi vel incipiendo à litera majufcula S in medio pectore pofita aut deorfum aut furfum aut dextrorfum aut finiftrorfum, vel incipiendo in utrolibet capite pergendo usque ad S in pectore, velfin utriuslibet alæ pennâ fuperiore pergendo aut ad S in pectore, aut pennatim defcendendo ad unguem, vel incipiendo in cauda pergendo iterum ad S in pectore aut per unguem in pomum aut per unguem in gladium & fceptrum|&c. plura curiofus lector inveniet. Eftautem carmen cancrinum i hoc:

Sume, diu angam, animo tenet omina, magna videmus:

Exegefis.

Sume FRANCISCUM generofa Patrum
Turba! qui nunquam dedit omen atrum
Gentibus, regis folium Parato,
    Húncque levato.
Tum meus fternet Jovis ignis Hoftes,
Hoc Jove Hoftiles fuperabo poftes,
Et Diu tales nociturus angam,
    Fulmine tangam.

Sume FRANCISCUM, fpeciale nomen
Faufta jam fpondet, tenet almus omen
mente, lux pacis recreans redibit,
    Hoftis obibit.
Magna fpectamus, populi, falutis
Publicæ, fauftus ftatus ecce! tutis
Stat locis, ergò huîc folium paremus,
    Magna videmus.

Fig. 2: Palindrome in the form of a double-headed eagle. From *Coelum Orbis Teutonici*, 1745. (C) British Library self mark: 1605/223.(3.)

CLAVIS.

Carmen hac in corona eft cancrinum literaliter tale, poteft enim immediatè infrà coro-
nam legi antrorfum & retrorfum, ficut & in cancellis, ubi tamen medians litera *S* majufcula
repeti debet, in medio autem & maximo cancello à litera majufculà *S* poteft afcendi in crucem
ex hac in coronidem defcendendo incipitur femper à litera majuscula I & finitur &c. carmen
autem eft ifthoc :

ibit (an oro cares?) fera corona tibi.
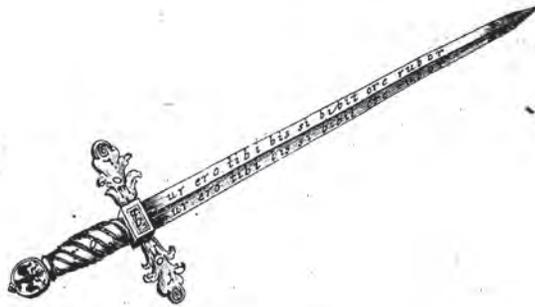
Fig. 3

CLAVIS.

Carmen hîc iterum eft literaliter cancrinum potéftque legi vel incipiendo in ca-
pulo vel in cufpide, eft autem carmen hoc :

Robur ero tibi bis, fi bibit ore rubor.

Fig. 4

Fig. 3: Palindrome in the form of the crown. From *Coelum Orbis Teutonici*, 1745.
Fig. 4: Palindrome in the form of the sword. From *Coelum Orbis Teutonici*, 1745.
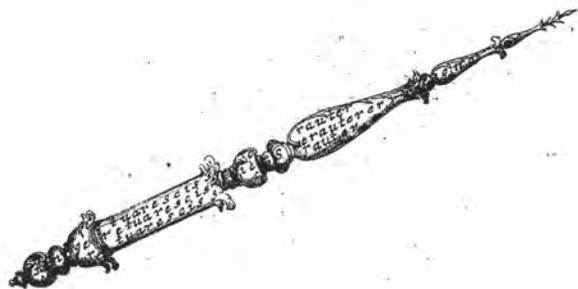
CLAVIS.

Carmen eft cancrinum in hoc fceptro & lectu facillimum, eft autem hoc:

Angere re tua refcis, fic fera utere, regna. *Palindr.*

Fig. 5

CLAVIS.

Hoc etiam in pomo carmen eft retrogradum, legendo incipitur femper ab 1. vel in cruce vel in pomo, in omni autem lectione debet procedi ad literam *A* majufculam in medio pallæ pomi pofitam ab hac pergendo furfum vel, fi in cruce incipiatur, pergendo aut deorfum aut dextrorfum aut finiftrorfum carmen eft hoc:

It ne rem ala metem, fummus! mete mala merenti.

