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“**THE ROLE OF THE HUMANITIES IN DESIGN CREATIVITY** “
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TITLE OF PAPER:

**ARCHITECTURE, HUMAN MIND AND CREATIVE DESIGN :
LEON BATTISTA ALBERTI AND THE CONCEPT OF *LINEAMENTIS***

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Introduction : Architectural Creation and the Humanities

In the present paper we will consider the influence of the Humanities on the process of architectural design, through an hermeneutical examination of the philosophical, social and cultural dimensions that, according to our interpretation, were associated with the Renaissance and Humanistic ideal of architectural creation. Focusing mainly on Leon Battista Alberti's concept of *lineamentis*, as it is expounded in his major work “*De Re Aedificatoria*”¹ we will propose a new understanding of the meaning of this highly comprehensive term, and, consequently, we will attempt to restore the seemingly forgotten dialogue between intellectual inquiry in the Humanities and design creativity, namely the close interrelations between architectural, social and philosophical thought, architectural design and built architectural work. We will try to reveal the above interrelationships and correspondences through our proposed connection of Alberti's concept of *lineamentis* with the philosophical thought of Nicholas of Cusa and its possible affinity with certain Humanistic ideals and values of the Italian Renaissance.

The aim of this analysis will not be historical, in the narrow sense of the word. Rather, in the present essay we argue that we should formulate a contemporary critical stance towards the latest dominance of the digital image as an end in itself, a self-referential and arbitrary icon in some architectural design processes where certain humanistic values seem to be absent. In this respect, we propose to activate Alberti's architectural thought, trying to relocate architectural representations and architectural design into a broader philosophical, humanistic, social and cultural context. In other words, we hold the view that architectural representations can only function as a means towards a symbolic expression of social thoughts and mental ideas of the human mind and could never become an end in themselves. The purpose of this paper is to offer an outline of a rational reconstruction of Alberti's thought, maintaining that a real contribution of *representational media* of architectural design to the humanistic quality and the ideational content of contemporary architectural thought and praxis, should involve a critical analysis of their possible logical, social, cultural and philosophical presuppositions².

Those presuppositions could constitute an objective framework of justification for contemporary architectural design that would eventually lead to the creation of meaningful spaces and harmonious urban environments for human life, in the light of new contemporary social, economical and ecological problems and demands. We argue that a humanistic discourse on architecture that could provide us with a normative and philosophical framework for contemporary creative architectural design can be located in the thought of Leon Battista Alberti.

Leon Battista Alberti and the Concept of Lineamentis

Indeed, we interpret the text “*De Re Aedificatoria*”, written by Leon Battista Alberti around 1450, as the inauguration of the Modern conception of architecture. This conception understands architecture as a mental and spiritual creation, thus reflecting the new cultural ideal of Renaissance life as a unified synthesis of thought and praxis and the relevant social demand for an enlarged role of the individual into the civic government of the independent city-states of 15th century Italy³. In the Introduction of the work, Alberti defines the Modern ideal type of the architect, in direct relation to the above transformations of the Renaissance worldview :

“...I would like to explain whom I have conceived and claim as an architect, because it is not the builder or the technician that I would present as analogous to the great exponents of the other sciences...I define, inaugurate and designate an architect he, who, with certain, admirable knowledge and reason, and by the power of his mind can conceive and execute anything that can contribute to the dignity of man...”⁴.

Alberti, putting forward the central importance of the power of the human mind and reason for the new definition of the Renaissance architect, is naturally led towards a novel conceptual structure that ascribes meaning to architectural creation⁵. Architecture is divided into *conception* and *construction*. We hold the view that this dualism is projected onto the nature of the object of architectural knowledge itself. As Alberti writes :

“.. the building is a certain kind of body, which, as every other body, consists of and is constituted by lineamentis and matter, the first one to be produced by the intellect, the second one to be provided by nature”⁶.

Consequently, the concept of lineamentis concentrates the meaning of architecture as an ideal conception within the mind of the architect-creator. In this context, the final architectural work, the spatial body of the building, is produced when the builder moulds natural matter according to the *lineamenta*. But then, what exactly does *lineamenta* mean, in the articulation of which Alberti devotes the First Book of his treatise?

Lineamenta : Towards a New Interpretation

Many scholars of Alberti have formulated various interpretations of the term, proving its inherent complexity and ambiguity⁷. According to the most widely held opinion, the concept of lineamentis refers to the materialized design and drawing of the architectural work, namely the represented set of lines and angles that concentrate the basic characteristics of the ground plan, the general geometrical structure and the external form of a building⁸. In spite of this widely held view and somehow contrary to it, we argue that the concept of lineamentis is concerned with the process of the *pure mental conception* of the architectural work, *before* this process is inscribed and codified into a sensible, designed representation.

