ORDER AND ERROR IN ARCHITECTURAL PRODUCTION

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ABSTRACT

ORDER AND ERROR IN ARCHITECTURAL PRODUCTION

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The thesis reconceptualizes the relationship between order and error in architecture not as a fixed binary between norm and deviation, but as a historically contingent, epistemologically constructed, and operationally unstable interface. It argues that order and error are co-dependent trajectories, each capable of transforming into the other, highlighting the central role of error in architectural reasoning. Grounded in early modern epistemologies and informed by thinkers such as Francis Bacon and Michel Foucault, it traces how classificatory regimes, scientific reasoning, and representational systems construct not only what is accepted as 'order' but also cast 'error.' Building on Bacon's model of nature's three mutable states, the thesis proposes a framework for understanding architectural productions as contingent, non-linear, and evolving. This framework is extended through the concept of the 'interface,' not only visual formats such as lists, tables, and patterns, but epistemic surfaces where the negotiation between order and error becomes operative. These mediatory surfaces are examined as active actors that register, structure, and destabilize architectural reasoning, revealing that inclusion implies exclusion, repetition invites rupture, and classification often produces its own misalignments. By mobilizing Bacon's tripartite model alongside the concept of interface, the study frames architectural production as a field shaped through ongoing mediations, where rules and exceptions, norms and anomalies, are negotiated rather than fixed,

revealing how architectural knowledge is produced, contested, and transformed. Ultimately, the thesis does not aim to resolve the tension, but to further multiply it, to treat error as a generative condition through which architecture continually redefines its terms, processes, and claims to coherence.

Keywords: Order, Error, Architectural knowledge, Representation, Interface.

ÖZ

MİMARİ YAPIMDA DÜZEN VE HATA

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Tez, mimarlıkta düzen ve hata arasındaki ilişkiyi norm ile sapma arasındaki sabit bir ikilik olarak değil, tarihsel olarak koşullara bağlı, epistemolojik olarak inşa edilmiş ve işleyiş açısından istikrarsız bir ara yüz olarak yeniden kavramsallaştırmaktadır. Düzen ve hatanın, her biri diğerine dönüşme kapasitesine sahip, birbirine bağımlı yörüngeler olduğunu öne sürerek, mimari düşünmede hatanın merkezi rolünü vurgular. Erken modern epistemolojilere dayanan ve Francis Bacon ile Michel Foucault gibi düşünürlerden beslenen çalışma, sınıflandırma rejimlerinin, bilimsel akıl yürütmenin ve temsili sistemlerin yalnızca ‘düzen’ olarak kabul edileni değil, aynı zamanda ‘hata’ olarak görüleni de nasıl inşa ettiğini inceler. Bacon’un doğanın üç değişken durumuna ilişkin modelinden hareketle, mimari üretimlerin koşullu, doğrusal olmayan ve sürekli evrilen süreçler olarak anlaşılmasına yönelik bir çerçeve önerir. Bu çerçeve, tablo, liste ve örüntü gibi örnekler üzerinden, bu yüzeyleri yalnızca görsel formatlar olarak değil, düzen ile hata arasındaki müzakerenin işlediği epistemik yüzeyler olarak kurgulayan ‘arayüz’ kavramı aracılığıyla genişletilir. Bu aracılık eden yüzeyler, mimari düşünmeyi kaydeden, yapılandıran ve kimi zaman istikrarsızlaştıran etkin aktörler olarak incelenir; dahil etmenin dışlamayı, tekrarın kopuşu, sınıflandırmanın ise çoğu zaman kendi uyumsuzluklarını ürettiğini ortaya koyar. Bacon’un üçlü modeli ile ara yüz kavramını bir araya getiren çalışma, mimari

üretimi, kurallar ile istisnaların, normlar ile anomalilerin sabitlenmekten çok müzakere edildiği, süreklilik arz eden aracılıklar tarafından şekillenen bir alan olarak çerçeveler. Sonuçta tez, bu gerilimi çözmeyi değil, çoğaltmayı; hatayı, mimarlığın terimlerini, süreçlerini ve tutarlılık iddialarını sürekli yeniden tanımladığı üretken bir koşul olarak ele almayı amaçlar.

Anahtar Kelimeler: Düzen, Hata, Mimarlık bilgisi, Temsil, Arayüz.

To my family, and to the wandering hours of Friday afternoons

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CHAPTER 1

INTRODUCTION

This study proposes a reconceptualization of the relation between order and error in architectural production. It does not understand this relation as a fixed binary between norm and deviation, but as a historically contingent, epistemologically constructed, and operationally unstable interface. While the persistence of this duality may initially appear arbitrary or overly abstract, its validity becomes strikingly evident when it is approached from two overlapping perspectives. On the one hand, it resonates strongly with the current political and epistemic conditions, marked by rigid authoritarian regimes, ideologically extremist positions, post-truth relativism, and the conditions that these have imposed on the cultural, political, and social realms. On the other hand, it reveals itself as an intrinsically architectural problematic, deeply rooted in the discipline's long-standing reliance on formal, proportional, and procedural orders both in architectural making and thinking. While the first marks a research interest that focuses on a broader socio-political and socio-cultural context, the second grounds its interest within the epistemological terrains of architectural knowledge. Although the first inquiry is quite relevant to the contemporary tendencies and concerns, it falls outside the direct scope of this study. Instead, it remains in the background, as a part of a broader context that sustains the persistent interest in the order-error duality.

Within an architectural framework, this study argues that the current condition, by collapsing any grounds for coherence and reconciliation, legitimizes any notion of 'order' as an unquestioned default, while condemning error as a mere failure by tying error to the negative connotations. Alternatively, from another direction, it endlessly affirms the concept of error, not out of a genuine effort to understand it, but as a

reactionary stance against ‘order,’ thereby, once again, reinforcing the authority of order itself. This approach, which ignores the inherent nature of error that yields a process of invention and exploration, highlights a condition in which the range between the ‘wonders’ and the ‘monsters’ becomes diminished and error is reduced to a literal mistake, something to be corrected rather than engaged.

Against this background, the framework adopted in this study prioritizes an approach in which ‘error’ is not considered in isolation or in opposition, but in constant relation to a sense of ‘order.’ Rather than privileging one over the other, it understands their trajectory as parallel to each other. This type of relaitonality, that is highly abstract, can also be traced in architectural theory and education. A more focused and comprehensive act of tracing a specific track of architectural theory and education might be a topic for further research; yet, in a more general and less elaborated sense, it can be seen in the treatise tradition of architectural theory or in basic design education.[1] From Vitruvius onward, architectural treatises have sought to validate ‘order’ as the foundational principle of the discipline in order to set a standard for the ‘beauty’ in the architectural production. This often casts ‘error’ as its outside, that is, something to be excluded, corrected, or avoided. Yet even within these rigid frameworks, order and error remain entangled, constructing one another in a fixed yet co-dependent way.

A similar dynamic, in a rather more tacit and productive manner, operates in architectural education. Beyond offering a comprehensive review of architectural education and curricula, this dynamic is worth mentioning within the framework of this introductory text to convey the motives that make this research and its

[1] Both, the architectural tradition of writing treatises and the basic design education will be discussed within different frameworks in the thesis. The treatise tradition is elaborated as the representative of the ‘architecture in course’ referring to Baconian classification developed to understand nature, whereas the basic design education at METU is briefly discussed through the lens of interface, pattern, as a projective schema organizing architectural knowledge.

problematic relatable and legible.[2] The basic design education, as the first step to prepare the architecture students to the further stages, plays a foundational role in architectural education. The course is typically taught in the first year of training, is relevant to demonstrate this implicit yet productive relationality between order and error embedded in design problems.

Gaining a sense of 'order' is one of the core objectives of the basic design course, yet it is not conveyed through explicit prescriptions or lists of prohibitions. Instead, it is cultivated tacitly, through a mode of learning in which not only discussion of good examples reveal a sense of 'order' but also the discussion on 'what not to do' also plays a constitutive role. The panel critiques might be the accurate ground that represents the active cultivation of a shared yet unspoken understanding of order through an implicit construction of error. These critique sessions, guided through a selection of student works to demonstrate a point or a theme in basic design, however, do not indicate certain works as erroneous, but works are discussed in terms of their failure to reach a required balance, clarity, or compositional maturity. Through the examination of unsuccessful design attempts, students are guided implicitly toward developing a sense of order. These critical conversations, while formally centered on order, operate through an unspoken construction of error, which in turn renders the notion of order more definitive and materialized. Their being unsuccessful in this context does not make them unvaluable; in contrast, their 'off' condition helps to configure a broader and more internalized sense of order.

These are far from being the unique examples that reveal the productive interplay between the terms order and error. A deeper inquiry into architectural education would likely reveal numerous instances where error is not only corrected but also taught, recalled, and even produced as part of the learning process. This suggests that

[2] Based on personal observation depending on the curricula in the university, METU, that I took the formal architectural education and work as a research assistant in the same institute, the basic design education was the most tough and one of the most eye-opening course that I have took in the first year formative education.

error is not peripheral but intrinsic to the way architecture is practiced, theorized, and transmitted. This study, therefore, does not encourage excluding 'errors,' but rather to engage with them. Through this engagement, error is approached as a conceptual and operational state within architecture, one through which architectural thinking and making can be unfolded and reconsidered. In doing so, the reductive and flattened tension that emerges when order and error are understood as strict opposites is multiplied in a way that it offers a theoretical framework through which architectural processes of thinking and making may be re-read. This framework situates 'error' beyond its negative connotations, and proposes an understanding not linear or in opposition, but contingent, iterative, and open-ended.

Relatedly, the chapters of this thesis, taken as a whole, support and elaborate the central claim by unfolding it in three interrelated and one autonomous threads. Except for the third chapter, titled "Testing the Terminology: Cloud and Error," all chapters are conceptually grafted from Chapter Two, "Rejecting the Opposition," where the foundational terms and tensions of the thesis are articulated and problematized. This chapter challenges the binary opposition that positions order and error as mutually exclusive categories. Instead, it proposes to reframe this relation as historically contingent and conceptually intertwined. Since one of the central claims of the thesis is that the tension between order and error holds productive potential, Chapter 2 refuses to situate them as opposites. Instead, it introduces a set of conceptual lenses to multiply the relational possibilities between the two, thereby blurring the boundary that separates them. These conceptual lenses, introduced in Chapter Two, are implicitly grafted across the thesis, resurfacing as sub-themes that diversify the types of relationality between order and error in each chapter.

The following chapter draws on Francis Bacon's epistemological categories to introduce a framework through which architectural processes of making and thinking can be reread as states, not as linear or pre-determined, but as shaped by error, instability, and transformation. Finally, the fourth chapter discusses the mediation of the terms, highlighting the role of visual and conceptual interfaces, such as lists,

tables, and patterns, that actively regulate, negotiate, and sometimes blur the relation between order and error. In this way, the structure of the thesis not only reflects its theoretical stance but performs it, by tracing the multiple threads in which architecture excluded, appropriated, and recodified error.

The tension between the terms is further unfolded as a productive one in the second chapter, suggesting that the trajectories of order and error run parallel to one another and are thus interdependent, each carrying the potential to transform into the other. This proposition draws conceptual support from Bacon's understanding of nature, which conceives of natural phenomena not as fixed or hierarchical categories but as mutable states capable of transformation. He describes three legible states, nature in course, in erring, and in wrought, and the fourth chapter transposes both the understanding of nature as mutable states and the tripartite state configuration onto architecture. In doing so, it proposes an alternative framework for reading architectural thinking and making not as predetermined, isolated classifications that impose a hierarchy, but as processual, contingent, and interrelated conditions that unfold through moments of continuity, deviation, and intentional intervention. Within this framework, Bacon also identifies two poles toward which deviation in nature may tend: wonders and monsters. These figures, often associated with excess, anomaly, or disruption, are no longer considered external to order but integral to its operation. Their presence signals not a breakdown, but the generative instability through which order and error continuously redefine one another.

Finally, the fourth chapter, building on Baconian understanding of nature as three mutable states, highlights the significance of the mediatory surfaces that regulate the transformation between order and error. Drawing conceptually from the term interface, as used in physics, it frames this transformation not as a fixed transition but as an ongoing process of reconciliation or negotiation. In this context, interfaces are understood as conceptual and operational thresholds, in other words, thin surfaces through which the tension is mediated, boundaries are exchanged, and relational conditions are reconfigured. Within this framework, specific architectural

interfaces, such as lists, tables, and patterns, are discussed not only as visual and epistemological tools that mediate between architectural orders and errors, but also as operative traces that register moments of conceptual negotiation. Rather than being merely visual representations, these interfaces offer hints into the underlying thinking processes; they expose how distinctions are drawn, how regularity is asserted, and how deviations are framed. Through a set of selected, sporadic cases, the chapter explores how such interfaces function both as constraints and as sites of negotiation or transgression. In doing so, it reveals their contingency in shaping both rules and exceptions, emphasizing their dual role in maintaining order and enabling its disruption.

CHAPTER 2

REJECTING THE OPPOSITION

This chapter, as the title suggests, addresses the enduring conceptual opposition between order and error, a binary that has long shaped architectural discourse, from canonical treatises to contemporary design theory. Rather than accepting this opposition as fixed or self-evident, the chapter aims to challenge its naturalized status by exploring how these terms are historically contingent, discursively constructed, and epistemologically intertwined. The aim here is not to unfold the opposition in a way that leaves no room for ambiguity, but to reread this pre-defined opposition as a productive tension between the terms, one that multiplies across meanings, contexts, and disciplinary formations, rather than resolves. The act of 'rejection,' then, should not be read as a denial of the fact that order and error are most often understood in oppositional terms, but as a critique of the rigid dualism that casts order as the normative ground and error as its excluded, subordinate other. Instead, by tracing how these terms have been defined, mobilized, and reconfigured across different textual, visual, and disciplinary contexts, this chapter proposes a more nuanced understanding of their relationality.

This opposition, historically embedded and, as I argue, intrinsic to the discipline of architecture, is particularly evident in the earliest theoretical writings of architecture. Although order is not the sole theme of those texts, it surfaces early and repeatedly, becoming a central topic of architectural theory and historiography. Yet, beyond such discourses, order also pertains to modes of making and thinking: it organizes procedures, habits, and interfaces of practice. Accordingly, in this thesis, "order in architecture" does not refer only to the Classical Orders; it designates a broader epistemic, procedural, and operational sense in which ordering systems regulate,

enable, and sometimes constrain architectural production. The earliest compiled textual compilation on architecture, "Ten Books of Architecture" by Vitruvius, begins with a brief introduction of the requirements for the education of an architect in the first book, in the first chapter. After describing the requirements and therefore specifying its readers, the second chapter entitled "Fundamental Principles of Architecture" opens with the statement: "Architecture depends on Order (in Greek τάξις), Arrangement (in Greek διάθεσις), Eurythmy, Symmetry, Propriety, and Economy (in Greek οἰκονομία)."[3] This list lays out a framework of foundational principles of architecture, ranging from compositional hierarchy (order), spatial organization (arrangement), and proportional harmony (eurythmy and symmetry), to cultural appropriateness (propriety). Each term articulates a distinct aspect of architectural formation; yet, Vitruvius's discussion of 'order' encompasses and structures the other principles within its conceptual scope. It is this centrality of 'order,' along with its epistemic and operational implications, that highlights the intrinsic link between architecture and the sense of order, and it is precisely this connection that the thesis takes as its critical point of departure. In contrast to this centrality of 'order,' the notion of 'error' appears throughout the Vitruvian text not

[3] Vitruvius, *The Ten Books on Architecture*, Transl. by Morris Hicky Morgan, (New York, NY: Dover Publ., 1960), 13. As Alina Payne writes, the source is the only architectural treatise survived from antiquity that is recopied by hand over and over, the original illustrations have not been preserved. Hanno Walter Kruft estimates that the original manuscript was written probably between 33 and 14 BC by the Roman architect and military engineer Marcus Vitruvius Pollio. (For further information: Hanno-Walter Kruft, *A History of Architectural Theory: From Vitruvius to the Present*, trans. Ronald Taylor (NY, NY, London: Princeton Architectural Press ; Zwemmer, an imprint of Philip Wilson Publishers Ltd, 1994), 21) The most accurate and earliest surviving copy of the text, believed to date from the 9th century, was discovered in 1416 by the humanist Poggio Bracciolini in the library of the St. Gall Monastery in Switzerland (Kruft, 39). From the fifteenth century onward, the treatise was published multiple times, with various translations produced, among them one by the architect and theorist Claude Perrault. Alina Payne refers to the treatise, considering these multiple processes of copying by scriptures, publishing, and translations, as a "collective artifact produced by successive generations" with accumulated layers of interpretation. (For further information: Alina A. Payne, *The Architectural Treatise in the Italian Renaissance: Architectural Invention, Ornament, and Literary Culture* (Cambridge: Cambridge University Press, 1999), 35.) Whereas Walter Kruft considers these processes a possible malpresentation confusing the original meaning. (For further information: Kruft,19.) The cited version of the treatise is the later edition that is translated in 1914 by Morris Hicky Morgan, professor of Classical Philology in Harvard University.

as an explicit term of principle, but as a descriptor of deviations, failures, or misapplications. Within the course of the book, the word error is found to describe the consequences that are improper, unexpected, and failed. This asymmetry is more than background; it frames the question and helps organize the present inquiry. Because early architectural writing gives marked prominence to order, the study treats order as an object of analysis in its own right. Here, "order in architecture" does not refer only to the Classical Orders; it names a broader sense of ordering that informs architectural thinking and making in the culture of architectural production, that is, across the institutional, discursive, and technical milieus (education, professional standards, representational conventions, and tools), procedures, criteria, and the interfaces through which architecture is conceived and produced. From this standpoint, the pair order–error is approached not as a fixed antithesis but as a relation to be described, situated historically, and examined across cases. he remainder of the chapter sets out the core claims (Statements), introduces the theoretical points of reference (Theoretical tracks: states of nature; transcribing knowledge; reconciliation), and specifies the analytical lenses (Conceptual lenses: particular–universal; subjectivity–objectivity; artistic freedom–rational system) that will guide the analysis of architectural culture, its modes of thinking and making, and of the procedures through which architectural knowledge is produced.

Rather than accepting the established oppositional relation between the terms order and error, a framing that recurs in different forms in diverse sources ranging from dictionary definitions to Enlightenment philosophers, where error is cast as the enemy of order, this study problematizes the reductionist understanding of the terms. It is not the aim of this study to affirm one of the terms by favoring it and condemning the other, however, understanding their changing relationality is significant. It is believed that there are more nuanced definitions for both terms as well as their way of relationality. By expanding the lines between the Vitruvian understanding of order and error, the contemporary dictionary definitions and positions of the terms, this study aims to multiply the types of relationality between them and find convincing evidence to reject this pre-established opposition, by first investigating the cases

from other disciplines, which will be discussed in this chapter, and then continue with the examples from architectural production.

Two scope delimitations follow. Although the time this study has been conducted, coincides with different kinds of "errors" within the architectural field, this study is not to deal with the errors in the forms of destruction, structural problems, earthquakes, *faux* sustainability concerns. Far from doing so, as a conscious choice, it is also not the aim of this study to proclaim things as erroneous. Rather, it is aimed at tracking and investigating what has been coded as errors in the architectural thinking process and the practices of architectural making.

Needless to say, this study does not perceive error with a *negative/bad* connotation. Instead, considering the etymology of the word, it situates error within a process of wandering that opens a space for second chances, operating as a potential to offer room for artistic freedom and unplanned invention in well-defined making and thinking processes.[4] Knowing that the definition and understanding of each term in these dualities are historical, this study aims to understand the historical condition of order and error, specifically in architecture. It aims to learn from orders and errors in different disciplines that this chapter will dwell on and then revisit architectural 'wonders' or 'monsters' to develop an understanding of the intricate relationship between order and error.

[4] Drawing from Gordon Pask's formulation of error as a 'chance' and therefore, a figure of innovation and contradiction within a given environment, later extended by Aslı Serbest and Mona Mahall as a challenge to pre-set codes, this study further embraces error as a conceptual site where deviations are not merely tolerated but deemed as actively generative.

2.1 Statements

Errors have rarely been neutral. Across disciplines, they have been pushed to opposite poles, either expelled as the negation of correctness or affirmed as a resource for discovery. One of many, in mathematics, the discovery of the error curve in the 19th century is important because, seemingly, a disordered and unexpected phenomenon, error, becomes detectable and analyzable to derive a function out of the pattern of random deviations from a true value. In a similar strand, the method of trial and error can be understood as the affirmation of error as a productive route to pave the way for possible inventions. Giving importance to the process, the method of trial-and-error sets error as one of the significant phases of a research. From another profession, Freud relates errors to the unconscious. For Freud, such as a slip of the tongue, a mistaken judgement, a misreading, a misperception, are the errors of the conscious and are exact points where the unconscious reveals itself.[5] Therefore, through reading errors of consciousness, psychological implications can be made. These brief vignettes mark only one among many lineages in which error is formalized; they serve as orientation rather than an exhaustive account.

Errors are widely acknowledged across various disciplines, and architectural knowledge is no exception. Within the field of architecture, the recognition and exploration of error have become subjects of critical inquiry. Many contemporary thinkers and makers of architecture engage with the concept of error not merely as a deviation from correctness but as a productive and generative force. A curated snapshot is offered by the themed issue Perspecta 46: Error (2013), edited by Joseph Clarke and Emma Jane Bloomfield. In their introduction, the editor's note that architectural production is structured by norms and that deviation is therefore

[5] David Bates, *Enlightenment Aberrations: Error and Revolution in France*, (New York: Cornell Univ. Press, 2002), 251.

intrinsic, "Architecture never goes entirely according to plan."[6] Drawing on that note, recent debates read error as a compositional and epistemic resource. Sean Keller, a historian and critic of modern and contemporary architecture, relates architecture and music via highlighting the use of error in architecture as a possible 'compositional method'. He proposes using a range of 'user errors' to guide the design process, explicitly drawing an analogy to music to highlight error as a generative input.[7] Relating this positioning of error with John Ruskin's understanding of the Gothic, Keller argues that "classicism overrides the human variation and imperfection with its strict perfectionism, whereas Gothic is formed through these imperfections."[8] Looking architecture from a musical perspective, Keller reconfigures error and then relates error with John Ruskin's configuration of Gothic and Classical architecture. Perceiving classical architecture, as a cultural order having strict definitions of making architecture that encompasses the mathematical rules of proportions, the types of temples and the usages of the column types with the way they are ornamented, Keller argues that such rigidity excludes differences and variations. In this light, error organizes variation, working against a homogeneous, monotonous understanding of order.

Aslı Serbest and Mona Mahall, within the framework of cybernetics, referring to Gordon Pask, an influential figure for the architects, add another function to error apart from variation and challenge 'error' with the term 'chance.'[9] According to

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[6] Joseph Clarke and Emma Jane Bloomfield, *Perspecta: The Yale Architectural Journal* 46 (2013):1.

[7] Sean Keller, 'Ways about Error,' *Perspecta: The Yale Architectural Journal* 46 (2013): 29–43, 39. This volume of the architectural journal *Perspecta* is a thematical issue on 'error,' and the editors of the issue are Joseph Clarke and Emma Jane Boomfield. The Introductory text draws loosely the frame of the journal articles, and the projects mentioned, each of them approaching 'error' from diverse domains, as this thesis also refer them to once more make generative condition of 'error' visible.

[8] Ibid.

[9] Ensar Temizel in his thesis "Reclaiming Machine Intelligence: The Paskian School of Architectural Cybernetics," refers Pask's brief comment on 'error' in his discussion of Pask's ARCHITRAINER: An Instructional Game for Architects. Ensar Temizel, "Reclaiming Machine Intelligence: The Paskian School of Architectural Cybernetics" (Ph.D thesis, 2022), 63.

Pask, "error should be regarded as a figure of innovation or contradiction against the foil of a given context or environment,"[10] which allows error to be configured as a chance to challenge the codes of a set milieu. In a related vein, a recognition of error as a 'figure of innovation', discussions on Michelangelo, as reopened by Daniel Sherer and grounded in Vasari's evaluation, describe invention as the outcome of rule-distorting procedures.[11] Interestingly, Vasari differentiates Michelangelo from the other architects of the time with a positive creative emphasis and warns others not to stray from the conventions. The architectural inventions are reread in Sherer's article, including Vasari's evaluations, as calibrated departures from convention through which new architectural formations emerge. Invention is thus narrated as wandering and deviating from the established rule without collapsing into mere arbitrariness.

These perspectives, Keller's proposition of 'user-errors' as a compositional method, Aslı Serbest and Mona Mahall's recasting error as a 'chance' to challenge the fixed milieu, and Sherer's discussion on Michelangelo's practice as rule-distorting procedures through which invention takes place, are instructive, yet they may risk pulling discourse toward the same two poles, either exclusion in the name of correctness or celebratory, unbounded affirmation. Yet, when order-error duality is released from the two poles, their interplay has the potential to challenge conventional notions of accuracy and precision, revealing the potential of error to inform, inspire, and redefine architectural thought and practice.

Considering this brief look at how error is conceptualized together with the term order, it becomes possible to say that error is either alienated from order and codified as the negative of all the 'perfect' conditions or it is endlessly affirmed in order to offer an unusual yet productive appropriation. To move beyond that, this study

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[10] Aslı Serbest and Mona Mahall, 'Theory of the Impossibility of a Theory of Error,' *Perspecta: The Yale Architectural Journal* 46 (2013): 340–53, 343.
[11] Daniel Sherer, 'Error or Invention? Critical Receptions of Michelangelo's Architecture from Pirro Ligorio to Teofilo Gallaccini,' *Perspecta* 46 (2013): 76–113.

advances three statements that is applicable to architectural culture, together its modes of thinking, making and the interfaces through which architectural knowledge is produced. These are that the trajectory of order runs parallel to error; orders change names and forms; and order is not monolithic. Each statement is motivated by cross-disciplinary arguments and will be specified below and tested across the thesis through sporadic instances and the interfaces of lists, tables, and patterns.

2.1.1 Trajectory of order is parallel to error

If one were to rely only on contemporary dictionary definitions and a cursory return to the earliest architectural treatise, it might seem that the meanings of order and error have remained unchallenged. The word 'order' is defined as arrangement, disposition, sequence, command, taxonomy" in contemporary dictionaries in English.[12] French usage overlaps these meanings and adds the nuance of meaning "set up." Error, on the other hand, is understood through attaching a negative prefix to the adverb "correctly," reinforcing its definition as a mistake, deficiency, or imperfection, in parallel to the usage in Vitruvius' treatise, denoting misapplications and failures.[13]

Across the history of thought, error is often defined as the negative of an ordered condition. These ordered conditions change in character, whether they refer to the nature of things, rational reasoning, scientific paradigms, or linguistic and conceptual frameworks, but the word error is used in relation to illusion- a deceiving condition, obscurity- as the opposite of the light of reason, superstition- a degenerating belief, imprecision- an instable being, madness- as the pathological wanderings of reason. The list is long, and the items on the list, individually, do not convey much importance. However, items in this list, as a whole, is important for the fact that they

[12] "Order," accessed June 30, 2020, https://en.wiktionary.org/wiki/order.
[13] "Error," accessed June 30, 2020, https://dictionary.cambridge.org/dictionary/english/error

chart a persistent negative trajectory in relation to order, within the conceptualization of error.

As one of these negatively defined trajectories, the Enlightenment understanding of error elaborated in David Bates' book *Enlightenment Aberrations: Error and Revolution in France* is worth mentioning. Bates, in his book, dives into different conceptualizations of error, specifically looking into the Enlightenment period, in which for him various cultural, scientific, epistemological changes occurred.[14] He reads the togetherness of these multiple shifts in-between order and disorder. Referring to Diderot, he defines the task of Enlightenment thought as "the release of men from error and prejudice-forms of disorder-and as the achievement of truth and human welfare-forms of order."[15] From this quotation, error is understood as a form of disorder working against an order; in other words against Diderot's definition of truth. [16] He further notes that while various conceptualizations of error exist, such as the contrast between the light of reason and the shadow of error, or metaphors like *feux follets* (foolish fire) in French and *Irrlichten* (err-lights) in German, which denote deceptive lights leading seekers of truth astray, the Enlightenment perspective on error remains relatively straightforward. Error, in the mindset of Enlightenment, is fundamentally "something to be eliminated in the name of truth and progress."[17]

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[14] David Bates, *Enlightenment Aberrations: Error and Revolution in France*, (New York: Cornell Univ. Press, 2002), 22. The full quotation: "The Enlightenment's epistemological confrontation with error was a direct result of a reconceptualization of truth taking place as European intellectuals experienced severe disorder in their world. In many ways, Enlightenment thought was a response to a profound intellectual crisis occasioned by political, religious, and civil disruptions. The emergence of modern science, for example, a development that prepared the way for the Enlightenment, had shattered the long-established and intimate connections among God, nature, and human experience, however these were defined in various eras and milieus."

[15] Lester G. Crocker, *Diderot's Chaotic Order*, (Princeton: Princeton Univ. Press, 1974), 167. Quoted in David Bates, "The Epistemology of Error in Late Enlightenment France," *Eighteenth-Century Studies* 29, no. 3 (1996): pp. 307-327, 307.

[16] This ultimate rationalization of life is also criticized by Adorno and Horkheimer.

[17] David Bates, "The Epistemology of Error in Late Enlightenment France," *Eighteenth-Century Studies* 29, no. 3 (1996): pp. 307-327, 307.

Although the word error gained a negative connotation in time, the etymological root of the word does not necessarily denote a negative meaning. The root of the word comes from Latin *errare,* and it means "wandering," which might even be understood within the limits of invention and creative thinking, offering unconventional routes to discovery. This reframing aligns with Michel Foucault's proposition, "error can only emerge and be identified within a well-defined process"[18], which counts error as a condition that makes the order visible, and error becomes visible in a well-defined discursive process. This proposition, apart from making visible the tension between the terms, it also shapes one of the initial claims of this study: Although order and error seem to be in opposition, the definition and identification of the terms depend on each other. This compact yet loaded proposition is articulated in his revolutionary book, *Archaeology of Knowledge,* written in 1960s France, and it constitutes the critical ground for understanding the intricate relationship between the dualities. In this book, Foucault challenges the conventional understanding of 'knowledge' and aims to reconceptualize it. His conceptualization of 'knowledge', here, does not refer to an understanding that 'knowledge' exists as a phenomenon outside the systems that produce it or above the ways in which various bodies engage with it. Instead, he reconceptualizes 'knowledge' as a structured and regulated system of statements by reading different kinds of disciplinary 'knowledge production processes,' whether historical, philosophical, or scientific.

Foucault's configuration of 'knowledge' not as an intact body of facts awaiting discovery but an ordered construction of statements; within such orders, inclusion/exclusion, thresholds of acceptability, and rules of formation determine what can appear as true, or as error. It allows to move beyond a framing that positions order and error as the dominant one and the excluded other, approaching them as historically contingent formations, shaped by discursive regimes. The interplay between order and error, therefore, does not have to be predetermined, but instead,

[18] Michel Foucault, *The Archaeology of Knowledge* (New York: Pantheon Books, 1972), 223.

this relation is to be re-established within diverse frameworks. In this regard, Foucault describes error as the implication of the "deliberate methodical exclusion," a process through which specific parts of history, ideas, or productions are marginalized or dismissed.[19]

In this sense, error does not stand outside knowledge,[20] but it is constituted through the very same mechanisms that define what is accepted as order. Rather than being a failed deviation, error becomes legible only within the grid of what has been systematically excluded. It is precisely this structural role of error, its embeddedness in the discursive logic of exclusion, that opens a critical space for rethinking how orders are established, sustained, and potentially destabilized. Through this lens, errors are valuable in the sense that they reveal the boundaries and limitations of the established rules, in different forms, to define an order and to operate within it. The trajectory of error runs parallel to the limits of order.

2.1.2 Orders change names and forms

This subsection argues that order is not a single condition but variable configuration of operations whose names and forms shift across domains. It may appear as a rationale (the "order" of reasoning), a grid or other geometric schema, an algorithm or function, layered strata, and, crucially, as the rules and structures that organize ways of thinking, making and the way it is transmitted. Read across architectural history and theory, the history and philosophy of science, and intellectual/history of science, "order" emerges along a spectrum, whose ends are neither fixed nor

[19] Ibid, 159.

[20] This recognition of error is not an attempt to legitimize the manipulations of so-called 'post-truth' realities or their systematic distortions of truth. Rather, it acknowledges that the presence of 'errors' in the production of knowledge serves to reveal that all epistemic frameworks, whether defined by exclusion, appropriation, or recoding, have historically operated through, and benefited from, what they designated as 'error.'

mutually exclusive; as its format shifts, the errors left aside, revised, or reappropriated change.

This subchapter, in relation to its statement, reads order as three operative registers that correspond to those fields: as curatorial order in architectural history and theory (via style, where order is made by selection and operates through excision); as theoretical order in the history and philosophy of science (via paradigm, where order persists by revision in response to anomaly); and as procedural order in intellectual/history of science (via rule-regimes, where thin rules minimize discretion and thick rules require judgment, so order is maintained by calibration in application). These are offered not as an exhaustive taxonomy but as a compact relay to show how different formats of order entail distinct operations with respect to error. Thus, as order shifts from excision (style) to revision (paradigm) to calibration (rule-regimes), error shifts with it, from remainder to signal to instrument, which is why orders, historically and contextually, change names and forms.

Within this frame, style, a long-standing ordering device in the history of the arts that governs both artistic production and classification, can be understood as an ordering mechanism. For Foucault, it functions as a grid of properties with the power to exclude; for Adorno, it registers as the particular manifestation of the universal.[21] A complementary perspective from another lineage of thought appears in Sarah Williams Goldhagen's diagnosis on Modern architecture. In her seminal article, *Something to Talk about: Modernism, Discourse, Style*, Goldhagen discusses the historiography of Modern architecture, and she criticizes the way modern architecture is written. It is important to understand her diagnosis and criticism of the historiography of architecture in the sense of how an ordering mechanism homogenizes the production within a period of time. Her argument presents that the history of Modern architecture is pre-constructed through a selection of particular

[21] Peter E. Gordon, "Universal and Particular," essay, in *Theodor W. Adorno: Ästhetische Theorie*, ed. Anne Eusterschulte and Sebastian Tränkle (Berlin: De Gruyter, 2021), 187–202, 187.

works of architecture, ignoring the individual instances falling out of the style-based paradigm of modernism. The regularity of the production that is to be found in the whole and later to be theorized as the principles of modern architecture is actually preconceived. The historiography, therefore, is not constructed from parts to a unified whole, instead, it made its selection beforehand in the way that this selection will confirm the ideal defined by the Modern architecture primarily through black and white photographs.[22]

The instances excluded, ignored by this confirmatory selection, are mentioned in Goldhagen's text as 'excisions', a medical term meaning 'surgical removal of a pathological tissue.'[23] She reads these parts that are excluded from the constructed corpus of architectural productions in parallel to the term excision in the sense that they are cut out from a whole, whether it is homogenous or not, because they are anomalous.[24] These 'excisions' are further discussed by Goldhagen as 'anomalies' with reference to Thomas Kuhn, a groundbreaking philosopher of science, and his definition of the term 'paradigm.' In the preface to *The Structure of Scientific Revolutions*, Kuhn refers to the paradigm as the puzzle piece that clarifies his understanding of the development of scientific knowledge when he is able to describe it and describes it as the "universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners."[25] In the course of the book, under the subchapter titled "Anomaly and the Emergence of Scientific Discoveries," he further elaborates on the term 'anomaly', in relation to his definition of 'paradigm', by saying that "anomaly

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[22] Sarah Williams Goldhagen, "Something to Talk about: Modernism, Discourse, Style," *Journal of the Society of Architectural Historians* 64, no. 2 (January 2005): pp. 144-167, 145.
[23] Ibid, 149. Goldhagen does not use the word 'excision' directly, but she says that "Stylistically anomalous buildings are mainly excised." She uses the verb 'excise' in order to refer the process of selectively exclusion, while discussing how the historiography of modern architecture has been written focusing on pre-selected works that ignore individual instances falling out the style-based paradigm of modernism.
[24] Ibid.
[25] Thomas S. Kuhn, *Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962), x.

appears only against the background provided by the paradigm," as he also refers to as the course of normal science.[26] From these formulations, a paradigm may be codified as the regularity within scientific knowledge production, whereas an anomaly marks an unexpected phenomenon that challenges the current paradigm.[27]

For Kuhn, scientific knowledge does not accumulate in a progressive and linear fashion. Instead, it develops through the phases that are in constant transformation, driven by anomalies discovered within an ordered body of scientific achievements. These phases are called 'normal science' and 'revolutionary science.' The normal and the revolutionary is in constant transformation, and this transformation, for Kuhn, is the process of contributing to scientific knowledge production. Revolutionary science is defined as the phase in which normal science is in crisis because of the discovery of an anomaly. Anomalies disturb the processing of normal science and, thus, transform the accepted set of theories. An anomaly is not to be neglected, nor should its discovery lead to abandoning the current paradigm or theory. Instead, the validity of the current theory is to be questioned through the anomalous finding and is aimed to be resolved. Resolution arrives through revision of the previously accepted set of theories, now challenged by an "erroneous" condition precipitating a shift of paradigm. An anomalous condition, an error within the body of accepted theories, reveals a point to be resolved further. Through this manifestation, the current paradigm is challenged. In this understanding, error works as a transformative force, an epistemological tool that alters the accepted theory.

By rereading Kuhn's Scientific Revolutions, focusing on the terms 'paradigm' and 'anomaly', Goldhagen formulates her criticism. She shows the shortcomings of any definition of modern architecture through formal references extracted from the black-and-white photographs of the edifices classified as Modern. She mentions the homogenizing process of encasing Modern architecture and talks about *anomalies*

[26] Ibid, 65.
[27] Ibid.

seen as the paradigm's erroneous productions. Goldhagen advocates that the judgment of being erroneous delimits the variety of the production, reduces the multiplicity of approaches, and constructs a faulty, imaginary data set that fails to reflect the actual condition.[28] For her, a definition that depends on exclusions flattens the architectural production's complexity and diversity.

Seen together, Kuhn's understanding of anomaly and Goldhagen's 'excisions' reveal two distinct cases in which error is conceptualized and operationalized differently yet kept internal to order. When error is read as anomaly, its unexpectedness is mobilized as a transformative force that challenges and revises the current theory set.[29] In Goldhagen's account, error finds its equivalent in marginalized productions of architecture; marginalization erases the peculiar to attain an idealized homogeneous understanding of style.

Thinking together, Goldhagen's 'excisions' and Kuhn's understanding of 'anomaly' introduce different definitions of order itself. Kuhn's concept of 'paradigm' presents a structured body of knowledge with its own rules; however, these rules are not preconceived and immutable. They are open to transformation and revision. Anomalies disrupt the uniform conditions, and these erroneous conditions, in that they are unexpected, are used to revise false unity. Goldhagen's interpretation of the term 'style' within the historiography of Modern architecture highlights that an ordering mechanism establishes regularity by relying on strictly pre-selected instances, revealing the exclusionary nature of any type of order. This definition of order refers to a configuration whose borders are predefined and fixed, thereby emphasizing an ideal. In pursuit of a homogeneous whole, the multiplicities are diminished. By grafting Goldhagen's and Kuhn's theories on the duality of order and

[28] Sarah Williams Goldhagen, "Something to Talk about: Modernism, Discourse, Style," *Journal of the Society of Architectural Historians* 64, no. 2 (January 2005): pp. 144-167, 149.
[29] akin to Bacon's handling of deviating instances within inquiry.

error, it becomes clear that there is not just one monolithic understanding of order consisting of fixed rules that are hard to transform.

From a different disciplinary vantage, Lorraine Daston, who is a modern historian of science who actively engages in the study of scientific reasoning and the history of objectivity, further historicizes and pluralizes "order" and gives precision to the third register above (procedural order). In her account, the sharp, absolute opposition of "order" to "error" is a relatively late conceptual fixation. By referring to the medieval and the late 17th-18th centuries' understanding of 'order,' she distinguishes the two distinct understandings. She states that medieval naturalists define 'order' as the 'customs' of nature, whereas later, it is rigidified as nature's 'law.'[30] The understanding of order is transformed into laws that are relatively more ideal, homogeneous, regular, and uniform, undermining the space for the wonders that are further defined as the errors of nature, as seen in the Baconian understanding of nature.