Fig. 6

Fig. 5: Palindrome in the form of the sceptre. From *Coelum Orbis Teutonici,* 1745.
Fig. 6: Palindrome in the form of the orb. From *Coelum Orbis Teutonici,* 1745.

The anthology starts with the image of the eagle-palindrome that splits in two – one body that looks in two different directions. Afterwards the image breaks into its basic structural elements – the objects-symbols the eagle carries, each of which is in the form of a palindrome [figs. 3-6]. In the next image [fig. 7], all of those elements seem to return to their origins, taking the form of smaller birds-palindromes that come from two different directions to meet again under one body of one eagle, once more in the form of the palindrome.

Each image folds into itself and all of them fold into each other. Each palindrome is written on the body of the eagle, sword, sceptre or orb, becoming one with the object itself. All palindromes meet in the middle of each object and unfold in two directions, written in either a line, a triangular form, a curve or a circle. But also the synthesis of all poems as a whole begins from a centre to return again to a centre, as an attempt to keep all the images-palindromes together as a complete concept or as a unified body, in this case the eagle. For example, the centre of the palindrome on the body of the double-headed eagle is the letter S [fig. 8] positioned exactly on the chest of the bird; from there the rest of the letters develop and expand in a triangular form. In the other image of the eagle [fig. 9], the letters of the palindrome are written so that they form a triangle focusing again on the letter S. At the bottom of each illustration, the palindrome itself is reflected in its reverse image as in a mirror [fig. 10], which already provides the text with a vertical surface of reading in relation to the page, a mirror surface that cuts through the page and reflects its elements.

At the end all images, from their different directions, come back to meet at the point where they have begun: the body of the eagle or the letter S. This is an easier way to remember the poem than if these images-poems were disassociated, a process that relates to mnemonic techniques in the Middle Ages and Renaissance. Instead of having to

remember random poems and images, the reader keeps in mind only one coherent image-poem, for example that of the eagle, but with all its fine details. The reader just has to be careful about where to place these details, how to break them into individual elements and, at the end, how to bring them back together. This way of structuring the pamphlet-poem turns reading into an 'active' process. To reconstruct a poem that is experienced in a non-linear way, the reader has to move within the space of the book and memory, forwards and backwards, between the pages, and see, perceive, remember and recollect the letters-images, poems-objects. Consequently, reading becomes an operation that involves a movement within the space of the book: first of the eye, which reads the words-images, and then of the mind, engaging both memory and imagination to recombine letters and images as a meaningful whole. The imagined mirror of the palindromes demands that the reader reflect the letters in imagination to read the reversed palindrome. There is no mirror there: the reader must imagine one.

But palindromes are also used here to keep the space of the book together as a coherent whole. Otherwise there is the danger that these poems will be dispersed and lost within the space of the book or someone's memory. Palindromes provide the necessary force to keep letters, words or concepts together both in the space of the book and in the space of someone's memory. They operate like the binding of the book, the reflective surface of the mirror or like the forces of the stones that keep together the arches and domes that palindromes are traditionally inscribed in in architecture.