The first proof that can support our thesis is that Alberti uses very obviously another term to designate the designed lines of architectural representations: the term *lineas*⁹. A second proof that strengthens our interpretation is a comment by the Humanist in the First Book of his treatise. Alberti maintains that all the power and reason of lineamentis can be summarized in the guiding method that leads with absolute certainty into the right synthesis of lines and angles which comprehend and complete the functional type, the geometrical shape and the external form of the architectural work¹⁰. In the above definition, it becomes obvious that lineamenta are not identical and do not coincide with the designed lines and angles of the work, but rather ground the normative framework for their justification, the mental scheme that secures their logical validity¹¹. A third and last proof in favor of our interpretation comes from the following words and phrases of Alberti himself. He writes :

“*Lineamentum in itself is totally separate from matter.*”¹²,

“*Lineamentum is a certain, constant prescription, conceived by the mind.*”¹³ and :

“*It is quite possible to project whole forms in the mind without any recourse to the material*”¹⁴.

Following the above analysis, we consider that lineamenta, rather obviously, have the aim of prescribing and pre-determining, *within the architect's mind*, the reason, the type, the purpose, the geometrical space and the final form of the projected architectural work¹⁵. In relation to our argument so far and bearing in mind the humanistic character of Alberti's worldview, we propose to interpret lineamenta as meaning the *mental concepts and ideas* of the architectural work.

In other words, lineamenta concentrate a complex intellectual and mental programme of architectural praxis, schematizing the mental foundations and the logical prerequisites of the architectural endeavor as a whole. Consequently, the process of forming them is placed conceptually and epistemologically at the beginning of architectural creation, acting as an absolute mental ground of its legitimization. Alberti, placing the treatment of lineamentis in the First Book of his treatise¹⁶, recognized their ontological and mathematical importance¹⁷, their constitutional role for the general meaning of architectural creation.

The Social Role of Architectural Representations

According to Alberti's humanistic approach, the materialized architectural work is intended for man as an organic member of society. Consequently, the need for a foundation of the architectural conception of lineamentis as produced within the mind of the architect to a collective sphere of values and mentalities must precede its final construction. We argue that the humanistic perspective of Alberti's architectural thought ascribes a new meaning to architectural representations and their role in the process of architectural creation. Thus, Alberti, before the investigation of the principles for the correct preparation of the materials for the final construction of the building, maintains that the initial conceptual determinants of architectural thought, as concentrated by its lineamenta, ought to be inscribed, described and recorded through a process of *semeiosis*¹⁸.

The inscription and the writing of lineamentis is what we call architectural representations, namely a system of signs that record and symbolize the meaning inherent in the lineamenta, namely the idea of architectural work. According to Alberti, the description and inscription of lineamentis can be achieved through the drawing and the model. In other words, the design by hand and the construction of models allow for the presentation of many dimensions of the architectural idea into sensible form. This process has a fundamental function, if we follow our interpretation of Alberti's thinking : it provides for a better social, scientific and constructional test and control of architectural ideas¹⁹. Through architectural representations, the meaning of the architectural conception of lineamentis, as created within the architect's mind, is communicated to the public sphere of society and the city. Codifying the ideal content of the architectural work into an inter-subjective space of reference, architectural representations answer the demand for a collective communication of ideas and social dialogue. In other words, we argue that, for Alberti, the sensible representation of architectural ideas or lineamentis re-inscribe the abstract conception of the architectural work into the framework of concrete historical, cultural and natural laws and conditions, bridging the mental creativity of the individual architect with the collective demands of society as a whole.

In this respect, Alberti consults the architect to represent with the utmost precision, simplicity and objectivity his initial ideas into drawings and models, in order to present accurately and amply the range of its lineaments into public criticism. At the same time, the sensible representation of abstract ideas contributes decisively to their complete elaboration and their final formulation²⁰. In this way, architectural representation condenses the original conceptual structures of the building into sensible traces and symbolic lines and at the same time refers to the final work under construction, depicting the basic objective order for the organization of built space²¹.

We maintain that Modern architectural representations, as conceived in the foundational text of Alberti, create a social space of mediation between architectural thought and architectural praxis, a field that bridges with validity and objectivity the epistemological dualism of architecture as conception and construction, unifying lineamenta with matter, and connecting the creative subject with the intended object.