In *Rules: A Short History of What We Live By*, Daston likewise argues that "rule" is not monolithic. Surveying domains from monastic statutes and military manuals to legal treatises, recipes, and algorithms, she shows that rules vary by formulation, application, and domain: they can be "thick" or "thin," flexible or rigid, general or specific. As she notes, "Rules can be either thick or thin in their formulation, flexible or rigid in their application, and general or specific in their domains."[31] Although this categorization of rules may seem binary, with terms like thick and thin, flexible and rigid, as well as general and specific, she further elaborates on these as conditions with varying resolutions throughout the book, implying that between these two poles of adjectives, there exists a spectrum of making rules with diverse concerns.

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[30] Lorraine Daston and Katharine Park, *Wonders and the Order of Nature: 1150-1750* (New York: Zone Books, 2001), 14.
[31] Lorraine Daston, *Rules: A Short History of What We Live By* (Princeton: Princeton University Press, 2022), 3.

Thick and thin rules are differentiated based on their strictness. She understands strictness as the changing dynamics between the particulars and the universal. Stating that the most discussed issue is the reconciliation of universals with countless unforeseeable particulars, she notes that rules always navigate between the extremes of certainty and uncertainty, generality and specificity, and perfect order and complete chaos.[32] She further illustrates the thick and thin rules as rules understood as 'models' tend to be thick in formulation and flexible in application, whereas rules understood as 'algorithms' are thin in formulation and rigid in their applications. The thinner the rules, the lower the level of inclusion. Thick rules, according to her, tend to include possible exceptions, whereas thin rules are in the tendency of setting the unexceptional, universal. Crucially, thickness and thinness are not essences but adjustable resolutions: thin rules can be thickened in practice and thick rules thinned, as rules continually navigate between certainty and uncertainty, generality and specificity, precisely the space in which judgment calibrates particulars to universals.

Daston's dual contribution, customs-to-laws and thick-to-thin, does two things for this subsection. First, it situates "procedural order" historically as a shift from customary regularities to legalized uniformities, explaining why error migrates from "wonder" to "deviation." Second, it supplies an explicit vocabulary for calibration: where rules are thin, error tends to be extruded as noise; where rules are thick, error is anticipated, folded back as a case or exception to be judged, presenting a solid ground for further inquiry into the definition of rules and their application in architecture. Read alongside Kuhn and Goldhagen, Daston clarifies how procedures produce order not by eliminating error, but by managing it, tightening or loosening discretion so that application can reconcile the universal with the unforeseeable particular.

Finally, returning to the subsection's claim: as order's format shifts, curatorial excision, theoretical revision, procedural calibration, the figure of error shifts with

[32] Ibid, 5.

it: from remainder to signal to instrument. Goldhagen's style-order excises error as remainder; Kuhn's paradigm-order reads error as the signal that precipitates revision; Daston's rule-order makes error an instrument of application, the very material through which thick or thin rules are adjusted in practice. This is why orders, historically and contextually, change names and forms.

2.1.3 The concept of order is not monolithic

This subsection generalizes the preceding analyses by recasting "order" not as a single essence but as a relational mechanism that universalizes while excluding, and that becomes legible in what it leaves out. Two conceptual anchors, Adorno and Foucault, clarify this double movement.

For Adorno, style condenses the paradox of order as a universal that only appears through its particulars. Style registers the particularization of the universal: the universal imposes a form that seeks consonance, yet every particular carries a remainder of non-identity that cannot be fully absorbed. Apparent reconciliation does not eliminate contradiction; it organizes it. In this light, what we called "error" in 2.1.1–2.1.2 is not merely a failure but the sign of non-identity, sometimes trimmed off to stabilize a style, sometimes elevated as a signal that forces theoretical revision, and sometimes taken up as an instrument in application. Adorno's codification of the duality as the contradictory parts having a hidden hierarchical relation between them finds its smaller-scale correlative in Foucault's definition of order. Foucault renders the same dynamic as a grid: order is a rule-governed network of statements that sets thresholds of acceptability and draws blank spaces through methodical exclusion. What counts as true, as well as what counts as error, is co-produced by these discursive rules. Crucially, the grid's blank spaces (what a corpus does not count) are not marginal to order; they are how order becomes visible as order. Thus the positions we traced, error as remainder (curatorial), signal (theoretical), and instrument (procedural), are not ontological kinds of error but effects of different grids: each format of order delineates its own field of sayable/unsayable,

admissible/anomalous, regular/exceptional. Foucault's definition of order reinterprets this relationality as the system and what it excludes. He refers to order as the "hidden network of relations" that are established between what is inherent to the things and also what is excluded.[33]

> Order is, at one and the same time, that which is given in things as their inner law, the hidden network that determines the way they confront one another, and also that which has no existence except in the grid created by a glance, an examination, a language; and it is only in the blank spaces of this grid that order manifests itself in depth as though already there, waiting in silence for the moment of its expression. [34]

Foucault, by saying grid, conceptually materializes order, and by adding an emphasis on the empty spaces of the grid, he draws attention to that a system, or an order, is inherently exclusionary. Following these lines, he further materializes the concept of order as 'codes of a culture' that governs its language, schemas of perception, its exchanges, techniques, values, and hierarchy of its practices in daily life, alongside as the opposite of the spectrum, the 'scientific theories or philosophical interpretations' that present diverse orders in a more theoretical framework.[35] Hereafter, he defines another culture between these two and describes this middle ground as what deviates from the empirical orders through which its deviation, the invalidities of any order, is revealed. [36] This middle region, excluded by the rigid definitions of order, therefore makes the order itself apparent and more defined, as in the case of Bacon's understanding that the orderly course of nature is better understood through trying to apprehend the errors within it.

Taken together, Adorno and Foucault abstract the results of 2.1.1 and 2.1.2. Adorno explains why every order aspires to unity yet cannot cancel non-identity; Foucault

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[33] Michel Foucault, *The Order of Things: An Archaeology of the Human Science* (London: Routledge, 2010), xxi.
[34] Ibid.
[35] Ibid, xxii.
[36] Ibid.

explains how every order operationalizes unity by distributing inclusion and exclusion. Hence “order is not monolithic”: it is historically and procedurally plural, enacted through devices (styles, paradigms, rule-regimes) that continually renegotiate their boundaries. Correspondingly, “error” is internal to order, not an external chaos but a role-shifting operator that marks limits (as remainder), triggers transformation (as signal), or calibrates application (as instrument). This generalization provides the conceptual rationale for treating the list, table, and pattern, elsewhere in the thesis, not as neutral visuals but as interfaces that stage those negotiations between universal and particular, inclusion and exclusion.

2.2 Theoretical Tracks and Conceptual Lenses

This intricate relation, apart from being intended to be resolved, is aimed to be multiplied through the expanded dualities of the particular and the universal, subjectivity and objectivity, and artistic freedom and rational system. These expanded dualities are understood as conceptual lenses that propose various reflections on various forms of ‘order’ and ‘error,’ with the aim of deepening the conceptual terrain in which the relationship between order and error can be explored. In a broader sense, the study intends to reframe this tension not as binary opposition but as a spectrum of productive dualities.

The tension between order and error, whether seen as productive, as in the conceptualizations of Foucault and Bacon, or disruptive, as Diderot defines Enlightenment’s task to release from error to achieve an order, resonates with the dualities introduced at the beginning of this text: the particular and the universal, subjectivity and objectivity, and artistic freedom and rational system. Reading the traces of this tension through these dualities, which are defined earlier as conceptual lenses, one may argue that error is not always the negative form of an order, but rather a force that challenges and diversifies definitions of order.

Considering three different thinkers', Bacon, Foucault, and Adorno's understandings of order and error from different conceptual lenses, it becomes possible to look at entrenched concepts and propose an alternative definition of them that derives from the frameworks of order and error duality grafted through these lenses, sometimes operating as theoretical multipliers. These conceptual lenses are the three selected pairs: the particular and the universal, subjectivity and objectivity, and artistic freedom and rational system, that serve as frameworks that multiply the adjectives, conceptual definitions, and ways of practicing orders and errors. The multiplied adjectives, conceptual definitions, and ways of practicing orders and errors will be discussed throughout the study with different focuses. However, these could be found in each chapter, either implicitly or explicitly.

For example, Adorno's understanding of 'style' is reconsidered within the framework of the particular and the universal. His discussion on the duality of the particular and the universal is projected on the duality of order and error in order to graft an alternative understanding of error in relation to order. In this context, error can be redefined through the adjective 'peculiar,' offering an alternating conceptualization: error as a peculiarity that deviates from standard rules yet possesses the transformative power to establish a work as a 'style,' endowing it with authenticity. Therefore, the dualities introduced at the beginning of this text, the particular and the universal, subjectivity and objectivity, and artistic freedom and rational system, serve as frames to look through order and error. By projecting these conceptual lenses on order and error, it becomes possible to generate an alternative mode of the terms. Through these frameworks and the act of projection, it is aimed to develop a deeper understanding of the terms order and error, thereby fostering a critical discussion on the enduring concepts that structure architectural production, whether it is 'style', which is an enduring term that orders any production, architecture in particular or the fragment and the whole discussion or 'pattern.'

2.2.1 Theoretical Tracks

2.2.1.1 States

The preceding subsections established that what counts as order, and therefore as error, is produced within historically specific formats that shift across domains; as these formats change (discussed through the terms style, paradigm, rule as different equivalents of ‘order’), error’s role shifts with them from remainder to signal to instrument, and ‘order’ itself proves plural rather than monolithic. Against this background, the notion of states is significant because it names bounded yet transformable regimes of operation that make such shifts amenable to analysis without reducing them to a single binary. States mark thresholds where inclusion/exclusion, normal/anomalous, and rule/judgment are negotiated; they make visible the sites at which error does epistemic work, limiting, revising, or calibration, while preserving the possibility of transition between regimes. The operations limiting, revising or calibration might be read as the correlatives of Goldhagen’s ‘excision’, which is applied for the sake of proposing a homogenous curational order to define a ‘style’ ; Kuhn’s ‘anomaly’ that revises the consistent set of theories to refer a structured body of knowledge as ‘paradigm’ and ‘calibration’ of Daston to operationalize the procedural order in between the ideal and the application, presenting a distinct roles of error undertakes from marking the limits (as remainder), triggering transformation (as signal), or calibrating any application (as instrument). Within this framework, the discussion turns to Francis Bacon’s natural history, where “states of nature,” together with the paired figures of monsters and wonders, offer an early, precise vocabulary for how deviation is internalized and made productive within an order. The traces of this understanding, depending on transformation, can be found in Foucault’s definition of order as it is discussed in the previous subchapter.

However, antecedents of this transformative perspective can be traced back to earlier intellectual traditions, particularly in Francis Bacon's understanding of natural history. Bacon's approach, which emphasizes empirical inquiry and the systematic study of nature, anticipates key aspects of Foucault's later theoretical developments, revealing a continuity of thought that challenges rigid dichotomies and invites a reconsideration of epistemological structures. Bacon's understanding of natural history depends on many categories developed to classify natural phenomena. Being a pair of these classifications, 'monsters' and 'wonders' stand out in terms of their not being strictly oppositional, and at the same time defining a conceptual field in which deviation is not simply expelled but becomes epistemologically significant. The 'monster' marks that which disrupts the continuity of the norm, rendering the limits of a system visible through its incompatibility. The 'wonder,' on the other hand, signals a different kind of deviation: not necessarily opposed to order, but extraordinary within it, an exception that reconfigures the framework by revealing its internal flexibility. Building on Foucault's two statements on error and Francis Bacon's understanding of nature through 'monsters' and 'wonders,' this study bases its second argument that where there is an order, there would be an error cast out as 'monster' or reappropriated as a 'wonder.' These terms, which Francis Bacon employed to categorize anomalies in nature, carry significant resonance in the context of visual and architectural systems. These two categories, however, do not take opposite stances but they define a spectrum.

Caroline Merchant, a contemporary philosopher and historian of science, makes a critique of Baconian conception of nature from a feminist perspective in her article "The Violence of Impediments: Francis Bacon and the Origins of Experimentation." Her critique is not within the scope of this study, however, her selection of quotations from Bacon's texts to convey his conception of nature is interesting for this study. Baconian conception of nature and natural science is illustrated through the quotation:

> She (nature) is either free and follows her own course of development as in the heavens, in the animal and vegetable creation, and in the general array of the universe; or she is driven out of her ordinary course by the perverseness (*pravitatibus*), insolence (*insolentiis*), and

> forwardness of matter (*materiae contumacies*) and violence of impediments (*impedimentorum violentia*), as in the case of monsters (*monstris*); or lastly she is put in constraint (*constringitur*), molded (*fingitur*), and made as it were new by art and the hand of man (*arte et opera humana*); as in things artificial.[37]

Merchant summarizes this paragraph as for Bacon, "nature exists in three states- at liberty, in error, and in bonds."[38] Nature at liberty stands for nature in its "natural" course, which is defined as "she follows her own course of development." Nature in error refers to the conditions for the occurrence of deviations, anomalies and imperfections whereas the nature in bond is reserved for extracting secrets of knowledge by capturing it. The third condition is referred as "she is put in constraint, molded and made as it were new by are and the hand of man." Here, from a contemporary point of view, this classification of the conditions of nature as separate phases seems problematic, considering the time, the 16th century, it is intriguing to see that a quasi-condition is defined which is in between the natural course without any interaction and the nature in complete intervention, that is nature erring.

Errors of nature are not excluded in the classification of nature by Bacon, who is known as one of the founders of the modern science depending on the empirical knowledge and experimentation.[39] Instead, these errors, that are further defined and classified in his book *Novum Organum* as one of the 'prerogative instances' that he introduced. For him, these prerogative instances that are privileged in terms of their being different, in other words distinguished cases. He lists twenty-seven prerogative instances and in the eighth rank, he mentions 'deviating' ones. He proposes a more nuanced and detailed classification for nature erring and explains deviating instances as:

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[37] It is cited in Carolyn Merchant, "'The Violence of Impediments': Francis Bacon and the Origins of Experimentation," *Isis* 99, no. 4 (December 2008): 731–60, https://doi.org/10.1086/597767, 741. This direct quotation is originally from Francis Bacon, *De Augmentis Scientiarum*, Bk. 2, Ch. 2 (Works, Vol. 4, p. 294).
[38] Ibid.
[39] Steven Shapin, *The Scientific Revolution* (Chicago: The University of Chicago Press, 1998), 65-66.

> In the eighth rank of prerogative instances, we will place deviating instances, such as the errors of nature, or strange and monstrous objects, in which nature deviates and turns from her ordinary course of things. For the errors of nature differ from singular instances, inasmuch as the latter are the miracles of species, the former of individuals. Their use is much the same, for they rectify the understanding in opposition to habit, and reveal common forms. For with regard to these, also, we must not desist from inquiry, till we discern the cause of the deviation. The cause does not, however, in such cases rise to a regular form, but only to the latent process toward such a form. For he who is acquainted with the paths of nature, will more readily observe her deviations; and, vice versa, he who has learned her deviations will be able more accurately to describe her paths.[40]

Bacon defines deviating instances as the errors of nature but not singular ones. These deviating instances are to be found in nature in abundance and they are not miraculous. In the following lines, he says that although they are not ordinary, even they are monstrous, to understand nature better, research on these deviating instances should not be avoided. Because for Bacon, the deviations are visible to those who know the ordinary course of nature in which things occurred in order, and detecting these deviations and developing knowledge of these will help to decode nature in a more accurate sense. Therefore, Bacon's classification and his further elaboration of the erred instances as prerogatives show that errors, despite their pre-established positioning regarding the 'order' as opposition, may be reconceptualized in a rather different sense. Here, errors give clues about ordering mechanisms; in other words, they work complementarily with each other.

As it has been said that the traces of this understanding- order and error working in parallel to each other, is also present in Foucault's conceptualization, however with a minor difference. Although Foucault and Bacon are figures hard to be read alongside without acknowledging the significant time gap between them, their

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[40] Lorraine Daston, *Biographies of Scientific Objects* (Chicago: Chicago University Press, 2002), 16. Novum organum 179-80.

shared concern with classification is noteworthy. Both thinkers are critically engaged with the classification of 'things' or 'instances,' or to put it in a poetic way, the order of 'things' or 'instances.'

Knowing the fact that the classifications, taxonomies and catalogues are the main features/tools of the 17th century science[41] to construct knowledge within the emerging framework of modern science, these figures' shared criticality, although differing in points of views, is on classification. Bacon approaches classification as a hierarchical and relatively fixed structure, deriving categories from individual parts to make claims about the whole. In contrast, Foucault understands classification as a constructed tool, inherently fluid and embedded within broader epistemic processes. For him, a hierarchical list, such as Bacon's twenty-seven instances, could not exist without recognizing the interrelations among its elements, making any taxonomy more dynamic and subject to transformation.

Despite this difference, their perception of error is closely tied to the notion of order in which errors are identified, defined and do exist. Both Bacon and Foucault recognized the interdependence of order and error. Therefore, an error could not be identified in the absence of order, just as order could not be grasped without acknowledging pitfalls, and errors of a system.

Juxtaposing Bacon's "states" and his pair "monsters/wonders" with architecture yields more than a historical echo; it supplies an operative grammar for reading order–error in the built field. Bacon's three "states" offer a higher-order framework the thesis now scales up and transposes to architecture: a regime of practice that runs "in course" (norms maintained), one that moves "in erring" (norms disturbed by anomaly), and one "in wrought" (norms deliberately refashioned). Read this way,

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[41] David Freedberg, "Iconography between the History of Art and the History of Science: Art, Science, and the Case of the Urban Bee," essay, in *Picturing Science: Producing Art* eds. Caroline A. Jones, Peter Galison (London: Routledge, 1998), 272–96, 288.

the pair order–error ceases to be a hard binary and becomes a field of operations in which deviation is not merely a mistake but a working state through which order is negotiated, reconfigured, and regenerated. The value of the transposition is methodological rather than metaphorical: it replaces style, period, or place-based bins with an analytic that tracks how projects hold rules, press them, or remake them, often within the same work, and often on the mediatory surfaces (drawings, specs, codes, patterns) where such shifts are staged. In short, the Baconian states supply a scalable vocabulary for architectural historiography and theory, clarifying how reconciliation actually happens across cases: sometimes by keeping the rule and trimming the "monster," sometimes by reading a "wonder" as a clue that thickens the rule, and sometimes by recasting the rule altogether. Within these regimes, deviation can be interpreted along Bacon's spectrum: as "monster," a disruption that marks the limit of a rule and is trimmed away; or as "wonder," an extraordinary case that discloses a latent possibility inside the rule and invites its re-specification.

2.2.1.2 Transcribing Knowledge

The previous subsections showed that what counts as order, and therefore as error, is produced within domain-specific formats (style, paradigm, rule) and that error's role shifts accordingly (remainder, signal, instrument). Building on that argument, this subchapter focuses on the significance of the surfaces that transcribe knowledge, pages, plates, grids, tables, pattern sheets, atlases, laboratory notebooks, and instrument-guided drawings, where those formats materialize in practice, stabilizing knowledge-production processes and rendering knowledge 'set in stone'. These are not neutral registers. They are operative sites where inclusion/exclusion thresholds are set, where irregularities are recorded, suppressed, or mobilized, and where ways of making and thinking sediment into habits of seeing, sense-making, and doing. Because they both record past decisions and script future applications, transcribing surfaces are the places where reconciliation between universal and particular, rule and judgment, objectivity and subjectivity are negotiated in practice.

Read in this light, Svetlana Alpers and Peter Galison provide complementary accounts of how picturing becomes epistemic and how images do conceptual work. This pairing matters here in terms of bridging the two terrains that structure the previous subsections: the historical variability of order/error and the concrete media where those variations take hold. Alpers's early-modern case shows that optical devices and descriptive practices made observation a mode of knowing, turning representational surfaces into epistemic interfaces that mediate between what is seen and what is said. Galison, in turn, complicates simple objectivity/subjectivity oppositions by showing that scientific image-making proceeds through historically shifting operations, idealization, mechanization, interpretation, each redistributing judgment and error across the surface. Without claiming a strict correspondence, this layered history resonates with the earlier triad: some practices limit by 'excision' of irregularities, others prompt revision by rendering anomalies legible, and still others calibrate application by folding irregular cases back into procedure. In what follows, this "transcribing knowledge" track anchors the move from theories of order/error to their concrete interfaces, where mediatory surfaces become the working grounds of architectural representation.

Although the phrase "epistemological tool" is not Alpers's own, the conceptual foundation is clear in the opening chapter of *The Art of Describing*, titled as "Constantijn Huygens and The New World". There, Alpers examines how visual technologies such as the microscope and the camera obscura reshaped modes of knowing in 17th-century Dutch culture. Through Huygens's engagement with these instruments, she traces a cultural shift in which observation, vision, and picturing become central to knowledge production, displacing traditional textual or metaphysical frameworks. The chapter highlights how instruments of depiction and description mediate between what is seen and what is known, thereby functioning as interfaces that structures the ways of knowing, that leads to the phrase 'epistemological interfaces.' This framing has significantly shaped this study's approach to architectural representation, particularly in regard to its mediating role between objectivity and subjectivity, rule and application.

Representation, for Svetlana Alpers, is situated on the borderline between reality and artifice, a condition that mirrors the mediating role of interfaces.[42] In a similar epistemological register, Lorraine Daston's inquiry on the 'customs of nature' vs. 'nature's law' discussed earlier reveals a historical fluidity in the definitions and applications of orders and rules, showing how systems of knowledge are never fixed but shaped by shifting boundaries between certainty and uncertainty, generality and specificity. This, along with the interfaces that shape ways of knowing and the transmission of knowledge, initiates a discussion on the orders and errors, focusing on the limitations and shortcomings in the systems that organize knowledge. As the rules navigate between certainty and uncertainty, generality and specificity, the interfaces that organize knowledge mediate in between.

Against this background, Daston's insights can be expanded to explore the broader themes of representation and mediation of order, particularly in relation to scientific and artistic practices. Peter Galison, in his edited book *Picturing Science Producing Art*, dwells on the subjectivity and objectivity duality. As the title of the book suggests, the selection of the words 'picturing' and 'producing' comes with connotations that can be linked to the age-old duality of objectivity and subjectivity; this superficial understanding of dualities as total opposites can also be seen to be linked to the practices of science and art. Linking the terms objectivity and subjectivity directly to the practices of science and art, for Peter Galison, should be critically evaluated. The concepts of objectivity and subjectivity, like any other terms, are historically contingent. Their meanings and implications evolve over time; thus, the interplay between them is complex and context bound.

Galison's work on objectivity, aligned with Daston's understanding of rules and order, suggests a more nuanced comprehension of the terms they engage. Beyond

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[42] Svetlana Alpers, T*he Art of Describing* (Chicago Press, 1983), 23.

this conceptual alignment, Galison's book introduces a further discussion of the methods of image-making[43] that eventually have a significant impact on the terms' definition. This perspective suggests that orders and visual representation processes are not only historically and culturally situated but also mutually constitutive. Each shapes and is shaped by the other. For Galison, just as the meanings of terms evolve over time, the visualization of knowledge also undergoes transformations through different operations that influence these definitions. The operations that scientific image-making processes have encountered, as he outlines in *Picturing Science, Producing Art*, are idealization, mechanization, and interpretation.

In the chapter titled *Judgement Against Objectivity*, he focuses on the images in the scientific atlases created to convey anatomical knowledge. Analyzing these informative visuals from the 18th, 19th, and 20th-century atlases, he groups the processes of image-making as 'idealized depiction,' 'procedural depiction,' and 'interpreted depiction.'[44] Respectively, 18th-century image-making processes undergo an operation of idealization to produce a 'metaphysical image' held to be true to nature; 19th-century practice is defined as the 'mechanical image of

[43] The term is employed here with reference to Peter Galison's conceptual distinction between "picturing" and "producing" in *Picturing Science, Producing Art*. Galison, particularly in collaboration with Lorraine Daston, focuses on scientific practices of visualization, emphasizing how images are not passive reflections of reality but are actively constructed through operations such as idealization, mechanization, and interpretation. In this framework, image-making becomes a process through which knowledge is materially and epistemically produced. Crucially, image-making is used here not in the loose sense of imaging, which often implies mechanical reproduction or descriptive depiction, nor in the narrow sense of drawing as a manual act. Rather, it designates a broader field of operations in which visual representations are deliberately constructed as epistemic artifacts. "Making" refers not only to the technical fabrication of visual forms, but also to their conceptual and institutional functions. This notion highlights the active role of visual media in shaping scientific and architectural thought, wherein representation is not a neutral mirror but a constructed interface where negotiations and transformative processes take place. Within this understanding, image-making entails intentional decisions, constraints, and interpretive gestures that embed the image within systems of order, while simultaneously exposing the potential for error, ambiguity, and reinterpretation.

[44] Peter Galison, "Association of Members of the Institute for Advanced Study (AMIAS) ," *Association of Members of the Institute for Advanced Study (AMIAS)* , (November 2011).

objectivity' that depends on mechanical devices to reach objective knowledge and 20th century image-making processes focus on producing "interpreted image's. [45]

To better explain this classification, he gives examples from three time periods. For the 18th century, Galison chooses the title page of an anatomy atlas from 1733 created by William Cheselden. This page includes a skeleton of an animal together with a camera obscura set-up. The skeleton is hung upside down, and there are three people; one is tracing the light beams projected on the surface of the camera obscura, and the other two are there, most probably to check the accuracy of the process. As it is known, camera-obscura is a device that helps produce a realistic depiction of nature; in other words, it is an aid to hand to draw better and describe nature as it is. Galison points out that it is not unexpected for one to interpret this scene as a literal representation of the skeleton as it is. However, despite what this scene implies, this is not the case. The skeleton is suspended upside down, a position that may appear erroneous at first glance. Yet this inversion follows the optical logic of the camera obscura, which reverses the image to be drawn. What seems like a disruption is in fact instrumental to producing a representation that conforms to anatomical conventions, with the head at the top. Within this operation, the reversal is neither an accident nor a mistake, but a procedural necessity that secures visual and epistemic order. It quietly reveals how representational accuracy may depend on an initial misalignment, where the seeming error becomes a means of stabilizing knowledge.

[45] Peter Galison and Caroline A. Jones, *Picturing Science, Producing Art* (London: Routledge, 2014), 328-29.

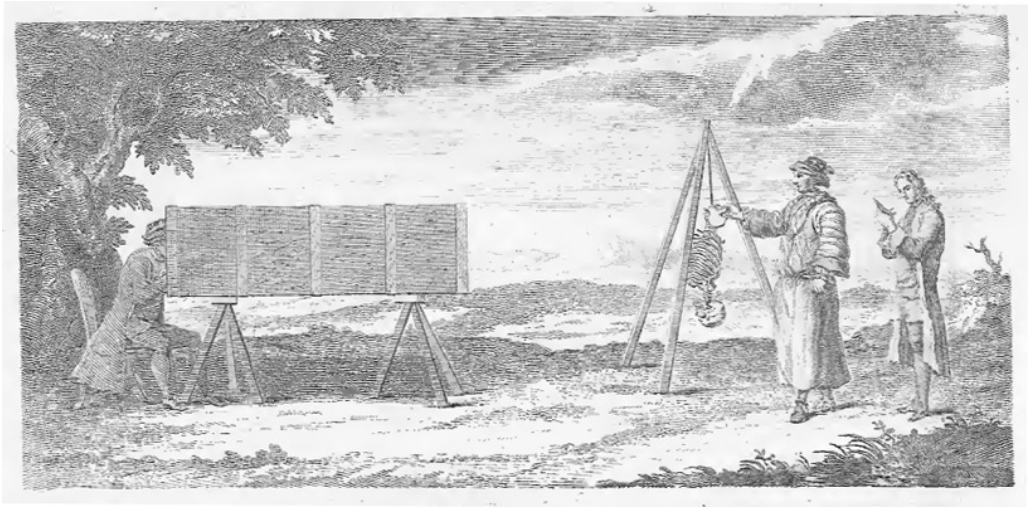


Figure 2.1 The title page of the book *Osteographia*, 1733, depicting the drawing process of a skeleton for an anatomy atlas.

Apart from the position of the skeleton hanged, the interplay of upside-down and right-side-up, there is another significant condition in this representative page that reveals an interplay between the ideal and the flawed. As Galison writes, this image is a part of a scientific atlas therefore, it is to enhance scientific knowledge. The enhancement for the 18th century corresponds to achieving an ideal image. The ideal means having no defects, and this process of drawing includes a process of correction too.[46] In the process of its production, the drawing is corrected. Galison states that the skeleton is not drawn with all his flaws and deficient parts, but it is depicted as what this particular instance aspires to be.[47] The flaws and errors are corrected for the sake of universal, transcendental truth.

> In the nineteenth century- or, more specifically, after about 1830- both the persona of the natural philosopher and the status of pictorial representations of nature shifted. Instead of a transcendental Genius improving or idealizing nature, the desired character of the natural philosopher inverted to one of self-abnegation. Instead of truth to nature, these scientists

[46] Peter Galison, "Association of Members of the Institute for Advanced Study (AMIAS) ," *Association of Members of the Institute for Advanced Study (AMIAS)* , (November 2011).
[47] Ibid.

> aspired to let nature 'speak for itself' through a set of instrumentalities that minimized intervention, hamstrung interpretation, and blocked artistic license.[48]

Focusing on the role of the natural philosopher, the shift in the 19th century is defined as the change from the figure of a transcendental genius who idealizes nature to that of a neutral transmitter who conveys nature's facts. As Galison argues, this shift eliminates the person who traces the light beams projected on the surface of the camera obscura and also intervenes in the image of nature by correcting it. Human involvement in the image-making process is diminished by various mechanical instruments that are thought to record and transmit facts objectively, free from the subjective judgment of any observer. That shift, according to Galison, causes the configuration of the term objectivity as the mechanical image that does not reserve a space for artistic freedom and does not allow any intervention or interpretation.

It is known that the microscope also produces pictures of nature on another scale to record and transmit knowledge, and because of the lenses, the visual obtained has optical distortions. However, intervening in this visual to modify it marks an ethical boundary that debilitates the reliability of the data. As Galison states, these optical distortions are not corrected for the sake of limiting the subjective interpretation of the scientist.

The 20th century, as opposed to both idealized and procedural depictions, values anomalies and subjective judgments in interpreting and evaluating data. Galison gives an example from physics and says that if physicists see something deviant, different from the norms, they attribute this as a discovery. Apart from the evaluation and adaptation of the deviant, the 20th-century shift is significant in terms of its understanding of 'interpretation.' Before, as Galison points out, interpretation was seen as a means to subjectivity, blurring the objective data taken directly from nature

[48] Peter Galison and Caroline A. Jones, *Picturing Science, Producing Art* (London: Routledge, 2014), 328.

itself. However, the 'attentive eye'[49] regains its validity in evaluating and interpreting data in order to be critically aware of the distortions caused by the mechanical devices to transcribe knowledge.

The implications of these, the importance of the interface to transcribe knowledge, can also be revealed in the comparative reading of the images of the Hubble and James Webb telescopes. It is known that the structuring of the mirrors in space imaging systems affects the images' readability both in terms of the level of detail and the overall appearance of the captured image. It is, of course, not within the scope of this thesis to discuss deep space imaging systems in-depth, however, the comparison of the two images reveals a basic difference even apparent to an uneducated eye. From a speculative point of view, it can be said that the visibility of this difference, apparent even to the untrained eye, is due to the deviation that occurs because of the physical constraints of telescopes.

[49] In *The Art of Describing*, Svetlana Alpers elaborates the concept of the "attentive eye" as a defining trait of Dutch visual culture in the seventeenth century. Rooted in Northern Europe's empirical traditions, the attentive eye privileges observation, surface detail, and the visual registration of difference over idealized narratives. From Hooke's "faithful eye and sincere hand" to Vermeer's Keplerian optics, it emphasizes image-making as a cognitive and epistemic act. While aligning with Baconian empiricism and its distrust of abstract systems, Alpers contrasts Rembrandt's retreat from this visual logic, favoring introspection over external legibility. The attentive eye thus signals a visual epistemology grounded in precision, craft, and seeing-as-knowing. Svetlana Alpers, T*he Art of Describing* (Chicago Press, 1983), 72-85.



Figure 2.2 Images captured by the Hubble and James Webb Space Telescopes; zoomed-in versions are shown below.

These images are captured respectively by the Hubble and the James Webb telescopes. In principle, they consist of a primary mirror, a secondary mirror, and studs connecting these two. The Hubble telescope, launched in 1990, has four studs and a circular primary mirror. The James Webb telescope, launched in 2021, has three studs and a hexagonal primary mirror. Both are being the interfaces to transcribe nature's knowledge, the images they capture differ as they have different mechanical configurations and are sensitive to different wavelengths.

At first glance, three celestial bodies attract the eye. In terms of their positioning, they can be identified comparatively in the two pictures. Looking at the first picture, one may come to the conclusion that any celestial body is in the form of a circle having four spikes, while the second picture reveals that celestial bodies are circular in form and have octagonal spike formulation. However, physicists know that this formulation of the bodies looking at two images does not convey the actual structure of the celestial bodies. Instead, the appearance of circular forms with varying diffraction spike patterns results from the deviation caused by the mirrors of the devices. This, being called a visual artifact, is known by the trained eye, and the data is not evaluated through a mechanical image, but this image is interpreted with the experience of the scientist.

How the images captured from space are interpreted in the 21st century can be seen in a hybrid manner, considering Galison's understanding of the 18th century as the idealized image and the 19th century as the mechanical image. There are other works in history that highlight the fluid border between objectivity and subjectivity. To name one of them, Ernst Haeckel's detailed biological drawings that are drawn without the aid of a mechanical device might be an interesting case. He is a 19th-century botanist and advocate of Darwin's ideas on evolution.

These illustrations were made without using a microscope during his observation trips. Speculative as the drawings seem, articles about them, specifically on embryo phases illustration, accuse him of being fraught. His scientific research intersects with his imagination, and drawings are the interface to transcribe both.

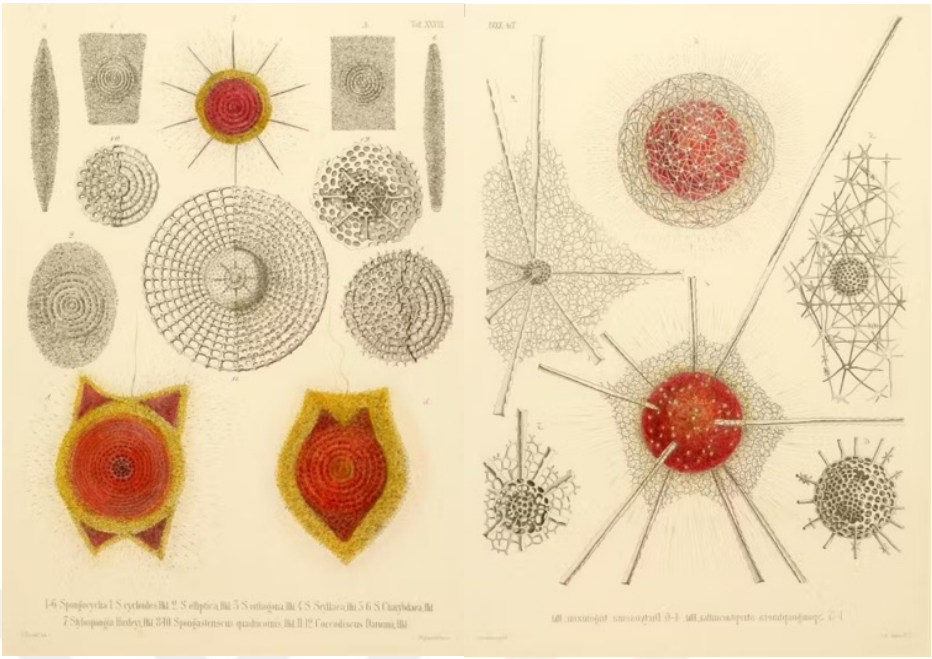


Figure 2.3 Illustrations of one-celled organism by Ernst Haeckel, 1862.

Read through the Haeckel example, the point is not whether the plates "faithfully" record what was seen, but that the drawing surface functions as an interface where observation and invention are transcribed into a single epistemic artifact. It is on such inscriptional registers that order and error are practically sorted: irregularities may be limited (pruned or corrected on the page), they may prompt revision (made legible as anomalies that demand re-reading), or they may calibrate application (returned to the procedure as cases that tune rules). In this sense, "transcribing knowledge" already implies an interface logic: the surface does not merely carry content; it organizes it, deciding what enters, what stands out, and how a rule is adjusted in use.

This hinge leads to the remainder of the thesis, Displaying Interfaces: Mediatory Surfaces, where interfaces are examined in their concrete formats and operations. There, three families recur, lists, tables, patterns, each treated as a mediating surface that stages order/error in practice: lists tend to limit by enumerating admissible features and excluding remainders; tables tend to prompt revision by cross-classifying cases so that anomalies become readable within a comparative field; patterns tend to calibrate application by setting generative constraints that can

thicken or thin in use, accommodating variation without collapsing rule. Across these chapters, interfaces are read not as neutral visuals but as working media that transcribe, display, and negotiate knowledge, where the universal and the particular, objectivity and subjectivity, rule and judgment are continuously arranged and re-arranged.

Within this attempt to propose an alternating framework, not depending on ready-made oppositions, the interfaces that mediate between order and error hold the secondary emphasis of this study. Between the definitions and the applications of rules, these interfaces, whether they are in the form of tables, adopting methods from scientific studies to graphically delineate the boundaries between 'order' and 'error'; patterns, establishing geometric rules to guide the process of production and thinking; or lists, linearly enumerating the desired qualities of a work, they are perceived as the regulating mechanisms that order the architectural production.

Interfaces, regardless of their format, are significant in terms of ordering any kind of knowledge, whether architectural, scientific, or historical. Therefore, as for any translation between definition and application, they act as a filtering surface where not only the particular and the universal meet, but also a surface where the borders of objectivity and subjectivity are drawn. Recognizing interfaces as vital mediators of knowledge that render it communicable, transformable, teachable, and memorable, this study understands these interfaces as epistemological tools to represent knowledge.

2.2.1.3 Reconciliation

While a practice-based case may not offer the most direct point of entry into the theoretical track, beginning with a concrete example clarifies what is meant here by reconciliation in operational terms and links the discussion to the prior sections on transcribing knowledge and interfaces. This concrete practice-based case is a memoir

of a Turkish architect Ziya Tanalı from his book *Sadeleştirmeler* (*Simplifications*).[50] This memoir is not one of its kind, yet it is illustrative in terms of clarifying what a 'reconciliation', a quite abstract notion, may mean in operational terms and links the discussion to the prior sections on transcribing knowledge and interfaces. Revealing a dynamic between the rational systems, guided by technical drawing and mathematical calculations, and the artistic freedom that intuitively diverts the process of making, this memoir highlights the hidden role of the reconciliation that intentionally or not takes place within these dynamics and shows how a particular condition is reshaped through a reconciliatory process between the intuition and the design, almost offering a new typology.

Focusing on a construction process of a stair, Tanalı's memoir describes a Bodrum house where a run of exterior steps, drawn as regular, encounters a site condition that forces the final riser out of sequence. During the construction site visit of Tanalı, one of the construction workers was about to start building the stairs that are planned to be adjacent to the house to overarch the 80-100cm level difference. Based on his observations, as he writes in his book, as the worker laid the steps, the final riser defied the regular pattern, ascending taller than the others. Without starting over from scratch, he readopted the pattern by changing the length and the depth of the flawed step differentiating this stair from the others through an error.

This specific process of making the stair, as Tanalı says, includes no calculation that guides the hands of the workman; with instinct and experience, he transforms an error from a mere mistake into a new typology of stairs. He transforms the conventional through deviation. This process does not register as failure; it demonstrates how immediate particularities, here, the site, emerge and how the rational method of drawing and calculation can be reconciled with experience and

[50] M.Ziya Tanalı, *Sadeleştirmeler: 1982-1999* (Ankara: Alp yay, 2000), 174-180.

intuition, illustrating an operative reconciliation rather than a substitution or abandonment of rules.