The last palindromic image of this pamphlet is one of a dog holding a wheel [fig. 11]. The palindrome is written both on the body of the dog and on the wheel. As a concluding image the dog, possibly symbolizing fidelity and loyalty, is giving directions as to how these words and images operate or
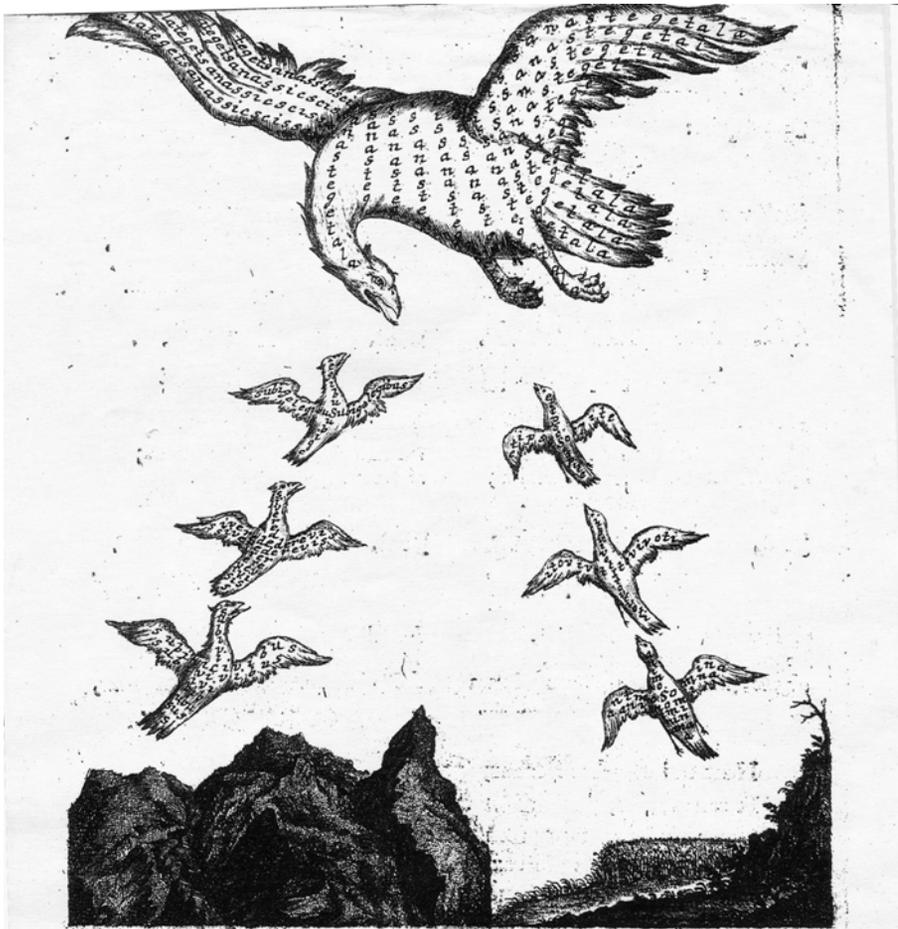
CLAVIS.

Carmen in aquila majore retrogradum est; poteſt enim legi vel incipiendo in capite & aſcen-
dendo in utramlibet alam five ad literram *S* majusculam in medio tergore poſitam & ab hac
deſcendo vel in utrumvis unguem vel caudam aut incipiendo in ala dextra & deſcendere ad
roſtrum vel in ſiniſtra pergendo ad literam *S* majuſculam in tergore vel etiam ex utralibet pen-
na ſuperiore pennatim deſcendendo &c, carmen eſt hoc:

Ala teget ſanas, ſic ſcis, ſanas teget ala.

Exegeſis.

Noſtra vos omnes *teget ala ſanas*;
Regis eſt, gentes ſibi ſorte canas
Usque ſervare & gremio tenere,
    Atque fovere.
Tale tu præſtans modò turba *noſcis*,
Sueta *ſic* umbram modò rite poſcis
Sub meis alis, ibi nunc quieſce,
    tuta lateſce.

Tros idem nobis *Tyriúsque* præſtat;
Alitum nobis ſua quæque geſtat
Munera, & novit, venerando legem,
    me quoque Regem.
Ergò *ſic ſanas teget ala* cunctas,
In meo regno gremióque junctas;
Ergò jam veſtrum clypeum ſubite,
    ite, venite.

H

Fig. 7: Palindromes in the form of a flock of eagles. From *Coelum Orbis Teutonici,* 1745.

should be held within the mind; like a wheel or a circle, whatever direction you might take, it returns to itself. The reader, in order to be loyal to the operation of the text and to the meaning of these words, should use them as a wheel, and this should be his or her navigation tool within the images, poems and concepts. But this key or lock for memory possibly refers also to the memory wheels developed by philosopher Ramon Llull[16] (or Raymond Lull) (1232-1315) [fig. 12] and used widely by other philosophers such as Bruno and Gottfried Wilhelm Leibniz (1646-1716). Memory wheels are combinational textual machines operating within memory. They were made by concepts, letters or numbers arranged circularly, which could rotate around a centre and create a space of rhetoric comprising multiple combinations of meaning.

