

TEORÍA Y CRÍTICA
THEORY AND CRITICISM

The Plan as Eidos: Bramante's Half-Drawing and Durand's Marche

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Invitada Internacional

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Recibido : Junio 2014 / Aceptado : Agosto-2014

ABSTRACT

By confronting Bramante's plan for St Peter Basilica (1503) with Durand's "Method of Composition" - summarized in his Marche plate (1802) - a modern conceptualisation of the plan unfolds which can be explained through the philosophical notion of eidos: the Greek term for "idea", "form" and "type". Beyond its role as representation, and as system of projection, these drawings set forth a function as communication, and furthermore, as organisation of a larger entity than the drawings themselves. Between these two moments, developments in the natural sciences and the project of the encyclopaedia are crucial to the formation of the idea of the plan.

A descriptive (and ekphrastic) nature is behind Bramante's half-plan drawing, what Durand systematized under his method of composition (marche) locating the plan as the site for abstraction where the essential and typical form of an idea ought to emerge. The drawing of a plan becomes a metonymic process that makes visible the essential and fundamental organizing principles of its form and which arise from the operations undertaken within the plan itself, as opposed to external or metaphorical references. From Bramante to Durand the plan reveals its diagrammatic and typological nature, which allowed escalating from the scale of architecture to that of the city. These ways of discussing the plan enable to frame its potential in mediating the world of architectural objects and the larger scale of the city and the territory, a narrative that not only constructs certain archaeology of the plan, but also questions the relationship between drawing and particular modes of thinking and production of the discipline.

Key words: abstraction; diagram; Eidos; Foucault; syntax; type.

RESUMEN

Al confrontar el plan de Bramante para la Basílica de San Pedro (1503) con el "Método de Composición" de Durand - resumido en su dibujo Marche (1802) - emerge una conceptualización moderna de la Planta, la cual se explica a través de la noción filosófica de eidos: el término griego para referir a "idea", "forma" y "tipo". Más allá de su función como representación, y como sistema de proyección, estos dibujos exponen una comunicativa, y más aún, organizativa de una entidad mayor que los dibujos mismos. Entre estos dos momentos; los desarrollos en las ciencias naturales y el proyecto de la enciclopedia son cruciales para la formación de la idea de la planta.

Un carácter descriptivo (y efrástico) está detrás de la media-planta de Bramante, lo que Durand sistematizó bajo su método de composición (marche) ubicando la planta como el sitio para la abstracción, donde la forma esencial y típica de una idea debe emerger. El dibujo de la planta se convierte en un proceso metonímico que hace visibles los principios esenciales y fundamentales de organización de su forma y que surgen de las operaciones realizadas en la planta misma, en oposición a referencias externas o metafóricas. De Bramante a Durand, la planta revela su naturaleza esquemática y tipológica que le permite escalar desde la arquitectura a la escala de la ciudad. Estas maneras de discutir la planta permiten encuadrar su potencial en la mediación del mundo de los objetos arquitectónicos y la escala más grande de la ciudad y el territorio; una narrativa que no sólo construye cierta arqueología de la planta, sino que también cuestiona la relación entre el dibujo y los particulares modos de pensar y producir de la disciplina.

Palabras Clave: abstracción, diagrama, Eidos, Foucault, sintaxis, tipo.

The Plan as *Eidos*: Bramante's Half-Drawing and Durand's *Marche*

The plan for St Peter Basilica by Bramante is not a drawing, but being half of it, in many respects can be taken as a sort of ground zero of the idea of the plan. Bramante exaggerated the plan's logic by first abstracting each element to its minimal expression eliminating everything accessory to the point of leaving just walls, columns and steps, lines and shadows. This sense of genericity and synthesis is emphasised by an underlying grid of nine equivalent squares, each subdivided into four more, equal and minor squares, enclosures without specific attributes or hierarchy with the exception of the central space (the dome) to which all other refer. There is no identifiable access with the exception of four potential entries with steps that enter to an equivalent inside. Below the projected lines appears the drawing of the existing (to be demolished) basilica.