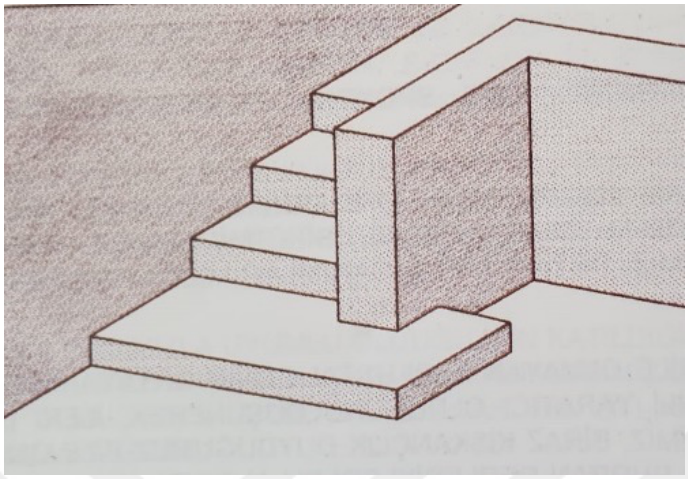


Figure 2.4 The stair from Tanalı's memoir.

This story first puts an emphasis on the significance of the intuition in design processes not necessarily deriving from strict templates, aphoristic mottos, rigid geometrical orders, but from spontaneous solutions to inadvertent situations and second it provokes a questioning on the transcendent being of seemingly inviolable ways of producing architecture. Tanalı's observation is not a unique case. The essence of his memoir might be found in various creative processes, prone to errors in differing degrees. The worker's deviation, to put it in other words, a reconciliation, becomes a site of innovation where the altered step gives rise to a new form by distorting the conventional pattern just enough to make it hold, precisely the kind of reconciliation under constraint that this subsection seeks to name.

This memoir, additionally, might help to perceive the order and error duality within the framework of constant reconciliations. Considering this, error might be understood not as a mere flaw but as a catalyst for invention that mediates between systems and intuitions, between rules and deviations, and between fragments and the desire for unity. Architecture, then, becomes a field shaped not solely by rational

design or universal principles, but by the negotiated, situated, and often imperfect logic of making**.**

Rather than restarting, the worker locally adjusts tread and depth to absorb the discrepancy. Read through the lens developed so far, this is not a mere defect but an instance of error-as-instrument: the irregularity is folded back into procedure to calibrate application. The drawing (as a transcribing surface) and the site (as constraint) operate together as an interface, where inclusion/exclusion and rule/judgment are negotiated in practice. The example thus materializes, at a smaller scale, the shifts previously tracked conceptually (from remainder to signal to instrument), and anticipates the later discussion of lists, tables, and patterns as mediatory surfaces in the fourth chapter.

The practical scene and the theoretical account are reciprocal. The case shows the conditions under which reconciliation occurs (rule retained, difference accommodated, error instrumentalized); theory supplies the vocabulary and criteria to generalize such scenes beyond the single instance. With this concrete usage in view, the argument can move to its theoretical articulation. Theodor Adorno's *Negative Dialectics* provides the conceptual counterpart: reconciliation is not the erasure of difference in a higher identity, but the co-working of universal and particular under tension. In this light, "error" marks limits, prompts reconfiguration, and becomes an instrument of application, an internal operator rather than an external flaw.

In *Negative Dialectics*, Theodor Adorno discusses dualities not as opposite poles in which the dominant one negates the other, making-sense through the hidden hierarchy between the seemingly contradictory parts. Throughout the book, he challenges the understanding of dialectical thinking introduced by different thinkers, starting with Hegel, and instead, he proposes an alternative approach, 'negative

dialectics,' that gives the name to the book.[51] His primary criticism is on the presupposition of a hidden hierarchy between the contradictory parts, and he defines the purpose of 'negative dialectics' as to free dialectics from the purpose to reach an affirmative end. [52] Under the title "Reality and Dialectics," focusing on one of the fixed dualities, he argues that the duality of the particular and the universal is predetermined by the 'universal' because what makes it 'particular' is its being outside the borders of the 'universal.'

> Dialectics unfolds the difference between the particular and the universal, dictated by the universal. As the subject-object dichotomy is brought to mind it becomes inescapable for the subject, furrowing whatever the subject thinks, even objectively, but it would come to an end in reconcilement. Reconcilement would release the nonidentical, would rid it of coercion, including spiritualized coercion; it would open the road to the multiplicity of different things and strip dialectics of its power over them. Reconcilement would be the thought of the many as no longer inimical, a thought that is anathema to subjective reason.[53]

To overcome the inherent hierarchy in binary oppositions, he favors 'reconciliation' between them. In that way, the non-identical will be freed from the dominant one, and "the road to the multiplicity of different things would open." [54] In another book, *Dialectics of Enlightenment*, he further expands this discussion of the particular and the universal towards the discussion of 'style.' His configuration of the term style in relation to the mentioned duality will be discussed in detail in the following chapters;

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[51] His criticism also includes Marx, dialectical materialism as the translation of Hegel's dialectic (thesis and antithesis are working together to achieve a higher state by synthesis) into materialistic thinking. Hegel and Marx's understanding of dialectics is referred ad dualist dialectics in terms of identifying object and subject separately, but subject transformed the object at certain extend. It also includes György Lukack, dialectical monism in which the contradictory parts produce each other but they are not differentiable from each other. For Adorno, there is no hierarchy between the object and the subject, rather they are in constant interaction and transformation. They are not autonomous because their formation is dependent on each other. Also, Adorno criticizes the assumption that the contradictions will eventually cause an affirmative end to a higher state.
[52] Theodor W. Adorno, *Negative Dialectics* (London: Routledge, 2015), xix.
[53] Theodor W. Adorno and Max Horkheimer, *Dialectic of Enlightenment: Philosophical Fragments* (California: Standford Univ. Press, 2002), 102.
[54] Theodor W. Adorno, *Negative Dialectics* (London: Routledge, 2015), 6.

however, in order to highlight his point of view on this matter, it would be meaningful to say that for him, the total acceptance of the universal rules without highlighting a particularity does not create a style out of a work of art.

> The reconciliation of general and particular, of rules and the specific demands of the subject, through which alone style takes on substance, is nullified by the absence of tension between the poles: 'the extremes which touch' have become a murky identity in which the general can replace the particular and vice versa. [55]

Therefore, what he advocates is the reconciliation between the dominant and the other for the creation of an authentic work. That process does not blindly follow the rules, in his understanding, but as his negative dialectics alternates, the dualities need to transform each other; in other words, the universal rules and the particular apprehension, the accepted and the peculiar, should generate and support each other.

Adorno's understanding of dualities, sustained in reconciliation rather than resolved by sublation, grounds the subsequent architectural inquiry into order and error in the following chapters. Prior to that turn, this subchapter clarifies the operational workings of reconciliation in selected practices, assembling illustrative examples to show how it is enacted and what it accomplishes. Such reconcilement is not confined to theory but operates across practices, first in language, a rule-governed system of signs that is recognizable and decodable, yet whose historical formations complicate any rigid order. What present themselves as "errors" often become the very means by which rule and use are brought into alignment, that is, where reconciliation occurs. The subsequent sections extend this logic to architecture, showing how compositional procedures likewise reconcile inherited rules with particular cases.

Language, in its most basic terms, regardless of whether it is 'natural' language or computer language, can be defined as a structured system composed of rules and symbols. Since it is the fundamental means of communication, it should be

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[55] Ibid.

decodable by all parties, and therefore, at the first level, it should be recognized and accepted. From this basic notion of language, it can be understood that language is a plain area devoid of any complexities. However, this can be refuted by linguists looking at different languages, their formations, and evolutions. Although it is a system that has its own rules and rationales, it is possible to find particularities that negate this systematic configuration.

The term *Galat-ı meşhur*[56] is one of these particularities that circulate beyond the systematized rules of the language. This Ottoman-Turkish term, still in use, names a recurrent mechanism by which rule and use are reconciled. '*Meşhur'* means "common, famous, or popular" in Turkish, and '*galat'* means "error." The term *galat-ı meşhur* is used to refer to the erroneous usages of language that have become widely accepted by the common public, leading to the correct version becoming extinct and not in use.[57] These erroneous usages might differ in terms of their formation, and they are classified as errors in the phonological, morphological, syntactic, and semantic levels. Varying in terms of formation processes, the intriguing part is it's being wrong in terms of rules of language, but as it becomes common in usage, it replaces the correct form.

A parallel process appears in linguistics that is related to the rules and deviations, called *faux amis,* which can be translated as 'false friends.' However, in linguistics, this term is used to refer to the exchanges between the language with a twist. This exchange is done with a change in meaning. These are not random slips but sites where vocabulary mediates between inherited rules and changing use, via cultural differences, semantic shifts, or simple lexical flexibility. In architectural discourse, as an example of this slip, the terms *decorum* and *décor* that is extensively discussed in Alina Payne's book *The Architectural Treatises in the Italian Rennaissance*, are

[56] This term is proposed by Assoc. Prof. Dr. Bilge İmamoğlu during the second thesis monitoring committee.
[57] Mustafa Uygun, "Galatlar Üzerine Bir İnceleme ve Kâmûs-I Türkî'de Galatlar" (thesis, 2019), 18.

worth to mention. As Payne notes, *decorum*, originally a term used in rhetoric, denotes appropriateness. However, in time, without knowing whether it is intentional or not, the word *decorum* is used interchangeably with *décor* and adopts the meaning of ornament. This from decorum (rhetorical propriety) to décor (ornament) can be read as an illustrative case of this logic: what begins as a misalignment becomes a reconciliatory adjustment in terminology, aligning older rhetorical frameworks with evolving architectural practice.[58] In both cases, so-called error functions as the instrument by which systems accommodate difference and re-establish order.

Read within Payne's framework, the slippage from *decorum* to *decor* is not merely lexical; it shows that language is the very medium in which architectural categories are negotiated and reconciled. Payne's own materials indicate that what begins as a terminological "error" or misalignment can catalyze a reconciliation process: inherited rhetorical vocabularies adjust to evolving practices, bringing rule and use into working alignment. Keeping to this frame avoids a scatter of unrelated examples; instead, it treats language, together with its deviations, as the site where reconciliation is first staged and made legible. Correspondingly, for Payne, architectural knowledge is disseminated through language, mainly texts. The architectural knowledge of ancients, with Vitruvius, had been conveyed through texts and flourished with the practices of rewriting until the Renaissance. Payne argues that the discipline of architecture is deeply intertwined with literary culture, depending substantially on textual practices for its development and discourse. With this linguistic laboratory in view, Payne's reading of architecture gives the architectural counterpart. She shows that architectural knowledge in the Renaissance was disseminated through texts and that the discipline is deeply intertwined with literary culture. That argument can also be traced in her book chapter, *Architects and Academies: Architectural Theories of Imitatio and the Literary Debates on*

[58] Alina A. Payne, *The Architectural Treatise in the Italian Renaissance: Architectural Invention, Ornament, and Literary Culture* (Cambridge: Cambridge University Press, 1999), 53-55.

Language and Style, where Payne discusses the term *imitatio* in relation to the analogy between architecture and language.

This text starts with a very powerful observation of Castiglione on the *figure of speech* as a way of expression. Known as a rhetorical device, 'figures of speech' can be defined as using words beyond their literal meaning; by deviating from the original meaning they make expressions more powerful and easier to remember.

> Don't you know that the figures of speech that give so much grace and splendour to the oration are all abuses of grammatical rules, yet are accepted and confirmed by use, because, without being able to give a reason, they please and bring gentleness and sweetness to the ear? [59]

For Castiglione 'figures of speech' give beauty and specialty to language. However, similarly to the case of *galat-ı meşhur*, when analyzed in terms of grammatical correctness, their formation is a considerable abuse of the rules of language, whether it may be syntactic or semantic. Thinking in terms of correctness, 'figures of speech' might sound like a mere error, however, as Castiglione says, they deepen the meaning and give character to the expression. Perceiving these as inventions made within the borders of language, the formation of these phrases relies on the act of subversion of the systematical rules. For him, that kind of subversion of grammatical rules without explanation gives pleasure.

By referencing Castiglione, Payne suggests that while producing in an orderly manner holds value, errors that disrupt established order can possess a greater potential for expressive significance.[60] In this context, errors are fragmentary

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[59] Baldassare Castiglione, *Book of the Courtier, (1528),* 76-9. Cited in Georgia Clarke, Paul Crossley, and Alina Payne, in *Architecture and Language: Constructing Identity in European Architecture, c. 1000-c. 1650* (Cambridge: Cambridge University Press, 2000), pp. 118-133, 118.
[60] Alina Payne, "Architects and Academies: Architectural Theories of Imitatio and the Debates on Language and Style," essay, in *Architecture and Language: Constructing Identity in European Architecture, c.1000-c.1650*, ed. Georgia Clarke and Paul Crossley (Cambridge University Press, 2000), 118–33, 122.

subversions within the rules of language. Following the quotation from Castiglione and building on the notion that error is a fragmentary subversion, Payne opens up a discussion on the theory of *imitatio*. A fragmentary understanding of architecture, for her, has the potential to evaluate imitation as a way of making that is forced to diverge from the act of mere copying.

A parallel reading of architecture and language reveals an understanding that words are fragments of statements, so the separate architectural elements are the architecture. Considering Renaissance Architecture, Payne matches ornaments to words and says that imitation is not mere copying. This fragmentary understanding opens an intermediary ground between producing orderly and adding individual particularities. This is followed by another literary term *mescolanze* or *composti*. These denoting the composition and assembling of disparate fragments, adding on what Payne states, refers to a way of making that also includes a reconciliation process through which distinct fragments turn into parts of a harmonious whole. Therefore, what differentiates imitation from pure copying is the reconciliation between the fragments. Through this indispensable act of reconciliation, fragments compromise their isolated beings and transmute. Within the architecture–language analogy, *imitatio* is not copying but re-composition. Terms such as *mescolanze* and *compositi*, on the other hand, name precisely this operation that is the assembling of heterogeneous fragments into a coherent whole. In other words, 'imitation' works through reconciliation: fragments compromise their isolated status and are transformed into parts of a new, harmonious order.

Payne further relates this discussion with Serlio's introduction of Composite Order. While Serlio acknowledges Vitruvius's codified Orders, he also introduces a sixth Order by com-bining elements from various others. This act, while seemingly an error from a Vitruvian perspec-tive, becomes a productive deviation: a creative force that diverges from the rational system through a fragmentary recomposition of classical elements. His fragmentary understanding, an as-semblage of parts that can be reinterpreted and recomposed, can also be found in his third book on ruins. In this

book, Serlio represents ruins as instructive fragments that are drawn as is. Here, the interweaving of artistic freedom and rational system becomes important. Even in practices grounded in imitation and precise rules, such as Serlio's, moments of disruption and recombination are pre-sent.

Recognizing that composition is a pivotal aspect of architectural practice that can be anticipated in Payne's reading of Serlio's Composite Order, another reading, on a smaller scale, may further reveal that the composition and relatedly the indispensable process of reconciliation is the genesis of certain architectural elements. This compositional reconcilement is not an abstraction; it materializes at the level of elements. Consider the column capital: a mediating form that reconciles the slender vertical form of the column with a rather bulky and horizontal element, the entablature. Such a mediation stage, in built form, stages the same logic by which language reconciles rule and usage, or rhetoric reconciles correctness and expression.[61]

From this perspective, architectural thinking and making itself is a practice of reconciliatory composition across distinct visual and textual fragments. Drawing and calculation, as learned from Tanalı's memoir, serve as the instruments that plan and stage this reconciliation. Depending on how they are configured, and on how contingencies are taken into account, they operate through navigating between certain dualities (to name a few major ones that is to be unfolded in the following subchapter: universal/particular, rule/judgment, objectivity/subjectivity) at work

[61] This reconciliation between the fragmentary elements, as its equivalent on a larger scale, can further be traced in the functioning of memory, which operates with fragments to make a coherent, not necessarily always complete whole. Art and architectural historian Uğur Tanyeli, in one of his talks, titled as *Renewing Through Repetition: Remix*, refers to the mnemonic process as the crucial phase enmeshed with the acts of making. According to Tanyeli, memory records each fragment in a distinct manner that differs for each maker. Therefore, even the act of pure copying, without the drive to produce an authentic work, requires a deviation that may not be deliberate. The visual and textual memory inevitably distorts the forms already created and introduces moments of particularity in which the invention comes to the fore. It is impossible to reproduce the same work in the presence of a different subject of creation.

both in thinking and making, culture in general, and enables parts and whole to cohere without erasing difference.

Taken together, these instrumentally staged adjustments prompt a shift of scale, from the practice-level reconciliation of parts and whole to the framework that organizes such operations across this chapter. The discussion therefore steps back to situate these claims within the three interlocking theoretical tracks that structure the argument. Situated in the chapter's larger argumentative structure, this account participates in three interlocking theoretical tracks. The first is the "States of Nature," which moves from Bacon's pairing of monsters and wonders to Foucault's internalization of error within a discursive grid, establishing that deviation is not exterior to order but diagnostic of its limits and, at times, productive of reconfiguration. The second, "Transcribing Knowledge," turns to the surfaces where such operations take material hold: with Alpers, the descriptive culture in which optical devices and picturing practices become modes of knowing; with Galison, the historical operations of scientific image-making (idealization, mechanization, interpretation) that redistribute judgment across inscriptional surfaces. Across these tracks, inclusion/exclusion, normal/anomalous, and rule/judgment are not abstractions but are stabilized, displayed, and taught on concrete surfaces, pages, plates, tables, lists, patterns.

Read together, the tracks identify reconciliation as the recurrent mechanism by which rule and error are brought into working alignment without erasing difference: deviation is absorbed as evidence, translated into procedure, or folded back as a means of application. On this basis, the discussion turns from tracks to the conceptual lenses that organize what follows, particular/universal, objectivity/subjectivity, and artistic freedom/rational system, not as fixed binaries reiterated throughout, but as analytic multipliers that pluralize the order–error relation, enabling the architectural arguments that follow to specify, case by case, how reconciliation is recognized, evaluated, and operationalized.

2.2.2 Conceptual Lenses

This subchapter formalizes a set of conceptual lenses, the particular/universal, subjectivity/objectivity, and artistic freedom/rational system, to diversify how "order" and "error" are understood and to extend the argument developed in the theoretical tracks. These lenses do not install new binaries or re-emphasize the framework that is fixed around order and error as the dominant one and the excluded other. Rather, they function as analytic operators that refract the same phenomena along different axes. Projected onto the order/error relation, they disclose how what is counted as error can shift from external defect to internal operator: as the peculiar that sits "off" the common (particular/universal), as tacit or intuitive judgment within regimes of inscription (subjectivity/objectivity), and as procedural deviation that sustains rather than abandons rule (artistic freedom/rational system). In short, the lenses act as multipliers, generating alternative determinations of both "order" and "error" without collapsing their tensions. These lenses serve as frameworks that multiply the adjectives, conceptual definitions, and ways of practicing orders and errors.

Framed this way, "error" is not a stable opposite but a role that varies with the field of view. Under the particular/universal lens, error appears as the non-identical or peculiar instance that unsettles generality yet can crystallize a distinct character, an unconventional invention, or a remainder of different orders. Under subjectivity/objectivity, error aligns with intuition, tacit knowledge, or the "attentive eye" that reads beyond mechanical inscription while remaining accountable to it. Under artistic freedom/rational system, error marks the moment where invention and procedure are reconciled in application: rules are neither renounced nor followed mechanically but adjusted to make parts and whole cohere. The multiplied adjectives, conceptual definitions, and ways of practicing orders and errors will be discussed throughout the study with different focuses in each chapter, either implicitly or explicitly.

Against this methodological backdrop, the subchapter turns to Hubert Damisch's account of the cloud, via the cases presented in his book Theory of/Cloud/. This subchapter first situates the cloud as a pictorial counterpart to "error," following Damisch's reading of this pictorial element in art history; it then investigates how the three conceptual lenses function as analytic multipliers by reading selected cloud-cases from Damisch's book. Through rereading the art historian Hubert Damisch's interpretation of 'cloud,' it draws a conceptual parallel between the 'cloud' and 'error,' each operating within, and destabilizing regulatory mechanisms of representation. These regulatory mechanisms, in which the 'cloud' is excluded, appropriated, and recodified, are discussed through Damisch's examples to expose the unsettling power of the 'cloud.' In doing so, it prepares the ground for the following chapters' investigation of 'error' as a similar kind of disturbance, that is incompatible yet productive.

For this reason, the 'cloud' and its interpretation by Damisch serve as a significant departure point for this study. Treating the 'cloud' as a representational and conceptual 'error' within various regulatory mechanisms, it aims to help project the unsettling power of this specific pictorial element to architectural 'errors,' with the aim of exposing the fragility of any order.

For Damisch, the cloud persistently escapes schemes of categorization, disturbs hierarchies of line and color, and contests the ordered lines of perspective. As such, it may be interpreted as the element that exposes the limits of representational orders precisely from within them. Therefore, the 'cloud' and its interpretation by Damisch marks a significant departure point for understanding the conceptual lenses, scattered throughout the text, and how they should be read. Read as "error," the cloud is alternately excised, recoded, or instrumentalized by regulatory mechanisms of depiction, operations that mirror the reassignments of error traced in the theoretical tracks. Treating the cloud as a representational and conceptual /error/, therefore, provides a precise test site for the vocabulary elaborated thus far.

The investigation on the multipliers, that provides alternative mode of the terms, proceeds by reading Damisch's examples through each lens in turn. Under particular/universal, the cloud's recalcitrant particularity is set against canonical systems that demand regularity. Under subjectivity/objectivity, the cloud is examined as a site where painterly facture, observation, and optical effect mediate claims to pictorial truth. Under the artistic freedom/rational system, techniques of rendering (codified procedures, recipes of depiction) are shown to meet their limit in the cloud's formlessness, necessitating reconciliation in practice between rule and invention. This layered reading does double work: it clarifies how the cloud operates as "error" within painting and, by analogy, prepares the ground for the architectural cases that follow, where analogous disturbances will be shown to unsettle and sustain order in equal measure.

The book, *A Theory of /Cloud/*, rewrites a version of a history of art focusing on a specific pictorial element /cloud/ depicted in the paintings of Correggio, Leonardo da Vinci, Tintoretto, Poussin, and Constable. The reason why Damisch put the word in between forward slashes is to differentiate the meteorological phenomena or the representation of cloud from the cloud, as the word consists of five letters. He explains it by saying that whenever the analysis requires 'cloud' in the sense of a signifier mode, he uses two forward slashes, and if he wants to refer to it as a representation, he uses the word in italics. The word between two slashes is used in a discussion to refer to a conceptual configuration of it. This reading of Damisch, guided by the various depictions of 'cloud,' sets its center as the paintings of Antonio Allegri da Correggio, a 16th-century painter. Through Correggio's diverse recontextualizations of clouds, the book expands its research to the paintings of the artists mentioned above. Damisch justifies his selection of the 'cloud' as the key element in his reading of art history by highlighting its recurring presence in Correggio's paintings as well as its inherently ambiguous and contradictory nature.

Being the recurring element in varied forms and meanings in Correggio's paintings, the cloud is understood by Damisch as more than a decorative motif. He situates the cloud as an analytical and conceptual tool represented within the pictorial surface

through which he makes interpretations of the painters' engagement with art history or the broader evolution of painting as a discipline. His examination starts with a *trompe l'oeil* by Correggio, and he reads this piece of work in relation to the spatial effect it intends to overtake. Later, he reads certain paintings of Correggio, in which the 'cloud' is represented in a distinct manner, in parallel to this fresco, *Vision of St. John*.



Figure 2.5 Antonio Allegri da Correggio's paintings, illustrating the recurring usage of clouds.

With its varying presence in these paintings, whether in terms of its placement within the composition or its representation, Damisch identifies Correggio's recurring use of the clouds as a "guiding thread" to trace the continuities and the ruptures in the history of art. [62] Although this thesis does not aim to trace architectural continuities and ruptures through error, Damisch's method offers a parallel mode of inquiry: reading an ambiguous figure within the representational field as a generative site of disciplinary reflection. Cloud, in the most basic sense, can be defined as water vapor, even its presence is hard to comprehend.[63] Therefore, it makes its representation far more complicated when the aim is to depict the cloud as realistically as possible.

To give this lens-based scheme historical traction, the analysis now returns to Damisch's own object and notation. By juxtaposing the conceptual lenses with Damisch's interpretation, this section demonstrates how a seemingly peripheral element, mostly used as a filler motif in the margins of the representation surface, can serve as a site for conceptual critique. The engagement with Damisch's theory of the cloud reveals a condition in which the 'cloud' does not emerge as a visual figure that is hard to decipher, but also as an epistemic concept, one that discloses the limits of representational regimes. Rather than offering a general survey, it reconstructs how Theory of /Cloud/ constitutes its corpus and fixes its terms: /cloud/ designates the signifying/conceptual operator, while cloud (in italics) names the depicted meteorological figure. The focus on Correggio, extended to Leonardo, Tintoretto, Poussin, and Constable, rests on the motif's recurrent variability, sufficient to bear theoretical weight. In this way a single pictorial element becomes a test-bed for the two dimensions emphasized earlier: the operational dimension of inscription and depiction (in the spirit of Galison's attention to image-making

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[62] Hubert Damisch, *A Theory of /Cloud/: Toward a History of Painting* (Stanford, Calif: Stanford Univ. Press, 2002), 14.

[63] Knowing that representing space, a volumetric entity, is one of the productive questions in architectural representations starting with the section drawings, shadowing, etc., and 2020-2021 spring semester of the course ARCH524 Architecture and Different Modes of Representation conducted by Prof. Dr. Ayşen Savaş, dwells on the representation of 'volume' as the focus of the course final exhibition, representing the cloud might be read in parallel to this inquiry.

regimes) and the epistemic dimension of deviation internal to order (recalling Bacon's wonders/anomalies). Read through the three lenses, Damisch's /cloud/ thus serves as a hinge between media practice and conceptual order, showing how a seemingly marginal figure can both unsettle and sustain representational systems.

2.2.2.1 Particular vs. Universal

In the book, the inherently ambiguous character of this disturbing pictorial element is further characterized as its being the element that "defies the laws of gravity and likewise the principles of linear perspective, and lends themselves to the most arbitrary of positions, to foreshortenings, deformations, divisions, magnifications, and fanciful nonsense."[64] Correggio, in this matter, is unexceptional for Damisch because he produces variations on the depiction of the cloud without using it as a space-filler motif. This conceptualization of cloud, when considered in the context of how error is framed in the first section of this study, aligns with the understanding of error as a disruptive yet potentially generative force that challenges fixed orders.[65] Placed alongside the opening claims of this study, the cloud exemplifies error as a disruptive yet potentially generative force: incompatible and ambiguous at once on the representational surface and in its material referent, it sits conspicuously off the scientific and visual orders that works through regularity.

This peculiarity, that lies in the condition of being an irregular, ill-defined, and temporally dynamic nature of 'cloud' and Correggio's consistent usage of this pictorial element, drew sustained criticism in the 18th century. One of the criticisms is from Anton Raphael Mengs who is an 18th-century painter and an art critic. While Damisch considers Correggio's peculiar depiction of clouds as a tool to track the

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[64] Hubert Damisch, *A Theory of /Cloud/: Toward a History of Painting* (Stanford, Calif: Stanford Univ. Press, 2002), 15.
[65] Order is used here for diverse representational systems such as the linear perspective, miniature, or Alberti's definition of the principles of the paintings.

evolution of art history, Mengs, in contrast, condemns the very same quality as misguiding. His condemnation derives not only from the inherent nature of the cloud, being an ill-defined, illusory, and deceitful element, but also from Correggio's distinctive method of representation. Rather than favoring either contour or color, Correggio deliberately blurs the boundary between the two; that way, he overrules the hierarchies of painting and challenges the order of pictorial representation. Damisch reads Meng's criticism as a judgment that reflects the 18th-century understanding of deviations.

Mengs uses the phrase "leading artists into the land of errors" to describe Correggio's practice.[66] Historically, Mengs's objection accords with eighteenth-century image-making as described elsewhere in this study (via Galison): the idealizing regime seeks to eliminate defects and anomalies, filtering what does not fit the species-ideal or compositional canon. In that optic, Correggio's cloud is an error to be excised rather than a resource to be mobilized. Damisch's reading, conversely, treats the cloud's exceptionality as a probe that reveals the frame itself. Mengs' concern for Correggio's practice, which he believes misled the artist towards an erroneous understanding of the structural principles of the painting, is emphasized, especially for the illusory cloud depiction in *Jupiter and Io*.

This painting is said to represent one of the scenes from Ovid's 8th-century Latin poem *Metamorphosis*. Even a quick glance at the painting, as a subjective reading of mine, reveals a female figure depicted in vibrant colors as the most eye-catching element on the canvas. She represents the nymph of rivers, Io. The rest of the composition, in comparison to Io, appears in darker shades, emphasizing Io's visibility even more. The scene from the poem indicates the theme of the painting as lust, and the major characters are Jupiter (in Greek pantheon, Zeus) and Io. However, the quick glance does not recognize any other figure depicted in the painting in a

[66] Hubert Damisch, *A Theory of /Cloud/: Toward a History of Painting* (Stanford, Calif: Stanford Univ. Press, 2002), 25.

bodily form. The striking characteristic of this painting lies in its formal treatment of Jupiter's presence: he appears not in bodily form, but as a dense, dark cloud enveloping Io.

A closer look, with an attentive eye, reveals that in the darker shades of the surroundings, a dark cloud appears to be embracing Io. A further attentive eye is able to see that the dark cloud has a face and a hand. This cloud represents Jupiter, who is in love with Io, and in order to hide himself from Hera, he transforms himself into a dark cloud. The depiction of the cloud here is more than a background figure; it is one of the major figures that gives the painting its name. This cloud is not merely a vehicle of narrative disguise, but a compositional intervention that displaces figural clarity and introduces a representational tension at the very heart of the painting. Jupiter appears not as a body but as cloud; the cloud is no backdrop but a principal agent of the scene. Formally, this decision displaces figural clarity and installs a tension at the heart of the image: the very thing that should be formless takes on agency, while the systems that promise order (perspective, contour) are pressed to their limit.

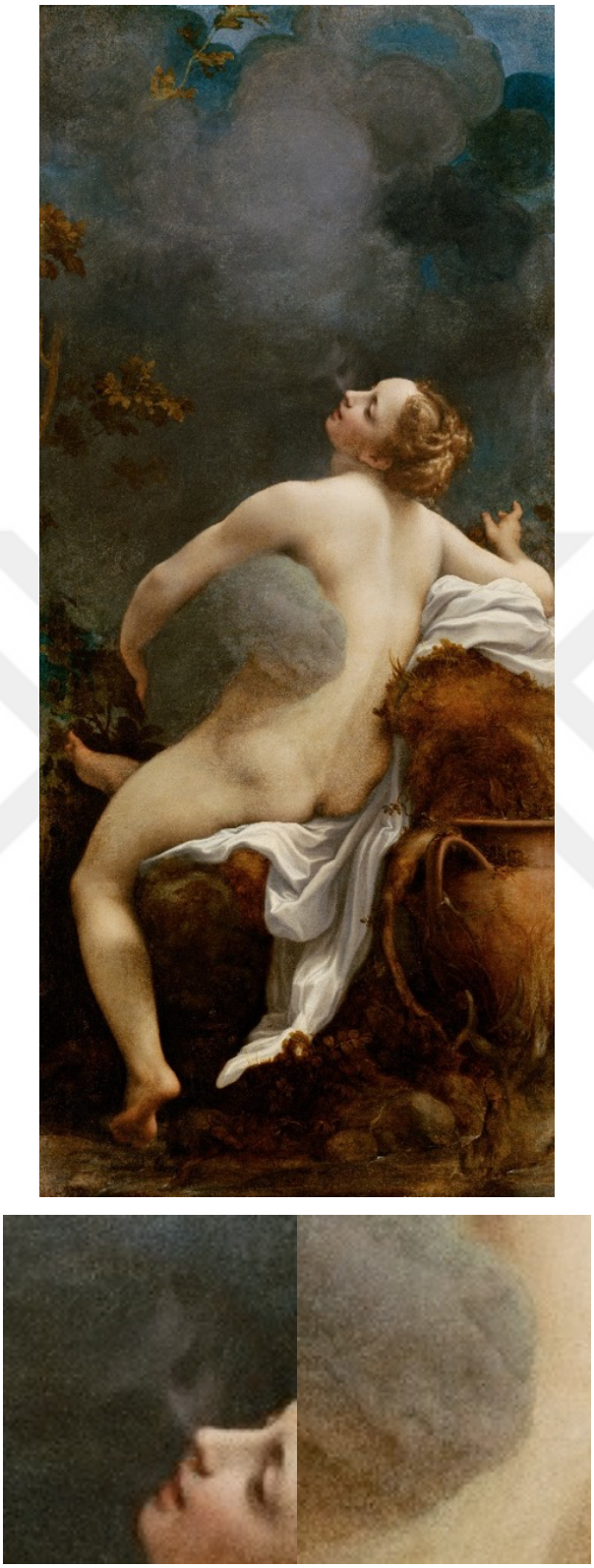


Figure 2.6 Antonio Allegri Correggio, *Jupiter and Io*, 1532-1533.

Ignoring the fact that a cloud representing a god, hugging a nymph, Mengs criticizes the ambiguous way of painting that blurs the distinction between the contour and coloring, which are two fundamentals for setting an order in a painting. Damisch mentions this structuring of painting after reading Alberti's *Delle Pittura*. As stated by Alberti and rereading of Damisch, the surface of the canvas is first structured by the lines creating the contours for the figures, whereas the color serves as a 'supplement' to the drawing. While interpreting the cloud represented in this painting, Damisch situates them within broader semiotic and perspectival structures, interpreting the cloud, represented in this painting, as the element that overrides the established orders of painting. In other words, perceiving cloud as an error within this framework, allows error to be repositioned, not as a mere misapplication, but as a deliberate and inventive mode of expression. Here, in the close-ups, it can be seen that colors and quasi-lines are hard to distinguish. The cloud, a body of water vapor, is inherently dynamic, both in terms of its physical state and in terms of mobility. Correggio represents its ambiguous nature through a fluid interplay between coloring and contouring. Therefore, clouds inherently challenge the representational formulae of painting.

Mengs' criticism favors an established formula that dictates lines are primary, and coloring is supplementary. It is based on Correggio's breaking of the hierarchy between coloring and contouring, and Damisch evaluates Meng's approach as not belonging "so much as a theorist, but rather as the guardian of an order and its limits."[67] Mengs' configuration of painting depends on the respect to pictorial norms. Within his fixed norms, the cloud yields itself as a representational error that can be read as a deviation.

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[67] Hubert Damisch*, A Theory of /Cloud/: Toward a History of Painting* (Stanford, Calif: Stanford Univ. Press, 2002), 12.

Correggio's way of depicting a scene from mythology, together with Damisch's rereading of that painting, illustrates the cloud as the 'peculiar' that diverges from pictorial norms. Drawing on the idea of error as a productive deviation that operates within and against systems of order, the cloud in Correggio's work situates itself as a pictorial element that unsettles normative representational codes. Mengs' critique derives from the idea that Correggio's depiction of clouds jeopardizes the universal rules of painting for him, through his powerful, yet particular representation of the cloud as a god in human form. Therefore, the painting and the critique directed to the painting reveals the tension between the dualities of the particular and the universal. Under the particular/universal lens, then, the cloud names the non-identical that puts pressure on general rules. Mengs's critique insists that universal canons of representation be maintained, drawing before color, clarity before ambiguity, so that Correggio's cloud appears as a violation. Damisch's counter-reading shows how the peculiar instance forces the canon to declare its borders and, in doing so, discloses their contingency. The painting and its reception thus stage the tension this lens is meant to bring into focus: the pull of universal norms against the insistence of a particular that does not fit. What follows pursues a second case from Damisch, where the relation between cloud and perspectival order does not stop at opposition but moves toward reconciliation, testing how a peculiar element may be folded back into procedure without being neutralized.

2.2.2.2 Subjectivity vs. Objectivity

Another cloud-related instance exemplifying a shift is illustrated through Brunelleschi's linear perspective experiment. Knowing that the structure of linear perspective can be understood as strictly calculated and ordered with straight lines converging towards the vanishing points, this possible reconciliation process may situate itself between the rational system and artistic freedom, as well as it could be read in parallel to the subjectivity and objectivity. Through these converging lines, the proportions of the objects are regulated on the picture plane, taking their

reference from geometry, and a realistic image of the scene can be materialized. The negotiation between the rational system and artistic freedom will be discussed through a more revealing cloud-case in the next subchapter in the sense that the dual role of perspectival order, as both a geometric device for rendering space in its most 'accurate' form, and as a representational tool that allows for a degree of artistic interpretation, and visual adjustment made in Brunelleschi's experiment. Read through the subjectivity/objectivity lens, Brunelleschi's linear perspective experiment stages how an ostensibly objective system is secured by subjective calibration, by an attentive eye that frames, adjusts, and at times excludes. Linear perspective promises a mathematically ordered mapping of space: straight lines converge to vanishing points; proportions on the picture plane are regulated by geometry, mentioned above, and accuracy appears guaranteed. Yet the set-up that proves this order, as Antonio Manetti, a later Renaissance architect and biographer, reports, depends on choices and manipulations that cannot be deduced from geometry alone. The experiment reveals a slight contradiction where the deliberate exclusion of clouds reflects a subjective act of framing, even as the system itself dictates a supposedly objective reference point.

Manetti describes a *tavoletta*, a square panel 41cm by 41cm on which the baptistery of San Giovanni is drawn with a small aperture, used in tandem with a mirror positioned at a prescribed viewing distance. The hole is in the middle of the *tavoletta* placed in front of the mirror. In other words, starting from the baptistery, the sequence consists first of the mirror, its reflective surface oriented towards the viewer and its reverse facing the baptistery, followed by the *tavoletta*, which includes the drawing of the structure, positioned so that the drawing faces the mirror while the back of the drawing faces the viewer. Also, the standing point for the viewing subject is referred to as three *braccio*, half of the *braccio* corresponds to 41cm, inside from the central portal of the Cathedral of Santa Maria Dei Fiori.[68] Therefore, the

[68] Hubert Damisch, *The Origin of Perspective* (MIT Press, 1994), 89.

positioning of each element of the experiment is described mathematically in relation to the others.

The process of the experiment, on the other hand, does not introduce a method for drawing, yet it works as an in-situ concurrent proof mechanism for the system developed by Brunelleschi. What informs this proofing mechanism is the inquiry into whether the system Brunelleschi developed for creating an accurate image of the baptistery and the piazza is valid or not. With the usage of the mirror on which the drawing is reflected, it becomes possible to compare the drawn image of the baptistery with the actual. Through manual micro-adjustment of the position of the mirror within the x-z plane, the coherency of the perspectival system is tested with the question of whether the reflected image aligns seamlessly with the part of the actual baptistery obscured by the mirror's surface. This manual act of adjustment, rather than a purely mathematical placement, can be understood as a process of trial and error, which reconciles the rule with the cloud-case. Though seemingly minor and corrective rather than creative, this adjustment reveals a different facet of the duality between a fully objective system and a rather random movement of adjustment grounded in empirical calibration rather than formal invention. What presents itself as a purely objective verification thus requires empirical calibration: objectivity is made through subjective alignment.

The upper field of the tavoletta is sheathed in burnished silver, effectively bracketing out the sky and its clouds. Perspective's quest for determinate surfaces confronts forms that are temporally unstable and without clear contour, Leonardo's "bodies without surface." Rather than attempting to subsume clouds within the graphic system, Brunelleschi excludes them from the drawing while allowing them to re-enter as live reflection on the silver. The result is a composite image: a static perspectival construction joined to a dynamic optical event. In Goldhagen's terms, this is a surgical excision that nonetheless keeps what is excised in play as evidence; the exclusion is not annihilation but a controlled re-introduction through another register.

Despite the experiment's inclusion of an implicit process of trial and error, this interplay is sharpened by what the apparatus excludes from this coherent order of perspective: the sky with clouds in motion. This exclusion is provided with an alteration in the surface of the *tavoletta.* Brunelleschi uses burnished silver for the upper part of the panel, disclaiming the place for the clouds. Therefore, the panel includes the drawing of the baptistery as a sole object only to check the accuracy of the lines of the baptistery in drawing format with the lines present in the façade of the structure. Brunelleschi does not attempt to depict the sky, but he merely shows it.[69] Clouds are excluded from the system because they do not fit into, recalling Goldhagen's definition of 'surgical excisions,' discussed in the beginning of this chapter. The sky and the clouds, surgically removed from the surface of *tavoletta*, are anomalous in terms of their not being able to be defined within the definitions of the Cartesian coordinate systems. Yet their removal does not imply total absence; instead, it necessitates a representational work that reintroduces them through other means, in this case, it is the burnished silver plate. The result is a composite image: a static drawing of the baptistery accompanied by the reflection of the real-time moving clouds. This surgical excision, therefore, both excludes clouds and keeps what is excised in play as evidence; the exclusion is not annihilation but a controlled reintroduction through another register.