The aim of this example is not to analyse further the meaning or content of these *Orbis Teuctoni*, (tectonic rings, circles or spheres), but to show how poetic devices, such as the palindrome, can create a spatial experience of reading which moves in more than two dimensions. It is worth noting that we find in literary history and in linguistic studies terms like *Orbis Teuctoni*, architectural mnemonics, concrete poetry, structural linguistics, which all borrow from an architectural language. For an architect, it is fascinating to examine how these terms (teutonic, architectural, concrete, structural) are used in another discipline. If architectural language is used to describe poetry, and books are organized as spaces, then what kind of relations emerge when architecture uses language or text to organize space?

As an example of a *Palindromic Space* in architecture, let us examine the palindromic rock and fountain. The next example of the palindromic rock [fig. 13] comes from an eighteenth-century edition with anagrams, chronogram, palindromes and cabalistic poetic arrangements that is part of the same collection mentioned above.[17] In this case

we have the image of a perennial fountain from which palindromes emerge like streams of water from a rock. And palindromes, like water, have the ability of returning to their origin: to the place where they started, their source. Water becomes steam becomes water again, endlessly running, flowing, in a palindromic movement. These verses possibly were thought of as a spell against the flow of time in nature, or against oblivion in the flow of history.

There are six palindromes coming out of the fountain, or two triads in their eternal movement to perfection mediated by the Muses. This specific example is dedicated to the fifth Muse, Melpomene, the songstress and Muse of Tragedy, often represented holding or wearing a tragic mask. In the same way, the palindrome borrows the form – wears the mask – of water.[18] On these streams of water are written the palindromic words:

Animo – Omina
Sitimus – Sumitis

These words are placed at the edges of the page in columns that reflect each other. For example, on the right we have the word Animo and on the left the word Omina. In the centre is positioned the image of the rock.

In many ancient ideologies the rock was a symbol of the centre either of the sacred city or of the building, the point where everything starts and everything returns again – we still use the expression 'the foundation stone'. According to Eliade: 'The fountain in this case, the rock, becomes the bond between the cosmos and myth. Between the real lower world and the terrestrial … And it has the mystical power of regeneration.'[19] And like the centre point of palindromes, this rock is the bond between real and mythical time. 'Finally because of its situation at the center of the cosmos, the temple or the sacred city is always the meeting point of the three cosmic regions: heaven, earth and hell.'[20]
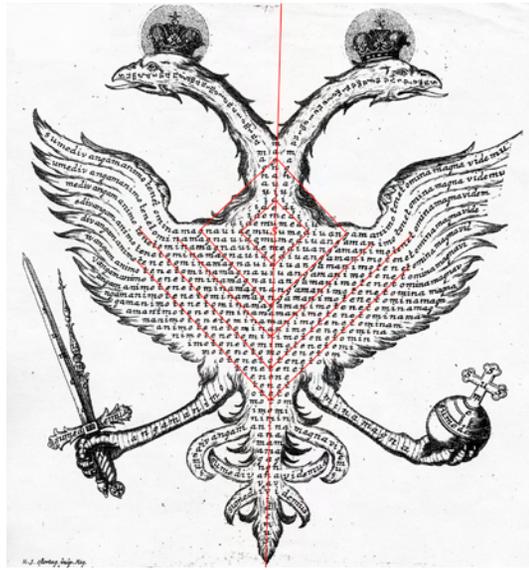
Fig. 8
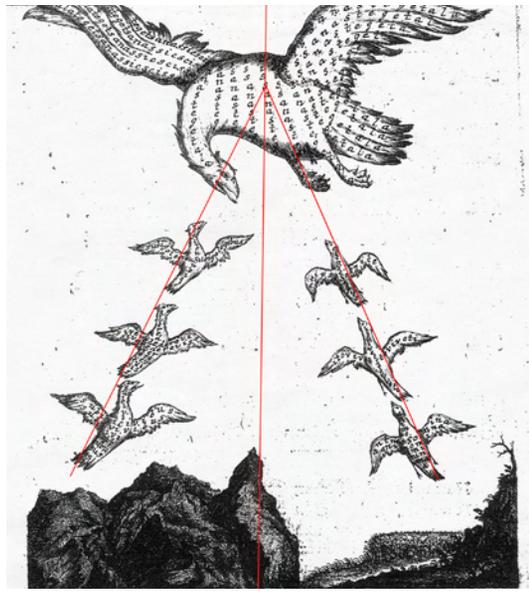
Fig. 9