The Ontological and Epistemological Primacy of Architectural Ideas

According to our rational reconstruction of Leon Battista Alberti's thought, architectural representations cannot become an end in themselves but acquire their meaning and social role as mediators between a conceived idea in the mind of a conscious architect-creator and a projected space, intended to be built according to this idea. Consequently, the whole process of architectural creation is not founded on architectural representations and architectural images as such, but on a constant historical and cultural dialectic between mental ideas of a Humanist subject, social criticism of their sensible presentations and built spaces for the life of citizens. Moreover, the origin of architecture as a mathematical and spatial organization of the cosmos can be traced back into a fundamental natural capacity and deeply rooted ability of the human mind itself, which, according to Alberti, always has the tendency to conceive perfect and complete ideas, concepts and forms of buildings, independently of matter, and to project intellectual solutions to building problems²².

This creative and spontaneous energy of the human mind can be considered as the source of the building's idea, that is, of the lineamenta, which, as we already have seen, are produced solely by the human mind itself²³. Man's productive ability to create ideas in the mind can be considered as the ultimate ground for the legitimization, coherence and meaning of architectural creation. We maintain that this energetic, productive and conscious action of the human mind has a social and ethical character²⁴ and, consequently, the intentions and values of the architect-Humanist assume a decisive role in the shaping of meaningful spaces for civic life.

In this process, the concept of lineamentis expresses this new creative power of the mind, an ability and capacity to conceive ideas and concepts that precede architectural representations, architectural design and architectural praxis, serving, as we argue, as the ultimate source of their rational justification. In this perspective, architectural ideas of the human mind have an ontological and epistemological primacy over their representations and act as foundations of architectural creation.

Leon Battista Alberti and Nicholas of Cusa : Conceptual Affinities

If we adopt our interpretations as expounded so far, we maintain that Leon Battista Alberti's thought presents some analogies with the speculative theories of the Renaissance philosopher Nicholas of Cusa²⁵. Cusanus, in his work "*Idiota de Mente*", conceives the Divine and the human mind as that from which derive the boundary and measure of everything, namely as *measurement* [mensurare]²⁶. Mind has the power to enfold conceptually the exemplars of all external things²⁷, namely the archetypes or ideas that constitute their essential form, which, however, do not derive from the senses and are wholly separated from matter²⁸. In that way, Cusanus claims that the mind's ideas or exemplars precede perceptible things as an original precedes an image and all derive from the simplest, most precise and infinite form or idea, namely, God²⁹. Consequently, human mind is structured in direct analogy to the Divine Mind : according to Cusanus, since the latter is the all-encompassing Unity of the true nature of things and an Exemplar of our minds, the human mind is an all-encompassing unity of the assimilation of things, namely an all-encompassing unity of *concepts*. The difference between's God's Mind and human mind, following Cusanus, is that the Divine Mind produces things while conceiving them, whereas the human mind *conceptualizes* them³⁰.

Consequently, we argue that the understanding of the creative power of the human mind, the *power of judgment*, to produce concepts of external, sensible things that concentrate their exemplary structures and forms, as propounded by Cusanus, reminds us of the analogous role of the lineamenta in the shaping and prefiguring of the place, the exact number, the order, the scale, the form and the appearance of a sensible body and space of a building, as put forward by Alberti³¹. Moreover, the likeness of the mental conceptions to mathematical notions and numbers, as propounded by Cusanus, presents another similarity with the seemingly mathematical and geometrical dimension of the concept of lineamentis, as codified by Alberti³².

Indeed, we maintain that the role and the function of *lineamentis* in Alberti's architectural thought presents some analogies and affinities with the role and the function of the *concepts* in Cusa's speculative theology and epistemology, understood as symbolic expressions of the power of judgment that is inherent to the human mind. We argue that both Alberti and Cusanus understand *lineamenta* and *concepts* respectively as the symbolic functions that lead to the creation of a *mental space* of clear ideas, values, harmonious structures, exemplars, paradigms and prototypes that serve as an absolute scale of reference, critique, measurement, organization, assimilation and valuation of the magnitude, multitude, order, shape, proportions and boundaries of sensible, external and material forms³³.

In other words, both of these contemporaries recognize the creative, constructive dimension of the mental, mathematical, geometrical and conceptual structures of the human intellect and their priority for the meaningful significance of real, material space and the construction of an ordered, structured, coherent and harmonious social and cultural environment³⁴. Cusanus explicitly refers to the art of building, stating that without the conceptual and creative power of the mind no configuration can be made and no boundaries of things can be marked off³⁵. We argue that the concept of *lineamentis* expresses this formative, independent power of the mind, which, according to Cusanus, is very different from the surmises of reason that are attached to perceptible material objects. Nicholas of Cusa argues that the original constructive principle of the human mind makes assimilations of forms as *they are in and of themselves*, namely as abstract forms and ideas, without any material reference, using them as exemplars and measures of truth for the respective material and corporeal entities. For example, a geometrical circle conceived within the human mind is immutable and perfect, acting as a measure-of-truth for a materialized circle in a patterned floor³⁶.