Damisch explains the experiment using Alessandro Parronchi's 1967 diagram and further interprets it by highlighting the clouds' condition in this drawing. Although the clouds are visible in this diagram, Damisch highlights the fact that the lines coming from the body of clouds are reflected twice.

[69] Ibid, 123.

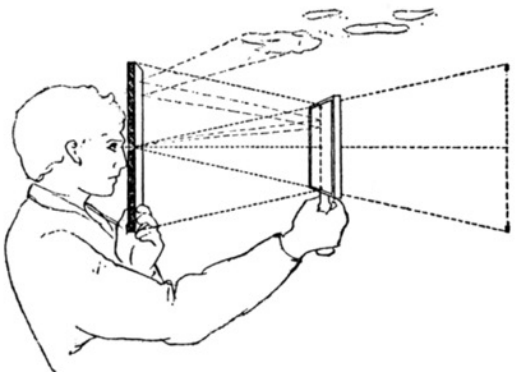


Figure 2.7 Alessandro Parronchi's diagram (1964), explaining Brunelleschi's experiment.

All the lines, other than the ones coming from clouds, are reflected once. Therefore, they are the reflections of the reflection, proving the presence of the silver plate on the upper part of the panel and with it the system's selective gatekeeping. Considering perspective as a full-fledged, coherent system that translates what is seen into an apprehensible, mathematically defined order, the cloud falls into the category of a potential "error" in representation. Damisch says, "the perspective regime excluded clouds insofar as it seemed it had to confine itself to graphic interpretations."[70] Focusing on the cloud, Damisch defines the linear perspective system as "a structure of exclusion."[71] Adding upon being excluded, clouds' being ill-defined and off-system highlighted through various connotations such as being dreamy, immaterial, deviant, illusionary and the possibility of working with the chance factor.

Here, in an interface that searches for accuracy and precision, the mathematical order of perspective forced Brunelleschi to eliminate too complex forms, clouds in this case, as Da Vinci defines 'bodies without surface.'[72] That way, he proves the validity of his method by reducing the complexities within the borders of the picture plane

[70] Ibid.
[71] Ibid, 125.
[72] Ibid, 93.

yet still searching for a realistic illusion. Within the absence of the clouds in the system of linear perspective, his method transcribes a three-dimensional environment to a two-dimensional surface by employing a method in a relatively easy-to-follow, therefore, smooth dissemination process. Damisch defines the act of eliminating clouds from the perspectival system as 'reduction' and 'bracketing' the realistic image.[73] In Galison's vocabulary, the resulting image tends toward the metaphysical; irregularities are pared away to preserve coherence, while the apparatus still relies on the observer's attentive adjustments to make the lock precise.

Considering Correggio's Jupiter in the form of a nebula, Mengs' critique, Brunelleschi's intuitive exclusion of the sky from his proofing mechanism to validate the rules of the perspectival system, and, ultimately, Damisch's rereading altogether illustrate that the cloud, as a pictorial element, has been the subject of diverse and shifting interpretative frameworks. These frameworks might be a part of a prevailing epistemological understanding of a certain period, like Mengs' alignment with classical ideals for the art of painting; they may work as a productive inquiry that subverts the established rules, as in the way of Correggio's depiction of the cloud as simultaneously the ambiguous atmospheric condition and a god; or they may simply reinforce the limits of a system by omitting what does not conform, as seen in Brunelleschi's silent removal of the sky. Seen through the subjectivity/objectivity lens, the cloud becomes the diagnostic of how objectivity is constructed: by excluding what cannot be stabilized graphically, by reintroducing it optically as corroborating flux, and by calibrating the device through embodied act. What looks like a neutral verification of rule is, in fact, a reconciliation of system and situation. In this light, the cloud is not merely an obstacle to representation; it is the site at which the claims of objectivity are negotiated, where "error" is alternately excised, displayed, and instrumentalized to make the order hold.

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[73] Ibid, 139.

2.2.2.3 Artistic Freedom vs. Rational System

A shift in focus or intent inevitably alters how the interpretative framework operates. The same interpretative framework, with a different focus or aim, differs in terms of its engagement with particular objects of inquiry. A different mode of engagement with clouds within a similar framework, that is the perspectival system, can be seen in John Ruskin's drawings of clouds. Viewed through the artistic freedom/rational system lens, John Ruskin's cloud studies show how invention and procedure can be brought into reconciliation rather than opposition. Working within the same perspectival framework that, in Brunelleschi's proof, bracketed the sky, Ruskin treats the cloud not as noise to be excised but as material to be systematized. Damisch includes the drawings only in which Ruskin draws clouds to decipher them.[74] In these drawings, clouds, quite elusive and three-dimensional bodies, are drawn as abstract geometrical shapes that are organized with respect to the guidelines Ruskin introduced. Ruskin translates the erroneous materiality of clouds into a systematic drawing setup. He drew clouds by representing them in rectilinear and curvilinear perspective setups to understand the *order* of clouds with distorted grids and circular organization. Considering Brunelleschi's subjective removal of the clouds from the surface of the painting through a silver plate, Ruskin's attempt may be interpreted not as an end-product but a productive series of drawings, revealing a process of an ongoing negotiation between the strict geometrical logic that the perspectival order proposes, and the fluid and illusory being of the clouds that reveal a certain level of the sense of sublime.

[74] Hubert Damisch, *A Theory of /Cloud/: Toward a History of Painting* (Stanford, Calif: Stanford Univ. Press, 2002), 186.

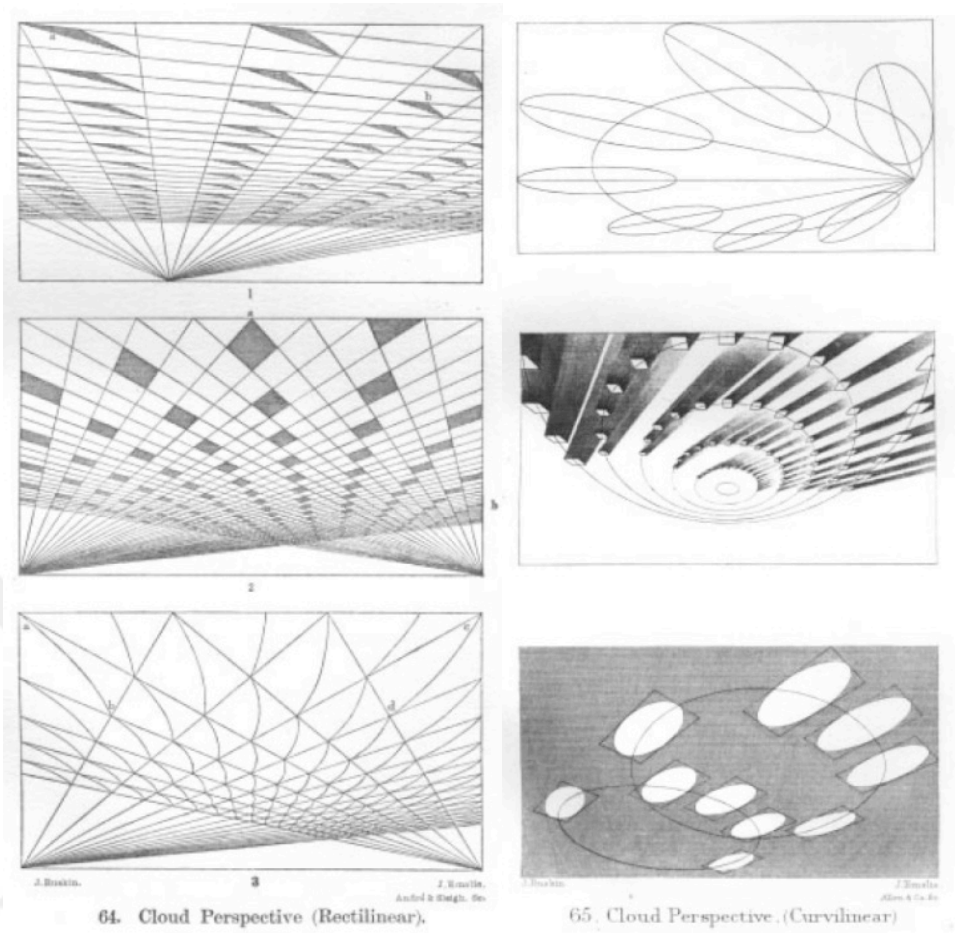


Figure 2.8 John Ruskin's cloud drawing included in Huber Damisch's *Theory of /Cloud/*. The drawings are named "Cloud Perspective (Rectilinear)" and "Cloud Perspective (Curvilinear)".

In Ruskin's inquisitive drawings, clouds are abstracted into geometrical shapes-squares, triangles, and ellipses, and they are fitted into the schemas to explain their positioning further to render the composition readable for everyone interested in drawing. As stated earlier, Damisch investigates the shifting representations of clouds in his book with a parallel reading of the shifts in art history, within the scope of Damisch's investigation; Ruskin's engagement with clouds can be understood not as an exclusion but rather as a mode of appropriation and systematization. Ruskin converts the cloud's putative "error" into a program of procedural adjustment: a drawing set-up that holds to perspectival reason while granting invention room to

operate. It should also be noted that the difference between Brunelleschi's and John Ruskin's modes of engagement with clouds does not only derive from the time period in which they are actively producing; it also follows from priority.

Brunelleschi, as it is well known, traveled to Rome to document the ruins with precision and accuracy. The source of his interrogation, tested with his experiment, is the need to depict architectural edifices. Even though they were in a ruined state, it can be said that these edifices are formed through architecturally constructed lines. These structures in ruins were, most likely, drawings before they became buildings. Therefore, his primary focus is to accurately transcribe the lines, which were first originally drawn on paper and then raised into buildings.

In Ruskin's case, it is known that nature is fundamental to Ruskin's creation. In his biographical data, it is emphasized that his diary includes detailed notes on "the weather and the beauties of nature around him."[75] His first essay, as the biographer states, was on the colors of the waters of the Rhine River, and he gave lectures on the 'storm-clouds.'[76] It is also said that representing nature truthfully is significant for him. In light of this brief background information, his inquisitive drawings might be read both as an effort to understand nature in a deeper manner and to make it visible to everyone. It becomes possible to say that these drawings are not drawn solely for formalizing nature and make it fixed for anyone who would like to represent it. The other drawings presented in Ruskin's book, *Modern Painter*, other than the ones that Damisch includes in his book, expand on Ruskin's understanding of nature.

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[75] Francis O'Gorman, *John Ruskin* (Stroud: Sutton Publishing, 1999), 18.

[76] Francis O'Gorman mentions about Ruskin's interest in the color of the water bodies, his interest in representing the nature in a 'truthful' manner, and the beauty of the storm clouds throughout the same book. Francis O'Gorman, *John Ruskin* (Stroud: Sutton Publishing, 1999) respectively the mentioned interests can be found in the page 8, 10 and 36.

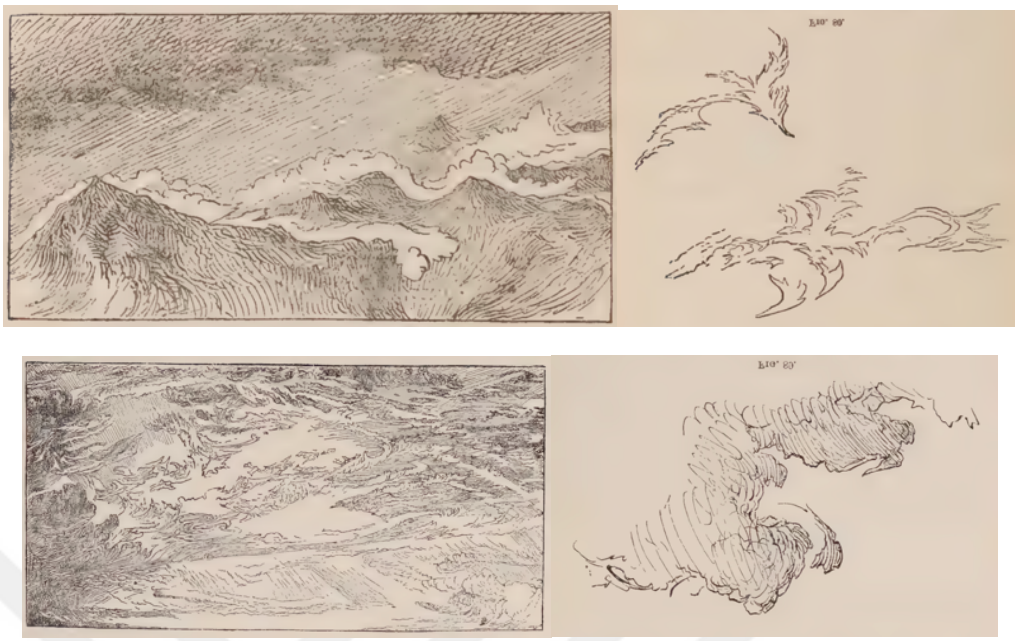


Figure 2.9 John Ruskin's cloud drawings from the book *Modern Painters,* 1843.

As it can be seen, besides the effort to formalize, he draws them as it is, in diverse forms emphasizing their particularity. In contrast to Brunelleschi's search for accurately representing the constructed lines, Ruskin tries to understand the lines of nature; therefore, he does not exclude the ones that are not compatible with the mode of drawing or the framework, but he wants to reappropriate them.[77] The reason why

[77] John Ruskin's conception of truth, most elaborately formulated in *The Seven Lamps of Architecture*, particularly in the chapter "The Lamp of Truth," can be read in parallel with his cloud drawings. The 'truth' of architecture, for Ruskin, is not purity or perfection, but the integrity of engaging with things as they are. Architectural truth requires the honest acknowledgment of material reality, not its concealment or idealization. Although Damisch includes the one that intends to decode, Ruskin's book *Modern Painters* presents more as discussed in the main text. As observed in his cloud drawings, where he not only attempts to formalize but also preserves the irregularities of form "as they are," capturing their irreducible particularity, Ruskin seeks to engage with nature's lines rather than impose a representational order upon them. This attitude reflects his broader ethical and epistemological stance: truth in architecture, and by extension in drawing, is not about eliminating deviation, but about recognizing and incorporating the material and formal particularities of things. In contrast to Brunelleschi's geometrically disciplined projections, Ruskin accepts the imperfect, the contingent, and even the inconsistent, not as flaws but as necessary components of an honest representation. His critique of architectural deception (structural, surface, and operative) stems from a moral imperative that regards every attempt to disguise, idealize, or falsify material reality as a form of ethical failure. In this sense, what might appear as error or misfit in the classical sense becomes, for Ruskin, an index of authenticity, an error worth preserving.

Brunelleschi excludes clouds from his drawing set is the same reason why Ruskin appropriates them: for Brunelleschi, clouds are the indeterminate pictorial elements, resisting the precision of constructed lines, whereas, for Ruskin, this indeterminacy that proposes variation is what makes them worthy of attention, as the particular traces of nature's own ordering beyond humane constructed orders. Hence the two outcomes: Brunelleschi protects a universally applicable schema by excising what will not stabilize; Ruskin derives a quasi-universal schema from the shifting particulars of clouds, letting invention articulate procedure. While Brunelleschi eliminates the clouds for the sake of fitting a universally working schema, Ruskin's analytical treatment reverses this condition: the abstract geometrical lines that are propose a universal schema are derived from the shifting particularities of the clouds. The same framework, linear perspective, thus supports two operative stances: in one, the rule is preserved by reduction; in the other, the rule is thickened through inventive procedure so that unruly particulars can be drawn.

A clearer view of this joint working appears if we keep Ruskin's two sets of drawings in view. In Cloud Perspective (Rectilinear) and Cloud Perspective (Curvilinear), the rational system is deliberately foregrounded. Grids, guide arcs, and measured distortions are laid down first; only then are cloud-forms inscribed as test cases against the scaffold. Here invention operates within constraint: choices of curvature, scale, and deformation probe what the schema can hold. The diagrams are not an end in themselves but a heuristic, a way to understand the schema by asking it to account for a phenomenon that resists easy coding. The rule is not abandoned; it is re-specified so that drawing can engage what would otherwise appear as error.

By contrast, the more observational studies reproduced in *Modern Painters* proceed with minimal overt schematization. Quick strokes, tonal modulations, and sectional notations track fleeting formations; the attentive eye leads, and the rational system recedes into the discipline of looking and proportion that quietly informs the sheet. Here artistic freedom sets the pace, but not as caprice: recurrent motifs, comparative groupings, and iterative corrections function as a latent rule-set. In this second register, invention does not challenge procedure from the outside; it calibrates it from

within, allowing the particular to inform the general rather than be leveled by it. Taken together, the two sets show a two-way movement between system and freedom, schemas are used to see, and seeing, in turn, revises the schema.

Placed back against the chapter's argument, Ruskin's drawings exemplify error-as-instrument in the register of practice. The cloud's indeterminacy is neither romanticized nor denied; it is operationalized. Perspective remains the rational system of reference, but the act of drawing, its grids, its curvatures, its measured distortions, becomes the site where invention calibrates application. The result is not the abandonment of the rule but its reconfiguration to accommodate what the rule, in its thinner form, could not grasp.

2.2.3 Converging Statements, Tracks and Lenses

The chapter aims to displace the habitual opposition of "order–error" and re-constitute both terms within their historical, discursive, and operational conditions. "Order" has appeared not as a single essence but as a plurality of ordering formats whose workings shift with their form; "error," correspondingly, has not remained an external residue but has functioned internally, as limit-marker, as signal for revision, or as an instrument of application. In elaborating this rereading, the chapter has substantiated the three opening claims: that the trajectory of order runs parallel to error; that orders change names and forms; and that order is not monolithic. Crucially, none of these dissolves the distinction; rather, it specifies how reconciliation, alignment of rule and case without erasing difference, can be made to operate.

This framework held together through three interlocking tracks. In "States," Bacon's pairing of monsters and wonders, read alongside Foucault's discursive grid, showed deviation to be generated from within order and often to become a productive site of diagnosis and operation. In different forms of order, shifts across a curatorial regime (Goldhagen: style, operated through surgical excisions), a theoretical regime (Kuhn:

paradigm as defined by an anomaly as signal), and a procedural regime (Daston: order as a spectrum having calibration thick/thin rules) made legible the concurrent migration of error from remainder to signal to instrument. In Transcribing knowledge, Alpers and Galison situated the surfaces of knowledge, pages, plates, atlases, drawings, as interfaces where inclusion/exclusion, normal/anomalous, and rule/judgment cease to be abstract oppositions and are organized as concrete practices of inscription.

Helping to reconfigure order and error in diverse frameworks and highlighting the complex net of relations, each case contains the tensions, though in varying degrees, discussed through the conceptual lenses of the particular and universal, subjectivity and objectivity, and artistic freedom and rational system. This text is to provide a framework for order and error, and it serves as a base to discuss the duality in architectural thinking and making processes in relation to the interfaces. These interfaces, perceived as instrumental in the configuration of the terms, are understood as the visual representation processes that mediate between orders and errors, definitions and applications, and sense-making and knowledge transmission.

This methodological scaffold was multiplied and sharpened through the conceptual lenses. Under particular/universal, Correggio's cloud operated as the "peculiar" instance that presses canonical rules to declare their limits, while Mengs's objection rendered the normative idiom of those rules visible. Under subjectivity/objectivity, Brunelleschi's apparatus exposed how putatively neutral objectivity is secured by attentive alignment and strategic bracketing. Under the artistic freedom/rational system, Ruskin's two sets of cloud studies, schematized and observational, demonstrated how invention is planned and staged within procedure, not by abandoning rules but by thickening them to fit application. Across these cases, the cloud motif alternately excluded, suspended, and reintroduced, or translated into procedure, made palpable how reconciliation is enacted in practice.

With that groundwork laid, the argument now turns to architecture by transposing Bacon's states into the architectural field. The following chapter maps "nature in

course / in error / in wrought" onto architectural thinking and making: first, by documenting particular "errors" in practice to distinguish mere mistakes from generative deviation; then, by tracking how order and error circulate in architectural texts. The aim is to specify, case by case, how limits are marked, how reconfiguration is prompted, and how application is calibrated, in other words, how reconciliation is staged without erasing difference.

The following chapter, on the other hand, adopts Galison's and Alper's take on the surfaces on which knowledge is transcribed and looks into certain architectural interfaces. This last chapter, "Displaying Interfaces: Mediatory Surfaces, is to highlight and to discuss the role of the interface, demonstrating specific forms of it, namely: tables, patterns, and lists. Perceiving these interfaces as epistemological tools for ordering knowledge to control either its formation, decoding, or encoding, this section sets its aim to discuss the usages of these tools in relation to the configuration of order and error and measurements taken. The emphasis of Chapter 4 is on the visual tools that structure architectural knowledge. Guided by the lenses (particular/universal; subjectivity/objectivity; artistic freedom/rational system), the subsequent chapters aim to redescribe architectural production as a field in which universal principle and particular case are brought into working alignment, and to specify, case by case, the plural modes by which the order–error relation is made operative.

CHAPTER 3

RECOLLECTION OF ORDERS AND ERRORS IN ARCHITECTURAL THINKING AND MAKING

This chapter, as its title suggests, works as a ‘selective reframing’ that reveals an errant mapping, yet it gestures toward an alternative hidden order, not in opposition but always in tension. The term ‘mapping’ does not refer to a systematic or totalizing act of collection and classification; rather, being in fragmentary formation, it attempts to trace moments of error in architectural production, whether in making or in thinking processes. This form of mapping navigates through the historical and conceptual terrain of architectural production without a promise of a consistent resolution or a fully charted narrative.

The previous chapters of the thesis reject the binary opposition between order and error, proposing instead a more fluid and interdependent relaitonality, and re-reads Hubert Damisch’s re-interpretation of the ‘cloud’ in art history, proposing an exemplification to better convey the approach of this study to error. Building on this conceptual and examplifiary ground, this chapter shifts its focus to embodied manifestations of the tension between order and error. It does that not through a passive chronological recall, but through critical re-engagement. The ‘recollection’in the chapter title, therefore, refers to a process of active re-assembling of ‘architectural moments’ that reveal a certain tension between the terms order and error. This recollection, allowing further interpretation, is to reveal and discuss the architectural instances materially and conceptually negotiate the boundary between norm and deviation. Relatedly, this chapter sets its promise to instantiate the abstract tension discussed in the second chapter, and to re-situate the border between the terms as a fluid and interdependent boundary, opening a conceptual field in which

different modes of architectural production can be re-read, unsettled and re-conststucted.

Architectural production, at its broadest, unfolds through the intertwined processes of making and thinking, two dimensions that are not conceived here as discrete registers, but as reciprocally informing modes of action and reflection. ‘Making’ refers to the material and technical operations through which architecture takes form, while ‘thinking’ involves the conceptual, symbolic, and epistemological frameworks that guide, critique, or emerge from such operations. These are not opposing poles, but entangled currents: every act of construction carries with it a theory, however implicit, just as every theoretical proposition presumes certain material conditions. This chapter adopts this entangled model of practice, aiming not to divide ‘thinking’ from ‘making,’ but to examine how the question of error emerges across both, sometimes as a disruption in fabrication, sometimes as a fault line in thought.

Aiming to instantiate the tension between the terms and offer a more fluid relationality, the discussion of these entangled practices draws on two intersecting Baconian frameworks. The first, which is articulated through the categories of monsters and wonders, refers to a more contingent nature in any process of becoming, beyond control. The second is the tripartite schema of the states of nature in Baconian understanding: in course, in erring, and in wrought. This, adopted as a conceptual tool to trace architectural approaches towards deviation, marks a logic of transformation, identifying whether nature proceeds in accordance with its own laws, deviates due to internal or external disruption, or is deliberately reworked by human intervention.

Both imply a continuum, rather than being two-fold or three-fold configurations, the wonders-and-monsters framework operates as a hierarchically broader, yet less elaborated understanding that holds in itself the contingency of any process, whereas the tripartite configuration offers a more systematic and processual account of the tension between order and error. Therefore, the figures of monsters and wonders are employed to conceptualize architectural making, which is inherently contingent and

open to unintended formal outcomes. These figures help to describe how error emerges not as mere failure, but as a productive rupture, one that may give rise to invention, distortion, or astonishment. Conversely, the tripartite schema is used to frame architectural thinking, which entails a more codified and systematic engagement with error. As a classificatory model, it allows for a reading of how architecture historically negotiates the threshold between order and error, whether by reinforcing normative systems, encountering disruption, or producing alternative frameworks through conscious reconfiguration.

This provides a generative reinterpretation that does not treat nature as a static backdrop but as a dynamic field defined through regularity, deviation, and transformation. Transposed into architectural production, it enables a nuanced understanding of how error is identified, managed, or reappropriated across various forms of architectural thinking and making. By tracing how architectural errors have been historically conceptualized and materially confronted, not as mere aberrations to be eliminated but as constitutive forces within architectural culture, this chapter intends to reveal the tension between order and error across a diverse range of responses, from validation to normative frameworks, gestures to incorporate deviations to unsettling the system, not as fixed typologies of responses but rather overlapping tendencies.

3.1 Errors in Architectural Making: Architectural Wonders and Monsters

The trajectory of architectural practice, it might be argued, is defined through series of rules that are to guide both the processes of design and construction. Whether they are referred as orders- defining the appropriate way of making architecture with reference to Vitruvius and Renaissance architects/thinkers, as types- drawing the borders between different productions of architecture initiated by Durand and later elaborated by many scholars, as principles- distilling the essential characteristics of architecture as Heinrich Wölfflin did for art history, encompassing architecture too, and later Rudolf Wittkower for the Renaissance architecture, as points- exemplified

by Le Corbusier as a formal list identifying the key elements of architecture with the adjectives of free and horizontal, these rules function as regulatory mechanisms. In a broader sense, these mechanisms may also be understood as '-isms' operating through an ideological framework that shapes architectural discourse and production or checklists cataloging form-based principles across different historical periods.

In relation to the rules defined or the manner in which they are formulated, as discussed in a rather theoretical framework in the first section and subsequently conceptualized through the pictorial element of cloud in painting, some may inevitably fall outside the prescribed frame, often categorized as erroneous with a designation mostly accompanied by a negative connotation. As a discipline grounded in the orders, types, and principles, in broader frameworks shaped with -isms, despite these codes for making and thinking, architecture may hold error, not necessarily always in the form of a productive wandering but as a simple mistake or an incalculable failure. As stated before, it is not one of the aims of this study to label architectural productions as erroneous or favor one over another. However, it seems important to acknowledge the 'errors' within the discipline of architecture to understand better its diverse orders of making and thinking without alienating 'errors' within them.

This non-alienating manner is exemplified in Bacon's configuration of nature with its understanding of 'monsters' and 'wonders,' in which he perceives nature, its monstrous deviations, and its wonderful occurrences as even and they are integral to its unfolding. For Francis Bacon, nature, its monstrous deviations, and its wondrous phenomena coexist within the same continuum, without hierarchical distinction. This section, developing a non-hierarchical evaluation, adopts Baconian theory to revisit errors within the course of architectural history, whether in its 'natural course,' in 'erring' and in 'wrought,' not only as monsters but also wonders.

Although the title of this section may seem to suggest a classification of making and thinking of architecture under two distinct categories, wonders and monsters, these two should be understood as relational categories reconstructed within different regimes. Accordingly, the aim of this section is not to determine or didactically prescribe what is monstrous or wondrous. Rather, building upon Foucault's reading of order and error, particularly the proposition that the trajectory of error runs parallel to the limits of order, this section seeks to open a discussion on the possibility of perceiving order and error not as fixed opposites but as situated along a spectrum of shifting resolutions. Bacon's classification of nature sets the 'monsters' as basic deviations of nature that are to be found in abundance and the 'wonders' as the deviations that are rather privileged and miraculous ones. Learning from Bacon, this section adopts such perspective that situates deviations on a shifting spectrum to discuss the 'errors' in the course of architecture, blurring the boundaries between orders and error. This, hopefully, opens a conceptual space that encourages asking more questions on the states and interfaces of regulating architecture, unsettling the pre-set hierarchies and demanding new ways of seeing and knowing.

Under this title, 'errors'[78] within the process of making architecture will be discussed. The introduction of architectural errors as simple mistakes and incalculable failures, from historical examples of making, is significant for this study in order to emphasize that errors are intrinsic to the making of architecture. In this regard, the discussion on the changing resolutions of different errors is as crucial as this introduction, as this allows for a critical reconsideration of the crisp borders between order and error in their capacity to fold into, blur, and collapse into one another. This will be followed by a revisiting of canonical writings of architectural history with a focus on 'order' and 'error' that illustrates the evolving process of architectural thinking reframed as architecture in 'course,' 'erring,' and 'wrought.'

[78] Here, error is used in between the brackets to highlight that the term is not unfolded in a way that accepting its loaded negative definitions. It is to attract the attention to the fact that there are monsters and wonders not all should be condemned.

This section will subsequently lead to a discussion of specific interfaces, conceptual and operative tools, that play a critical role in ordering not only architectural thought but also, inherently, the practices of architectural making.

Error situated either monstrous or wonderous within the spectrum of deviation can be found not only as an abstract phenomenon that inherently occurs in the process of composition, but it can also be found in material form, signifying/hinting a shortcoming in the thinking, material, calculation, technique, or signifying unpredictable cause. The making of architecture accommodates errors not merely as abstract possibilities expanded through theoretical concerns but also as material imprints within the built environment, manifesting through material, form, and space.

One of these material errors is imprinted on the north façade of the Pantheon, a poetic and bold expression of architecture belonging to 2 century AD. This monumental structure, besides its celebrated position in architectural history with its exceptional dome structure and spatial characteristics, is not exempt from error. Visible in the aerial photograph, apart from the pediment in three-dimension, the outline of a higher pediment on the transitory block emphasized by modillions suggests the possibility of an earlier design intention or a subsequent alteration, or from a rather immature point of view, it may be read as a simple mistake that is forgotten to be erased.



Figure 3.1 The outline of the second pediment

Some sources on Pantheon suggest that the original design of the portico is three meters higher than the executed one. While the precise reason for this modification remains unclear, it is often attributed to a shipwreck.[79] According to these accounts, the columns for the Pantheon's portico were from a marble quarry in Egypt, each measuring exceptionally tall and weighing no less than 100 tons. Considering their weight and extreme height, it is speculated that the ship transporting these colossal columns may have sunk during transit, causing them to be lost and necessitating a revision of the design with the usage of shorter columns to complete construction.

[79] Tod A. Marder and Mark Wilson Jones, eds., *The Pantheon: From Antiquity to the Present* (Cambridge: Cambridge University Press, 2015), 9.

This can be seen as a material error that is almost impossible to foresee and can be evaluated as monstrous by the authorities that do not perceive the design process as flexible, changing, and sometimes subversive. However, as Damisch did for the clouds in the history of painting, this 'error' can also imply more than a material shortage. Hinting at the logistics of the process of making architecture, this imprint of the second pediment reveals a history that makes visible the networks of architectural making that surpass the environment-architect relation but add another layer to discuss the scope of the act of building. Therefore, beyond being a simple mistake, this semi-visible outline of the second pediment requires an unconventional reading, forcing one to invent different ways of knowing and seeing.

This particularity of the second pediment does not spoil the architectural significance of the Pantheon. Rather, it opens alternative trajectories for its interpretation. This second pediment, often referred to as the 'ghost,' does represent a retroactive intention as the vestigial element of the façade. Vestigial in the sense that it does not function as it is planned anymore. It is also known that this element, a residual imprint of an intention interrupted by material shortage, is said to have an impact on Palladio in the process of developing his consistent façade character.[80] Palladio's *Four Books of Architecture* includes drawings of the structure, and William MacDonald says in his book on the Pantheon that Palladio studied the façade of the Pantheon thoroughly, and he adopted these two juxtaposed pediments into his own architecture by referring to the church Il Redentore, Venice. As seen in Figures 4.2 and 4.3, the persistent act of redrawing the erroneous second pediment of the Pantheon seems to have left an imprint on the design of Il Redentore, where a secondary pediment, truncated at its ends, is inserted beneath the primary one. Thinking that Palladio, a 16th-century architect/theoretician, one of the architects

[80] William L. MacDonald and John A. Pinto, *The Pantheon: Design, Meaning, and Progeny* (Cambridge, Mass: Harvard University Press, 2002), 117.

who sets the order repeatedly, uses the error of the Pantheon and remixes this error within his own façade organization.

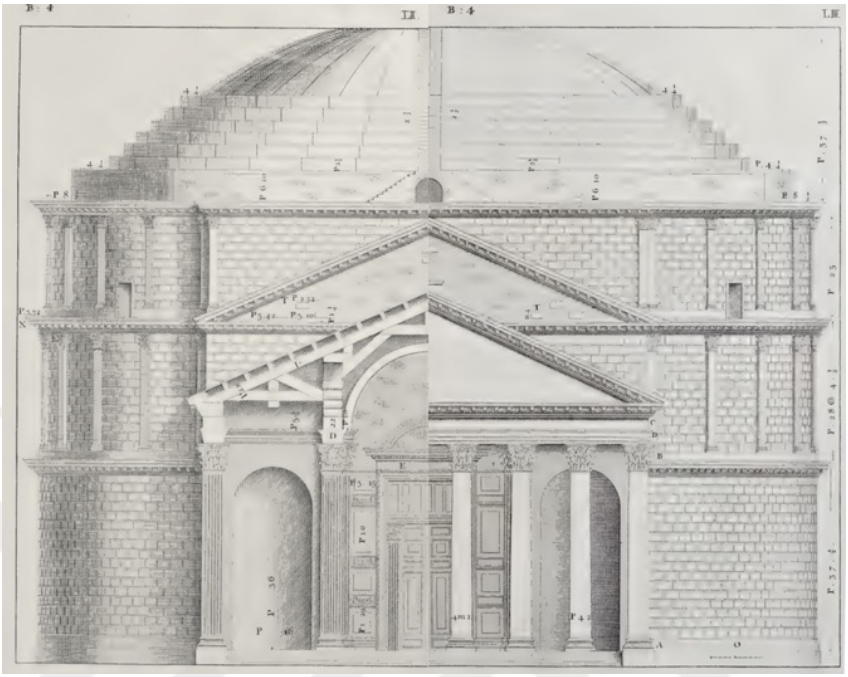


Figure 3.2 Palladio's drawing of the Pantheon



Figure 3.3 Il Redentore, Palladio, 16th century

While the second pediment of the Pantheon marks a vestigial presence of an unrealized architectural intention that inevitably leads another architect to improvise on this material error, architectural history may reveal other kinds of errors in the sense of differences and variations imprinted to the architectural edifices. Although it remains debatable whether differences and variations are accepted as errors, their inclusion is relevant in order to expand order-error duality into the broader discourse of the particular and the universal discussion. A material manifestation of the error in parallel to difference and variation can be found in one of the exhibition panels at the Archaeology Museum of the UNESCO World Heritage Site, Lorsch Abbey. This, although being not 'the' example and it could be found in different parts of architectural history, is very telling in terms of revealing 'error' oscillating between mechanical production and handcraft.

The content of the exhibition panel, which locates the error between mechanically achieved precision and handcraft-sourced deviation, includes the fragments of two columns unearthed in the excavations as part of the well structure.[81] One of these column fragments has a perfectly circular section, whereas the other is in a rather irregular, elliptical form. Without acknowledging the reason why one is perfectly circular while the other one is unintentionally elliptical, this diversity can be judged as the wrong application indicating a failure. But this is actually not a mere failure, but a variation derives from the change in the methods of making. The elliptical one is crafted with hand, referring to an earlier time in which it is created, whereas the other perfectly circular one is produced via an analogous machine, stone-turning lathe.

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[81] This example is from the Frankfurt excursion of the research project funded by DAAD, titled as "Aesthetic Approaches between the Early Christian, Byzantine and Early Islamic Period" in collaboration with ITU, Goethe University Institute of Archeological Sciences. The project is leaded by Assoc. Prof Dr. Pelin Yoncacı, JunProf. Dr. Hagit Nol, Dr. Antje Bosselmann-Ruickbie, Dr. Rico Frances, and Assoc. Prof. Dr. Bilge Ar, and organized and coordinated by Dr. Fateme Rahmati. The specific case focuses on one of the archaeological findings exhibited in the museum of Lorsch Abbey, with the informative guided tour given by the museum director Dr. Katarina Papajanni.



Figure 3.4 The parts of the exhibition “Geschichte schöpfen – Quellen aus einem Brunnen (Drawing History-Sources from a Well)” showing the fragments of two columns with orthophotographs, Dr. Katarina Papajanni

These two fragments, set side by side, do not work as opposites. They are not errors in the conventional sense of the term, nor are they products of ignorance or miscalculation. Rather, they materialize a layered history of architectural making, one that reveals variety. They demonstrate how architectural production accommodates difference not only at the level of form but within the techniques and temporalities of craft itself. This irregular circle of the column section reveals a multiplicity of techniques in the act of construction: the former was shaped through the mechanical precision of a stone-turning lathe; the latter carved by hand with hammer and chisel. Although they are *spolia*s originally may not belong to the same structure but gathered to construct a well, these columns, with their perfect and distorted circular sections, pave the way for thinking about the impact of the technique on being erroneous or appropriate. This ‘error’ as the particular difference in the technique, which may also be read as a variation, registers the traces of architectural labor.

As seen in the cases that are not unique but telling, error, either as an unforeseeable accident or craft-based deviance, takes part in the process of making architecture in construction. From the lens of this study, through these cases, ‘error’ can be situated between the precision and variation, standard and deviation, regularity of the machine and the irregular character of the hand. Apart from being an inevitable part of the construction process, illustrating a form of materiality oscillating between these adjectives, the after-construction process is also not free from errors. The transformation of churches into mosques, as a post-constructional adaptation, is neither uncommon nor particularly surprising for Eastern Mediterranean context. Being one of them the Lala Mustafa Paşa Mosque in Famagusta reveals a distinct case, a baroque mosque that its bell tower is transformed into a minaret. These hybrid conditions are not hard to find. In the most basic terms, both the churches and the mosques are religious buildings built for practicing religious rituals of distinct communities. Given the difference in the belief systems and the way of practicing the rituals, these typologies diverge significantly in their spatial configurations.



Figure 3.5 Lala Mustafa Paşa Camii, Famagusta, Northern Cyprus, taken by Harun Özdeş

These two building types can be understood as spatial carcasses tailored by the ritual performances conducted within the space. Unlike Modern architecture, which starts as a tabula rasa and privileges flexibility, religious architectures are typically preconceived and guided by the strict system of rules for performing religious or spiritual practices, ceremonies, and communal gatherings. Such transformations, where one ritual logic is absorbed into another architectural enclave, result in composite spatial conditions that embody multiple layers of order, sometimes in tension, sometimes in negotiation. In this sense, different faith traditions and systems of thought order their own spatial characteristics; space is not neutral, but codes of religious rituals are imprinted within it. From this perspective, the transformation, which is often from church to mosque, constitutes a juxtaposition of two divergent orders within a single architectural envelope.