A descriptive and diagrammatic nature is behind Bramante's half-plan drawing. In the plan for the Basilica we can read a search for economy, for essentials and generic attributes. The composition followed the rules of efficiency; horizontally, vertically and even diagonally symmetrical – emphasised by the fact that in the original drawing by Bramante, only half of the Plan was drawn with the other half indicated, similar to the mode that Beaux Arts 'indications' will develop later in the nineteenth century¹. Only a piece of the project was drawn, given that the others could be inferred from the one deployed. In fact, Bramante could have drawn only an octave of the plan for accomplishing the same effect: a radical act of description that anticipates the potential of the Plan as an ekphrastic operation. This not only confirms the departure from analogies and similitude (based on metaphors) into the syntactic (and metonymic) nature of the Plan, but also anticipates a diagrammatic relation in which the whole can be inferred from the part.

¹ "Indications" was a technique in Beaux Arts in which a quick sketch, or a part of the drawing was to indicate how the drawing should be finalized. Beaux Arts' indications can be understood as the plan's communication system – a language of drawing for communicating a scientific, rational, and above all, universal knowledge. On the one hand an indication is an abstraction – a simplified version of the final piece; on the other hand it exaggerates and highlights in an ekphrastic and vivid manner the essence of a plan. Harbeson, John. *The Study of Architectural Design: With Special Reference to the Program of the Beaux-Arts Institute of Design.* . New York: Pencil Points Press, 1926.

Economy of means, abstraction of coding systems, and transmission of knowledge were already concerns of Bramante. Furthermore, the half-plan operated as an autonomous device with a function in the realm of paper independent of its existence as building reality (since Bramante's proposal was never constructed or realised). As influential as the plan was on paper, it was never really put into practice as drawn. It was Raphael², commissioned by Pope Leo X, who later put forward an alternative of what Bramante devised – a drawing that functions in itself within the realm of paper.

From visible to invisible

Men gradually became the subject of scientific knowledge, following Michel Foucault (1966), men became subjected to the norms of *mathesis* (universal science of measurement and order), *taxinomia* (classifications) and *genesis* (origins), and furthermore the consciousness of a linguistic basis of representation. The natural sciences condensed such norms and influenced transformations in other disciplines, including architecture. Developments, such as those of the natural sciences and the encyclopaedias, set particular modes of thinking that had profound effects on the modes of production and dissemination of knowledge, in which graphical means and visuality became central devices. Within this process of "spatialisation of knowledge" (Foucault, 1966), the drawing of the plan can be taken as a mode of knowledge production: a graphic device for registering, framing and organising knowledge.

An intensive collection and further classification of data took place in

² The origins of orthogonal projections have been located in Brunelleschi's drawings for the Dome of Florence (1420–36); other authors point to Alberti in terms of synthesis and diffusion of the method (1443–52); and some identify the origins in a 1519 letter presumably written by Raphael Sanzio, Baldassarre Castiglione and Donato Bramante to Pope Leo X (the letter's authorship is still in dispute), which narrates the condition of the Roman monuments and ruins at the time and introduces Raphael's measured drawings of an inventory of the ancient ruins of Rome. As requested by the Pope, the letter describes the systematised graphic documentation of the Roman remains. The letter extends and completes Brunelleschi's work and Alberti's theory of rendering the standard representations of a building – that is, plan and elevation, including the section.

many different disciplines during the eighteenth century when the project of taxonomies of living beings propagated that to classify, implied to name, and only by classifying and naming could something eventually be “seen”. Carl Linnaeus’ *Species Plantarum* (1753) and Buffon’s³ *Histoire Naturelle* (1749) are the best-known classificatory examples. In both studies, drawings of plants and animals appear organised in comparative tables according to predefined visual criteria. Knowledge gradually was being produced through visual and spatial modes. It is no coincidence that the word “species” and “visibility” are etymologically interwoven. “Species”? comes from the Latin “*specio*”, which means ‘to look or to behold’. It carries the implication of a seeing, a sight, but also of form, shape, and appearance: the set of visible features which ultimately defines taxonomic groups. Such features cannot be removed from a thing without losing its essence. To identify a species means making its formal and material features into essences; the visible becomes a describable, orderable entity.