We hold the view that the concept of *lineamentis*, as expounded by Leon Battista Alberti, presents a striking similarity with the above description of the mathematical power of the human intellect to conceive abstract ideas through which the material construction of sensible objects in space can be measured and delineated. In this respect, the insistence of Alberti that *lineamenta* are wholly separate from matter acquires its logical explanation and its philosophical justification in the works of Cusanus.³⁷ This conceptual affinity between Alberti and Cusanus proves our interpretation of *lineamentis* as the ontological and epistemological ground that legitimizes the architectural endeavor, namely the priority of certain and necessary intentions and ideas³⁸ within the architect's mind³⁹, over its sensible and designed traces, for the logical, social and ethical significance and meaning of built architectural works.

Conclusion : Humanistic Ideals and Lineamenta

In conclusion, we will maintain that the concept of lineamentis, as understood by Leon Battista Alberti, does not only have a mathematical, epistemological and geometrical dimension, but, since it is produced by the mind of a Humanist subject, presents an *ethical, political and social dimension* as well, a dimension that is somehow inherently present within the constitution, the positive intentions, the moral humanism and the optimistic anthropocentrism that accompany this new kind of historical subject⁴⁰. Indeed, Alberti claims that since a new concept of a building is formed in the mind of a Humanist citizen he will:

“..gladly and willingly offer and broadcast his advise for general use, as if compelled to do so by nature..”, as he expressly writes⁴¹. We argue that this communicative, well-intentioned, inter-subjective and positive social quality of the lineamenta, namely the building’s ideas and purposes, reveals its ethical and political dimension which enhances the honor and glory of the builder, the city and human society as a whole.

We argue that the inherent social, political, ethical and altruistic dimension of lineamentis is absolutely essential for Alberti’s architectural thinking, and provides for its unique humanistic character: it is this dimension that prevents lineamenta from becoming a mere arbitrary fancy or whim of a subjective kind. On the contrary, the political and ethical quality of the lineamenta lends it its objective and general validity, namely its constant reference to social, common and collective ideals, values, needs and ends. The humanistic and ethical dimension of lineamentis is ascertained by the fact that the use of this term can be traced in the writings of another great Humanist of 15th century Italy : *Leonardo Bruni*. Indeed, as Michael Baxandall records, Bruni, in his text “ *De Interpretatione Recta*”, written around 1420, where he considers problems in literary criticism and the theory of translation and interpretation of written texts, compares the painter with the translator and holds the view that the latter should try to recreate all the *lineamenta* of the original author’s discourse, as the former restructures the whole idea, form and figure of another painted model⁴².

Bruni clearly uses the words “ *mente et animo*” to refer to this re-creative process of the translator, reminding us of the following phrases of Alberti : “.. *quim mente et animo aliquas aedificationes commentemur.*” and “..*integras formas praescribere animo et mente seclusa omni materia.*”⁴³, which he uses to describe the intellectual conception of the lineamentis from the creative and re-creative capacity of the architect’s mind. Those striking similarities reveal that a possible source of Alberti’s concept of lineamentis is Leonardo Bruni’s humanistic, civic and literary thought, which uses original visual metaphors that are applicable both to painting and to literature, understood as different modes of a common public, social and civic discourse⁴⁴.

Indeed, the ideals of the political citizen and the honor of the public man, the values of citizen participation in the government of the republic, along with the conception of the city-state life of active political engagement are all exemplified in Bruni's writings and form an organic parts of the Florentine Humanism of the 15th century. We argue that those Humanistic ideals are transferred by Alberti into the sphere of architecture and, especially, in the social, political and ethical concept of *lineamentis*. Hans Baron has written a thorough analysis of the relations between Alberti's thought and the above communal ethics of civic Humanism⁴⁵. Furthermore, we argue that those ideals are put forward in the Introduction of "*De Re Aedificatoria*", where architecture is conceived as a public endeavour that contributes decisively to the honor and the dignity of society as a whole⁴⁶. We maintain that the *lineamenta* symbolize and capture those moral values and qualities⁴⁷, concentrating, apart from the form and the geometrical structure of a building, its social and ethical character, purpose and destination. Alberti writes :

*" Since buildings are set to different uses, it proved necessary to inquire whether the same type of lineaments could be used for several ; we therefore distinguished the various types of buildings.."*⁴⁸