Fig. 10

Fig. 8: Axes of symmetry and development of letters in the image/palindrome of double-headed eagle demonstrating the dissemination and re-collection of meaning in the poem's space. Produced by author.
Fig. 9: Axes of symmetry and development of letters in the image/palindrome of flock of eagles demonstrating the dissemination and re-collection of meaning in the poem's space. Produced by author.
Fig.10: Axes of symmetry and development of letters at each palindrome beneath the images. Produced by author.

CLAVIS.

Pentametrum Canis hic gentilitius Osteinianus retrogadum continet, legi poteft femper incipiendo ab O finali pergendo ad literam S majusculam in medio córpore pofitam, illam femel lectam repetendo, ab hac pergendo quocunque placet, carmen eft tale.

Ore fitim ô jures, fervio mitis ero.

Fig. 11

PRIMA FIGVRA.

Fig. 12

Fig. 11: Palindrome in the form of a dog holding a palindromic wheel. From *Coelum Orbis Teutonici*, 1745.
Fig. 12: Ramon Llull, memory wheel, 1305-1307. From *Ars generalis ultima* (Ars Magna), Turnholti,1986.

MUSA QUINTA
MELPOMENE.

Exhibebat fuo in fchemate EMINENTISSIMUM PRINCIPEM ELEC-
TOREM rurfus Petram Lacte & Melle in conchas fubditorum defluentem fex in-
ter Lapides quæ fex funt Illuftriffima Nomina ejus juxta illud fex nomina in Lapi-
de uno *Exod. c. 28. v. 10.*

Aquam petenti lac dedit.   *Judic. 5. 25.*

F

Sitimus
itimusi
timusit
imusiti
musitim
usitimu
sitimus

G

Sumitis
umitisu
mitisum
itisumi
tisumit
isumiti
sumitis

C

Animo
nimom
imomi
momin
omina

I

Omina
minan
inani
nanim
animo
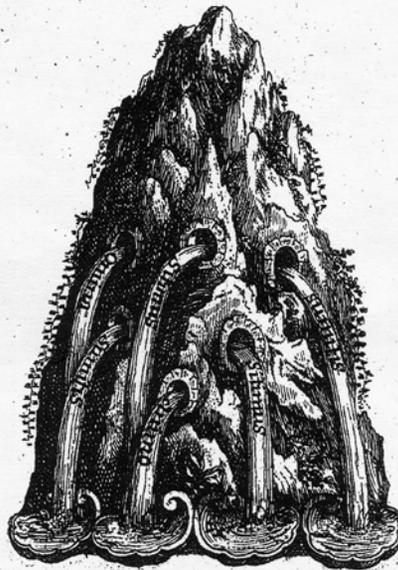
F

Sumitis
umitisu
mitisum
itisumi
tisumit
isumiti
sumitis

A

Sitimus
itimusi
timusit
imusit
musitim
usitimu
sitimus

Sit ut rivi virtutis
Populo
Sitienti.

LaC fLVIt â petra rores rIVosqVe propInat
QVas LapIDe aC DVLCI ConCha sItIVIt aqVas.

K 2

Placuit

Fig. 13:   Illustration of spring with palindromes. '… atlas excelsus on the same subject, many curious devises …
chronograms'. From *Tracts,* 1743.

Water since antiquity has been linked to the ideas of transformation, purification and cleansing, in both a literal and a metaphorical sense. It is not coincidental that the most celebrated ancient Greek palindrome, ΝΙΨΟΝ ΑΝΟΜΗΜΑΤΑ ΜΗ ΜΟΝΑΝ ΟΨΙΝ (wash your sins, not only your face), refers exactly to those allegorical qualities of water.