Cuvier broke with that tradition. For him the form of the organisms was not important, but the logic governing naming was placed on internal and invisible organs. Cuvier’s displays for the Museum of Natural History in Paris, where he was professor of zoology, evidence a museum practice that was, from start to finish, based around the production of graphic means, mainly pictorial images (Rudwick, 2000). The “gallery of comparative anatomy”, opened in 1806 under Cuvier’s direction, sought to explode nature in order to reveal the inner principles of its organisation rather than concerned with external forms. An emphasis on organs, systems and the arrangement of skeletons in classes provided “the hidden basis for their external resemblances”, the key to Cuvier’s taxonomic groups. As his biographer has described it, Cuvier’s galleries at the museum “were full of objects to be looked not at, but into” (Outram, 1984). A tension between exterior and interior, between visibility and invisibility lies at the core of this change.

The term “genre” is of a different nature, representing the criteria employed by later figures such as Cuvier. The word comes from the Latin “*genera*” and

“genus”, means “birth, race and stock”. While both “species” and “genres” refer to a “class of things” with common characteristics that can be divided into subordinate kinds, the former establishes an inseparable link with what is visible to the eye; the latter by definition is more ambiguous and abstract. While ‘species’ relates to the visible form of organisms as the criteria for classification, with the word ‘genre’ the criteria start to change into a more elusive set of rules. In architecture the use of the word “kind” by Durand and eventually “type” by Quatremère marked a fundamental transformation: its not external resemblance what determines a group but inner functions governs taxonomical logic. The possibility of classification arise from the elements most hidden from view: “life” in the case of living beings; “utility” in the case of buildings. The abstraction of such criteria might explain the disappearance of the project of a natural *taxinomia*, opening new paths of development. For Cuvier - as for Durand - the visible forms, real magnitudes or exact numbers that the animals (or buildings) and their organs (or elements) had in common were not important, but the criteria to choose and put the cases together was based on more intangible features.

The construction of a type

The invisibility of functions played a governing and determining role in Durand. Utility turned, in Durand’s drawings, into the criteria of classification as well as the criteria of evaluation. When a building is considered in relation to its programme a non-mimetic resemblance predominates where there is no identical element of relation: the resemblance is constituted by the transition of the function into evident invisibility. And the plan conveys the revelation of invisible ‘deeper causes’, as discussed by Foucault:

To classify, therefore, will no longer mean to refer the visible back to itself [but] to relate the visible, *to the invisible, to its deeper cause*, as it were, then to rise upwards once more obvious signs displayed on the surfaces of bodies. (Foucault, 1972)

Plates that compare plans of buildings of the same kind became the visual basis for Durand teaching at the *École des Beaux Arts*. This graphic form of

comparison does more than merely illustrate or represent. It becomes a means to collect, classify, produce, and ultimately disseminate knowledge. Durand collected elements of buildings and put them together under the same category: vestibules, porches, staircases, cores, and so on, cataloguing what he defines as the essential *parties* of a building. Different sizes, shapes and forms all fell under the same category: their use was what brought them together. In the case of “vestibules” the condition to belong to the group could be all those parts of buildings that qualify as antechambers, halls, or lobbies next to the outer door of a building. There is no unique formal answer to the requirement, but this is a kind of resemblance based on the variability of a single theme – one that is at the same time absent from all the possible describable cases, yet present in the whole genre in its entirety (the precise definition of the word “type”). Distant in time and place buildings were composed in single plates, brought together by the invisibility of their functions. The acts of drawing (and redrawing), sizing, scaling, editing and transcribing played a central role.

Durand compared not only buildings, but also autonomous building elements, extracted from their original context, in which not only time and place were eliminated but also the building they belong to. Building parts were extracted and abstracted, removed from their original surroundings and reduced to their minimal expression. It is through abstraction, understood as the process through which man seeks to define generic frameworks rather than specific solutions, that Durand’s elements start to exist as a condition, as an idea or typology, rather than in their physical or concrete existence. Abstracted from their external reality, each case is deprived of its autonomous existence and therefore begins operating only in relation to a collective idea of what a core, a stair or vestibule is. Abstraction explains the radical instrumentality of the Plan, and its attempt to reach universality.