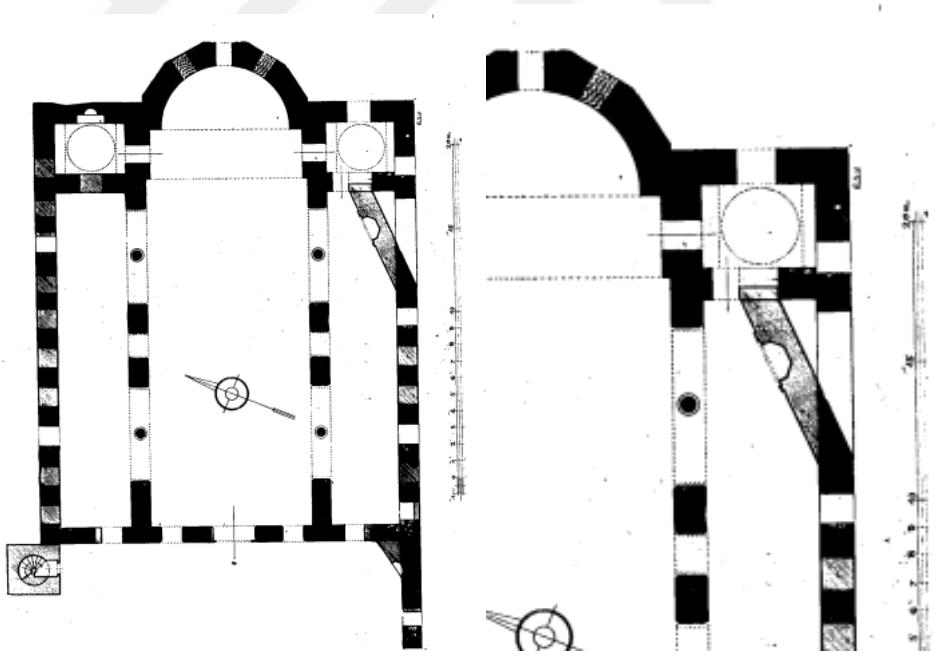


Figure 3.6 Plan drawing (left) and a zoom-in portion (right) of Hagia Sophia church-mosque İznik (Nicaea) by Ali Sami Ülgen

While the case of Lala Mustafa Pasha Mosque illustrates this hybridity condition through a prominent formal intervention, a lesser-known mosque in İznik reveal more subtle but spatially expressive juxtaposition of two orderings, performative ritual-based ordering and the architectural. Hagia Sophia of Nicaea is known as a Byzantine structure dated to the 5th-6th centuries, and in 1330, after the conquest of the Ottoman Empire, the church was transformed into a mosque with the additions of the mihrab wall and the minaret.[82] Looking at the plan drawing of the structure, it has a basilican-church schema, having one central nave and two aisles. In terms of geometrical characteristics, not unusual for this schema, the structure is symmetrical and has a strong symmetry axis that also dictates a dominant orientation towards the apses. However, the aisle on the south-west includes a wall that is alien to the geometrical order of the church. This wall is known as the mihrab wall, a later addition which has a symbolic meaning to direct the community towards the direction of the ritual, Kiblah.

Although it seems a small divergence in the orientation of the structural members of the church-mosque, this deviant orientation expands through the space when the communal rituals start. This diagonal line is repeated in the form of diagonal lines of people that cross the geometrical order of the basilican church schema highlighting the impossible reconciliation between the spatial configuration and the ritual. The perpendicular order of the church contrasts with the order of the religious ritual, imprinting this irreconcilable condition within the space. This juxtaposition of the church's geometric order with the ritual-driven deviation introduced by the mihrab wall and the subsequent spatial performance of the worshippers illustrates a form of error, both as a disruption of the original architectural schema and an intentional divergence dictated by the rules of the ritual. In this sense, the transformation of the space embodies a ‘monster,’ a deviant condition that challenges the established

[82] Pınar Aykaç, “Contesting the Byzantine Past: Four Hagia Sophias as Ideological Battlegrounds of Architectural Conservation in Turkey,” *Heritage &Society, 2018, vol. 11, no. 2, 151–178, https://doi.org/10.1080/2159032X.2019.1670502,p.158.*

order, yet also functions as a 'wonder,' as the imprint of this material irreconcilability of two divergent systems.

Another confrontation with error, manifested as an anomalous intervention made after construction, can be observed in two almost contemporary cases from distinct contexts: partial urban planning of Mustafa Reşit Paşa (1839) for İstanbul and Pier Patte's proposal for Paris (1765). Although these two figures are from different contexts, the idea behind their planning principle is almost similar. It is known that in the 18th century, the impact of Western civilizations became materialized with the Tanzimat reforms, and the adoption of certain building types such as Western apartment blocks and theatres in the Ottoman Empire. These are followed by larger-scale decisions that impact the urban tissue. In the Westernization process of the urban tissue, Mustafa Reşit Paşa, one of the authors of *Tanzimat* Charter, travelled to Europe to learn and implement European principles for the urban environment. When he got back to İstanbul, he worked with a German engineer, Helmuth von Moltke, to improve the street network of Istanbul. This research and planning proposal includes a detailed mapping of İstanbul streets and creation of the categorization of the streets according to the proposed widths. In her book *Remaking Istanbul*, Zeynep Çelik describes the professional tendencies of both Mustafa Reşit Paşa and Moltke as being advocates of a scientific approach to planning that depends on the mathematical/geometrical rules.[83]

Taking the guidance from mathematical and geometrical rational rules, one of the initiations of this westernization process of the built environment is the *Islahat-ı Turuk Komisyonu* (Commission for Road Improvement). This commission was primarily established for repairing the roads and to build wide streets and sewers. Within this scope, in 1868, Çemberlitaş Hamamı was subjected to a transformation that could be neither scientifically defendable, nor geometrically applicable, but

[83] Zeynep Çelik, *The Remaking of Istanbul: Portrait of an Ottoman City in the Nineteenth Century* (Berkeley: University of California Press, 1993), 49.

rather it could be defined as striking. The Hamam, which is located adjacent to one of the main arteries of the city, Divanyolu, opposite to Constantine's Column (*Çemberlitaş*), is a domed structure housing two separate spaces for men and women. As part of the works of the Road Improvement Commission, the Divanyolu was intended to be widened from 3.8 meters to 16.75 meters in order to achieve the standards of western street configuration, offering wide streets and huge urban squares.[84] Divanyolu, on the traces of the Byzantium *Mese* and extending from Hagia Sophia to Beyazıt square, was regularized and widened by drawing a straight line. For the Commission, the 'regular' meant 'straight,' therefore, without exception, along with the other historical structures from the 15th century onwards, the south-west corner of the Çemberlitaş Hamamı was mutilated with a coincidental 45-degree angle.



Figure 3.7 Çemberlitaş Hamamı, mutilated corner

[84] Nina Macaraig, *Cemberlitas Hamami in Istanbul: Biographical Memoir of a Turkish Bath* (Edinburgh: Edinburgh University Press, 2022), 177.

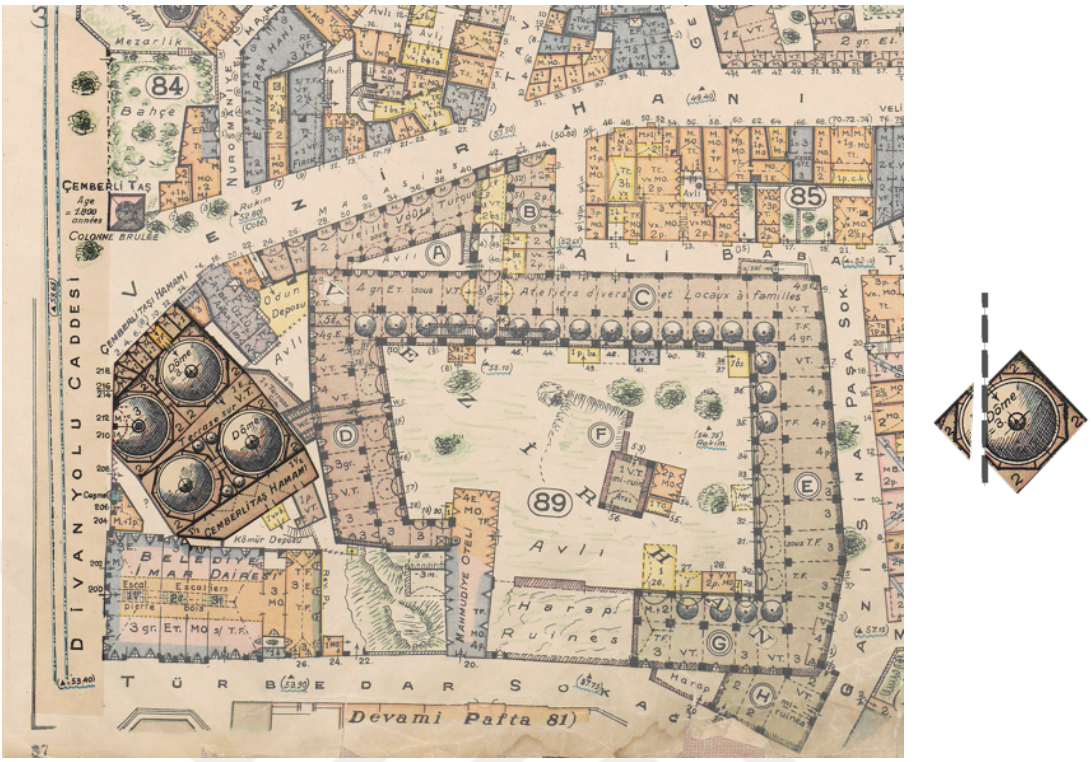


Figure 3.8 İstanbul map showing the Divanyolu street and the straight line

The cutting of the corner of an already existing building differs from completely demolishing it. A straight line is drawn to regularize the urban pattern underneath. However, this line and the pattern do not reconcile. An ordered process that seems extremely radical and idealistic turns out as a random cut in a building, as if slicing a piece of cake. This radical, indifferent, and straight line serves as a tool for correction that transforms the crooked, narrow, and irregular streets of İstanbul. This kind of correction is quite relatable to the 'metaphysical image' that is discussed as the 18th century's understanding of 'objectivity' in Peter Galison's categorization. Remembering the image-making processes of the 18th century includes the acts of erasing anomalous parts from the 'perfect' whole; this case can be read as its urban-architectural equivalent.

In a similar strand, before Baron Haussmann, in 1765, Pierre Patte proposed a scheme for the Place pour le Roi, Paris, which Stephan Trüby refers to this proposal as 'classicalizing corrections.'[85] Pierre Patte (1723–1814) was a French architect and he was one of the assistants of Jacques-François Blondel, who was teaching architecture in *Académie Royale d'Architectur*e. Blondel was known for his rigorous and structured advocacy of classical principles, and his book Cours d'Architecture, which he worked on with Pierre Patte in the later volumes, provides an architectural thinking that depends on clear rules and harmonious proportions, eliminating the playful and extravagant searches for inventions. Considering Patte's being a disciple of Blondel, although it was not executed, his proposal can be understood from the framework of clarity and regularity, in the sense that eliminates the seemingly disharmonious parts.

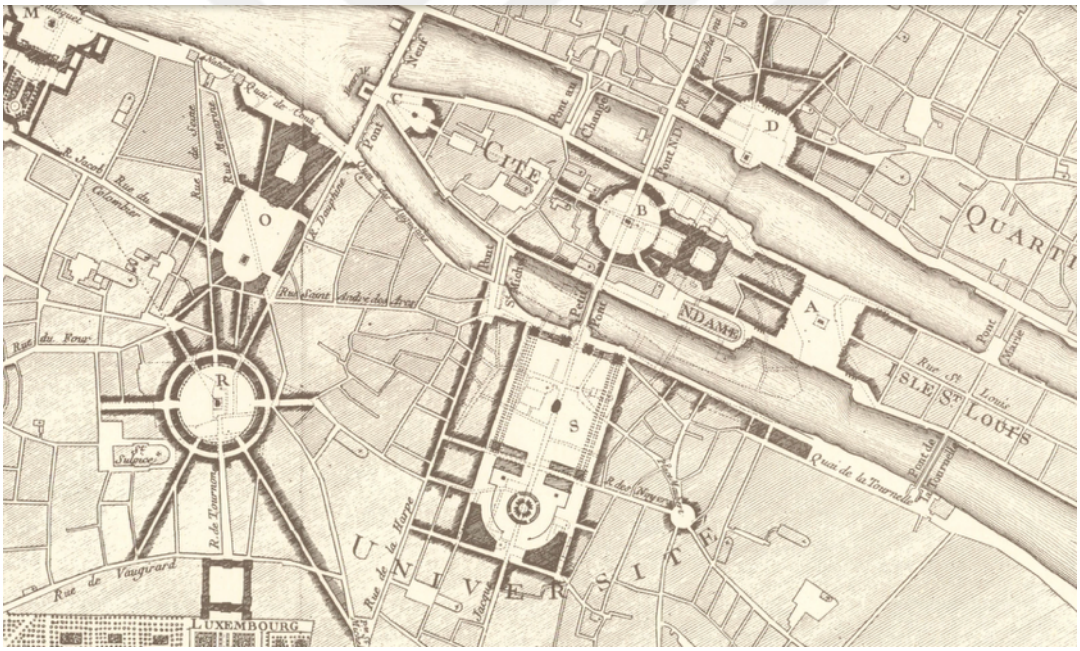


Figure 3.9 Pierre Patte's proposal for Place de Roi, 1765, Paris. The dotted lines represent the existing condition, whereas the solid straight lines are the corrections.

[85] Stephan Trüby, "Façade Façades," essay, in *Elements of Architecture, 2014 Venice Architecture Biennale Catalogue* (Venice: Marsilio, 2014), 736–47, 740.

The mutilated corner of the Çemberlitaş Hamamı and Patte's corrective proposal illustrate that the acts of planning and regularizing are not always susceptible to the established orders, in the sense that the cultural, social, environmental, and historical values and layouts. They are sometimes subordinated by the abstract principles of geometry and an idealized notion of regularization. These two emphasize the tension between the different planes of architectural thinking, the one is the ideal rigorous principles developed in the plane of initial evaluation while the other is the plane of application of these principles, where the abstract and the material should reconcile. Çemberlitaş case leaves behind an anomalous trace in the urban environment as the signification of this irreconcilability, while Pierre Patte's proposal as a plan drawing helps to see what is corrected and the notion of regularity, juxtaposing the ideal and the irregular on the same surface. Capturing the friction between imposed precision that cannot yield and the casualties of the material plane that cannot be foreseen, these instances show how architectural 'corrections,' driven by ideological or aesthetic aspirations, may oscillate between generating 'monstrous' disruptions and engendering new 'wondrous' interpretative opportunities in the urban landscape.

The previous manifestations of error might be seen through the Baconian classification: in 'course,' in 'erring' and 'wrought.' However, before evaluating these particular instances to understand what this trilogy means for architectural making, it is important to include a different phase. While certain errors may occur in the afterlife of a building due to causes extrinsic to architecture, others originate from within architecture itself, particularly during the detailing process, where the negotiation between material constraints and design intent is most immediate and intricate. The process of detailing is significant as it is the intersection of the material and the ideal plane, signifying a reconciliation process where the design intent and construction reality are to be negotiated. There should be abundance of them, the errors derived from detailing, but as a sample case that illustrating an incalculable failure, 'Plywood Palace' incident, with its formal name John Hancock Tower, is compelling to see how an error arising from architecture becomes an object of derision.

John Hancock Tower, designed by Henry N.Cobb and I.M. Pei&Partners, was initially planned to be completed in 1971. However, the scheduled date for opening was postponed until 1976 due to a seemingly minor error in the detailing of façade system. Designed as a 60-storey, 240 meter-high with a double-glazed curtain wall system, the tower was the tallest building in New England at the time. While the tower, this high, within Boston's historic cityscape was already a subject of debate, the detailing flaw in the curtain wall shifted the discussion toward the consequences of a failure, overshadowing other critical discussions of form, context and scale.[86]

This flaw, caused by a shortage of thinking, stems from not being able to comprehend double-glazed wall system as a responsive assembly having the capability to tolerate the thermal differences between its interior and exterior layers. The resilient bonding between the inner and the outer layers, the solder connection, due to its inherent stiffness, lacked the flexibility needed to absorb thermal expansion and contraction. This material characteristics appears to have been overlooked, possibly due to favoring the wind force, and ultimately makes the system vulnerable to accommodate the temperature differentials. This vulnerability reflects itself as the detachment of these large windowpanes with the dimensions of 1.2 m by 3.4 meters, weighting 230 kg of each from the façade and falling on the sidewalks below. As it is written, around 10,000 windowpanes were dismantled and during the process of diagnosis and repairing, the glass panes are replaced with plywood panels. Plywood panels that are initially introduced as a temporary amendment to this failure, gave

[86] A seemingly parallel condition to Hancock Tower in terms of windows creating problems in the construction process can be found in Louis Kahn's Salk Institute. This, although may seem a direct parallel to the huge failure in Hancock Tower, may not be evaluated as the total failure as in the case of the tower. The façade of the Salk Institute consists of wooden windowpanes and concrete surfaces. The two elements literally give the character to the structure besides its three-dimensional layered configuration of the façade and extraordinary site selection. Ayşen Savaş in her talk "Cathedrals of Culture- Salk Institute" refers this characteristic of the structure as the perfect combination of the craft and the standardized industry. A quick glance at the façade may assume that the concrete walls are prefabrication, and the wooden frame is in-situ. But this is not the case, the wooden frames are prefabricated, the concrete is in-situ, in other words, the wooden frame is perfect whereas the concrete is the anomalous. Their negotiation process is done in-situ because a perfect and a less-perfect component requires a process of negotiation.

rise to a series of ironic nicknames for the tower. The tower, which is envisioned as a noble and majestic work of architecture imposing its height over the city, came to be referred to humorously as ‘Plywood Palace’ or ‘the tallest wooden building’ by the common public. Thinking of the adversity between the words plywood and palace, plywood is an affordable material in comparison to the heavy, large glasses, and palace is the architectural expression of grandeur and prestige, emphasizing luxury. The pun is powerful enough to take the power of the planned highest reflective tower.



Figure 3.10 Plywood Palace

This incident, provoking a public whimsy more than a technical misstep, reveals how architectural labor, including both hand and mind, construction and design, is undermined by a single 1mm-line in a detail drawing. What renders this line a point of failure is its wrongly attributed three-dimensionality and materiality, that could not reconcile with the conditions of the tower. Representing a slippage between the idea and the material, in other words between the drawing and construction, this 1mm-line emerges as the minor mistake despising architecture and culturally mutating as a monster, causing an artificial rain of glass. In this sense, the Hancock Tower inhabits a liminal space between architectural wonder and monster, between the triumph of vertical glass purity and the spectacle of systemic failure. The error does not simply interrupt the order; it exposes its fragility emphasizing the

significance of the processes of reconciliation. The presented irreconcilable condition between the material and the ideal is articulated through this case emphasizing the disjunction or transformative processes of drawing and construction. In doing so, the 'Plywood Palace' lays bare the disjunction embedded in the translation from conceptual precision to material instability. It thus offers a potent lens through which to reconsider how error, far from negating architectural meaning, can reorganize it entirely.

The 'Plywood Palace,' from another perspective, raises a different concern as it involves a potential threat to the inhabitants of Boston. Unlike the previously mentioned particularities in which error is prepotent, such as the second pediment of the Pantheon or the mismatch columns of Lorsch Abbey where error is manifested, yet benign, this instance positions error on the plane of ethics, in terms of its devaluation of architectural labor and excessive usage of material, and on the socio-material plane, in terms of its being a danger for the public health and safety. Some errors do have responsibility on these broader planes, transgressing the border of being a naive mistake, creative wandering or challenging deviance. The incompetencies in both the establishment and regulation of the rules that form and control the built environment resulting in irreversible damages, or the profit-driven interventions leading to the eradication of natural sources, are hard to be comprehended within the limits of the defining error as productive.

Yet, these cancerous mutations, different from errors, are understood as 'stupidities' referring to Gilles Deleuze as the condition "neither the ground nor the individual but the lack of relationship between them."[87] Stupidity in architecture and its differentiation from errors in architecture are discussed as the irreconcilability between the processes and actors that are active in the creation of the architectural

[87] Gilles Deleuze, *Difference and Repetition,* trans. Paul Patton (New York: Columbia University Press, 1994), 152.

edifice.[88] Acknowledging the fact that the term error often falls into the limits of negative connotation thinking the failures, mistakes and stupidities throughout the history and in the contemporary world- referring to the wars, natural disasters, profit-driven orders, this thesis aims to differentiate errors from these forms of negativities that completely exploit social, cultural and environmental relations defined in orders. Rather, it aims to reclaim its critical and generative potential by recalling the etymological root of the word that comes from Latin *errare*, meaning wandering.

This section, learning from Bacon's understanding of nature, displays particularities of architectural making in order to reveal the forms of error- whether rooted in material failure, technical variation, miscalculation, conceptual misjudgment, or unforeseen contingencies. Architectural making and its 'off' conditions are discussed in this subchapter within the framework of being wonderous and monstrous. Beyond his descriptions of nature's monsters and wonders, Bacon classifies nature into states, 'in course,' 'in erring,' and 'in wrought.' Although this rather elaborated classification guides the next subchapter's discussion which dwells on architectural thinking, in order to better grasp what Baconian threefold classification might mean in architecture, a brief evaluation of the instances discussed in this subchapter will be beneficial. From this tripartite framework, the two columns from Lorsch Abbey Heritage site might be situated as the instances of 'architecture in course,' since their formal and material characteristics, although they are different in their sections, reflect the ordinary construction practices of their time. Displaying a difference and variation, these two columns are made within the limits of their time illustrating an architectural state that architecture is made in its ordinary course. Whereas the second pediment in Pantheon, Çemberlitaş Hamamı, or Patte's corrections may be reserved for 'architecture in erring.' All, the second pediment,

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[88] Sinan Cem Kızıl and Bengisu Derebaşı, "Everyone Knows Who is Stupid Around Here," *Footprint Delft Architecture Theory Journal* 36, 2025, 33-48.

cut-out corner or geometric corrective lines, targets the ordinary course of architecture pursuing an order whether, a proportional definition, a plan schema, or a certain typology of lines, however, an exterior cause, logistic-based, or ideology-based, makes appearance and transforms the materiality of the architecture. In that sense, error here can be identified as transformative. The Hagia Sophia of Nicaea, representing the clash of two different orders that are reflected in the spatial organization, can be understood as 'architecture in wrought.' The Ottoman addition of the mihrab wall that defies the dominant orientation of the existing church while temperamentally obeying the rules of the ritual practices is understood as the element that decontextualizes the church and the earlier Christian practices guided the spatial organization. Therefore, the state of 'in wrought' is interpreted as the decontextualization. By adopting this tripartite framework, the cases are examined in this study are not merely seen as isolated anomalies, but rather they are understood as situated expressions of architectural making and thinking, each embodying a distinct condition within the spectrum of process, deviation, and artifice

The parallel reading between the particularities of architectural making and the Baconian states of nature, *in course*, *in erring*, and *in wrought*, offers a productive framework for expanding the conceptualization of error in architectural making, and this reading can be multiplied. Interpreting error through this lens enables a nuanced reconfiguration of its role within various processes of making, situating it along a spectrum that spans from the monstrous to the wondrous. These cases, illustrating making of architecture, draw their strength from their being 'particular.' In contrast, architectural treatises, often regarded as canonical texts, tend to pursue the 'universal,' seeking to define the proper principles and norms of the discipline. With their focus on codifying what is considered correct or ideal, these texts become crucial for understanding how concepts of 'order' and 'error' are historically framed in the formation of architectural knowledge. Revisiting these formulations allows for a critical reflection on the evolving states of architectural thinking.

3.2 Errors in Architectural Thinking: States of Architecture

As previously discussed in the Chapter 2, "Rejecting Oppositions," Francis Bacon identifies three principal states in which nature manifests itself: proceeding in its regular path (*in course*), deviating through anomalies or irregularities (*in erring)*, and being deliberately reshaped by human intervention (*in wrought*). His understanding is significant for this study as he offers a framework that moves beyond the rigid binary opposition set between 'order' and 'error.' Instead of rigidly defined binaries, his understanding highlights the process as a continuous course of becoming that includes inherent transformation and reconciliation. This process of becoming does not exclude deviations, irregularities, and interventions to unfold and understand nature; they are even seen as integral to the process. This perspective, as the thesis claims, allows for a more dynamic framework that locates order, whether natural or architectural, in a constantly changing position, in which error is not merely a mistake of 'order' but a state through which order is negotiated, reconfigured, and regenerated.

In this subchapter, this threefold classification is transposed into architectural thinking, not simply as a metaphor borrowed from natural philosophy, but as a productive conceptual framework that reveals the states of architecture that architecture negotiates, reconfigures, and regenerates its orders and errors. These categories of his classification are interpreted through a parallel reading of particular instances of architectural making, and at the beginning of this section, they are re-evaluated to deepen the understanding of these states in architecture from a Baconian perspective. When it is juxtaposed onto architecture, a classification made for nature may border at nonsensical. However, this Baconian reading of architecture is valuable in terms of its capacity to offer an alternative framework to interpret architectural thinking apart from style-based, periodical, or geography-based categories. Recalling Kuhn's definition of states of science, normal and revolutionary science, in which the difference between the two states is shaped through an anomalous condition, the transposition of Baconian states of nature onto

architecture reveals a possible interpretative framework in which the anomalous input that is squeezed in between the normal and revolutionary is expanded as a category and multiplied in terms of its forms of divergence.

This framing, adopted from Bacon's epistemological categories formulated at the dawn of modern science, intentionally focuses on historical and theoretical articulations, rather than contemporary architectural practices. While this approach may appear to overlook the complexities of the contemporary architectural practice, the overwhelming plurality and contextual specificity of the present-day architectural positions render a concise typological mapping not only impractical, but also beyond the scope of this section. Rather than offering a comprehensive survey, it proposes a historiographical exercise that seeks to foreground the epistemological and formal potential of error, rather than reduce it to a deviation from an assumed norm.

This framework does not favor a linear and continuous course. Instead, it articulates modes of architecture that remain autonomous from one another but are dependent on an order that operates to either confirm, divert, or completely subvert it. Rather than conceiving architectural production through binary categories such as correct/incorrect or beautiful/ugly, this framework enables an understanding of architectural processes as situated along a spectrum of transformation. By adopting Bacon's categories, this historical exercise proposes to reconceptualize architectural production as a dynamic field where norms are maintained (*in course*), disturbed (*in erring*), or radically reconfigured (*in wrought*). Such a perspective not only destabilizes rigid classifications of error but also foregrounds its epistemological and formal potential.

3.2.1 Architecture in Course

The first state of nature for Bacon is being 'in course.' This refers to a condition of nature that proceeds in its own regular mechanism, without disruption, deviation or any visible anomaly. When transposed into architectural thinking, this state of nature may be understood as the mode of practice that remains unchallenged in its assumptions, and it is primarily concerned with consolidation of its own authority. Rather than questioning the 'orders' and 'errors,' this state intends to establish proper methods of thinking, codify disciplinary norms, and propose universal definitions that prescribe how architecture should be conceived and practiced. This state resonates directly with the architectural notion of the 'Orders,' which does not function merely as a compositional system, but also as the framework for proper thought, prescribing what is proper in terms of design, reasoning, and expression. Before engaging with the architectural formulation of the 'Orders,' essentially a mathematical and proportional construct, it is worth recalling the etymological and dictionary definitions of the term.

The word 'order' means "arrangement, disposition, sequence, command, taxonomy" in English. In French, it has the same connotations with English with a small addition. It also means "set up". In Latin, it means row, succession, series and class.[89] More interesting than these, order means düzen in Turkish. The root of the word is said to come from 'tüz' meaning "level, flat" and it denotes "equal, right, true" and "put in an order, correct".[90] The meaning set above produces a secondary word set which includes 'regulation, rule and system'. Considering the meaning sets with the alternative word group, the word 'order' has associations that are 'fixated, prescriptive, and imperative'.

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[89] Order," accessed June 30, 2020, https://en.wiktionary.org/wiki/order.
[90] Hakan Özdemir, "Yapı Bilgisi Açısından Düzen Sözcüğü ," *Journal of Turkish Studies* 6, no. 2 (2011), 703-712, 704.

Despite its solid and unchangeable meaning, the identification of Orders in architecture has been continuously revisited. The confidence in Orders and the way to define them do not change drastically but the measurements, proportions and the modules are repeatedly altered in every time it is studied in architectural history. The principle to employ Orders as the dominant way of practicing architecture is not challenged whereas the content to define it is changed.

As it is discussed in Chapter Two, historically, Vitruvius is the first architect/theoretician who set the rules for the discipline. Within the structure of his treatise, no chapter is devoted specifically to the Orders. The rules and proportions are explained in a dispersed manner throughout the text. The term "order" is first mentioned in the second book under the title of "Fundamentals of Architecture." Later, issues related to city, natural forces, their impact on planning of the cities and characters of different materials are mentioned. At the end of third book, proportions of the base, capital and entablature in Ionic Order are explained. In the introduction of the fourth book, he continues by saying that "[i]n the present book I shall speak of the established rules for the Doric and Corinthian orders and shall explain their differences and peculiarities." Specifically, this sentence and the way how he defines each order shows that he identifies and describes each order through a comparative analysis. In the first chapter of the fourth book, Corinthian order is described in relation to proportions and characteristics of Ionic order, then with an abrupt change in the flow of the text, the origins of the Doric Order are started to be explained. Moving fluidly between proportions and mytho-historical origins, this narrative, oscillating between the empirical and the rhetorical, underscores the implicit presumption that order exists as a legible framework, waiting to be retrieved or interpreted.

Alberti, writing in the fifteenth century, is the historian known for organizing the Orders under the title of title *Of Doric, Ionic, Corinthian and Composite Capitals* in Book 7, in a more homogeneous and structured manner. He refers to 'Order,' as beautiful, while defining the 'art of building' in the first book as a part of the good design.

> We shall first lay down, that the whole Art of Building consists in the Design and in the Structure. The whole Force and Rule of the Design consists in a right and exact adapting and joining together the Lines and Angles which compose and form the Face of the Building. It is the Property and Business of the Design to appoint to the Edifice and all its Parts their proper Places, determinate Number, just Proportion and beautiful Order; so that the whole Form of the Structure be proportionable.[91]

The 'art of building' depends on 'design' and 'structure,' and the assets which 'design' should include are listed as a proper place, a determinate number, a just proportion, and a beautiful order. Here, the adjectives, proper, determinate, just and beautiful, are significant in terms of recalling being precise and right, constituting not merely aesthetic values, but ethical and epistemological coordinates through which architectural knowledge is ordered. Yet, the ambiguity of the adjective 'beautiful' is balanced with mathematically and rationally established Orders. Thus, order is not merely a technique but a condition of legitimacy. The relation between being beautiful and being proper, in the sense that produced within the limits of norms, are discussed as not deviating from the established custom.

> Lastly, these Things must be so executed, as Use or Conveniency requires, or according to the approved Practice of Men of Skill; because deviating from established Custom, generally robs a Thing of its whole Beauty, as conforming to it, is applauded and attended with Success.[92]

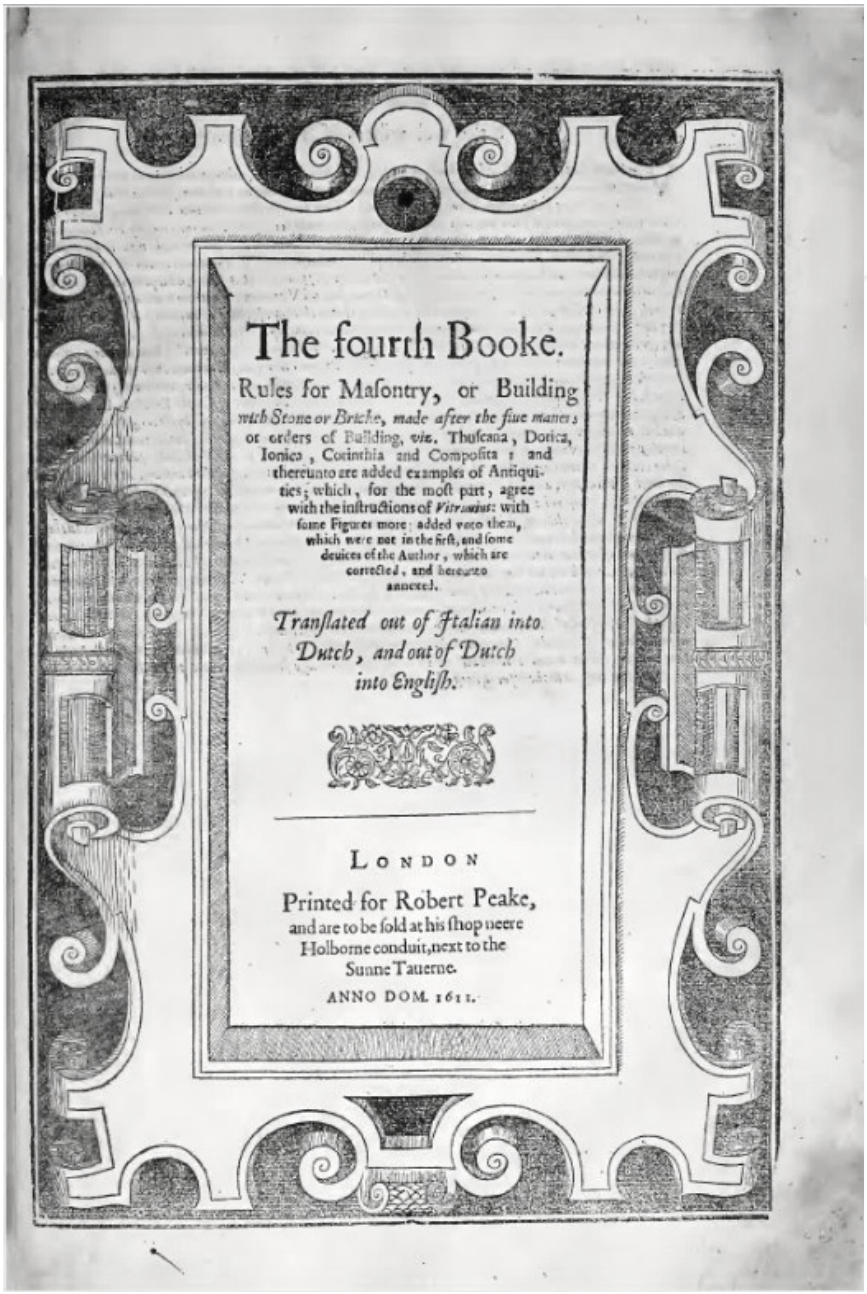
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[91] Leon Battista Alberti, *The Ten Books of Architecture: the 1755 Leoni Edition*, trans. Cosimo Bartoli and Giacomo Leoni (New York: Dover Publications, 1986), 1.

[92] Leon Battista Alberti, *The Ten Books of Architecture: the 1755 Leoni Edition*, trans. Cosimo Bartoli and Giacomo Leoni (New York: Dover Publications, 1986), 1. Italics belong to the writer. Further Alberti continues "Nevertheless, tho' other famous Architects seem, by their Practice, to have determined this or that Compartition, whether Doric, or Ionic, or Corinthian, or Tuscan, to be the most convenient of any; yet they do not thereby tie us down to follow them so closely, as to transcribe their very Designs into this Work of ours; but only stir us up by their Instructions to produce something of our own Invention, and to endeavor to acquire equal or greater Praise than they did. But of these Things we shall speak more distinctly in their proper Places, when we come to consider in what manner a City and its Members ought to be disposed, and everything necessary for the Convenience of each."

Emphasizing the importance of the ‘use’ and ‘conveniency’ in the practice, Alberti warns about that deviating from the rules set, the tradition, might be concluded with a ‘loss of beauty.’

Almost a century after Alberti, Serlio published the Fourth Book on Orders in 1537.



The fourth Booke.

Rules for Maſontry, or Building with Stone or Bricke, made after the fiue manes or orders of Building, viz. Thuſcana, Dorica, Ionica, Corinthia and Compoſita: and thereunto are added examples of Antiquities; which, for the moſt part, agree with the inſtructions of *Vitruuius*: with ſome Figures more added vnto them, which were not in the firſt, and ſome deuices of the Author, which are corrected, and hereunto annexed.

Tranſlated out of Italian into Dutch, and out of Dutch into Engliſh.

LONDON

Printed for Robert Peake, and are to be ſold at his ſhop neere Holborne conduit, next to the Sunne Tauerne.

ANNO DOM. 1611.

Figure 3.11 The title page of the Fourth Book of Serlio, first published 1537.

On the title page of the book, he defines the content as

> Rules for Masonry or Building with stone or brick, made after the five manners or orders of Building, viz. Tuscana, Dorica, Ionica, Corinthia and Composita: and thereunto are added examples of Antiquities; which, for the most part, agree with the instructions of Vitruvius: with some figures more added unto them, which were not in the first, and some devices of the Author, which are corrected, and hereunto annexed.[93]

On the next page, he says that he "had collected certain rules of Architecture" to make it clear for any other man having an interest in that Art.[94] Those rules divided into seven books and one of these books that is on the 'Orders' are chosen to be the first one to be published because it is "more to the purpose, and more necessary then the rest.[95] Regarding the title and the second pages, it is quite possible to say that the respect for the established rules and for the ancients is still valid for Serlio. He perceives the inputs of orders as the instructions given by Vitruvius having almost no flexibility or possibility to err. Besides the respect shown to the Vitruvian Orders, the very first page of the Fourth Book indicates the glaciation effect. On this page, five complete Orders of Architecture are drawn on the same plate. The complete set is enclosed within the limited boundaries of the page. They are accepted as they are and then encased.

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[93] Sebastiano Serlio, "Five Bookes of Architecture: Translated out of Italian into Dutch and out of Dutch into English : Serlio, Sebastiano" Internet Archive (Robert Peake, digitalized on January 1, 2011), https://archive.org/details/firstbookeofarch00serl/mode/2up, 234.
[94] Sebastiano Serlio, "Five Bookes of Architecture: Translated out of Italian into Dutch and out of Dutch into English : Serlio, Sebastiano" Internet Archive (Robert Peake, digitalized on January 1, 2011), https://archive.org/details/firstbookeofarch00serl/mode/2up, 236.
[95] Ibid, 236.

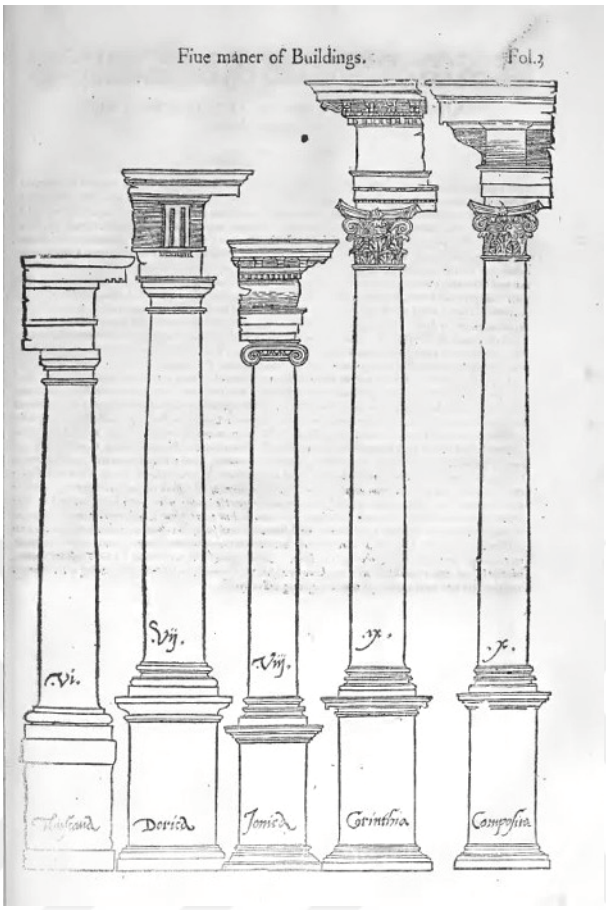


Figure 3.12 The Plate representing the complete set of orders, frozen on a page

Rules regarding the way to build were set and their validity was not to be questioned until late 17th -18th centuries, their validity was not to be questioned. According to Perez Gomez, Orders were defined as a complementary reflection of a bigger whole. It was believed that Orders represent the order of supra-lunar world perceived as divine.[96] This wholistic understanding which connects the so-called macro system to microstructures also criticized and questioned by Adorno.

[96] Stephen Parcell and Gómez Pérez Alberto, *Chora* (Montréal Que.: McGill University Press for the History and Theory of Architecture Graduate Program, McGill University, 1999), 4.
After mentioning the validity of numerical proportions, he says that Orders being focal point of treatises had not been changed until the late 18th century.