In the Greek example, meaning and poetic structure are combined in an exceptional way and palindromic qualities are immediately related to those of water. A first reading of the Greek palindrome reveals a relation to the procedure of cleansing and purification with the mediation of water. But the palindromic arrangement of the letters also relates to the temporal, motional and metaphorical qualities of water. Like water, palindromes have the symbolic meaning of death and rebirth. In their mirrored function and reversible procedure, they have the ability to consume their own image and meaning (like the surface of water consumed Narcissus or the periodic rebirth of Phoenix in successive circles). And as water cancels its form in nature's reversible procedure, the palindromes are characterized by their ability to cancel meaning in their own reversible motion. Water has often been used as an illustration of time in space to represent flow of time or periodic repetition of time in recurrent events. In nature we meet the horizontal movement of water in relation to time (the waxing and waning of the sea according to the periodic movement of the moon) or its vertical movement as water changes form, from ice, to liquid, to vapour, in circles, returning to its origins. The stream of the river was also related to the flow of time as first claimed in philosophy by Heraclitus: 'This River is the river of Time. It casts souls only upon its bank; it carries away everything else without effort.'[21]

The above example (ΝΙΨΟΝ ΑΝΟΜΗΜΑΤΑ ΜΗ ΜΟΝΑΝ ΟΨΙΝ) was often inscribed on fountains cyclically around the structure or in arches and domes. In these cases the mechanism of the palindrome and the structure of the fountain or spring are combined in a remarkable way. Apart from the mental effort and imaginary movement between palindromes' distinct elements, these examples require physical movement in three-dimensional space in order for the palindrome to reveal its meaning.

The following two pictures [fig. 14, 15] show typical examples of monastic Byzantine architecture from Greece. The one on the left [fig. 21], from 1854, is from the medieval monastery of St Prodromos in Souli.[22] On the arch on top we note the inscription: ΝΙΨΟΝ ΑΝΟΜΗΜΑΤΑ ΜΗ ΜΟΝΑΝ ΟΨΙΝ. The fountain is a container for the 'holy water' used every year in the ritual of the Consecration of Waters. It follows the pattern of St Sophia in Constantinople where, according to testimonies, in the yard of the church was a spring running 'holy water', over which was built a circular fountain with the same palindromic inscription. That example does not survive today but similar buildings exist all over the regions of Byzantium. The second picture [fig. 15] comes from the monastery of the Genesis of Theotokou (mother of God) in Kuparissia.[23] According to myth, the monastery was established around a spring that was discovered by accident. The water was believed to be holy because on the same site an icon was buried depicting the Virgin Mary. On top of this spring we can observe the same palindromic inscription (as on St Prodromos. Those cases follow the ancient Greek tradition, which continued in Byzantium and in the Orthodox religion. But similar fountains with the palindromic inscription are found all over Europe, as for example in London's St Martin within Ludgate.

The palindrome is a linear text, a 'chain', which can be expressed circularly as it connects elements in a circle first to last, second to second to last, and so on, and each element has its corresponding element in the chain. Domes, vaults and arches are the forms that relate most to the palindromic text

Fig. 14:   Container for the 'holy water', Monastery, Genesis of Theotokou (mother of God), Kuparissia, Greece, 1854.

because each block on one side needs its corresponding block at the other side. Each element of the construction is unique but is mirrored, both in position and in shape. If the law is broken then the structure, both of language and of space, will collapse.

To conclude, the palindrome, under a tradition of *spatial writing*, could be viewed more as an object that operates in close relation to the building itself. Very simply, when an architect or technician wants to construct a dome, an arch or a staircase, he or she has to mark stones in a palindromic way: stone A left to match stone A right, stone B left to stone B right, and so on. These stones could easily form a palindromic sequence, either marked on stone or in the architects memory, and could very easily adapt to develop poetry's form: a poem both for the mind and for the site and which at the end, engraved on stone, would become inseparable from the object itself. The experience of the dome, arch or staircase would carry something from the experience of the palindrome and vice versa, like the poetic composition with the double-headed eagle examined before.