In order to arrive to these final diagrams Durand not only “corrected” original drawings, but also manipulated building forms into abstract schemes in order to prove his points. In these terms, redrawing can also be seen as the planning of a specific set of arguments, ideologically tendentious, an operative action. In architecture these procedures convey a process of intervention through abstraction that makes each project a process of production of the norm, and

furthermore, of typological production. In the same way that Durand modified the drawings of buildings in order to universalise the knowledge he wanted to transmit, such operations were common in dictionaries and encyclopaedias at the time. The focus of concern was transversally placed in the tracing back in time (origins) one category (in the case of language, dictionary and the encyclopaedia), of a genre of living being (in the natural sciences), of a type of building (in architecture).

As a distinct category from “species” and “genres”, “type”, while also referring to a category of things having common characteristics, inasmuch as ‘imprint’ and “impression” more emphatically points to the identity and character of such group: what makes it different from others. In these terms there is a reciprocal relationship between the notions of type and character identified in their etymologies. In the original Greek, “type” not only meant “model, matrix, mould”, but also “imprint, impression” (*typos*), which closely relates to the meaning of character inasmuch as “marking, engraving, as the distinctive sign of something”. Furthermore ‘character’ is also connected with Quatremere’s definition of the plan as imprint. In the *Encyclopédie Méthodique* he traces the meaning of the word plan to *ichnographia*, where *ichne* means the impression of a footprint (Quatremere de Quincy, 1788). In turn, in the entry “ichne” of the *Encyclopédie* of Diderot and Alembert (Diderot and Alembert, 1779) the term is related to “trace” and “vestige”. “Ichnographie” means the plan or track formed as a ground for the base of a corpus supported. From “ichne” and “scribo”, to “describe”, then “ichonographie” refers to the description of the imprint (either drawing or writing) of the trace of a work, that is, a plan: La ichnographie est la même chose que ce que nous appelons “plan géométral”, ou simplement “plan” (Diderot et al., 1876).

Marche and Mécanisme

From Bramante to Durand, the Plan gradually became the site to abstract the essential and typical form of an idea. In a similar vein as anatomy, in Durand’s method buildings were dissected, opened and decomposed in their many parts,

treated as forensic⁴ evidence in which each part was the object of exhaustive analysis. From the scale of the machine to that of the factory and the industry, the same sequential process of assemblage of simple parts into complex configurations applied.

The mode of conceiving a plan opened up by figures such as Bramante - metonymic as opposed to metaphoric - was systematized by Durand's method: one based on comparison, coding and syntax, as the grammar of a language. Knowledge and language become interwoven, objects and buildings are decomposed into fundamental units (or phonemes, or alphabet letters) and thought in a logical space or framework: a linguistic matrix. Language becomes a central category to the production of knowledge in which the vocabulary proper of each discipline is to be composed and recomposed in the mode of a tracing paper, like the graph paper that became the site of Durand's planning method.

The drawing of plans witnessed the departure from the Renaissance episteme based on "similitude, analogies and affinities" (Foucault, 1966), in which resemblance used to play a central role. In that mode of knowledge everything named had its own real, mirrored counterpart. The classical orders were likewise conceptualised, each order having an analogical counterpart: the virgin, the matron and the strong man. That mode is radically reorganised along the eighteenth and nineteenth centuries when, as Foucault discusses, "the form and the content of what we know became dissociated" and therefore "words ceased to intersect with representation, and representation ceased to provide an immediate grid for the knowledge of things" (Foucault, 1972). Instead of the similitude behind the drawings resembling the human body or nature, the critical instrumentality gradually becomes representation itself, and thus 'to say things

4 Etymologically, 'forensic' means 'pertaining or suitable to courts of law', from its Latin source *forensis*, 'of a forum, place of assembly', and in practical terms thus refers to the skills of presenting evidence before a gathering of citizens in a forum such as a court. Through the notion of the forensic, architecture intersects with history, with scientific techniques to dissect anatomies, and with the strategies and tactics of laws. The idea of the forensic also involves the act of reconstructing a scene; principles of forensics assume the archaeological re-composition of a set of spatial relations. Under these circumstances, objects become registers and active material witnesses to be interrogated. Initially undertaken in a piecemeal fashion, it is through this historical reconstitution that pieces commence, making sense with each other and with the whole scene.

and to name them, the crucial is to put them in order; comparison becoming thus the new function of order' (Foucault, 1972). A different conceptualisation of the plan implies a transformation of how knowledge is produced but also transmitted.