3.2.2 Architecture in Erring

The second state is the 'nature in erring.' This state is previously defined as the phase in which 'nature' is gone astray from its ordinary course by "perverseness, insolence, and forwardness of matter, and violence of impediments."[97] Although it refers to a condition that is 'off' the natural course, 'in erring' condition is not excluded, yet it is accepted as a part of nature, though deviated. An awareness of its being 'off' is developed, and it is declared as erroneous; however, here, error is not understood as intentional, but it is positioned as a contingency that is to be eliminated. While the state 'in course' in architecture marks a condition in which architecture consolidates its authority through its productions, the architecture 'in erring' can be understood as the phase in which the errors are defined as the thresholds of architectural reasoning, where the normative framework is subjected to unexpected deviations. Since the architectural 'Orders' historically represent one of the most enduring normative systems in architectural thought, the state 'in course' centers its attention on these structures of authority. Accordingly, this section begins by examining how error is conceptualized within the framework of the Orders themselves, and then turns to two distinct forms of identifying and suppressing architectural errors.

Within this framework of rules and 'Orders,' error is not left entirely undefined. Rather, it is aimed at being identified and classified to be eliminated, evoking Goldhagen's 'surgical excisions,'[98] thereby maintaining disciplinary integrity. Error, understood as the deviation from the normative ways of practicing architecture, is treated as something to be avoided; therefore, tactics are developed to defeat the anxiety it produces. Although the architectural treatises written until the 18th century predominantly focus on defining and codifying the Orders, it is still possible to find dispersed references to error, or alternative terms that substitute it, revealing a

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[97] Carolyn Merchant, ""The Violence of Impediments": Francis Bacon and the Origins of Experimentation," *Isis* 99, no. 4 (December 2008): 731–60, https://doi.org/10.1086/597767, 741.
[98] This term is discussed in Chapter Two with reference to the Kuhn's understanding of 'anomaly.'

parallel discourse of exclusion within the normative systems. A brief examination of the 'errors' identified in canonical architectural treatises reveals that while these deviations are inseparable from the architectural production processes, their existence poses a danger to the internal coherence of the disciplinary thinking.

Vitruvius mentions some defects while defining a method or giving information about material selection, without devoting a section to errors. In a way, he relates the idea of error with the idea of building appropriately. He uses the errors to define the requirements for a structure to be appropriate. Errors are not the major issue, but they are perceived as a supplementary element to differentiate the proper and the improper. In parallel to the way he approaches the Orders, the Errors are dispersed in the text, and they are not treated as a complete set of tools. There is no subchapter devoted to the Errors; for example, Vitruvius did not have an urge to provide a chapter for them. He mentions them within the text, not in a hierarchical way. In other words, order and error are regarded as parts of the work done. Errors are not unexceptional, outrageous or terrific.

However, Alberti touches upon the errors could have been occurred in the structure under the title of "*Of the Defects in Building, whence they proceed, and their different Sorts; which of them can be corrected by the Architect, and which cannot; and the various Causes of a bad Air*" in the first chapter of the 10th book. He uses the word "defect" and creates an analogy between diagnosing the cause of a disease and diagnosing an error in a building. He says that "knowledge of the patient's distemper is the greatest step towards his cure."[99] Later, he categorizes the defects as the ones that are innate and exterior. He further regroups them as the "Errors of Mind" and "Errors of Hand". The first group refers to more serious errors stemming from a thought/design process, whereas the latter refers to the practical mistakes that occurred during the construction.

[99] Leon Battista Alberti, *The Ten Books of Architecture: the 1755 Leoni Edition*, trans. Cosimo Bartoli and Giacomo Leoni (New York: Dover Publications, 1986), 209.

There is also another concept that leaves an in-between space between order and error. This is *amendment*, meaning betterment of the work without completely obeying the fixed rules. This blurs the border between order and error by highlighting the individual talent and drive of the architect. Although an error is perceived as the thing to be corrected, the concept of 'amendment' accepts a certain level of straying from the well-defined Order.

There are also other terms, derived from specific treatises, that can be related to the concept of error. For example, Serlio introduces the term *accidenti*. In the Introduction written by Vaughan Hart and Peter Hicks, it is stated that the term *accidenti* has nothing to do with the accident.[100] For Hart and Hicks, it refers to situations occurring during the phases of thinking and making derives from the relationality between the context and the idea. Although it is said that there is no relation with accident, Hicks and Hart also says that *accidenti* is used for the "unusual, but predictable enough architectural situations".[101] Palladio also uses the word "fault" to define the deviant productions of architecture. Perrault mentions 'abuses' that encompasses diverse conditions considering wall and column relation, alteration of Orders, and, treating parts of the column differently. However, for a certain extend he thinks that some alterations are good in terms of paving a way for inventions.[102]

Thinking error as a heterogeneity and an absence, the correspondence of these acts in architecture can be found in Vitruvius' and Gallaccini's definitions of error. One

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[100] The usage of the term *accidenti* brings forward the difference between accident and mistake. J. L. Austin who is a philosopher of language dwells on the difference between *by accident* and *by mistake* in his 'Plea for Excuses'. This discussion can be further detailed in relation to usage of error, accident and mistake in architectural treatises.

[101] Sebastiano Serlio, Vaughan Hart, and Peter Hicks, *Sebastiano Serlio on Architecture* (New Haven: Yale University Press, 1996), xxxii.

[102] Perrault 's position regarding the ancients and the moderns is important for this study. In the light of reason and rationalization, he questioned the already established rules of ancients and aimed to systematize them. The tactics developed belong to the 17th and 19th centuries sharing the commonality of having the effort of scientification and systematization of the discipline of architecture.

of the most prominent errors mentioned in the architectural treatises is mixing the parts of different orders. Vitruvius mentioned that kind of error by referring a painting but more specifically Gallaccini mentioned and illustrated that situation by labeling it as unacceptable condition.[103] However, as Daniel Sherer discussed, Michelangelo is "the enemy of error and champion of truth" for Vasari.[104] Michelangelo's architecture, like many other architectural critics, is evaluated as dynamic and inventive as it was the case for Vasari. He warns other architects who attempt to copy Michelangelo's work not to fall into error, while he praised his way of producing and disrupting conventional forms.[105] Another error mentioned by Gallaccini is broken pediments in which the continuation of pediment is disrupted by providing a fissure and creating an absence. Gallaccini gives many examples and says that "who is he, who wanted to break the roof of his home, to give more grace to the appearance of the house? Certainly none.". Later, he condemns Michelangelo for attempting to rape the rectitude of art. [106] He additionally uses the word violence.

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[103] Daniel Sherer, "Error or Invention? Critical Receptions of Michelangelo's Architecture From Pirro Ligorio to Teofilo Gallaccini," *Perspecta* 46 (2013): pp. 76-113, 90.
[104] Ibid, 79-80.
[105] Ibid.
[106] Antonio Visentini and Teofilo Gallaccini, *Osservazioni Di Antonio Visentini Architetto Veneto Che Servono Di Continuazione Al Trattato Di Teofilo Gallaccini Sopra Gli Errori Degli Architetti* (Venezia: Pasquali, 1771), 41. Translated from Italian: "Finally, it is a very notable mistake, when over the ornaments of the Temples, Chapels, Altars, and Doors, instead of making the entire frontispieces and pediments to accommodate the broken ones, believing with the rupture to give grace to the ornament. That really the frontispieces are nothing but the gable and the roof of the factory. And who is it, who wanted to break the roof of their home, to give more grace to the appearance of the house? Certainly no one. Nor has it ever been found that the Ancients used to make the frontispiece broken, but always made it whole, either round, or angular with two slopes, which commonly they say to two waters, that is, to two streams of waters, or rather with a false slope. And even when, in accordance with the modern license, others wished to break the frontispiece, one of two drawbacks would be cured, that is, either by making the break correspond to the height of the columns, the frontispiece would be too narrow; or by making this part larger than the columns, it would protrude from the background given and would be excessive. And these are two notable defects arising from breaking the frontispiece. Nor because Michelangelo Buonarrotti, called the Divine, was its inventor, and being most excellent in Sculpture, Painting, and Architecture, but driven by necessity, he must carry a similar use in every purpose, and in every place, without any necessity, and no grace whatsoever: because that which has been done once, and by accident cannot nor should it become a rule of good work; that accidents force craftsmen to depart from the rectitude of their art; and such violence does not always force, but sometimes, and therefore it cannot make us a rule: that the rule is always good."

At the end of this paragraph, Gallaccini prioritizes being royal to the rules for a thing to be graceful and good.

Thus, error is alternatively defined as *faults, defects, abuses, accidenti* within the architectural treatises. However, there is a specific treatise dwelling on the errors in architecture. This text, entitled as *Trattato Sopra Gli Errori Degli Architetti* meaning "Treatise on The Errors of Architects", is written by Teofilo Gallaccini in 1625. He lived between the years 1564 and 1641 and worked as a professor of mathematics and logic at the University of Siena. Alina Payne, in her book *The Telescope and the Compass: Teofilo Gallaccini and the Dialogue Between Architecture and Science in the Age of Galileo*, critically compiled the information from the biographers of Gallaccini and defines his subjects of interest as poetry, epigraphy, ballistics, anatomy, astronomy, fortification and art. He wrote on these diverse subjects, but the only manuscript that was published on architecture is *Trattato Sopra Gli Errori Degli Architetti*.[107] It was published long after Gallaccini's death in 1767, with an expansion of Antonia Visentini's commentaries. The treatise consists of three parts, in a way arranged according to phases of construction. In Part I, errors including site selection, material selection denotes for the pre-construction decisions whereas Part II is reserved for the design related issues, such as the proportions of the parts, dispositioning of elements and the last part, which is related the "abuses 'modern' architects" had attempted. The last part is mostly for the construction-related issues. There are many plates illustrating the erroneous applications, and nearby a correction to the specific condition is provided. What is interesting is that the author has no confusion regarding what is wrong and what is right. He created a list of errors in a totalitarian way. Considering the time in which the book was written and the publishing, it is quite possible to relate his clear-cut identifications of error with the obsession with unity.

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[107] Alina Payne, *The Telescope and the Compass: Teofilo Gallaccini and the Dialogue Between Architecture and Science in the Age of Galileo* (Firenze: L.S. Olschki, 2012).

Alina Payne, in her book, also mentions Gallaccini's unfinished text on perspective. She quotes an interesting passage in which Gallaccini relates the eye being at the center of the crystalline sphere and the Earth being at the center of all spheres.[108] From this anecdote, it might be a bit far-fetched, but his strict definition of what is wrong or right could be perceived as parallel explanations in the holistic way with a totalitarian understanding. It is also stated that, apart from Gallaccini's being contemporary with Galileo, who is known as one of the protagonists of the Scientific Revolution, two scholars shared a similar scientific environment in Siena. Therefore, it is not irrational to think Gallaccini had the influence of scientific developments prioritizing the reason, systematic thought, and totalizing unity.

While Gallaccini is not the only historical figure to engage with architectural error, the traces of these as efforts of exclusion are easy to find in foundational historical architectural treatises, his treatise on error, nonetheless, stands as a significant instance. Its significance derives from its being one of the most systematic and visually articulated record of errors in the practice of architecture. His classification and representation of the errors combine text and drawing, marking a significant moment in the disciplinary anxiety to define and eliminate errors. The textual description may leave gaps, yet the annotated drawings eliminate any possible ambiguity regarding the identification of the error and how to correct it. Yet, this motivation to identify architectural errors is not the sole example.

A similar urge can be found in a 19th-century architectural thinker, Karl Friedrich Schinkel's textbook for architecture students. [109] *Das Architektonisches Lehrbuch* includes pages that list architectural errors in the form of annotated drawings

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[108] Alina Payne, *The Telescope and the Compass Teofilo Gallaccini and the Dialogue between Architecture and Science in the Age of Galileo* (Firenze: Olschki, 2012), 45. Payne interprets this situation as Gallaccini's submission to the orthodox authority in order not to lose his position in the society. But at the same time, within the same book, she mentions that Gallaccini is a follower of Galileo's works. He even published books on astronomy stating that the surface of the moon is not homogeneous.

[109] This instance of error that is operationalized in architectural thinking is put forward during a discussion with Sezin Sarıca. Her thesis includes Schinkel in a broader and comprehensive manner.

dispersed throughout the page. This although differs from Gallaccini's treatise of errors in terms of the audience targeted, the motivation that made to create the list of errors in a graphical manner is the same. What is interesting is that through this book of Schinkel that is compiled as a textbook for architecture students, the relationship between to teach and to prohibit things once more becomes validated. To teach in the most superficial layer, is to be able to make the students learn about the 'orders,' while excluding the instances labeled as 'errors.'

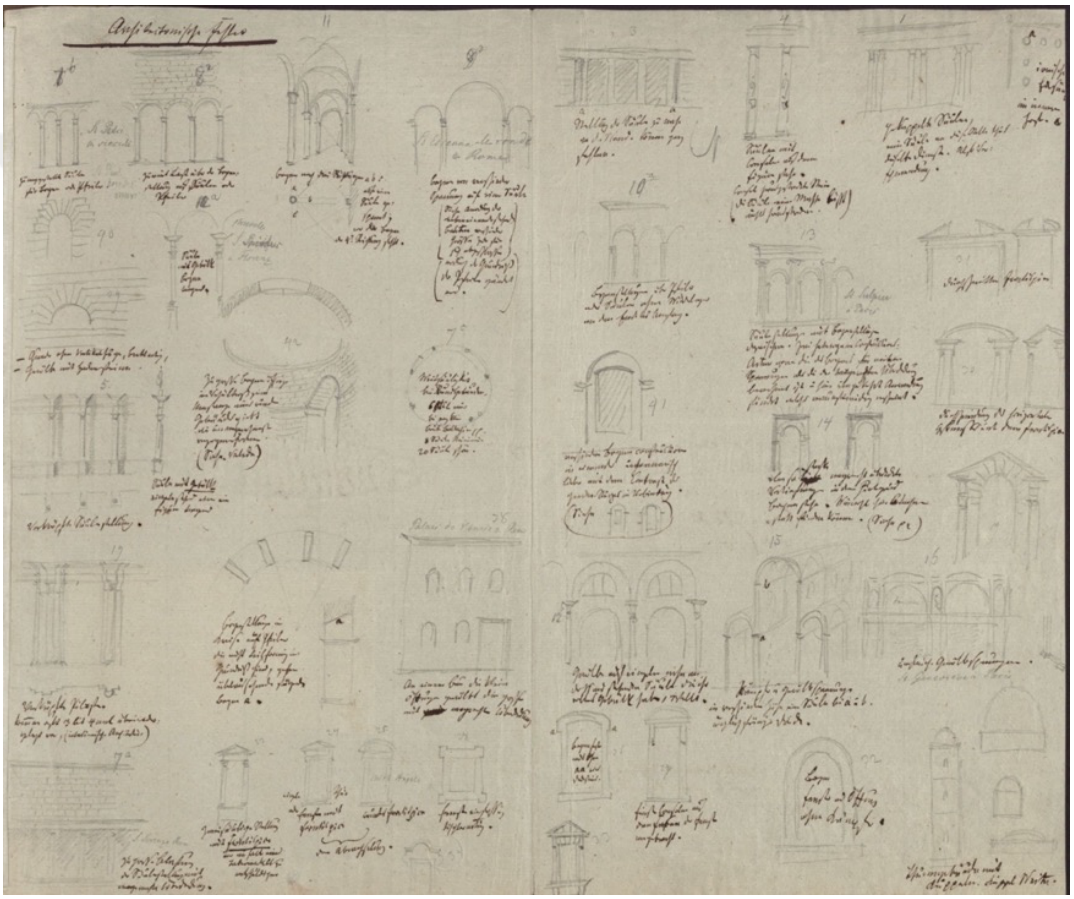


Figure 3.13 "Fehler der Architektur," 1827, from *Das Architektonisches Lehrbuch,* Schinkel

With a historical jump, this validated relationship, established between teaching and prohibiting, can also be found in Rob Krier's book *Architectural Composition* (1988). The foreword directly addresses architecture students, stating that "this book deals with the problems of architectural design and is aimed at students of

architecture in the early part of their training."[110] He further defines his aim as to "formulate and establish a set of ground rules" to guide the architectural composition, and the first chapter following the foreword starts with a list entitled as the "Architectural Guidelines."[111] Following this list, the chapter "Function and Form" discusses the two foundational terms, which are either understood as assets that follow each other or in opposition. Krier proposes that the problem and its possible solutions "lie in the coordination" of the two.[112]

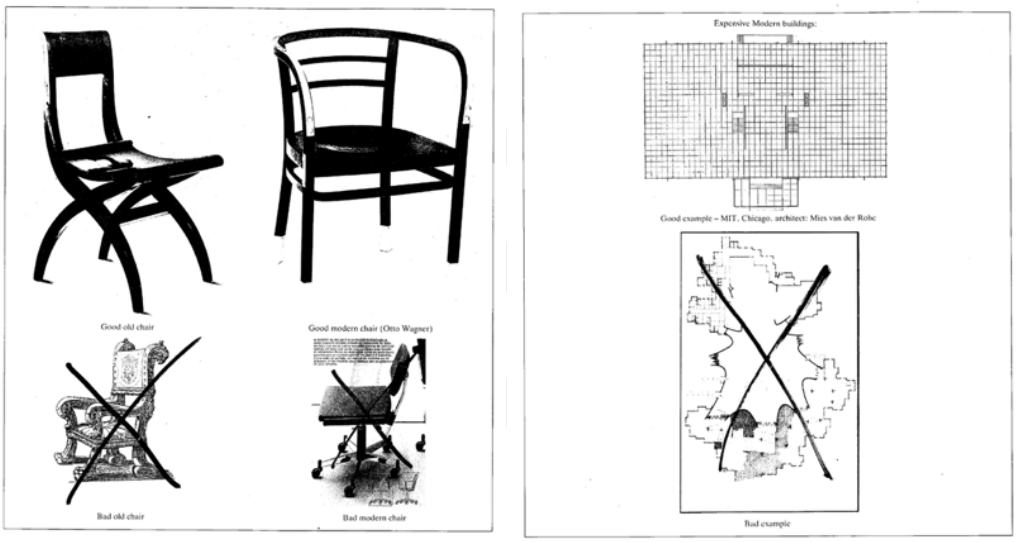


Figure 3.14 Pages from the book *Architectural Composition*, 1988, Rob Krier

After a brief discussion of these terms, he adds paired representations of design works, either a chair or a plan layout, in a format that adopts a binary graphic logic that affirms one of them as 'good' and condemns the other as 'bad.' The 'bad' examples are crossed out. Here, an error exists in a didactical framework, and it is not an inherent part of any designerly process or a source for speculative deviation. Error, here, becomes a didactic tool through which architectural norms are reinforced; through errors, the taste is prescribed, judgment is pre-defined, and

[110] Rob Krier, *Architectural Composition* (New York: Rizzoli, 1988), 7.
[111] Ibid.
[112] Ibid, 11.

correctness is ensured. If Gallaccini sought to rescue the discipline from degeneration, Krier's images instruct it through contrast. In both cases, however, error is not only discussed but also drawn, made visible in order to be policed, corrected, or instrumentalized.

3.2.3 Architecture in Wrought

'Nature in wrought,' for Bacon, is the state in which the natural entity and an artificial force meet. Differing from the state in erring, this one is for the condition that the intervention, whether theoretical or material, does not operate within an ordering system; in other words, it does not reflect itself as a minor diversion within a system, as in the cases of Pantheon and Çemberlitaş. This category, remembering reading Nicaea's Hagia Sophia, refers to a complete subversion that does not negotiate with the established order but undermines it. From this perspective, 'architecture in wrought' can be understood as the state of architecture that takes the canonical, accepted forms of making architecture in any period of time as its point of departure yet defines its trajectory through the processes of decontextualization and destabilization of the canonical architectures for the sake of generating a critical stance. Abstaining from matching this state to certain movements and ideologies, this part of the text is to discuss 'architecture in wrought' through the canonical images of architecture and their subversive transformation.

In this sense, architecture wrought is not simply a departure from order but an active engagement in its undoing, opening the possibility for forms that no longer reaffirm the visual or spatial codes through which we identify architectural types. What follows is an exploration of such forms: those that confront the iconography of the house or the temple and, rather than subtly altering their language, stage a more radical subversion of their representational frameworks.

Rather than reverting to stylistic labels or established movements, terms like Deconstructivism or Mannerism that risk flattening the complexity of architectural gestures, this approach privileges a reading attentive to the subversion of typological images themselves. It shifts focus away from historical periodization or stylistic lineage, toward the forms through which architecture makes itself recognizable: the gabled roof of the house, the colonnaded front of the temple, the rhythmic bays of the basilica.

These canonical images of architecture are selected as the departure point to study the subversion. In this sense, these images are considered as guiding, firstly because focusing on their subversion helps to eliminate the risk of generalization that might arise from projecting the discussion of the state of 'architecture in wrought' to the entire body of production, referring to specific movement and ideology, which is not aligned with this text's approach. In addition to that, these images are powerful in terms of possessing a symbolic clarity in their reference to particular architectural typologies, making the process of decontextualization and destabilization meaningful and precise. This, shifting the focus from the labels such as mannerist and deconstructivist to an order-error related perspective through familiar figures, readjusts the priority of selection to the forms of subversion.

Understood as the purposeful errors that deliberately distort the accepted forms or images of architecture, 'architecture in wrought' may find its relevancy in the works of well-known architects, Giulio Romano, Michelangelo or Bartolomeo Ammanati. Palazzo del Te, designed by Giulio Romano, with its façade facing the inner courtyard, illustrates the condition in which the rules of classical architecture are distorted not subtly but unapologetically.



Figure 3.15 Palazzo del Te, 1525-1535, Giulio Romano, façade facing the interior courtyard

Although it may not be read as an exact example of the total subversion, the slipped triglyphs can easily be seen as architectural jokes that tease the solidity of the frieze as a monolithic element of architecture and distort its regularity and linearity. A similar purposeful deviance is visible in the pediment between the two pilasters. The pediment that is supposed to follow the outlines of a triangle is broken as if it is created through the assemblage of two linear fragments or the complete outline of the triangle is spoiled because of the excessive pressure caused by the giant key stone underneath. At least considering these, the subversive questioning of the canonical rules and the idea to challenge their validity take the shape of the slipped triglyph and a broken pediment, threatening the homogeneity and regularity of the façade organization.

Without attempting to say a new word on Michelangelo's Laurentian Library, especially the *ricetto,* after Wittkower's detailed analysis, this specific part of the library highlights a certain architectural thinking that operates apart from a rule-based route that enables a questioning of the symbolic and the functional.

Acknowledging that it is not revolutionary to discuss the Laurentian Library as the architectural stage in which the classical rules are deviated, mentioning this substantial example of architecture is essential to comprehend and vaguely draw the borders for 'architecture in wrought.' Thinking Bacon's understanding of 'wrought' as the state in which the nature comes across with an artificial force, here the natural can be understood as practicing architecture through the classical rules of making, with the accepted elements of architecture. The artificial force is the individuality of the architect and his particular genius that distorts the accepted forms and the images of architecture, as it can be seen, again, in the broken pediment of *ricetto'*s entrance door or the columns not having bases.

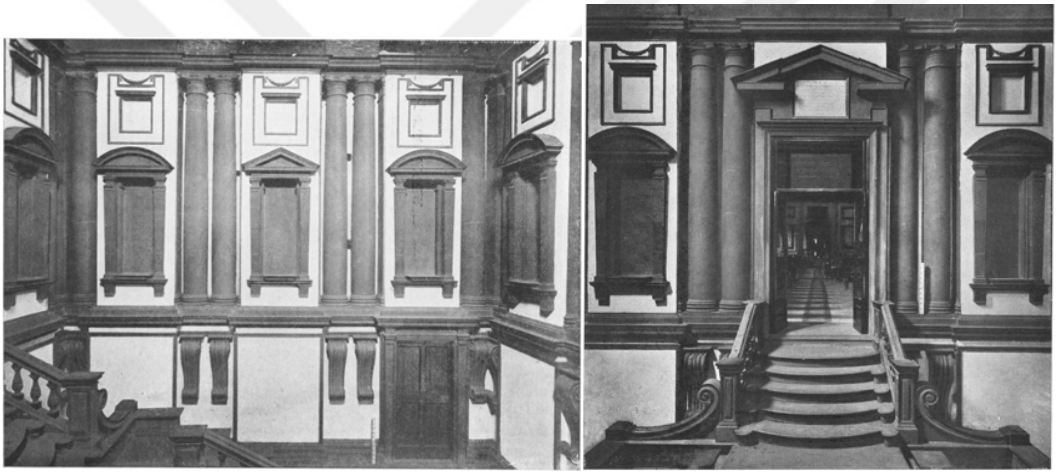


Figure 3.16 Laurentian Library, 1524-1534, Michelangelo, the interior wall, and the entrance door of the *ricetto*

Being familiar figures of architecture that derived from the image of the ancient temple, these two visual examples showing a different elaboration of this familiar figure, though not subjected to a thorough review of their historical contexts, may help to clarify the state that of 'architecture in wrought.' A similar strand may include Aldo Rossi's variations that diversify this specific image, in which the pediment is a part of it, by distorting it through the act of repetitive drawing of the same image. Independent of the century in which it is produced, familiar figures or images of architecture are reproduced through breaking the continuity of an architectural element, highlighting the absence of it or altering the proportional relations and

decomposing the parts of the image, as can be seen in Rossi's buildings and sketches, to compose neither completely familiar nor entirely alien to the accepted mental image of making architecture.

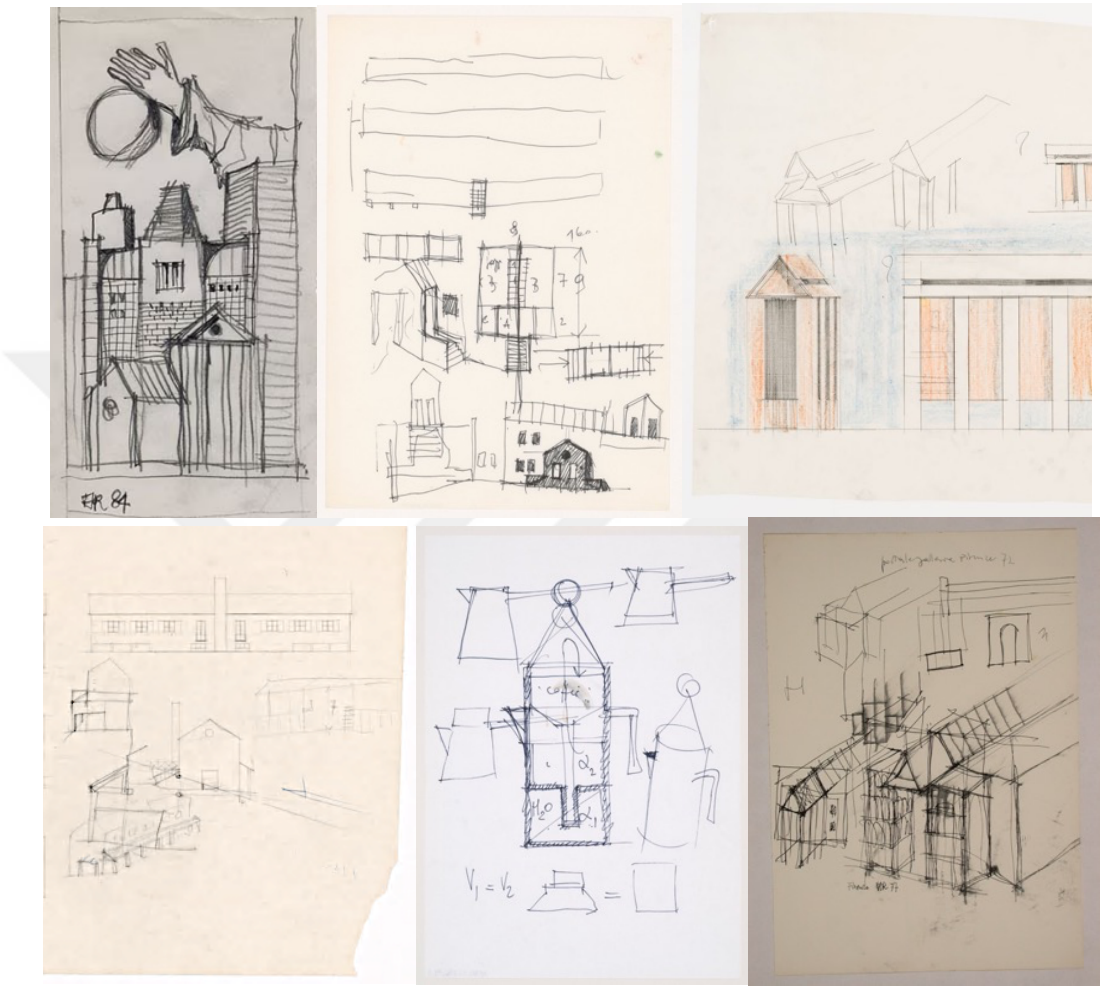


Figure 3.17 Aldo Rossi sketches showing the variation, 1970s onwards.



Figure 3.18 Aldo Rossi, Molteni Funerary Chapel, 1980

Inserting deliberate errors into architectural thinking processes creates a tension between the accepted rules, implicitly, the interiorized orders, and the peculiarities embedded within the thinking and making processes. These processes include both analytically planned schemas and intuitively erratic contingencies. This encounter establishes a liminal space between order and error, positioning error as a form of liberation, in the cases of Romano and Michelangelo, disrupting the imposed harmony; as a method of creative variation evident in Aldo Rossi's sketches and buildings, distorting the fixed images of architecture. Also, this may manifest itself in Denise Scott Brown and Robert Venturi's architectural thinking, where error functions as a critical strategy.

This use of error as a critical strategy materialized in diverse compositions that reflect their architectural thinking; however, in parallel to the distortion and the variation of one of the canonical architectural elements, the broken pediment, Vanna Venturi House becomes prominent. In the book that focuses only on the Vanna Venturi House, Venturi wrote a note that he evaluates the house 25 years after it is completed. In this note, he referred to the pediment as the element "was unusual then,

and is typical now."[113] As opposed to the order, being one of the "circumstantial elements of this house" as opposed to "the order," the symmetrically divided pediment works a part that complements the "difficult unity of a medium numbers of diverse parts rather than the easy unity of few or many motifs."[114] This whimsical usage of the element can be read as the core of Venturi &Scott Brown's architecture, as it is defined in the famous book *Complexity and Contradictions* under the title 'Nonstraightforward Architecture: A Gentle Manifesto.'[115]

> Architects can no longer afford to be intimidated by the puritanically moral language of orthodox Modern architecture. I like elements which are hybrid rather than "pure," compromising rather than "clean," distorted rather than "straightforward," ambiguous rather than "articulated," per verse as well as impersonal, boring as well as "interesting," conventional rather than "designed," accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear. I am for messy vitality over obvious unity. I include the non sequitur and proclaim the duality.[116]

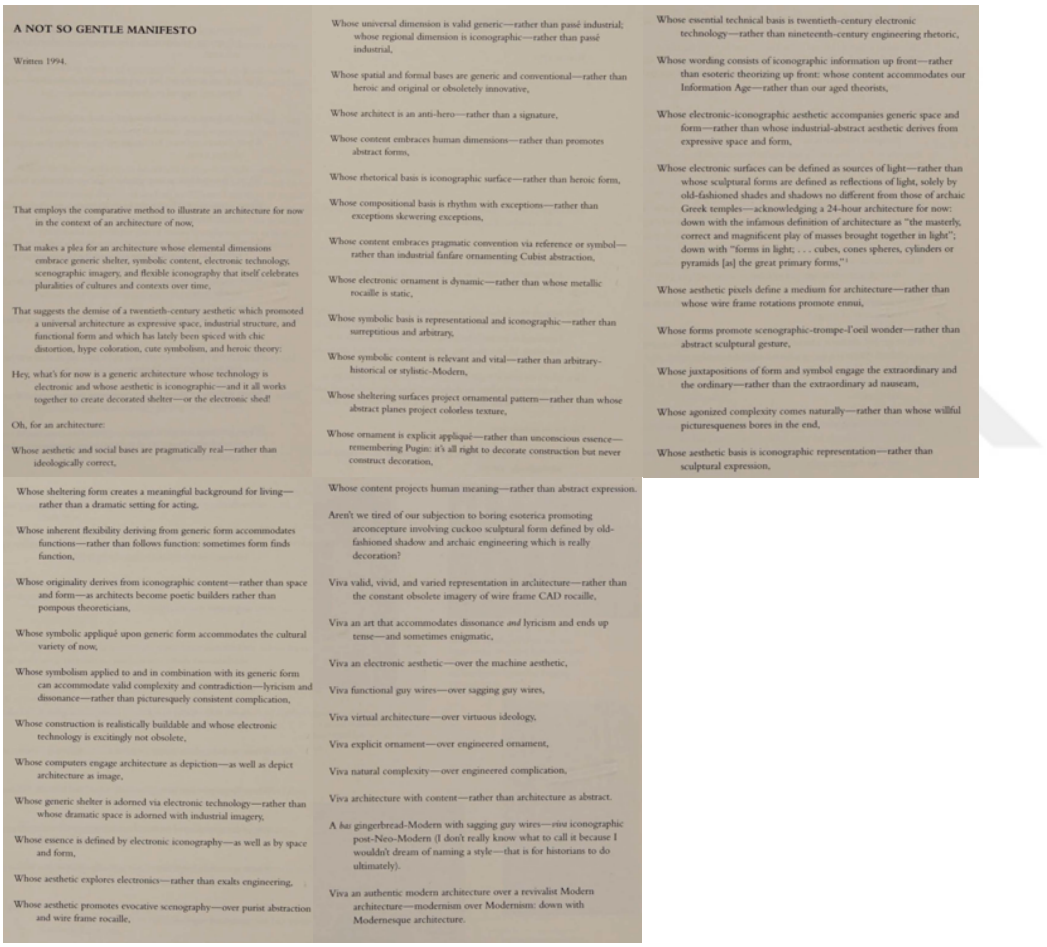
The language of the cited text is provocative due to its frequent use of the first-person singular and the verb 'like,' symbolically emphasizing personal preference on the textual plane, as opposed to a morally neutral vocabulary. This rhetorical stance extends to his architectural theory, where he directly challenges the prescriptive conventions embodied in "puritanically orthodox Modern architecture."[117] Throughout his writings, Venturi positions his practice amidst a constellation of seemingly contradictory adjectives, and states that he favors the hybrid,

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[113] Robert Venturi, Vincent Scully, and Aldo Rossi, *Mother's House: The Evolution of Vanna Venturi's House in Chestnut Hill*, ed. Frederic Schwartz (New York: Rizzoli, 1992), 35-36.
[114] Ibid, 30.
[115] Robert Venturi, *Complexity and Contradiction in Architecture*, (New York: The Museum of Modern Art, 1966), 16.
[116] Ibid.
[117] Venturi uses Modern Architecture (capital M) in his manifesto as a critique to a prescriptive and reductive form of modernism. "Viva an authentic modern architecture over a revivalist Modern architecture – modernism over Modernism: down with Modernesque architecture." Robert Venturi, *Iconography and Electronics upon a Generic Architecture: A View from the Drafting Room* (Cambridge, Mass: MIT Press, 1996), 15.

compromising, conventional, accommodating, redundant, inconsistent, and equivocal, culminating in what he calls a 'messy vitality.' He then concludes the introductory paragraph of his gentle manifesto by affirming his embrace of multiplicity and the *non sequitur*, invoking logical fallacy as a critical device in architectural thought.

In the book, *Iconography and Electronics Upon a Generic Architecture*, he includes another manifesto entitled "A Not So Gentle Manifesto" in the form of a list that orders his architectural thinking.[118]



A NOT SO GENTLE MANIFESTO

Written 1994.

That employs the comparative method to illustrate an architecture for now in the context of an architecture of now,

That makes a plea for an architecture whose elemental dimensions embrace generic shelter, symbolic content, electronic technology, scenographic imagery, and flexible iconography that itself celebrates pluralities of cultures and contexts over time,

That suggests the demise of a twentieth-century aesthetic which promoted a universal architecture as expressive space, industrial structure, and functional form and which has lately been spiced with chic distortion, hype coloration, cute symbolism, and heroic theory:

Hey, what's for now is a generic architecture whose technology is electronic and whose aesthetic is iconographic—and it all works together to create decorated shelter—or the electronic shed!

Oh, for an architecture:

Whose aesthetic and social bases are pragmatically real—rather than ideologically correct,

Whose universal dimension is valid generic—rather than passé industrial; whose regional dimension is iconographic—rather than passé industrial,

Whose spatial and formal bases are generic and conventional—rather than heroic and original or obsoletely innovative,

Whose architect is an anti-hero—rather than a signature,

Whose content embraces human dimensions—rather than promotes abstract forms,

Whose rhetorical basis is iconographic surface—rather than heroic form,

Whose compositional basis is rhythm with exceptions—rather than exceptions skewering exceptions,

Whose content embraces pragmatic convention via reference or symbol—rather than industrial fanfare ornamenting Cubist abstraction,

Whose electronic ornament is dynamic—rather than whose metallic rocaille is static,

Whose symbolic basis is representational and iconographic—rather than surreptitious and arbitrary,

Whose symbolic content is relevant and vital—rather than arbitrary-historical or stylistic-Modern,

Whose sheltering surfaces project ornamental pattern—rather than whose abstract planes project colorless texture,

Whose ornament is explicit appliqué—rather than unconscious essence—remembering Pugin: it's all right to decorate construction but never construct decoration,

Whose essential technical basis is twentieth-century electronic technology—rather than nineteenth-century engineering rhetoric,

Whose wording consists of iconographic information up front—rather than esoteric theorizing up front: whose content accommodates our Information Age—rather than our aged theorists,

Whose electronic-iconographic aesthetic accompanies generic space and form—rather than whose industrial-abstract aesthetic derives from expressive space and form,

Whose electronic surfaces can be defined as sources of light—rather than whose sculptural forms are defined as reflections of light, solely by old-fashioned shades and shadows no different from those of archaic Greek temples—acknowledging a 24-hour architecture for now: down with the infamous definition of architecture as "the masterly, correct and magnificent play of masses brought together in light"; down with "forms in light; . . . cubes, cones spheres, cylinders or pyramids [as] the great primary forms,"[1]

Whose aesthetic pixels define a medium for architecture—rather than whose wire frame rotations promote ennui,

Whose forms promote scenographic-trompe-l'oeil wonder—rather than abstract sculptural gesture,

Whose juxtapositions of form and symbol engage the extraordinary and the ordinary—rather than the extraordinary ad nauseam,

Whose agonized complexity comes naturally—rather than whose willful picturesqueness bores in the end,

Whose aesthetic basis is iconographic representation—rather than sculptural expression,

Whose sheltering form creates a meaningful background for living—rather than a dramatic setting for acting,

Whose inherent flexibility deriving from generic form accommodates functions—rather than follows function: sometimes form finds function,

Whose originality derives from iconographic content—rather than space and form—as architects become poetic builders rather than pompous theoreticians,

Whose symbolic appliqué upon generic form accommodates the cultural variety of now,

Whose symbolism applied to and in combination with its generic form can accommodate valid complexity and contradiction—lyricism and dissonance—rather than picturesquely consistent complication,

Whose construction is realistically buildable and whose electronic technology is excitingly not obsolete,

Whose computers engage architecture as depiction—as well as depict architecture as image,

Whose generic shelter is adorned via electronic technology—rather than whose dramatic space is adorned with industrial imagery,

Whose essence is defined by electronic iconography—as well as by space and form,

Whose aesthetic explores electronics—rather than exalts engineering,

Whose aesthetic promotes evocative scenography—over purist abstraction and wire frame rocaille,

Whose content projects human meaning—rather than abstract expression.

Aren't we tired of our subjection to boring esoterica promoting arconcepture involving cuckoo sculptural form defined by old-fashioned shadow and archaic engineering which is really decoration?

Viva valid, vivid, and varied representation in architecture—rather than the constant obsolete imagery of wire frame CAD rocaille,

Viva an art that accommodates dissonance *and* lyricism and ends up tense—and sometimes enigmatic,

Viva an electronic aesthetic—over the machine aesthetic,

Viva functional guy wires—over sagging guy wires,

Viva virtual architecture—over virtuous ideology,

Viva explicit ornament—over engineered ornament,

Viva natural complexity—over engineered complication,

Viva architecture with content—rather than architecture as abstract.

A *ba* gingerbread-Modern with sagging guy wires—*viva* iconographic post-Neo-Modern (I don't really know what to call it because I wouldn't dream of naming a style—that is for historians to do ultimately).

Viva an authentic modern architecture over a revivalist Modern architecture—modernism over Modernism: down with Modernesque architecture.