In this remark, it is shown that *lineamenta* also define the intended social function and destination of a building, namely its conceptual and ethical meaning and purpose. Indeed, according to its common linguistic usage in Latin, *lineamentum* designates the character of the face or the character of the soul , thus having an ethical dimension as well⁴⁹. We argue that the social and ethical dimension of *lineamentis*, which prescribe the functional and civic character of a projected building within the human mind, relocates architectural thought, architectural representation and architectural praxis into a broad cultural, philosophical, poetical and ethical discourse⁵⁰. This discourse is reflected on the complex nature of the architectural idea, which is conceived within the intellect of a conscious and virtuous architect-Humanist, a Humanist who, thinking with positive solidarity and responsibility and acting with a sense of duty, intends to participate in a common, civic life and contribute to the solution of real social needs and problems. In this respect, *lineamenta* are the mental and social reasons that justify architectural creation, understood as a harmonious and coherent structuring of the city and as a foundation of the corresponding institutions of human society.

Following the above reconstruction of Alberti's thought, we maintain that we should formulate a contemporary critical attitude towards the latest dominance of the digital image as a medium of architectural creation and architectural representation. Very often, digital images becomes subjective and arbitrary icons, facilitating architectural design processes where certain humanistic values seem to be absent. In this respect, we believe that we should try to reconstruct the multiple dimensions of architectural thought and architectural ideas, attempting to relocate architectural creation, architectural design and architectural representation into a broader philosophical, humanistic, social and cultural context that could serve as a foundation for their new valuation. We hold the view that contemporary architectural theory and praxis, through an original interpretation of the concept of *lineamentis*, as the one we attempted to sketch in the above analysis, could possibly restore the ideational and humanistic content of architectural creation and transform architectural representations from mere digital images to *image-worlds*, according to Ernst Cassirer's meaning of this term⁵¹, thus symbolizing general cultural and philosophical discourses. We argue that contemporary problems of social structure, combined with a growing relativism and empiricism in architectural design, lead to the creation of fragmented urban spaces that lack conceptual, functional and cultural coherence. This situation generates the obvious demand for a new conception and a new foundation of architecture on objective, social and humanistic ideas and values. This enlarged and more profound notion of architectural creation, based on general ideals and concepts, could enhance the interdisciplinary dialogue between intellectual inquiry in the Humanities and design creativity, leading to the thoughtful realization of meaningful spaces that will improve the quality of human everyday life.

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NOTES

¹ See the critical edition of the original Latin text : Leon Battista Alberti, *L'Architettura [De Re Aedificatoria]*, Testo latino e traduzione a cura di Giovanni Orlandi, Introduzione e note di Paolo Portoghesi, Tomo 1,2 , (Milano : Edizioni Il Polifilo, 1966)

² In this respect see especially the research programme of Dalibor Vesely, as expounded in the book : Dalibor Vesely, *Architecture in the Age of Divided Representation, The Question of Creativity in the Shadow of Production*, (Cambridge, Mass., London, England: The MIT Press, 2004), pp.3-8

³ See Jacob Burckhardt, *The Civilization of the Renaissance in Italy, An Essay*, (London : Phaidon Press Ltd, MCMLXV), pp.1-80, 81-103, Ernst Cassirer, Paul Oskar Kristeller, John Herman Randall Jr., (eds.), *The Renaissance Philosophy of Man*, (Chicago and London : The University of Chicago Press, 1948) Ernst Cassirer, *Le Probleme de la Connaissance dans la Philosophie et la Science des Temps Modernes*, I , Traduit de l' allemand par Rene Frereux, Preface par Massimo Ferrari, traduite de l' italien par Thierry Loisel, (Paris : Les Editions du Cerf, 2004), pp. 69-73 and Ernst Cassirer, *The Individual and the Cosmos in Renaissance Philosophy*, Translated with an Introduction by Mario Domandi, (Mineola, New York: Dover Publications Inc., 2000), pp. 1-6, 24-36

⁴ The translation is mine, from the original. See Leon Battista Alberti, *L'Architettura [De Re Aedificatoria]*, Testo latino e traduzione a cura di Giovanni Orlandi, Introduzione e note di Paolo Portoghesi, Tomo 1, (Milano : Edizioni Il Polifilo, 1966), p. 7 The exact passage in the Latin original is : “..explicandum mihi censeo, quemnam haberi velim architectum. Non enim tignarium adducam fabrum, quem tu summis ceaterarum disciplinarum viris compares :...Architectum ego hunc fore constituam qui certa admirabilique ratione et via tum mente animoque diffinire tum et opere absolvere didicerit, quaecunque...dignissimis hominum usibus belissime commodentur..”.