The economy of means behind the drawing of plans, from Bramante to Durand, uncovers a diagrammatic potential and a generative function in the production of types. The term *eidōs* (plural of *eidē*) of Greek origin meaning "form, type and idea" contains a nexus of important philosophical concepts. In brief terms it means "something that is seen", which is derived from the verb *eidō*, meaning 'to see.' That which is seen is often the "form" or "shape". It refers to "species" and "types", the essence of things and the world of universals; and in this sense, as the relation between the particular and the general. *Eidōs* is also used as the 'identity and organising principle of a process'.

The modern plan turns into the site of *eidōs*, the place for seeing and for categorising the essential form of things. In order to do so, composition requires the act of manipulation, of writing and rewriting. In the plan things are to be classified, redrawn and retraced, and herein lies the potential of the Plan for abstraction and diagramming. The act of redrawing plans endowed them with an epistemological function. By means of redrawing, buildings can be compared and named, classified and typified, being the operation through which the Plan reveals its eidetic nature. When in a single plate Durand collects past drawings to construct an evolutionary history of a building as a typology, the drawing of the Plan not only represents but analyses, scales, measures, orders and selects the relevant from the obsolescent. Redrawing buildings (and their parts) at the same scale and under the same form of visualisation enables proper comparison, therefore making this very act the precondition of typologies - the core of the notion of type and the eidetic nature of the Plan.

Durand not only "corrected" original drawings, but also manipulated building forms into abstract diagrams. Redrawing thus can also be seen as the planning of a specific set of arguments, ideologically tendentious: an operative action. This is precisely its most radical potential. The drawing of a plan conveyed a process of typological production that by ignoring certain aspects of building form, and reducing others to their minimal expression, was able to edit (by redrawing), to

name (by classifying) and eventually prescribe (by composing) a certain kind of knowledge.

The diagrammatic potential of Bramante's plan, on the other hand, transmitted and conveyed information in a condensed and synthetic form, enabling that while drawing the plan of a building to be thinking and considering territorial matters beyond the limits of the plan itself. The capacity of Bramante's plan to refer to a whole by depicting a part only (to be unfold), and the conceptualisation of the plan as the place for composing and tailoring strategies of organisation in the case of Durand, are two sides of a common development that eventually will locate the plan of the single building unit as the central device of the technologies of government of the urban. This is the mode of relationship between architecture and the city which dominates in the first decades of the twentieth century.

Such capacities of the plan to describe the essence of a building might led to a typological approach to the discipline⁵. From Bramante to Durand the plan revealed a diagrammatic and typological nature that allowed escalating from the scale of architecture to that of the city. These ways of discussing the Plan enable to frame its potential in mediating the world of architectural objects and the larger scale of the city and the territory.

The manipulation of the architectural plan became the site to be thinking and producing the city, while designing the scale of architecture. Bramante and Durand's drawings set the grounds in which the plan developed, beyond representation, as an instrument to visualize principles of organisation and administration. Through the composition of architecture's fundamental units

(meant to be repeated) the potential typological management of a territory is enabled. If in Bramante's drawing the whole could be inferred from a part, without defining all the stages between those poles, Durand's proposed an understanding of architecture based on the assemblage of fundamental units. This is a mode of relation in which the architectural element, translated in the form of a typical unit is transferred into an urban element, organising the whole.

5 The Greek term for description, ekphrasis, was the rhetorical term used to refer to a verbal evocation depending on the synthetic power of words. Ekphrasis literally means expression (to speak out, tell, and fully describe), from ek ('out, ex-') and phraz (explain, point out). It is the rhetorical device in which one medium of art tries to relate to another medium by defining and describing its 'essence and form', and in these terms, the rhetorical ekphrasis shares the meaning with that of the philosophical eidos. Due to its synthetic nature the rhetorical figure of ekphrasis explains a central aspect of the rhetorics underlying planning. Today ekphrasis is used to mean the literary description of a work of art, and in these terms mediates the relationship between words and images. Ekphrastic representations attempt to reconcile the tension between image and text, that is, between objects and discourse.