As it concerns palindrome's poetic space in reference to Baudrillard, the palindromic values in word chains focus on the links rather than the elements themselves. Palindromes are links with the ability to open up to a poetic space of experience. Similarly, in architecture built 'chains' such as domes, arches, thresholds, passages and stairs could be considered as the spaces of combination that contain potentially all possible connections between elements, those expected and those not, and that is why palindromes are often associated with them. Their structure is, like text, a sequence of elements that can contribute an infinite multiplicity of combinations to the creation of the spatial experience. Thresholds and passages have the ability to link spaces as well as to link the links between spaces, in all different directions. Stairs and corridors are made of distinct elements that reflect themselves and always have a centre of balance, a mirrored surface where are reflected moments in their temporal and motional repetition. In simple words, thresholds, passages and corridors *look* simultaneously in two, or more, different directions exactly like the palindrome or like the example of the eagle mentioned above.

This paper started from a subject like the palindrome, that at first sight seems to be overlooked, forgotten, a curiosity or even a folly. But it seems that the palindrome is just a small part of a much wider subject, a very rich tradition of *spatial writing* that directly relates writing to architecture by using the same compositional or design methodologies. This tradition of *spatial writing*, although ancient, has not yet been researched properly in either architecture or literary studies. Each of the examples analysed here could be taken much further both in theory and in practice. Under a constantly developing concept like Rendell's site-writing, which sees writing as an active and critical practice for architecture, the study of a tradition of *spatial writing* – in which the palindrome plays only a very small part – could provide an insight in how to use design and text as analytical and creative tools for both literature and architecture.

Notes

1. Georges Perec, 'History of the Lipogram', in *OuLiPo a Primer of Petential Literature,* ed. by Warren F. Motte Jr. (Lincoln, NE and London: University of Nebraska Press, 1986), p. 98.

2. For example, the eighteenth-century pamphlet *Cœlum Orbis Teutonici Excellenti Rursus Luce Sua Nitescens Quando Augustissimus Potentissimus Ac Invictissimus Dom. Dominus Franciscus Stephanus … 13tia Septembris Electus Romanorum Imperator Semper Augustus (Romanorum Imperator Esset Coronandus) [Verses, Anagrams, Chronograms and Similar Pieces, with Illustrations]* (Moguntiæ: Per Johann Leonardum Ockel, 1745). In collection of anagrams under the title:

Fig. 15:   Spring with palindromic inscription. From St Prodromos, Souli, Greece.

Tracts. (C) British Library self mark: 1605/223.(3.).

3. *Kabbala Denudata, Seu Doctrina Hebræorum Transcendentalis Et Metaphysica Atque Theologica: Opus ... In Quo Ante Ipsam Translationem Libri … Cui Nomen Sohar Tam Veteris, Quam Recentis, Ejusque Tikkunim ... Præmittitur Apparatus*, ed. C. Knorr von Rosenroth, 2 vols., *Zohar* (Francofurti: Sulzbachi, 1677-1684)

4. For more information on the magical tradition of palindromes see: Mare Kõiva, *Palindromes and Letter Formulae: Some Reconsiderations*, <http://www.folklore.ee/Folklore/authors/mare.htm> [accessed 19 July 2003].

5. Refences to palindromes and especially the ROTAS square could be found on pages 39, 43, 62-64, 91, 96, 98, 101, 143. Magnus Saint Albertus, *Albertus Magnus: Being the Approved, Verified, Sympathetic and Natural Egyptian Secrets; or, White and Black Art for Man and Beast … Translated from the German, Etc* (New York: 1880).

6. For more information on anagrammatic poetic form and the space it generates: Jean Baudrillard, 'The Extermination of the Name of God', in *Symbolic Exchange and Death* (London: Sage, 2002), pp. 195-243.

7. 'Could it be that deep down there may have never been a linear unfolding of history, there may have never been a linear unfolding of language? Everything moves in loops and curls, in tropes, in inversion of meaning, except for numeric and artificial languages which, for this very reason, have neither of these …' Jean Baudrillard, 'Hystericizing the Millennium', in *L'illusion De La Fin: Ou La Greve Des Evenements* (Paris: Galilee, 1992).