⁵ Leon Battista Alberti, *ibid.*, pp. 7-11

⁶ My translation. Alberti, *ibid.*, p.15 The original text is : “ .. Nam eadificium quidem corpus quoddam esse animadvertimus, quod lineamentis veluti alia corpora constaret et materia, quorum alterum istic ab ingenio produceretur, alterum a natura susciperetur..”

⁷ For a discussion of the ambiguous nature of the concept of lineamentis and its resemblance with the Mannerist's notion of disegno interno see Dalibor Vesely, *Architecture in the Age of Divided Representation, The Question of Creativity in the Shadow of Production*, *ibid.*, pp. 133-138

⁸ See for example Leon Battista Alberti, *On the Art of Building in Ten Books*, translated by Joseph Rykwert, Neil Leach and Robert Tavernor, (Cambridge, Massachusetts, London, England: The MIT Press, 1988), pp. 422-423, Leon Battista Alberti, *L'Art d'Edifier*, Texte traduit du latin, presente et annote par Pierre Caye et Francoise Choay, Ouvrage traduit et publie avec le concours du Centre National du livre, (Paris : Edition du Seuil, 2004), pp. 55-56, note 1, S. Lang, 'De Lineamentis, L.B. Alberti's Use of a Technical Term', in *Journal of the Warburg and Courtauld Institutes*, XXVIII , (1965) , pp. 331-335 Alberto Perez-Gomez, Louise Pelletier, *Architectural Representation and the Perspective Hinge*, (Cambridge, Massachusetts, London, England: The MIT Press, 1997), p.9 Erwin Panofsky, *Idea, Contribution a l' Histoire du Concept de l' Ancienne Theorie de l' Art*, Traduit de l' Allemand par H.Joly, Preface de J. Molino, (Gallimard, 1989), pp. 214-215, n. 125 Leon Battista Alberti, *L'Architettura [De Re Aedificatoria]*, Testo latino e traduzione a cura di Giovanni Orlandi, Introduzione e note di Paolo Portoghesi, Tomo 1, (Milano : Edizioni Il Polifilo, 1966), p. 18

⁹ See Leon Battista Alberti, *L'Architettura [De Re Aedificatoria]*, *ibid.*, pp. 15-21

¹⁰ My translation. See Leon Battista Alberti, *L'architettura [De Re Aedificatoria]*, ibid., p.19 The original Latin text is : « *Lineamentorum omnis vis et ratio consumitur, ut recta absolutaque habeatur via coaptandi iungendique lineas et angulos, quibus aedificii facies comprehendatur atque concludatur* ». We interpret the term *facies* in a threefold way, namely as type, shape and external form. For the basis of this interpretation see Stefanos Koumanoudis, *Latin-Greek Dictionary*, (Athens : Grigori Publications, 2002), p. 296

¹¹ Vesely characterizes the lineamenta as the *ideal structure of design*, see Dalibor Vesely, *Architecture in the Age of Divided Representation, The Question of Creativity in the Shadow of Production*, ibid., p. 139

¹² My translation. See Leon Battista Alberti, *L'architettura [De Re Aedificatoria]*, ibid., pp.19-21. The Latin text is : « *..Neque habet lineamentum in se, ut materiam sequatur..* »

¹³ My translation. See Leon Battista Alberti, *L'architettura [De Re Aedificatoria]*, ibid., p. 21 The Latin text is : “*... ergo lineamentum certa praescriptio concepta animo..*”

¹⁴ Translation by Joseph Rykwert, Neil Leach and Robert Tavernor. See Leon Battista Alberti, *On the Art of Building in Ten Books*, ibid., p. 7 Leon Battista Alberti, *L'Art d'Edifier*, ibid., p. 56 and Leon Battista Alberti, *L'architettura [De Re Aedificatoria]*, ibid., p.21. The Latin text goes as follows : ” *..Et licebit integras formas praescribere animo et mente seclusa omni materia..*”.