Figure 3.19 *A Not So Gentle Manifesto*, Robert Venturi

[118] Robert Venturi, *Iconography and Electronics upon a Generic Architecture: A View from the Drafting Room* (Cambridge, Mass: MIT Press, 1996), 11-16.

This list defining his architectural thinking includes a reference from Le Corbusier that emphasizes architecture as "the masterly, correct and magnificent play of masses brought together in light," and refers to this definition as passé.[119] As opposed to this very much defined, accurate, and certain definition of architecture, he prioritizes a rather ambiguous viewpoint that promotes "scenographic-trompe-l'oeil wonder- rather than the extraordinary *nauseam*."[120] The words used, scenographic, trompe-l'oeil, and wonder, denote an architecture that includes contradiction, interpreted as intentional errors, within itself, that materializes contradiction in the forms of a confusing surprise, a deceitful trickery, or a peculiar admiration.

One of the deliberate agents that brings the confusion, deception, and peculiarity, for them, is the adoption of the iconographic image, thereby creating dissonance and tension.[121] Vanna Venturi House, considering this statement, once more becomes interesting with the sketch of Venturi in which the house was drawn in elevation with an enigmatic addition of a smoke issuing from the chimney. This sketch in elevation highlights a simple generic imagery for architecture, though it is full of deceits, distortions, and confusions deliberately inserted within the process of thinking. The elemental image of the house is fragmented in appearance, twisted in terms of meaning, and distorted in the plan schema. The domestic archetype is both there and, in fact, it is not. As they describe, the symbolic reference is both implicit and explicit. The conventional generic image is explicit in plain sight, yet it is implicitly spoiled to direct a formal critique of canons in an ironic manner by using the most basic image for a house.

[119] Ibid, 13.
[120] Ibid.
[121] Ibid, 51.

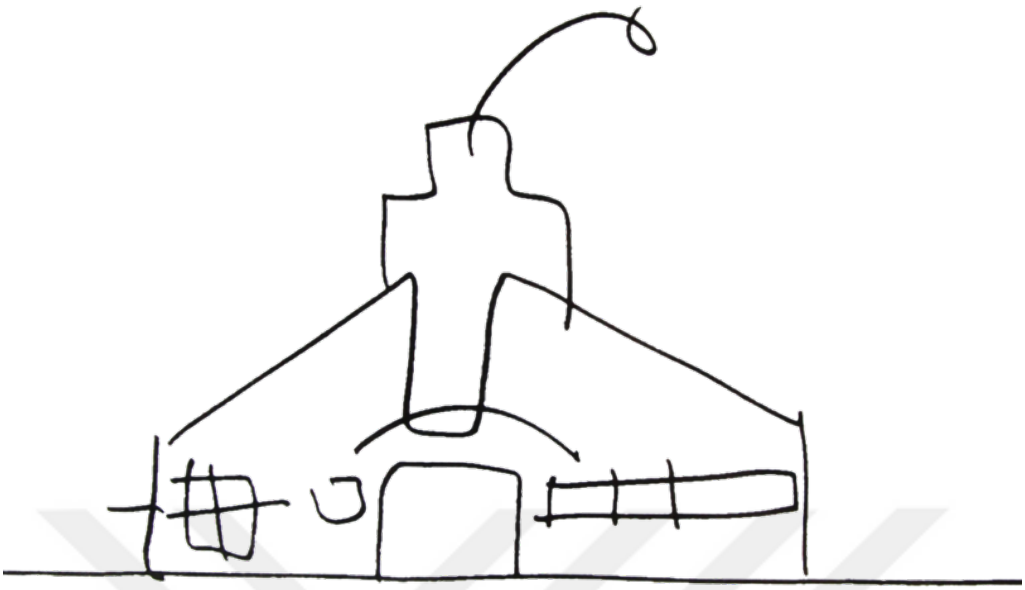


Figure 3.20 Robert Venturi's sketch

The image of the house and its purposeful distortion can also be found in Eisenman's serial experimental house schemas. Reflecting itself as a series of creative explorations, Eisenman himself states that these explorations are to destabilize and decontextualize the meaning of the house and the elements of the architecture.[122] The columns of the House I are used as non-structural elements, purposefully. He says that at first glance, the columns and the beams might appear as the conventional part of the structural system, as they are in the 'conventional building, yet they are not. Examining the House I's column and beam configuration confuses one's mind regarding the building's structural system, since they are placed in random order, not following a gridal pattern and the using what can be perceived as columns at first glance are hanged. He says that he does this purposeful subversion in order to

[122] Peter Eisenman, "House I, 1967," in *Five Architects: Eisenman, Graves, Gwathmey, Hejduk, Meier*, ed. Peter Eisenman (New York: Oxford University Press, 1975), 15-16. The book Tracing Eisenman complete works, refer to the house III as the "third in a series of investigatory house projects that have searched for the nature of form-meaning relationship in architecture." Colin Rowe, "Introduction," introduction, in *Five Architects: Eisenman, Graves, Gwathmey, Hejduk, Meier*, ed. Peter Eisenman (New York: Oxford University Press, 1975), 40.

"unload the structural meaning" of the renowned elements.[123] Complementarily, he uses the columns, in two forms, as notations for two formal compositional system that he employed in the design process.[124]

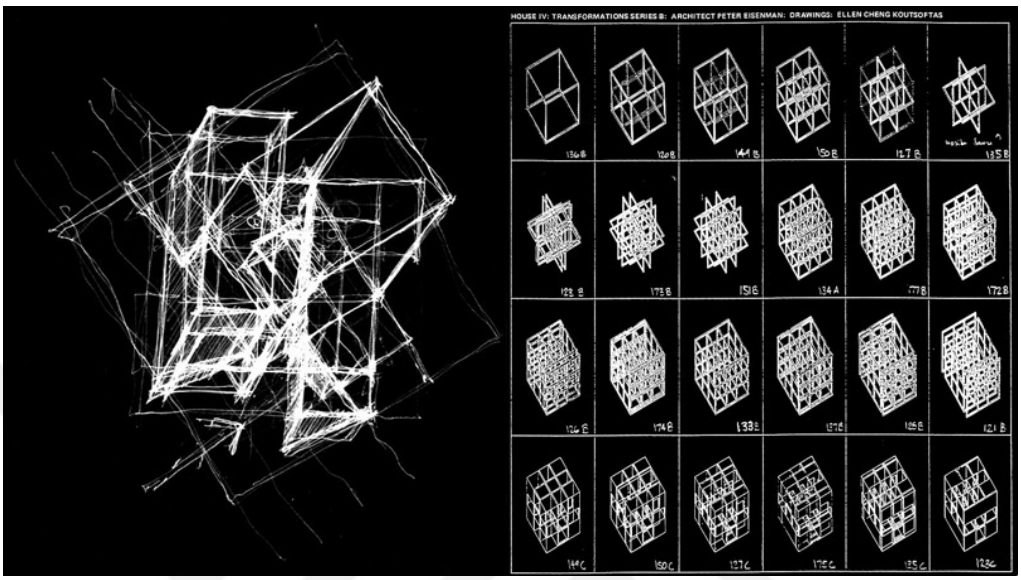


Figure 3.21 Eisenman's table-like drawings

He perceives these purposeful destabilizations and decontextualizations as mandatory to develop a level of consciousness that will activate a critique of the existing situation in architecture.[125] He even locates the inhabitants of the house as the intruder who is expected to participate in the process of transformation of the space through the negative feeling of not belonging. Sarah Whiting writes in the compiled book for Eisenman's practice, as this alienation of the viewer or the inhabitant "from norms, expectation, and habits serve as a wake-up call, shocking view into new spatial possibilities."[126] She further reads his practice as "displacements, shifts, rotations, and multiplications turn a single object into

[123] Peter Eisenman, "House I, 1967," in *Five Architects: Eisenman, Graves, Gwathmey, Hejduk, Meier*, ed. Peter Eisenman (New York: Oxford University Press, 1975), 16.
[124] Ibid.
[125] Ibid, 17.
[126] Stan Allen et al., *Tracing Eisenman: Peter Eisenman Complete Works*, ed. Cynthia Davidson (New York: Rizzoli International, 2006), 104.

many."[127] Her definition for his entire practice can also be found in the axonometric table-like drawings of him, implying both a way of thinking and making that derives its productive force from purposeful deviations.

Within this framework, 'architecture in wrought' emerges as a mode of critical deformation. It does not simply depart from the Orders but actively interrogates and reshapes them, exposing the ideological, symbolic, and compositional scaffolding upon which they rest. Across these movements, from Mannerism to Deconstructivism, Bacon's states of nature provide not only a historical lens but also a theoretical tool to understand how architecture negotiates the spectrum between order and error, between control and release. In wrought is never purely about mastery; it is about the continuous negotiation with 'in course' and 'in erring,' a site where making and thinking collide, and where architectural expression becomes a field of critical inquiry.

Taken together, the three states, 'in course, in erring, and in wrought,' offer a conceptual scaffold for rethinking architectural production beyond the binaries of correct and incorrect, order and disorder. The three states, 'in course, in erring, and in wrought,' outline a spectrum through which architecture negotiates its relationship to order. Architecture 'in wrought' moves beyond the margins of error to engage the very frameworks of order as sites of intervention. It does not merely deviate, it reworks, distorts, and transforms. Here, architecture no longer hides its tensions, it performs them. Architecture 'in erring' exposes the moments when this coherence fractures. It refers to the misalignments, slippages, and contingencies that unsettle the discipline from within. Error, here, is not total rupture, but a threshold, where normative assumptions meet their limits and the disciplinary apparatus begins to strain. Erring names the point at which architecture's desire for regulation becomes complicated by the realities of materiality, construction, and judgment. Architecture 'in course' refers to those practices in which norms are stabilized, authority is

[127] Ibid.

reaffirmed, and disciplinary frameworks operate without interruption. These states do not form a hierarchy or a sequence, but rather trace how architecture shifts between consolidation, disruption, and reinvention. They allow us to read architectural production not as a history of styles, but as a dynamic field shaped by its ongoing tension with the idea of order itself.

CHAPTER 4

DISPLAYING INTERFACES: MEDIATORY SURFACES

The previous chapter illustrates one of the major claims of this study, that when architectural thinking and making are configured as transformative states, the authority of orders would be loosened, whereas the marginalized errors would reclaim their validity as an intrinsic part of any process. In this way, as discussed in the chapter "Rejecting the Opposition" through Theodor Adorno's 'negative dialectics', the presupposed hidden hierarchy between the terms, order and error, is dismantled, revealing them as non-hierarchical and co-constitutive moments of architectural thought and practice. This act of dismantling, as opposed to any act that presupposes a hidden hierarchy, further asks for a reconciliatory process of orders and errors, continually negotiates between the particular and the universal, subjectivity and objectivity, and artistic freedom and rational systematization.[128]

Such reconciliation between the terms refers to an understanding that sets the trajectory of order parallel to the error, marking the other fundamental claim of this study. For the initiation of any reconciliatory process, the seemingly contradictory parts must converge on a common ground, to organize the boundary between them so that neither term is understood in isolation but rather in constant, reciprocal relation. This study, acknowledging the interdependency of order and error and the significance of reconciliation between the terms, proposes that the metaphorical

[128] Conceptualized in the cases of the double pediment of the Pantheon, the converted church-mosque in *Nicaea*, the mutilated corner of Çemberlitaş Hamamı, Pier Patte's corrections on the urban tissue, and plywood palace as the traces of the reconciliations between orders and errors. Each instance reveals a response to some form of insufficiency, whether in thought, material, technique, calculation, or unforeseen circumstance, while simultaneously generating a new architectural condition that reorders the act of making.

surfaces on which the components of dualities converge are the interfaces that regulate the moments of architectural thought and practice.

The term interface, although its usage as a metaphor adds another layer of abstraction and might have the risk of obscuring the relationality between order and error, remains indispensable precisely because it denotes both the adjacency of two parts and the possibility of transforming one another. It is a term that derives its authority primarily from computer science; however, its definition in Physics is rather influential for this study in terms of the configuration of the states of architecture and their transformability to each other. Interface, in physics, is defined as the "surface separating two phases of matter, a thin layer that has properties differing from those of the bulk material on either side."[129] This definition highlights an implicit surface that acts as an invisible border separating the one from the other. The invisible border is not there under stable conditions, but a change in environmental variables, such as the change in the pressure level or the temperature, makes this surface operative. The regions on either side of this interface derive from the same substance, but in different states, and lie adjacent to one another, engaging in mutual mediation as the phase transition unfolds. The parts on either side, the same matter though in different states, form this surface. Through this surface, their separation and mediation are regulated. They are adjacent to each other and have the potential to transform into one another during the phase transition process.

This surface, where the states of matter are ordered, is interpreted as the regulatory mechanism that draws the line between the proper and the improper, beautiful and ugly, good and bad, and various kinds of binaries inherent in architectural thinking and making. Understanding the surface as the contact zone of the orderly and the erroneous, this chapter looks into certain forms of architectural interfaces that delineate the rules of thinking and making and regulate the relation between order

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[129] "Interface," *Encyclopædia Britannica*, accessed June 1, 2025, https://www.britannica.com/science/interface-physics.

and error. These interfaces are both visual representatives of ordering processes- whether this order comes with a tabular form having columns and rows creating "if-then" conditions of rules, or it is defined through a patterned geometrical relationality series, or in the form of a linear enumeration of principles, and they are also perceived as epistemological tools that shape the ways of knowing and knowledge production beyond being merely prescriptive.

Interfaces are active mediators; in other words, active visual embodiments of ordering processes that both reveal and reshape our epistemic frameworks. Regardless of their formats, they actively shape the production of architectural knowledge by making the norm visible and the deviant evident, structuring the definitions and applications of the past, validating ways of sense-making, and therefore attaining a role of mediator. They become the very surfaces upon which the negotiation between order and error is rendered visible. In this way, architectural interfaces do more than prescribe; they reveal hidden hierarchies, exposing zones of instability, and providing the means to interrogate, generate, and transform our understanding of form and process.[130]

Although the interfaces discussed in this chapter are understood as hierarchically equivalent in terms of their capacity to how and what to know, the study acknowledges that each interface operates through a distinct operational logic. List are understood as enumerative and declarative statements that consolidate historical narratives, often operating through the power of rhetoric. Tables, on the other hand, with the emphasis of the structuralist thought and a connotation of 'objective and scientific' ways of thinking and knowing, operate through relational form that structures various kinds of information on the same surface. Patterns are not

[130] The roles that which the interfaces undertake was referred more specifically as decoding, encoding and formation in Chapter Two, "Rejecting the Opposition." Here, to interrogate, generate, and transform are mentioned as broader terms that can be related to decoding, encoding and formation. These will be expanded in each subchapter through the discussion of the selected sporadic architectural interfaces.

understood as two-dimensional decorative guides, but rather as projective schemas that operate through a serial mechanism, relating repetition to variation. It is the claim that the ways of transcribing knowledge, whether it is in the form of a table, pattern, or a list, are active mediators between the definition and application, sense-making processes, and its transmission.

A detailed analysis of Peter Galison's reading of objectivity through the different regimes of image-making processes has been presented in the Chapter Two. This reading offers a tripartite classification of image-making processes, matching these differing regimes with the prevailing understanding of objectivity and subjectivity. As it is also introduced earlier, his framework presents three modes of image-making: the metaphysical, mechanical, and interpretative. The metaphysical prioritizes an idealized image that detects errors, anomalies and 'corrects' monstrous or wondrous conditions; the mechanical image of objectivity refers to a process that a secondary mechanical device is trusted and the human intervention is an ethical concern; and the interpretative image, on the other hand, is for a reading of the scientific image knowing both the actual condition of the object depicted and the drawbacks of the device that produces the images and prioritize the interpretation of the scientist. Galison's interpretation of changing image-making processes guides this chapter's understanding of the table, pattern and lists, not directly juxtaposing his time-based definition but rather, adopting his major claim that these processes are significant and effective in shaping the knowledge, it is intended to set an inquiry on the effective interfaces that shape architectural knowledge. Therefore, each subchapter is to build on Galison's clarification of the image-making processes, not explicitly comparing and juxtaposing his readings but implicitly expand on his major claim.

With this aim, this chapter unfolds interfaces as mediatory surfaces through three primary subchapters, tables, patterns, and lists, referring to different modalities, each of which enact a distinct mode of ordering and knowledge production in

architecture.[131] Each mode is aimed to be further evaluated according to the framework provided by Peter Galison: the metaphysical, mechanical, and interpretative registers. This framework, as discussed in the Chapter Two, 'Rejecting the Opposition,' is organized primarily according to a successive time frame that is defined by shifting regimes of image-making, dependent on the prevailing conception of 'scientific,' and thus 'objective' knowledge. However, this chapter aims to extend Galison's classification of schemas beyond its historical chronology to examine the motives and the operational logic of the interfaces. Acknowledging the fluid dynamic between any categories, it is also not the aim to label the discussed interfaces as strictly metaphysical, mechanical, and interpretative; these are used to guide the discussion.

Before diving into architectural interfaces that are believed to shape the knowledge production, a brief exemplary look at the interfaces of different disciplines will help both comprehend Galison's framework, in terms of lists, tables and patterns, and evaluate the role they may take in the processes of thinking and making apart from the timeframe that Galison draws. Among these exemplars, Alphonse Bertillon's *Tableau Synoptique des Traits Physionomiques* (1909) occupies a particularly provocative position.

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[131] This understanding, that discusses the significance of the interfaces in the processes of 'ordering' knowledge, positions lists, tables and patterns not sole visual representations hinting at an end-product, but they are understood as the modes of reasoning, having the potential to reveal the sensibilities within a process. While these mediating surfaces function as formal structures that orders/curates knowledge through typology, classification, and serialization, they can also be considered as parts of different 'modes of possessions' that relates to the technicities that determines the relationality with the world. Accepting the validity of the variety of modes of possession requires a mode of knowledge production that prioritizes 'transmodality,' as Andrej Radman and Stavros Kousulas discuss in their introductory text to the Footprint journal. For further insight please refer to: Stavros Kousoulas and Andrej Radman, "Transmodality, or What It Means to Have Intelligence," *Footprint* 19, no. 1 (June 20, 2025): 3–10.

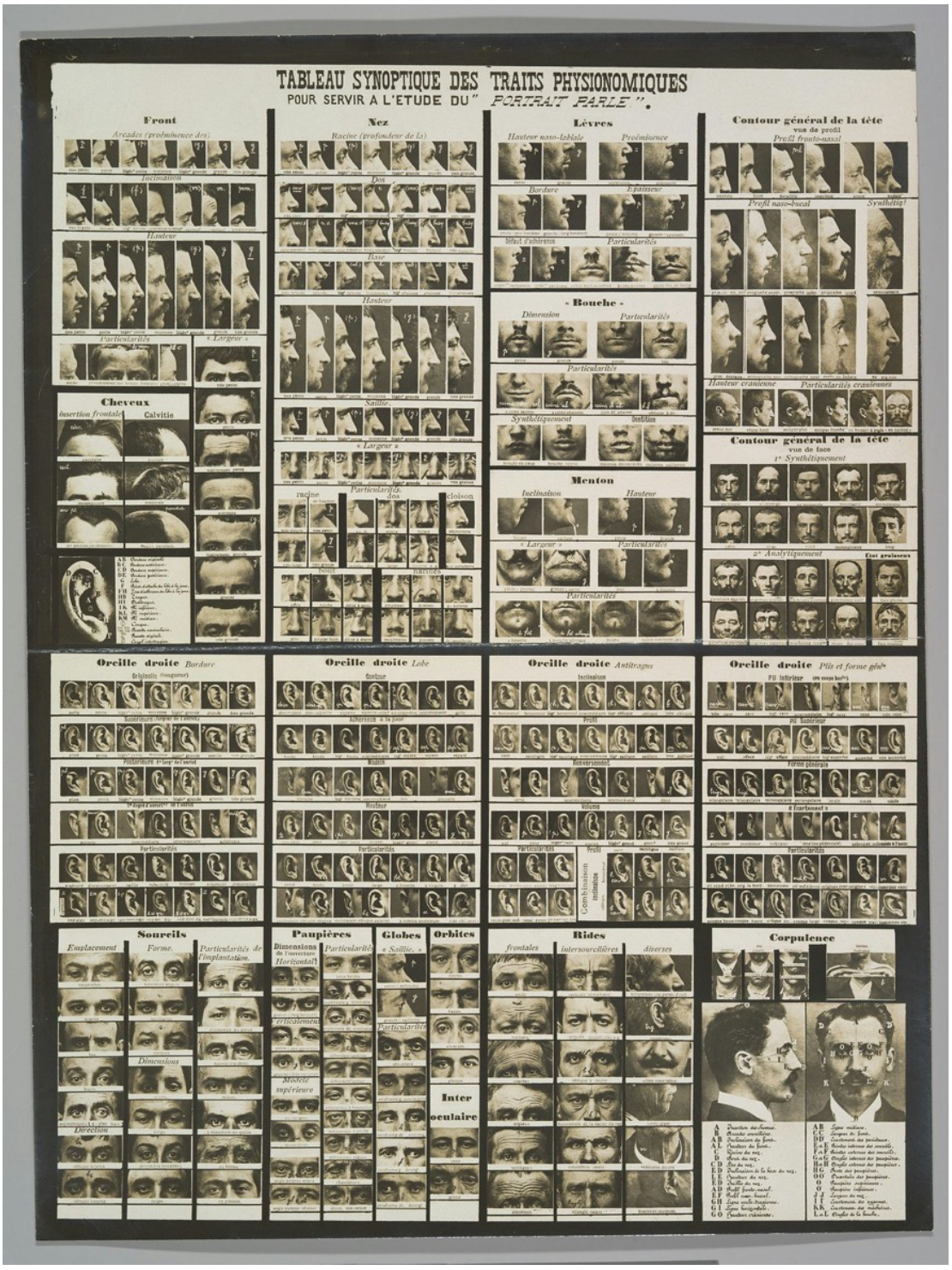


Figure 4.1 *Tableau Synoptique des Traits Physionomiques*, 1909, Alphonse Bertillon

This table was produced by Alphonse Bertillon, a police officer who wanted to systematize the process of detecting criminals, put into practice in 1883.[132] Through methodical visits to prisons, he recorded the measurements of the criminals' faces as accurately as he could and subsequently classified the collected data alongside their photographs in the *Tableau Synoptique des Traits Physionomiques*. The provocative nature of this table stems from its ambition to collect and organize a dataset that is difficult to quantify. Measuring the criminals' faces constitutes the foundation for his proposal to systematize this detection.

Given that the tendency towards criminal behavior and the anthropometric measurements as non-complementary traits that are unlikely to have an impact on each other, it can be said that his method searches for a simple solution to a complex task of identifying the criminals and even codifying their physical appearance. By treating these non-complementary variables as if they are related in an 'idealized' world, Bertillon's method reduces criminal behavior to a formula, overlooking the multifaceted nature of the problem. Moreover, this simple yet reductive solution renders the ambition of fully systematizing criminal behavior through quantitative data fundamentally incoherent.

Established on the collection of the particulars to propose a universal system that is valid for every situation, the primary purpose of this table is to teach police officers to make them more equipped with the ability to detect the anomalous. Although the reductive nature of the method was known and it was criticized, the authority of the same method, made visible through the table to teach, was not shaken until the discovery of the 'fingerprint' as a more convenient and more accurate method. Through that table, parts of the face are classified according to the character of that specific part, and, this highlights the slippery position of both the method and the

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[132] "Alphonse Bertillon's Synoptic Table of Physiognomic Traits (ca. 1909)," *The Public Domain Review*, accessed July 1, 2025, https://publicdomainreview.org/collection/alphonse-bertillon-s-synoptic-table-of-physiognomic-traits-ca-1909/.

table, as its visual and material deduction, in between the particular and the universal, the ultimate rationalization proposed by the method and the complexities of the human nature. Positioned between the ideal definition of a method and its rigorous application, this table, resembles the proportional rules that guarantee the harmony derived from nature. With these characteristics, it serves as an exemplar of metaphysical schema from Galison's tripartite configuration, although that is aided by the mechanical apparatus of photography. As its purpose is to teach, the table abstracts certain measurements and the relations of parts to whole.[133] Yet when the focus shifts from the abstracting the raw measurements to the reduction of the relation between the physical appearance and the criminal behavior to a measured code, this systematic tool might result in extremist approaches that are experienced as the total catastrophes of humanity, as it is seen in the ideological program of Aryan racial 'purification' under the Nazi regime.

The intentions of an interface or the expansion of its usages are beyond control; however, knowing its ordering mechanism and affordances helps to anticipate the boundaries of mediation between order and error. Shifting from a tabulated surface whose claim is to teach to differentiate the anomalous from the 'normal,' to an interface that patronizes the relations among the constituent parts highlights that although both types of interfaces regulate the border between seemingly oppositional elements, their operational logics differ fundamentally. The strict 'if-then' logic that is ensured by the *Tableau Synoptique des Traits Physionomiques* may leave its place

[133] It is not the focus of this study to discuss part and whole and the relationality between them extensively. The focus, rather is on tables that organizes the relations between the parts, having an impact on the wholes. Therefore, both the usages, part and whole, in the entirety of this study is in an abstract line, do not search for material or exact counterparts of the parts and wholes. The significance of parts and wholes in architectural thinking is discussed by Seray Türkay in her PhD thesis "Part and Whole: A Mereological Framework for Architectural Form." The mentioned thesis locates part and whole together with their relationality as prior to architectural knowledge not only as a design tool but also effective in understanding and constructing epistemological and methodological approaches. In addition to Türkay's decoding of architectural knowledge through parts and wholes, there is also mereotopology that focuses on the relationality between the parts problematizing the boundary conditions.

to a rather flexible ordering in a tailor's pattern. Tailor's pattern means *patron*, in Turkish, and not being far from its meaning in English, it refers to an authoritative figure, either a person who is the principal responsible for the employees or a father in a broader sense of a protector. Apart from these, in another context, it refers to the 'template' that is created out of paper to trace the shape of the garment on the textile. It works as a guide for the form, proportion, and size, and it also identifies the garment parts evolving into a form of clothing. As an interface, the tailor's pattern, *patron* in Turkish, not only prescribes cutting lines and assembly rules but also mediates between the material behavior of fabric and the designer's intent, making it an ideal case for examining how pattern-based interfaces reconcile order and error in practice. It embodies geometrical relationality with a flexible bordering on the edges of the fabric. This flexible space designated as the seam allowance, the area between the stitching line and the raw edge of the fabric, provides the possibility to modify the size or design and allows for amendments, giving a free space for possible errors.

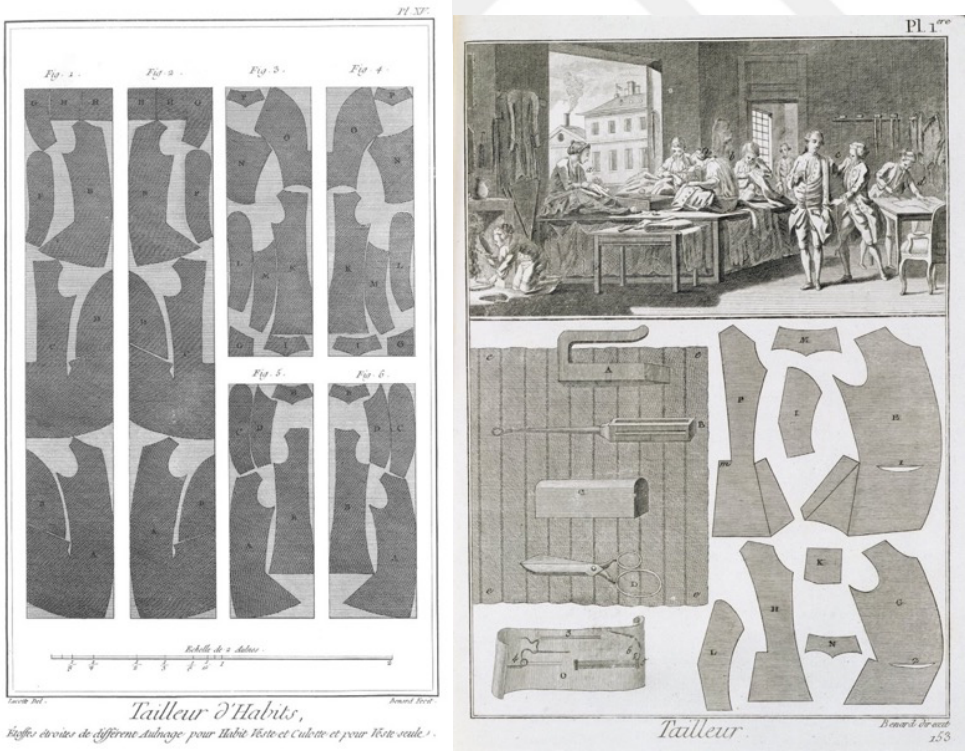


Figure 4.2 Tailor's pattern from Diderot's encyclopedia

The relationality between employing a pattern and the urge to achieve a regular, mechanical and repetitive production that guarantees standardized outcomes to a certain extent is quite evident. However, as it is seen in the configuration of the tailor's pattern that introduces a flexible boundary around the fabric, depending on the configuration, not the final products of the pattern, this guiding interface does not have to end up with mere soulless artifacts. Depending on how it is understood and employed, the outcomes might be evaluated as clichéd or novel. While patterns serve as a guide, how the idea of pattern is adopted can affect the implementation, thus the variation.

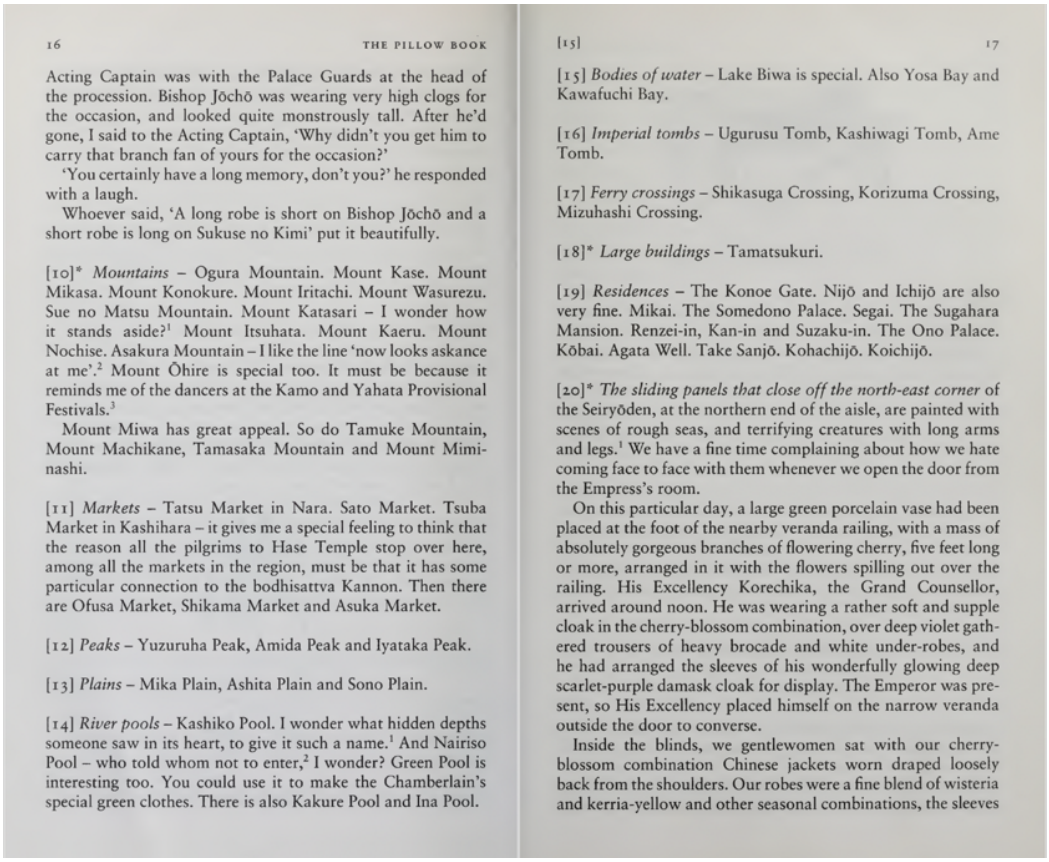
Tailor's pattern, with its balance of order and adaptability, exemplifies how a guiding interface can shape outcomes that are both authentic and coherent. It offers a rational system not only for drawing the generative lines that form individual garment parts but also for composing these parts, establishing rules for their combination into a three-dimensional envelope around the body. This rational system, however, continuously oscillates between a strictly mechanical logic proposing a consistent repetition and the artistic intervention giving a certain level of freedom to divert a mechanically defined process. Seen from this perspective, with its procedural emphasis and guiding a process through repeatable methods, a tailor's pattern may fall into the mechanical schema from Galison's definitions. However, its allowance of a level of freedom also converges this scheme with interpretive processes that anticipate the fabric, composition, and three-dimensionality.

This dual character underscores how the tailor's pattern operates not merely as a mechanistic template but also as a site of creative negotiation, where established rules are continually reinterpreted with the consideration of material behavior and tacit know-how. In this way, the pattern becomes an interface, mediating between automated consistency and the craftsman's intuitive adjustments. It has been stated that the relationship between employing a pattern and the need to achieve a regular production process is evident. While patterns inherently facilitate regular, repeatable production processes, their very structure also casts deviations into relief, making anomalies within a patterned series more striking. This evident deviation may even

increase the value of the artifact, as is the case in the hand-knotted carpets. Christopher Alexander, who is known for his book *A Pattern Language: Towns, Buildings, Constructions* as the second volume of the eight-volume book series, later in volume seven, *A Foreshadowing of 21st Century Art,* discusses Turkish rugs. He reads the patterns, interpret their meanings, and relates the configuration of 'pattern' with the architectural and urban productions. Although he does not mention the presence or the meaning of an error, whether purposeful or not, it is common knowledge that a deviation within a geometrically well-defined pattern yields the presence of a 'hand' in the process of making and highlights the craft as opposed to an industrial production. Therefore, an error means authenticity and being one of a kind.

Patterns define geometrical relations for processes of making, and they also have the capability to offer a way of thinking, as seen in the tailor's configuration of patterns. They take place in the formation of the process, both in the parts and the composition, whereas the table example, *Tableau Synoptique des Traits Physionomiques,* decodes data to make it communicable and teachable. Lists, with another focus, work as the codes for both making and thinking. As an aid to memory, a list can be interpreted as a surface on which the overarching principles, specific requirements, and discrete items are encoded. Thinking about its relationship with the mnemonic activities and its coding of the overarching principles, specific requirements and discrete items, the subjectivity of the memory and the objective connotation of the words (principles, requirements and items) shows the ambiguous condition of this interface in between objective and subjective being. Bridging the experiential memory (subjective) and the categorical language (objective), lists occupy an inherently ambiguous position that both stabilizes knowledge through formal categories and enables its flexible reinterpretation through individual recollection.

Revealing the ambiguous position between categorical language and experiential input, one of the best examples might be the *Pillow Book*, written as a diary in the form of a list in the 10th century. This book, as it is said, is not for public dissemination.[134] It is rather a personal record that lacks a logical sequence, either alphabetic or thematic order. As the page below shows, it includes both descriptive and informative content- the list of mountains, markets, bodies of water, imperial tombs, and the subjective and emotionally registered narratives. This condition may seem absurd; however, the type of document, a personal journal, may provide an acceptable framework for this absurdity.



16 THE PILLOW BOOK

Acting Captain was with the Palace Guards at the head of the procession. Bishop Jōchō was wearing very high clogs for the occasion, and looked quite monstrously tall. After he'd gone, I said to the Acting Captain, 'Why didn't you get him to carry that branch fan of yours for the occasion?'

'You certainly have a long memory, don't you?' he responded with a laugh.

Whoever said, 'A long robe is short on Bishop Jōchō and a short robe is long on Sukuse no Kimi' put it beautifully.

[10]* *Mountains* – Ogura Mountain. Mount Kase. Mount Mikasa. Mount Konokure. Mount Iritachi. Mount Wasurezu. Sue no Matsu Mountain. Mount Katasari – I wonder how it stands aside?[1] Mount Itsuhata. Mount Kaeru. Mount Nochise. Asakura Mountain – I like the line 'now looks askance at me'.[2] Mount Ōhire is special too. It must be because it reminds me of the dancers at the Kamo and Yahata Provisional Festivals.[3]

Mount Miwa has great appeal. So do Tamuke Mountain, Mount Machikane, Tamasaka Mountain and Mount Mimi-nashi.

[11] *Markets* – Tatsu Market in Nara. Sato Market. Tsuba Market in Kashihara – it gives me a special feeling to think that the reason all the pilgrims to Hase Temple stop over here, among all the markets in the region, must be that it has some particular connection to the bodhisattva Kannon. Then there are Ofusa Market, Shikama Market and Asuka Market.

[12] *Peaks* – Yuzuruha Peak, Amida Peak and Iyataka Peak.

[13] *Plains* – Mika Plain, Ashita Plain and Sono Plain.

[14] *River pools* – Kashiko Pool. I wonder what hidden depths someone saw in its heart, to give it such a name.[1] And Nairiso Pool – who told whom not to enter,[2] I wonder? Green Pool is interesting too. You could use it to make the Chamberlain's special green clothes. There is also Kakure Pool and Ina Pool.

[15] 17

[15] *Bodies of water* – Lake Biwa is special. Also Yosa Bay and Kawafuchi Bay.

[16] *Imperial tombs* – Ugurusu Tomb, Kashiwagi Tomb, Ame Tomb.

[17] *Ferry crossings* – Shikasuga Crossing, Korizuma Crossing, Mizuhashi Crossing.

[18]* *Large buildings* – Tamatsukuri.

[19] *Residences* – The Konoe Gate. Nijō and Ichijō are also very fine. Mikai. The Somedono Palace. Segai. The Sugahara Mansion. Renzei-in, Kan-in and Suzaku-in. The Ono Palace. Kōbai. Agata Well. Take Sanjō. Kohachijō. Koichijō.

[20]* *The sliding panels that close off the north-east corner* of the Seiryōden, at the northern end of the aisle, are painted with scenes of rough seas, and terrifying creatures with long arms and legs.[1] We have a fine time complaining about how we hate coming face to face with them whenever we open the door from the Empress's room.

On this particular day, a large green porcelain vase had been placed at the foot of the nearby veranda railing, with a mass of absolutely gorgeous branches of flowering cherry, five feet long or more, arranged in it with the flowers spilling out over the railing. His Excellency Korechika, the Grand Counsellor, arrived around noon. He was wearing a rather soft and supple cloak in the cherry-blossom combination, over deep violet gathered trousers of heavy brocade and white under-robes, and he had arranged the sleeves of his wonderfully glowing deep scarlet-purple damask cloak for display. The Emperor was present, so His Excellency placed himself on the narrow veranda outside the door to converse.

Inside the blinds, we gentlewomen sat with our cherry-blossom combination Chinese jackets worn draped loosely back from the shoulders. Our robes were a fine blend of wisteria and kerria-yellow and other seasonal combinations, the sleeves

Figure 4.3 *Pillow Book*

[134] Sei Shōnagon, *The Pillow Book*, trans. Meredith McKinney (London: Penguin Books, 2006), xxi.

Although this irrational formation of the listing, presenting neither a personal journal nor an objective list, in the *Pillow Book* at first glance is explained by the type of work, absurdities are not hard to run into even within a systematically well-organized, clear, and straightforward format, an encyclopedia, arguably the most mechanical and rational means of gathering knowledge. It is known that when Diderot edited the first volume of his encyclopedia, together with a group of collaborators, certain irregularities were detected within the text, including the language usage, text length, and the level of detail provided in each article.[135] Even, for a period of time, the encyclopedia, the format that aims to ambitiously collect and classify the knowledge of the globe, was banned for the reason that it violates the morals of the public. Regardless of the type of 'errors,' whether they are the absurdities of the content or the language, or the unorthodox classification of the topics, the differences, off-conditions, and the discrepancies are discussed by the scholars to generate statements.

As one of the very much-discussed influential categorical lists, Diderot's Encyclopédie is not free from so-called 'errors.' The *Preliminary Discourse to the Encyclopedia of Diderot* discusses the aims, principles, and outline of the Encyclopedia project. This book also includes a chart that lists the topics explained within the volumes and illustrates the categorization logic.