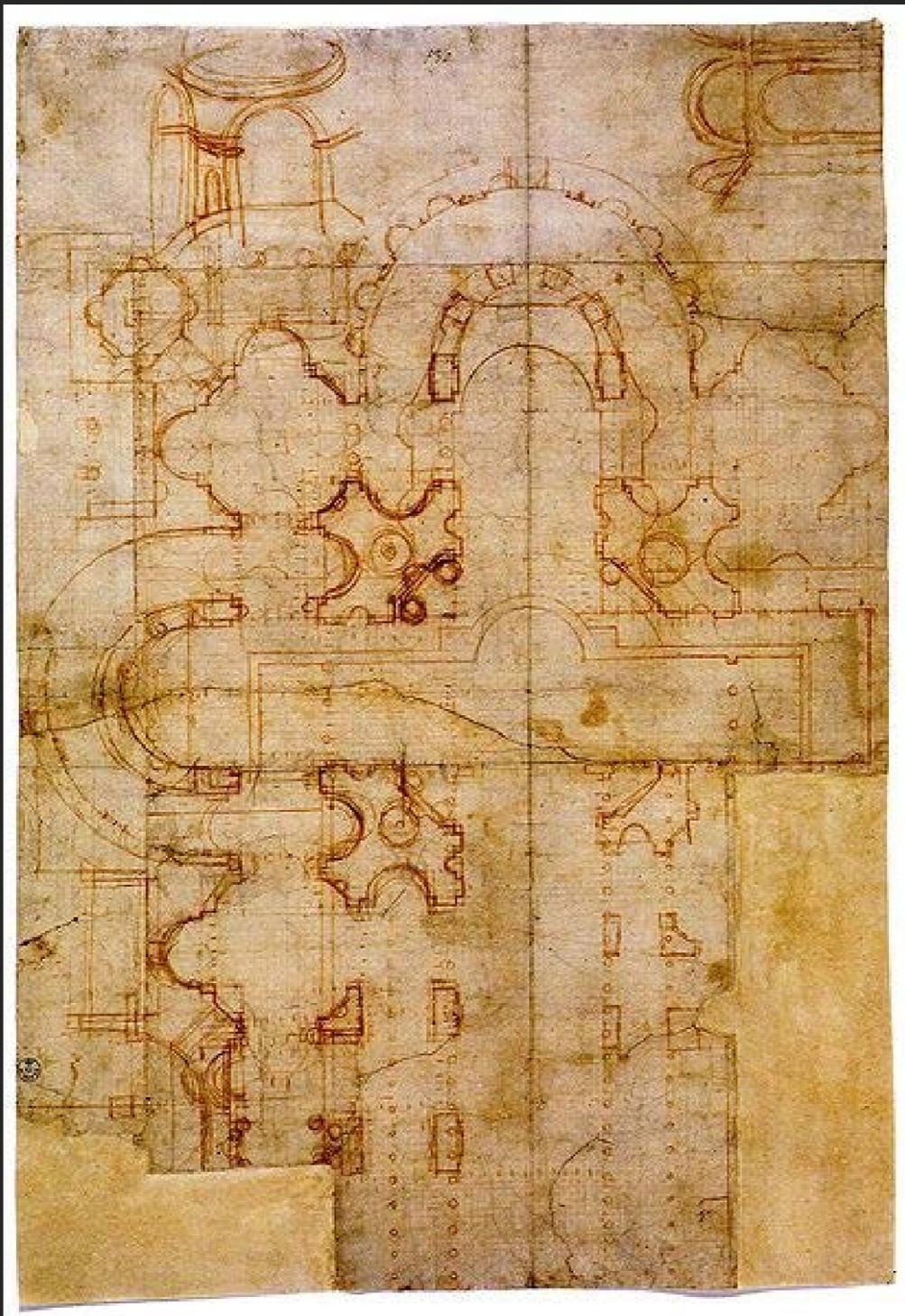


Figure 1: Ground Zero of the Idea of the Plan. Bramante's half-plan for St Peter Basilica, 1502. Bramante, D. 1505-1506. St Peter Basilica. In: Borsi, Franco. Bramante. Milan, Electa, 1989, p 75.