¹⁵ Ibid., p. 19

¹⁶ Ibid., pp. 21-93

¹⁷ See Vasilij Pavlovic Zubov, ‘ La Theorie Architecturale d’ Alberti [Arhitekturnaa teoria Al’berti]’, Editee par F.Choay, F.Furlan, P.Souffrin, Traduction du russe par R.Feldman, avec une postface et une notice biographique de D.Bayuk in *Albertiana*, Volume III, Revue publiee avec le concours du Centre National du Livre, de la Maison des Sciences de l’Homme , et du Centre de Recherche sur la Pensee Politique Italienne, Firenze, Italia :Leo S. Olschki Editore, (2000), p. 21

¹⁸ See Leon Battista Alberti, *L'architettura [De Re Aedificatoria]*, ibid., p. 53

¹⁹ See Leon Battista Alberti, *L'architettura [De Re Aedificatoria]*, ibid., pp. 97-99

²⁰ Ibid., pp. 97-109

²¹ Ibid., p. 173

²² See Leon Battista Alberti, *L'Architettura [De Re Aedificatoria]*, Testo latino e traduzione a cura di Giovanni Orlandi, Introduzione e note di Paolo Portoghesi, Tomo 1,2, (Milano : Edizioni Il Polifilo, 1966), p. 11 The Latin text is : “ *Quam vero grata et quam penitus insideat animis aedificandi cura er ratio..*”

²³ Ibid., p. 15. See the Latin expressions :“*..mentem cogitationemque..*”. and ”*..ab ingenio produceretur..*”

²⁴ Ibid., p. 11

²⁵ For a general biographical account of Cusa’s life and works see Jasper Hopkins, ‘Nicholas of Cusa’ in J.R.Strayer(ed.), *Dictionary of the Middle Ages*, Vol.9, New York : Charles Scribner’s Sons, (1987), pp. 122-125

²⁶ See Nicholas of Cusa, ‘Idiota de Mente’, [The Layman on Mind], [Codex Cusanus Latinus 218 ff.106 r et v (tituli) et 115 r- 132r] in Jasper Hopkins, *Nicholas Of Cusa, On Wisdom and Knowledge*, Minneapolis, USA: The Arthur J.Banning Press, (1996), pp. 535-536

²⁷ Nicholas of Cusa, ‘Idiota de Mente’, [The Layman on Mind] , ibid., p. 536

²⁸ Ibid., pp. 538-540

²⁹ Ibid., pp. 540-542

³⁰ Ibid., p. 543 and also p. 556

³¹ Ibid., pp. 544-546 and pp. 551-555 and Leon Battista Alberti, *On the Art of Building in Ten Books*, ibid., p. 7

³² In this respect see Leon Battista Alberti, *On Painting and On Sculpture*, The Latin texts of De Pictura and De Statua, Edited with translations, introduction and notes by Cecil Grayson, (London: Phaidon Press Limited, 1972), pp. 36-37 and Nicholas of Cusa, 'Idiota de Mente', [The Layman on Mind], [Codex Cusanus Latinus 218 ff.106 r et v (tituli) et 115 r- 132r] in Jasper Hopkins, *Nicholas Of Cusa, On Wisdom and Knowledge*, Minneapolis, USA: The Arthur J.Banning Press, (1996), pp. 554, 565-569

³³ See Ernst Cassirer, *The Individual and the Cosmos in Renaissance Philosophy*, Translated with an Introduction by Mario Domandi, (Mineola, New York: Dover Publications Inc., 2000), pp. 7-51 Ernst Cassirer, *Le Probleme de la Connaissance dans la Philosophie et la Science des Temps Modernes*, I, Traduit de l' allemand par Rene Frereux, Preface par Massimo Ferrari, traduite de l' italien par Thierry Loisel, (Paris : Les Editions du Cerf, 2004), pp. 29-46 and Graziella Federici Vescovini, 'Nicholas of Cusa, Alberti and the Architectonics of the Mind', in K.Williams (ed.), *Nexus II, Architecture and Mathematics*, Fucecchio:Edizioni dell'Erba, (1998), pp.159-171 and Nicholas of Cusa, 'Idiota de Mente', [The Layman on Mind], *ibid.*, pp. 570-571 and Karsten Harries, 'Cusanus and the Platonic Idea', in *New Scholasticism*, 37, (1963), pp. 190-191 and pp. 200-201 and Karsten Harries, *Infinity and Perspective*, (Cambridge, Mass., London, England :The MIT Press, 2001), pp. 187-190

³⁴ See Karsten Harries, 'Cusanus and the Platonic Idea', in *New Scholasticism*, 37, (1963), pp. 199-201 and Karsten Harries, *Infinity and Perspective*, *ibid.*, pp. 190-199

³⁵ Nicholas of Cusa, 'Idiota de Mente', [The Layman on Mind], *ibid.*, p. 557

³⁶ *Ibid.*, p. 558

³⁷ For a discussion of the relation between Alberti and Cusanus see Karsten Harries, *Infinity and Perspective*, pp. 64-70, p. 340, n. 6 and Dalibor Vesely, *Architecture in the Age of Divided Representation, The Question of Creativity in the Shadow of Production*, *ibid.*, p. 156