8. Baudrillard, 'Hystericizing the Millennium'.

9. Indra Kagis McEwen, *Vitruvius: Writing the Body of Architecture* (Cambridge, MA: MIT Press, 2003), p. 82.

10. For a detailed analysis refer to: McEwen, *Vitruvius.*

11. Giordano Bruno, *On the Composition of Images, Signs & Ideas*, ed. Dick Higgins, trans. Charles Doria (New York: Wills, Locker & Owens, 1991), p. 250.

12. Verlaine sent a copy of *Poemes Saturnien* to Mallarmé in 1866, as we can witness in their correspondence. Stéphane Mallarmé, *Selected Letters of Stéphane Mallarmé*, ed. Rosemary Lloyd, trans. Rosemary Lloyd (Chicago and London: University of Chicago Press, 1988), p. xvi.

13. Jane Rendell, 'Architecture-Writing', *Journal of Architecture* 10, no. 3 (2005), 263.

14. For more information look at: Publilius Optatianus Porphyrius and Giovanni Polara, *Publilii Optatiani Porfyrii Carmina* (Turin: In aedibus Paraviae, 1973).

15. On the first page of this anthology there is a small description of the pamphlet as 'Coelum Orbis Teutonici. Election of Francis Consort of Maria Theresa, as Emperor 1745. Many curious cabalas, devices, and calculations. 45 Chronograms', obviously characterized as such much later than the date of their printing, possibly by those who collected and organized the contents of the whole volume. *Tracts.* (C) British Library self mark: 1605/223.(3.)

16. Memory wheels like the ones described could be found in: Ramon Llull, *Ars generalis ultima [Ars Magna]* (Turnholti, 1986).

17. '… atlas excelsus on the same subject, many curious devises … chronograms', 1743, *Tracts.* (C) British Library self mark: 1605/223.(3.).

18. The idea of the mask as a surface of reality in poetry could be examined in relation to Baudelaire and the Parnassians. Parnassians looking back at ancient poetic forms believed in the importance of form and surface; if reality manifests itself through form (structure and its surface), then studying it as an object is the only way to reach the concept of ideal beauty in poetry. This concept originates in Charles Baudelaire (1821-1867) and the following line from 'L'Amour du mensonge' [the love of the lie] inserted in the 1861 edition of the *Fleurs du Mal*: 'Masque ou décor, salut! J' adore ta beauté' ['Mask or prop, I hail you! I love your beauty']. Robert T. Denomme, *The French Parnassian Poets* (Carbondale, Edwardsville: Southern Illinois University Press, 1972), pp. 30,1.

19. Mircea Eliade, *The Myth of the Eternal Return: Cosmos and History*, trans. William R. Trask (London: Arkana, 1989), p. 8.

20. Eliade, *The Myth of the Eternal Return*, p. 15.

21. Heraclitus (fifth century BC), who was called the philosopher of fire and water, was the first to introduce this metaphor to Western philosophy. One of his most famous quotes is: 'On those who step in the same river, different and different waters flow', meaning that we cannot enter the same river twice as time (the waters) will be different. Translation based on Kostas Axelos, *Héraclite et la Philosophie* (not translated into English). Kostas Axelos, *Héraclite et la Philosophie: La première saisie de l'être en devenir de la totalité* (Paris: Éditions de Minuit, 1962). Also available in Greek: Κώστας Αξελός, *Ο Ηράκλειτος και η Φιλοσοφία* (Αθήνα: ΕΞΑΝΤΑΣ, 1976), p. 58.

22. Picture and information obtained from the site of municipality of Souli:
<http://gym-n-souliou.ser.sch.gr/axiotheata/prodro-mou.htm> [accessed 6 August 2005].

23. Picture and information obtained from the monastery's website: <http://www.monastery.gr/monastery.htm> [accessed 6 August 2005].

Biography

Sotirios Varsamis is an architect (PhD, MSc, Dipl.-Ing, TCG) with a long and diverse background in architectural design, product design and interdisciplinary research with a specialisation in Architectural History & Theory. He holds a PhD in Architecture and a MSc in Architectural History & Theory by the Bartlett School of Architecture, UCL completed with a full time scholarship for post-graduate studies in Architectural History by the Hellenic State's Scholarship Foundation (IKY). He has presented and exhibited his design and theory work at various seminars and conferences in the U.K. and abroad.