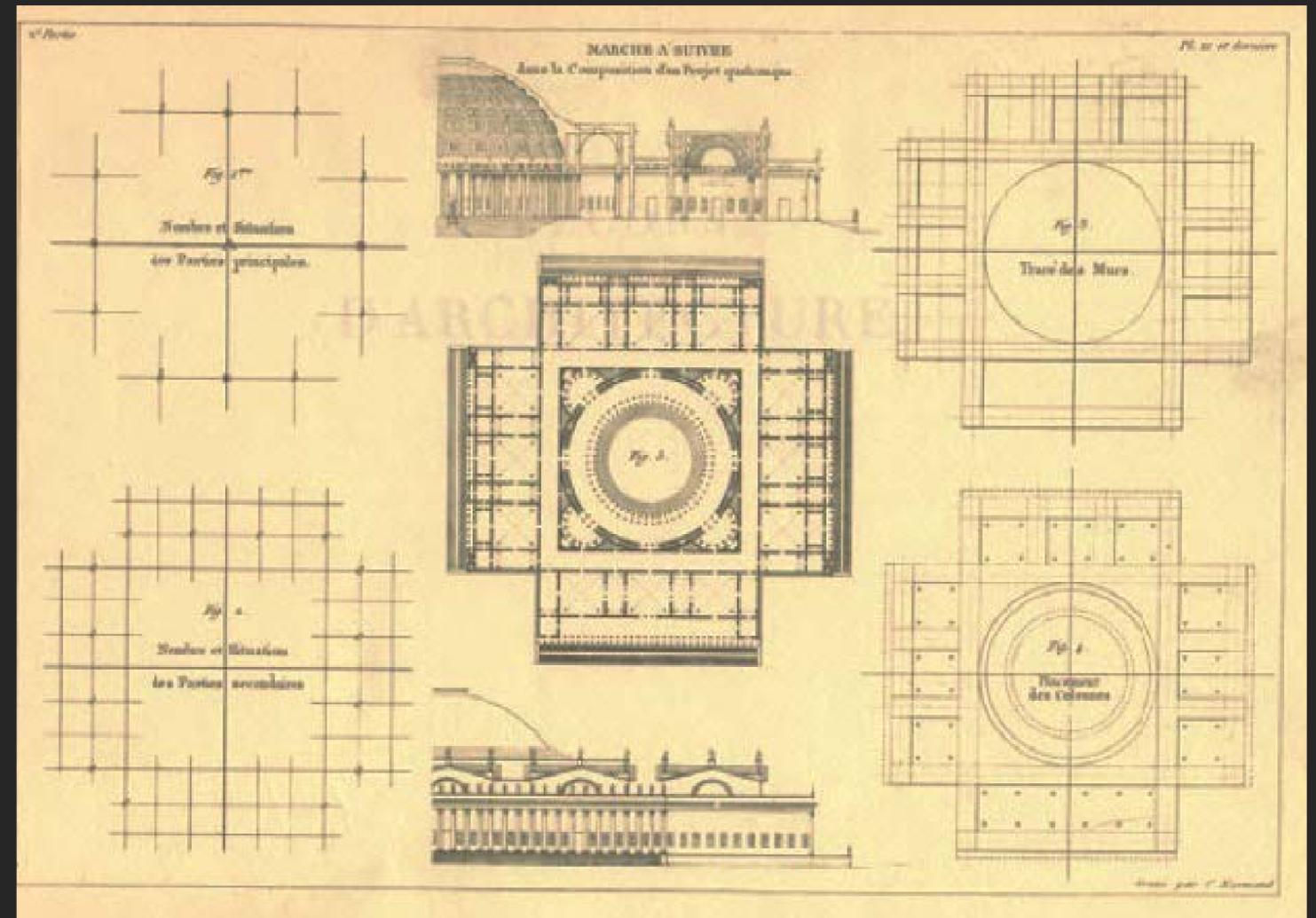
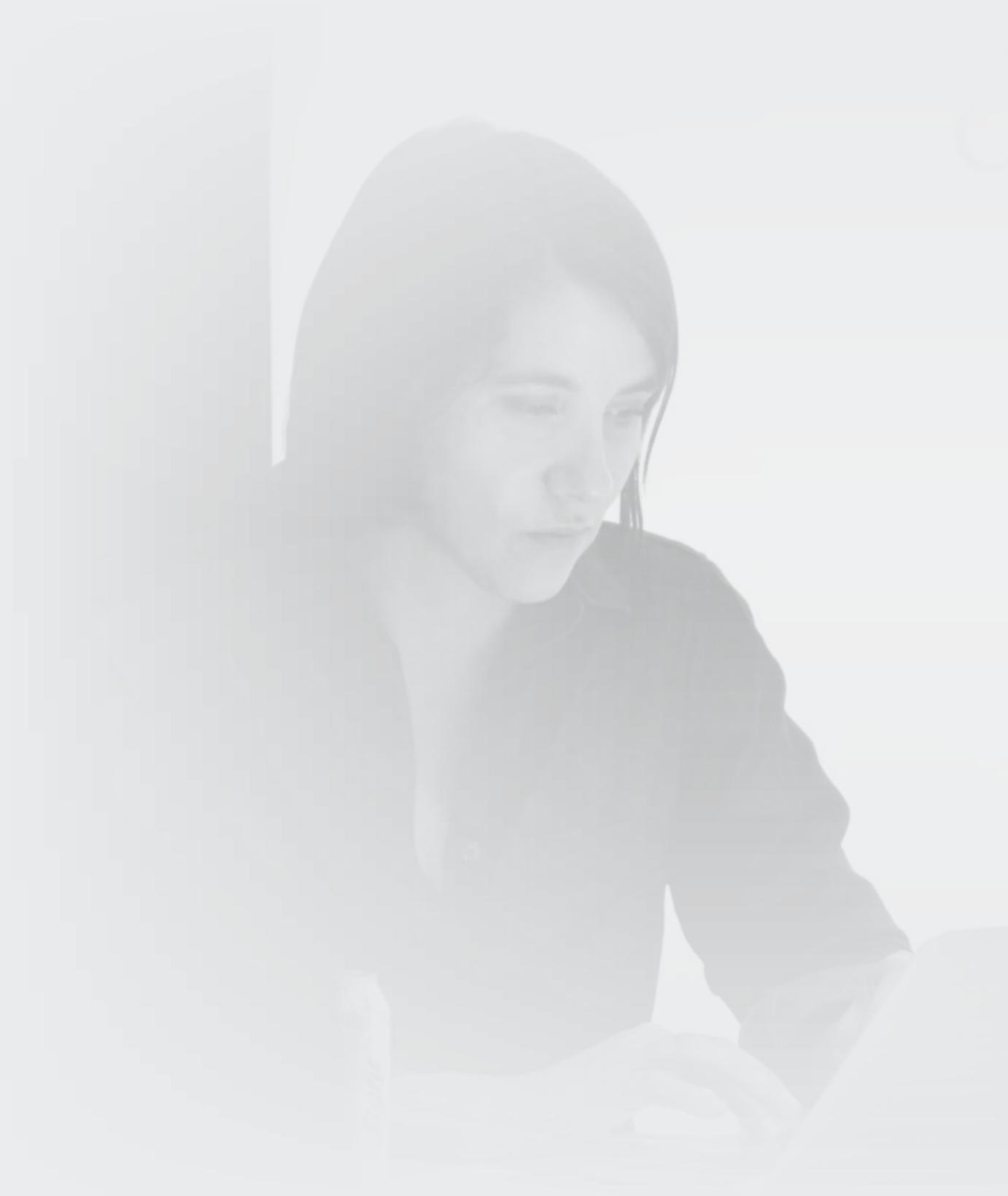


Figure 2: Marche a suivre dans la composition d'un projet quelconque. Durand, JNL. Précis of the Lectures on Architecture: With, Graphic Portion of the Lectures on Architecture. Edited by Antoine Picon. Los Angeles: Getty Research Institute, 2000.

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Imagen de Biografía por: Diana Luna

ESTA PUBLICACION FORMA PARTE DE:
THIS ARTICLE IS PART OF:

REVISTARQUIS

REVISTA DE LA ESCUELA DE ARQUITECTURA DE LA UNIVERSIDAD DE COSTA RICA
VOL 2-2014. NUMERO 6. ISSN 2215-275X