³⁸ Nicholas of Cusa, 'Idiota de Mente', [The Layman on Mind], *ibid.*, p. 559 and Karsten Harries, 'Cusanus and the Platonic Idea', in *New Scholasticism*, 37, (1963), pp. 191-192

³⁹ For this notion of ideas as conceptual intuitions within the mind of the artist or the architect see Erwin Panofsky, *Idea, Contribution a l' Histoire du Concept de l' Ancienne Theorie de l' Art*, Traduit de l' Allemand par H.Joly, Preface de J. Molino, (Gallimard, 1989), pp. 22-23 and Dalibor Vesely, *Architecture in the Age of Divided Representation, The Question of Creativity in the Shadow of Production*, *ibid.*, pp. 161-163

⁴⁰ See Cecil Grayson, 'The Humanism of Alberti', in *Italian Studies*, XVI, (1957), pp.37-56 and Karsten Harries, *Infinity and Perspective*, (Cambridge, Mass., London, England :The MIT Press, 2001), pp. 185-190

⁴¹ Translation by Joseph Rykwert, Neil Leach and Robert Tavernor. See Leon Battista Alberti, *On the Art of Building in Ten Books*, *ibid.*, p. 4 and Leon Battista Alberti, *L'Art d'Edifier*, *ibid.*, pp. 49-50 and Leon Battista Alberti, *L'architettura [De Re Aedificatoria]*, *ibid.*, pp. 11-13. The Latin text goes as follows : " ... volens ac lubens non proferat et quasi iubent natura usui hminum propalet."

⁴² Michael Baxandall, *Giotto and the Orators, Humanist Observers of Painting in Italy and the Discovery of Pictorial Composition, 1350-1450*, (London, Oxford:at the Clarendon Press, 1971), pp. 22-25, esp. p. 25

⁴³ Leon Battista Alberti, *L'architettura [De Re Aedificatoria]*, *ibid.*, pp. 11 and 21, respectively.

⁴⁴ Michael Baxandall, *Giotto and the Orators, Humanist Observers of Painting in Italy and the Discovery of Pictorial Composition, 1350-1450*, (London, Oxford:at the Clarendon Press, 1971), p. 26

⁴⁵ Hans Baron, 'Leon Battista Alberti as an Heir and Critic of Florentine Civic Humanism' in Hans Baron, *In Search of Florentine Civic Humanism : Essays on the Transition from Medieval to Modern Thought*, Vol. I, (Princeton, New Jersey:Princeton University Press, 1988), pp. 258-278

⁴⁶ Leon Battista Alberti, *L'Art d'Edifier*, Texte traduit du latin, presente et annote par Pierre Caye et Françoise Choay, Ouvrage traduit et publié avec le concours du Centre National du livre, (Paris : Edition du Seuil, 2004), p. 50

⁴⁷ For a relation between Alberti's thinking and moral thought, especially Cicero's, see J. Onians, 'Alberti and ΠΛΑΠΕΤΗ, A Study in their Sources', in *Journal of the Warburg and Courtauld Institutes*, XXXIV,(1971), pp.96-104

⁴⁸ Translation by Joseph Rykwert, Neil Leach and Robert Tavernor. See Leon Battista Alberti, *On the Art of Building in Ten Books*, *ibid.*, p. 5 The Latin text is : “ *Cumque aedificiorum varii essent usus, pervestigandum fuit an eadem lineamentorum finitio quibusque operibus conveniret. Distinximus ea de re aedificiorum genera;* “. See Leon Battista Alberti, *L'Architettura [De Re Aedificatoria]*, Testo latino e traduzione a cura di Giovanni Orlandi, Introduzione e note di Paolo Portoghesi, Tomo 1,2 , (Milano : Edizioni Il Polifilo, 1966), p. 15

⁴⁹ Stefanos Koumanoudis, *Latin-Greek Dictionary*, (Athens : Grigori Publications, 2002), p. 484

⁵⁰ For a discussion of the integration between architectural thought and Humanistic culture in Alberti's “*De Re Aedificatoria*” see Carroll William Westfall, ‘Society, Beauty and the Humanist Architect in Alberti's *De Re Aedificatoria*’, in *Studies in the Renaissance*, 16, (1969), pp. 61-63, 66-70, 71-79.

⁵¹ For the notion of the *image-world* in relation to the formative power of the human spirit see Ernst Cassirer, *The Philosophy of Symbolic Forms, Volume One : Language*, translated by Ralph Manheim, preface and introduction by Charles W.Hendel, (New Haven and London: Yale University Press, 1955), p. 78