[135] Sam Stark, *Diderot: French Philosopher and Father of the Encyclopedia* (New York: Rosen Pub. Group, 2006), 78. Also, this issue is discussed in the book Philipp Blom, *Enlightening the World: Encyclopédie, the Book That Changed the Course of History* (New York: Palgrave Macmillan, 2005).

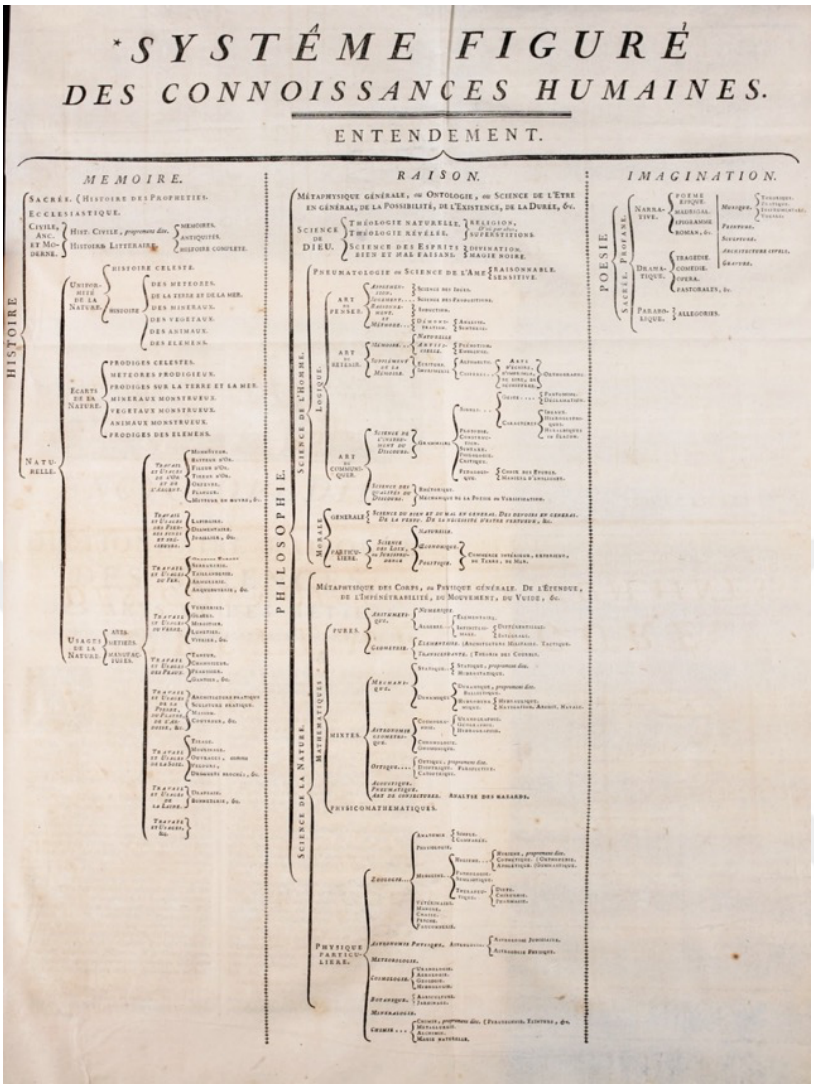


Figure 4.4 The page from the *Preliminary Discourse* entitled as "Detailed System of Human Knowledge" showing the classification of knowledge,

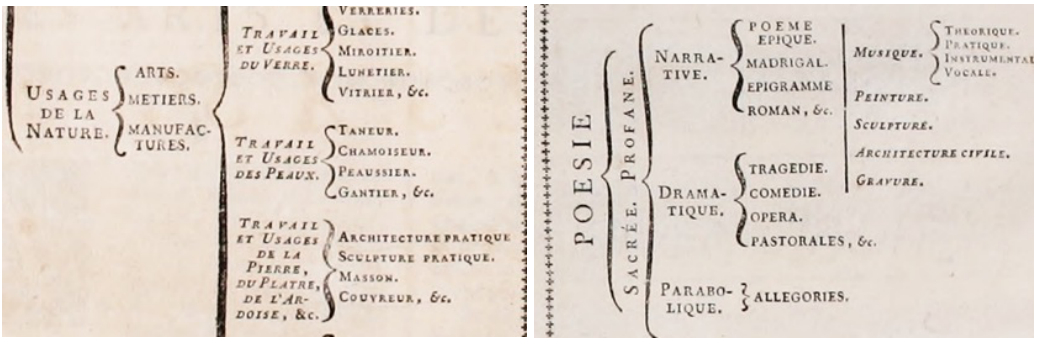


Figure 4.5 Close-up views from the schema "Detailed System of Human Knowledge"

The *Preliminary Discourse* functions as an expanded preface that establishes the Encyclopedia's conceptual framework, and its accompanying chart, which serves as a visual distillation of this framework, immediately distinguishes the *Encyclopedia* from the *Pillow Book*. This ordered surface of topics, in contrast to the *Pillow Book*'s fluid tone, confers an authoritative register on the list as a mode of knowledge encoding. One discrepancy underscores the limits of this authority: 'architecture' appears twice, once under 'Memoir' in the subcategory 'Usages of Nature,' and again under 'Imagination.' This duplication, despite the encyclopedia's claim to impartial dissemination, reveals that every act of listing and classification necessarily reflects subjective judgment.

This minor inconsistency not only exposes the constructed nature of categorization but also signals the porous boundaries between conceptual domains. In doing so, it highlights how even the most rigorously ordered lists are shaped by interpretive decisions, decisions that echo the broader tension between idealized order and the contingencies of its application. It is precisely within this space of slippage and negotiation that the function of interfaces begins to emerge more clearly.

Oscillating between the borders of objectivity and subjectivity, artistic freedom and the rational system, and the particular and the universal, it is the claim of this study that these interfaces are the surfaces of reconciliation of 'order' and 'error.' Here, the terms 'order' and 'error' are not used in their conventional senses, but as the introduction of this study outlines, they are understood as fluid categories contingent upon diverse variables. This preceding introductory discussion on exemplars of interfaces from diverse disciplines, from scientific instrumentation to literary catalogues, is to provide a base for understanding interfaces as the regulatory functions that structure the interplay between order and error. Mediating between the idea of order and error, modality of each type of interface, from the rigid taxonomies of tables to the structured repetitions of patterns, and the sequential accumulations of lists, carries its own operational logic, as it is identified in the beginning of this chapter.

Recognizing these shifts in modalities is essential to understanding how interfaces both constrain and enable knowledge production. With this foundation, the following subchapters look at interfaces and their material instantiations in architectural practice, where tables, patterns, and lists assume material and conceptual forms that shape design thinking and making. By moving from cross-disciplinary exemplars to sporadic architectural cases, this transition completes the introductory framework and opens the discussion of how architectural interfaces shape, constrain, and expand the possibilities of form and knowledge, thereby revealing the boundaries of negotiation between order and error in architecture.

The acts of organizing information, guiding processes, and exposing deviations performed within the surfaces of the tables, patterns, and lists are discussed through category-specific cases. Their operational logics diverge in ways that demand distinct analytical treatment. Therefore, the uneven granularity of the headings is both deliberate and intentional. Beyond the intentional asymmetry in subdivisions, each interface is understood as an active mediator of knowledge, not only prescribing order but also enabling critical engagement. Together, these divisions trace how architectural interfaces negotiate the boundary between order and error, revealing their capacity both to prescribe normative frameworks and to expose the instabilities from which creative transgression emerges.

By examining how each surface structures, filters, and communicates the tension between order and error, the analysis will reveal the operative mechanics through which architectural knowledge is inscribed, contested, and transformed. These surfaces, tables, patterns, and lists, materialize the order–error dialectic into formalized devices of architectural knowledge. The sequence of the subchapters follows a conceptual progression: lists, being more linear in structure, are discussed first; tables follow, as more complex matrices composed of interrelated lists. Finally, patterns are introduced as guiding interfaces that organize parts into three-dimensional wholes, drawing on the example of the tailor’s pattern.

Recognizing the diversity of their operational logics, the following subchapters examine each interface through distinct organizational frames: lists are approached through rhetorical genres, tables through relational processes, and patterns through their function as projecting schemas. At first glance, these divergent orientations (genre, process, and schema), changing in each subchapter, might seem inconsistent and asymmetric, yet this multiplicity is positioned as crucial to discuss the internal diversity of interfaces themselves. In this sense, the analytic multiplicity across subchapters becomes not a methodological flaw but a deliberate attempt to re-emphasize the material heterogeneity and conceptual multiplicity of architectural interfaces themselves. Seen together, these divergent orientations are not to impose a rigid categorical structure, but they work as points of multiplication to illustrate the various ways that architectural interfaces operate. Through these multiplied orientations adopted in each subchapter, the study foregrounds the interface not as a neutral format but as an active site in the construction of architectural knowledge.

4.1 List

The preceding discussion has laid out the conceptual and operational significance of interfaces as mediatory surfaces that regulate the reciprocal interplay between order and error. Through a series of cross-disciplinary exemplars, ranging from Bertillon's anthropometric tables to tailor's patterns and encyclopedic lists, it has been argued that interfaces are not merely visual or textual formats, but active epistemological instruments that condition how knowledge is produced, transmitted, and challenged. These examples, drawn from disciplines as diverse as criminology, tailoring, literature, and archival science, helped expand the architectural understanding of interface beyond disciplinary boundaries.

Departing from these external referents, the following section sets its focus to the field of architecture to examine how the logic of the list has been appropriated, instrumentalized, and reconfigured within architectural discourse and practice. By focusing on specific instances, such as exhibition catalogues and manifestos, this

subchapter investigates the list not simply as a neutral instrument of enumeration but as a generative interface through which architectural knowledge is structured, values are codified, and disciplinary boundaries are both upheld and destabilized.

The definition of list is multifaceted, encompassing a wide array of forms and intentions. Depending on their purpose, a list may be identified as a dictionary, an encyclopedia, an ontological model, an exhibition catalogue, an inventory, a manifesto, a statement of principles, a table of contents, a competition brief, a requirement register, a collection of categories in Building Information Modelling, a safety-inspection checklist, a checklist of master plan, and this list may go infinite. Not all necessarily take an active role in the critical engagement with the knowledge production processes, but each of them either encodes the steps for making, or decodes the principle of thinking, or forms a coherent or chaotic unity.

Before delving into the many permutations and definitions of 'list,' it is essential to remember why this discussion matters. This study understands lists as not simply arbitrary collections of items, but it argues that lists act as critical interfaces that mediate between conceptual ideas and practical applications. By examining the multifaceted nature of lists, it is aimed to lay the groundwork for understanding how enumerative structures, whether in dictionaries, manifestos, or exhibition catalogues, shape the way architects think, communicate, and build. Acknowledging lists' multimodality, this subchapter aims to unfold this specific displaying interface, which regulates the relation between 'order' and 'error,' as an active surface that shapes how architectural ideas are constructed and evolved.

Being one of the modalities of interfaces that mediate between conceptual definition and practical application, dictionaries define a list as "a simple series of words or numerals" and describe the act of listing with verbs such as 'enumerate,' 'register,' and 'record.'[136] Yet, the word's origin and the history, linked to the meanings "to

[136] "List Definition & Meaning," *Merriam-Webster*, accessed July 1, 2025, https://www.merriam-webster.com/dictionary/list.

wish, desire, like, choose, be pleasing to" and "border, band, row, group, stripe,"[137] reveal another dimension that every list embodies an act of desire and boundary-making. In other words, a list does more than make knowledge explicit; it also frames a conceptual edge, deciding not only what is included but, just as importantly, what is left out. Thus, a list is never a neutral device but always an exercise in selection and exclusion.

Within the spectrum of interfaces that mediate between conceptual definition and practical application, tables, patterns, and lists, linear enumerations of criteria, attributes, or procedural steps play a crucial role. As with tables and patterns, lists both codify and constrain. They distill complex bodies of knowledge into discrete entries, ordering particulars under a 'universal' rubric. Understood as a "surface" where definitions encounter enactment, lists both refer to a finite set of requirements, principles, acts, items, but also, they may hint at the first step of the formation that is hard to be precisely defined in the process of becoming.

Having established "list" as a fundamental interface that simultaneously orders and restricts, specific intellectual frameworks, Umberto Eco's taxonomy of lists and Ayşen Savaş's differentiation of the act of listing and indexing, will be visited to reveal how this tension operates. Eco's classification of lists will be discussed first to highlight the changing conditions of the lists between objective rigidity and productive unexpectedness, and second to understand this inherent ambiguity. Savaş's differentiation, on the other hand, expands the ambiguous condition from the perspective that focuses on the relation between the role of the institutions and the modes of the act of listing.

Umberto Eco, in his book Infinity of Lists, differentiates the two conditions, the finite and infinite, of listing as practical (pragmatic) and poetic lists. For him, pragmatic lists can be "exemplified by a shopping list, the list of guests invited to a party, by

[137] "List - Etymology, Origin & Meaning," etymonline, accessed July 1, 2025, https://www.etymonline.com/word/list.

a library catalogue, by the inventory of objects in any place (such as an office, an archive, or a museum), by the list of assets in a will, by an invoice for goods requiring payment, by a restaurant menu, by the list of sights to see in a tourist guide, and even by a dictionary that records all the words in the lexicon of a given language."[138] Therefore, because of their inherent purpose of itemization and naming, they are finite and cannot be altered. Whereas for poetic lists, he defines an indeterminate process of adding that is open-ended and actively changing. This ambiguous character renders poetic lists effectively infinite, in the sense that the accumulation is infinitely indecisive and contingent rather than reaching a definitive end. What makes this type of list infinite is the 'etcetera' value, in Eco's words.[139] The 'etcetera' value of a list decides whether this accumulation hints at a form or a list. Eco distinguishes between a 'form' and a 'list' depending on its ability to be altered, added to, or recreated. Form, in his understanding, refers to a finite contextual unity; list, on the contrary, refers to an accumulation that is inherently incomplete and has the possibility to be over and over written.

Claiming that the terms and the adjectives he attributed are not binary but have the possibility to transform into each other, Eco further expands his differentiation to the notion of "two ways of knowing and defining things."[140] He says that since Ancient Greek, it is the dream of philosophy and science to define 'things' by essence.[141] Referring to Aristotle, the definition by essence is being able to define things by classification of principles: "definition by essence has been that which is capable of defining a given thing as an individual of a given species, and this in its turn as an element of a given genus."[142] This way of knowing, as Eco names it, refers to a process that holds uncertainty as little as possible. However, this way of knowing falls short in, for example, describing a platypus, because of its hybrid combination

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[138] Umberto Eco, *The Infinity of Lists* (New York: Rizzoli, 2009), 113.
[139] Ibid, 7.
[140] Ibid, 217.
[141] Ibid, 217.
[142] Ibid, 217.

of traits. This does not fit in a single taxonomic category, requiring another way of knowing that is the 'definition by the list of properties.'

'Definition by the list of properties', although it refers to a more contingent form of accumulation that is hard to be accepted by a research that has a claim in the scientific domain, is evaluated as the most convenient form of defining things. The need to create lists to define and know may, as it is put in the previous paragraph, stem from the difficulty in defining the 'object,' as Eco calls the 'topos of the ineffable,' within a systematic framework; or it may because of the love of excess and chaotic enumeration by looking at Borges' and Homer's lists. Through listing to show the innumerable or including the unexpected in the listing, as Eco says, the list becomes a "way of reshuffling the world, almost putting into practice Tesauro's invitation."[143]



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Figure 4.6 The table of contents of Jorge Luis Borges' book The Book of Imaginary Beings

[143] Ibid,127.

Emanuele Tesauro, whom Eco refers to understand the flexible and productive nature of lists, is a seventeenth-century theorist who distinguishes the 'wit (*ingegno*)' and 'intellect (*intelletto*).' For him, *intelletto* is the "faculty of seeking logical truth," whereas *ingegno* is "the capacity to create metaphors."[144] He further discusses ingegno as the ability to link the dissimilar, separate notions and to find similarity within dissimilar.[145] The reason why Umberto Eco gives a reference to Tesauro is the act of putting the seemingly-dissimilars on a surface to be related is a creative act that has the capacity to invent rather than reaching a 'logical truth.' In this sense, although the list can be understood as a straightforward interface to enumerate things, it may also be used as a surface to undermine the accepted order.

There may be numerous modes of lists, as Eco also shows in his book. This differentiation can also be found in Ayşen Savaş's distinction between the "complete listing vs. working index." Her PhD thesis, entitled "Between Document and Monument: Architectural Artifact in an Age of Specialized Institutions," argues that the definition of the architectural artifact[146] is actively shaped and transformed by the institutions that are specialized in architecture. To unfold this transformation, the thesis investigates the procedures performed by the specialized institutions: "collecting, exhibiting, preserving, indexing, cataloguing, and institutionalizing."[147] Being one of the institutional procedures critically engaged, the thesis differentiates

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[144] Aristotle, Ingram Bywater, and W. Rhys Roberts, *The Rhetoric and Poetics of Aristotle*, ed. Friedrich Solmsen (New York: Modern Library, 1954), 5-8.
[145] Ibid.
[146] The thesis understands architectural artifacts as the "graphic and textual works of architects." Although it might be mistaken to assume that this term also includes buildings, thesis emphasizes that by saying 'architectural artifacts,' it does not refer to buildings unless a building is listed as an artifact by the institutions. Specialized institutions, on the other hand, are considered as the active agents transforming the definitions of the artifacts. Discussing the case of including a drawing, which has the architect's signature on it, in a museum collection, the thesis asserts that this listing of the drawing together with the other museum objects reveals a dual condition. This artifact multiplies its definition both as a legal response of the architect to an authorship discussion and as a museum object whose recontextualization renders it a cultural, aesthetic, political, and economic statement open to multiple interpretations. This distinction also reflects itself in the title of the thesis as document and monument.
[147] Ayşen Savaş, "Between Document and Monument: Architectural Artifact in an Age of Specialized Institutions" (dissertation, 1994), 2.

the acts of indexing, focusing on the procedures of two institutions: RIBA and CCA. The reason why the word index is used in the -ing form is to emphasize the process of inventory making, not the list in the finite form.

The chapter of the mentioned thesis, entitled "Indexing Artifacts: Complete Listing vs Working Index," starts by pointing out the fundamental tension embedded in the process of creating an inventory. This tension is between an artifact's material properties and its intellectual content. This gives rise to a paradox: any classification scheme that privileges physical attributes (medium, dimensions, date) inevitably abstracts away from the conceptual or programmatic aspects of the work, while a system focused on intellectual property risks downplaying the object's material specificity. Indexing for Savaş is twofold: This act refers to an identification that recognizes an artifact as part of a collection, and it also signifies metaphorically the attribution of a value.[148] Favoring the word indexing instead of listing, it is intended to refer to the intellectual relations set within the structure of a selection and the choice of how to record. Thus, this tension between a register that prioritizes accurate physical attributes and one that promotes open-ended intellectual content mirrors Eco's distinction between two ways of knowing and defining, based on the essence and based on the list of properties. Savaş's focusing on the question of how index reveals the processes and forms of listing, in her words, whether as a 'complete list' or a 'working index', anchors or unsettles the architectural artifact and its definition.

Learning from Eco's differentiation of lists depending on their forms, finite and infinite; on their motives, the love of excess, coherent by excess and chaotic enumeration; and on their purposes, pragmatic and poetic and Savaş's distinction between a complete listing and a working index, it becomes easy to say that lists are never impartial tools but they are effective surfaces that have the capacity to shape the processes of thinking, yielding a hidden 'order of things.' Accepting lists as multifaceted surfaces in forms, motives, and purposes, the subsequent subchapters

[148] Ibid, 17.

will explore two list formats in architectural practice: two exhibition catalogues prepared by the same institution, two manifestos written by contemporary but different architects.

Whether finite inventories or open-ended accumulations, lists operate as active epistemological surfaces that both shape thought and reveal an order. From this framework, exhibition catalogues are understood as the agents that curate and contextualize built works; manifestos are considered as the ambitious enumerations of guiding principles. These formats will illustrate how listing continues to mediate between definition and application, order and error, within the discipline. Rather than attempting a general survey of these formats, this study examines specific catalogues and manifestos to develop insight into lists' authority in shaping architectural making and thinking.

4.1.1 Exhibition Catalogues: Modern and Deconstructivist Architecture

The Museum of Modern Art (MoMA) was founded in 1929 by "three progressive and influential patrons of the arts" to promote 'modern art,' as it is declared on the official website.[149] The founding director was Alfred H. Barr, a Princeton graduate art historian, who had deepened his interest at the Princeton-Harvard joint Fine Arts Club.[150] During his master's studies, he gave courses on 20th-century art at Princeton and Wellesley College. Later, he took his PhD degree from Harvard in 1946 with a

[149] *Mission statement | MoMA*, accessed July 1, 2025, https://www.moma.org/about/mission-statement/. The three patrons of the arts were indicated as Lillie P. Bliss, Mary Quinn Sullivan, and Abby Aldrich Rockefeller.

[150] This club was established in 1921, and it is said that "promote exchange of professors and graduate students and to meet once a year in alternate cities for the reading of papers. The two universities cooperated in developing a more efficient means of educating students and furthering research, going so far as to agree to buy books in separate fields to avoid duplication. Sybil Gordon Kantor, *Alfred H. Barr, Jr. and the Intellectual Origins of the Museum of Modern Art* (London: MIT Press, 2002), 4.

thesis entitled "Picasso: Fifty Years of His Art" as a revised version of the exhibition catalogue "Picasso: Forty Years of His Art."[151]

Barr defines the work of art as a symbol of the human spirit searching for truth, freedom and perfection and with the light of this romantic definition that highlights perfection, his catalogues were known for their scholarly precise attitude.[152] Sybill Gordon Kantor, who wrote a thorough book on Barr and his development years, says that the art history education in Harvard is essentially formalist, in contrast to the historicist and iconographic tendency of the approach adopted in Princeton. By looking at the courses he took during his PhD, Kantor highlights that the analysis of styles was to be dependent on the materials and techniques to serve the aim of discovering the universal formal principles.[153]

Although it may seem redundant to delve into Barr's educational life and selected biographical information this much, it is important in order to understand the source of the rigorous approach of the 1932 catalogue prepared under the museum directorship of Barr. The institutions at which Barr received his education are found profoundly influential in developing his way of understanding and decoding 'style.' It is argued that this decoding is reflected in the structuring of the 1932 catalogue's rigid formation. This background will help to understand why the 1932 catalogue asserts such strong formal 'order' and why it gives extensive explanations for the potential 'errors,' as exclusions.

Hinting at Eco's mentioning of the two ways of knowing, definition based on essence and definition by list of properties, the 1932 catalogue will be discussed as a form of listing that depends on the definitive properties. First, the active figures in the formation of the exhibition catalogue, and their relationality will be unfolded, and

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[151] Sybil Gordon Kantor, *Alfred H. Barr, Jr. and the Intellectual Origins of the Museum of Modern Art* (London: MIT Press, 2002), 4.
[152] Ibid, xxi
[153] Ibid, 38.

then the exhibition catalogue will be examined, starting with the press releases. The subchapter culminates in a comparative reading of the 1988 Deconstructivist Architecture Exhibition catalogue.

Details on the formative figures of the exhibition catalogue and their shared circles of art and architecture are not for the sake of only informing about the formation process in a journalistic tone. All these details are believed to be significant later to highlight the major argument of this subchapter, that an exhibition catalogue is a powerful form of list that can validate a way of making architecture as a 'style,' which will be discussed in the following parts of the text. These relations between the active figures are also important to indicate the ambiguous condition of the list mentioned earlier. Having been acknowledged these major intentions, to understand how these priorities later shaped MoMA's 1932 catalogue, we may proceed with the examining of Barr's formative experiences.

Before the establishment of MoMA, Barr visited the Bauhaus in 1927, which had a significant impact on his understanding of Modern Art. And in the same year, while he was lecturing at Wellesley College, Barr invited Henry-Russell Hitchcock, acquainted with him from the course both had taken, to give a lecture on architecture. Barr was deeply embedded in American cultural and artistic circles, firstly through his education at institutions whose faculty were actively engaged in the art world, and secondly through his recognized expertise in twentieth-century art. The proposal for the founding director of MoMA reached him through his professor, Paul J. Sachs, at the end of the second year of teaching at Wellesley.[154]

[154] Ibid, 189.

One of Barr's intentions for the museum was to house diverse departments of art within the institution's structure.[155] As the first part of the dream of establishing a multi-departmental museum, an independent architecture department was formed in 1932. Hitchcock and Barr were already in line with the 20th-century architectural productions, and they were already gathered on the focus of 'new architecture' with Barr's invitation of Hitchcock to his class. Philip Johnson joined them later with the suggestion of Hitchcock. Together, as the first departmental comprehensive event, they planned the *Modern Architecture: International Exhibition*.

Planned to be open for public visits for six months, the exhibition's opening is dated as February 10, 1932. The first press release, written in November 1931, mentions the name of the exhibition in not the full title but as *Exhibition of Modern Architecture*, putting the emphasis on the content as the works of American and the European architects and through their works it sets its aim to "show the latest and most ~~important~~ modern developments in architecture throughout the world."[156] The 'new mode of building' is emphasized with its ability to fit into methods of standardized construction and economies. Apart from the Barr's words, which took place on the second page, the emphasis on international is not there, and the release does not mention how the selection is made.

The consecutive press release for January 16, does not declare again the full name of the exhibition, disregarding the word 'international.' However, the words of the

[155] Ibid, 212. "In time the Museum would probably expand beyond the narrow limits of painting and sculpture in order to include departments devoted to drawings, prints, and photography, typography, the arts of design in commerce and industry, architecture (a collection of projects, and maquettes), stage designing, furniture, and the decorative arts. Not the least important collection might be the filmotek, a library of films."

[156] "Museum of Modern Art Architectural Exhibition," *Modern Architecture: International Exhibition*, November 27, 1931, MoMA, https://www.moma.org/calendar/exhibitions/2044, 1. The word important is replaced with the word modern in the process of revision.

exhibition's director, Philip Johnson, give a clue about their choice of inclusion of the works and the architects listed.[157]

> Leaders of the new 'International Style' in architecture will be represented by models in this comprehensive exhibition. They have been chosen as representing the highest artistic achievement in twentieth century architecture. Their models will demonstrate that modern architecture can achieve practical expression in every line of building.[158]

Then he presents the list of the architects in two successive groups: American and European. In a very straightforward manner, first he lists the American architects, and later he continues with the Europeans. Both press releases highlight this division based on the architects' nationalities to underscore that the 'style' that they are about to enumerate its principles transcends geographic boundaries. By framing the style as "international," he asserts its universality. Given Barr's inclination to analyze and decode artifacts through their materials and techniques, encoding "style" as a list of universal formal principles, this emphasis on "international" (and its broader implication, "universal") is entirely coherent. The press release ends with Johnson's words praising America and American architects, specifically Frank Lloyd Wright, by saying that "many of the elements of the International Style had their origin in America in the amazing and revolutionary work of Frank Lloyd Wright."[159] However, as Kantor writes, the board of trustees is not that inert in the formation of the exhibitions. Later, Johnson reveals a controversy in including Wright in the list of architects as they define the 'leaders of the new International Style.' This, demonstrating the ambiguous condition of any list, no matter how objective it is claimed to be, indicates another form of order-error relationality that manifests itself

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[157] "-," *Modern Architecture: International Exhibition*, January 16, 1932, MoMA, https://www.moma.org/calendar/exhibitions/2044, 1. January 16, 1932.
[158] Ibid, 1.
[159] Ibid, 2.

as the inclusion and exclusion. Also, it shows that any order, knowing it is a construct has the capability of masking an 'error.'

The final press release starts with Barr's highlight on the' profound influence of exhibitions on American architecture over the past forty years. It then characterizes that period as an architectural milieu shaped by 'successive and simultaneous fashions.'[160] The result of this multiplicity of fashions, for him, is the 'capriciousness and uncertainty' of architecture produced, revealed in the streets and the annual exhibitions. Defining the current situation as the 'confusion of the past forty years,' Barr evaluates the exhibition as an assertion that has the power to indicate the end of this confusion. Perhaps, the power of the exhibition to put an end to uncertainty in architectural milieu derives from the exactly defined principles of the new mode of building. A brief list of 'aesthetic principles of the International Style' is included in this press release by saying they are based on

> …the nature of modern materials and structure and modern requirements in planning. Slender steel posts and beams, and concrete reinforced by steel have made possible structures of skeleton-like strength and lightness. The external surfacing materials are of painted stucco or tile, or, in more expansive buildings, of aluminum or thin slabs of marble or granite and of glass both opaque and transparent.[161]

Prior to examining the exhibition catalogue as the ultimate inventory, this list, lacking in conveying the complexity within the purity of the Modern architecture, pinpoints the elements, materials, and even their characteristics. This inventory, reminiscent of the 'pragmatic lists' from Eco's classification, exterminates the 'etcetera value' of the listing act, with its structuring through pinpointing the formal facts. Itemizing the discrete attributes, as pragmatic lists do, is effective in imposing a legible ordering, but at the same time, it eliminates the inclusion of the unexpected.

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[160] "-," *Modern Architecture: International Exhibition*, January 16, 1932, MoMA, https://www.moma.org/calendar/exhibitions/2044, 1. February 6, 1932, 1.
[161] Ibid.

Acknowledging the purity and the simplicity embedded within the Modern architecture, this list of limited formal descriptions does not help in adding another formal characteristic or material. It is finite. It visually defines the 'order,' but it does not offer further elements or materials to add to this list because of eliminating the 'etcetera value.' It may not offer quite the same generative potential as poetic lists. In that sense, it may fall short of Eco's richer epistemological ideal: a listing that both reveals and unsettles the "purity" of Modern architecture by exposing its hidden multiplicities.

Another notable aspect is the change in the manner of listing the architects included in the exhibition. In the previous release, architects were grouped according to their nationalities, American and European. However, this release hierarchically differentiates the Europeans as the 'founders of the International Style' from the Americans. The changes in the manner of the press releases over time can be summarized as the conflict between a nationalist emphasis, as it is said the International Style has its elements from American Architecture, mostly from Frank Lloyd Wright, and at the same time, declaring the 'International' value of the architecture exhibited. It seems that the word international is the key aspect; however, the need to highlight architecture in the USA requires a listing that differentiates nationality as European and American. This shows the significance of the act of listing in the process of creating a statement. This exhibition's statement, as it is also mentioned in the press releases, is to order the production, put an end to 'confusion' and propose a clear-cut definition of the new style.

Supporting this assertion of order and dispelling confusion, the exhibition catalogue and its organizational framework reflect these principles. The catalogue starts with three seminal texts: "Foreword" by Alfred Barr, "Historical Note" by Philip Johnson, and "Extent of Modern Architecture" by Philip Johnson co-authored with Henry Russell Hitchcock. The three founding texts can be understood in relation to each other as such: The "Foreword" operates as the introductory manifesto for the

International Style, "Historical Note" historically grounds the style, and lastly, the "Extent of Modern Architecture" defines its zone of impact.

The "Foreword" starts with the observation, also included in the releases, that the significance of the exhibitions in shaping the architectural milieu. The second observation depends on the comparative reading of European and American art and architecture. Citing Saarinen's, a Danish architect's proposal, which won the second prize in the Chicago Turbine competition (1922) and stating the fact that the United States' not being able to be listed for the Paris Exposition of Decorative Arts in 1925 because of its exhibits "were not sufficiently modern," Barr implies that the American architecture's 'backwardness' in catching up with the new style and its requirements is evident.[162] And later, he asserts that through this exhibition, the 'backwardness' and the uncertain condition in architecture, specifically in the United States, have the chance to be resolved.

Adding to the 'aesthetic principles,' mentioned earlier in the final press release, Barr adopts rather abstract terms to give details on the issue. Condemning the usage of brick and masonry, he states that "the modern architect working in the new style … thinks in terms of *volume*- of space enclosed by planes or surfaces- as opposed to *mass* and solidity. As the second and third principles, he puts forward *regularity* and *flexibility*. Seen as both utilitarian and aesthetic, these two principles are described with reference to the horizontal and vertical repetitions and flexible asymmetry.[163] The fourth principle is the *technical perfection* that includes the selection of material, fineness of the proportion, and a balanced composition. Lastly, the *lack of ornament* is highlighted as the last principle.

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[162] Henry-Russell Hitchcock, Alfred H. Barr, and Philip Johnson, *Modern Architecture International Exhibition* (New York, New York: Museum of Modern Art, 1932), 13.
[163] Ibid, 14.

These are all hallmarks of Modern architecture, but what is noteworthy for this study is that the foreword written by Barr is composed of lists: a list of principles, a list of architects. Although they are not in a linear format as a conventional list, they in fact work as a practical list to legitimize a mode of building. Calling it practical should not be understood as degrading. In line with Barr's method of decoding and encoding a style, this text, together with the lists it includes, is to solidify what Barr, Johnson, and Hitchcock think as the representatives of the highest artistic achievement in twentieth-century architecture.

This list-like mode of writing, intended to offer definitive descriptions and solidify concepts, is reflected in the page margins, where keywords functioning as indices for each paragraph are placed in parallel to the flowing text. [164]

[164] This mode of listing may be understood as a drawback that can be perceived in Eco's and Savaş' frameworks, that is the compression of complexity into discrete items. By doing so, the authority of listing is secured through exhaustive enumeration, and by embedding these keywords. In the natural flow of the text, Barr may intend to mask their "constructed" presence. He intends to represent them as the natural principles not selectively constructed.

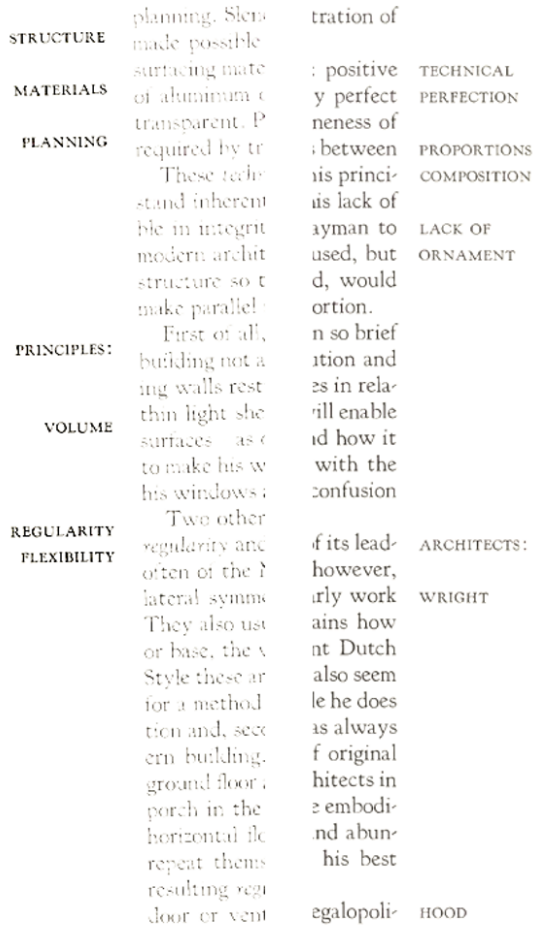


Figure 4.7 the sudden appearance of keywords as opposed to the flowing narrative of the text

It is also noteworthy to indicate that Barr explains the list of selected architects for the exhibition by starting with Frank Lloyd Wright and Raymond M. Hood. It is important because the ordering of the text, as Hood after Wright, does not comply with the catalogue's ordering of the architects. It may seem a minute change in the ordering; however, the rest of the list continues according to the sequence in the catalogue, making this discrepancy a purposeful divergence. He makes this change in the ordering for a reason: Barr thinks both of the architects do not reflect the principles he distilled to define and announce the new style.

Barr, in the paragraph that he introduces Wright, does not implicitly use the word 'exceptions'; however, in Hood's paragraph, he starts the sentence with the phrase "another exception." He mentions Frank Lloyd Wright as the 'source' of the Style with his early works, and he is also introduced him as the great inspiration for the European architects, mainly J. J. P. Oud, later mentioned as one of the founders of the Style. These are presented as the reasons why he is included in the exhibition. However, Barr singles out and/or segregates Wright as his being the "passionate independent genius whose career is a history of original discovery and contradiction" and as the "embodiment of the romantic principle of individualism."[165] These descriptions are in contradiction with the tone of the exhibition and its catalogue, which aim to legitimize and consolidate a style that orders ambiguities and offers universal, form-based solutions.

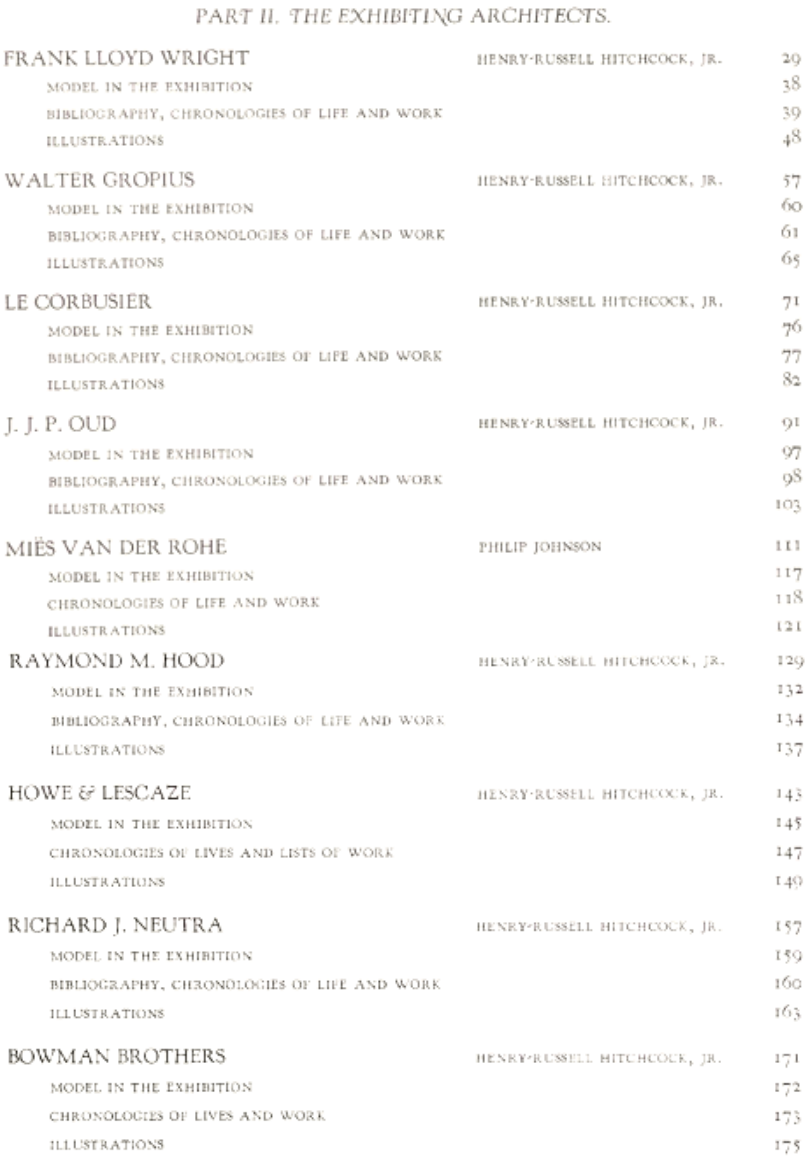
The contradiction within a list of architects that are gathered to illustrate an architecture that is consistent and decisive may be interpreted as an indicator of the inherent complexity of such lists. After declaring Wright and Hood as exceptions to secure the legitimacy and the consistency of the list, Barr explains the presence of the latter (Hood) with his skyscraper projects, acknowledging the fact that his works may appear inconsistent. Thus, the shift in the architects' sequence, from Barr's foreword to the catalogue's arrangement, can be understood as an effort to validate consistency precisely by acknowledging these discrepancies. Another contradiction that undermines the supposedly objective selection meant to convey a coherent way of understanding and making architecture arises in Johnson's revision of his earlier claim that "Wright was a pioneer of the International Style." As it is written, he later refuted his statement that the elements of International Style are derived from American and Frank Lloyd Wright's architecture and wrote to Oud that the inclusion

[165] Henry-Russell Hitchcock, Alfred H. Barr, and Philip Johnson, *Modern Architecture International Exhibition* (New York, New York: Museum of Modern Art, 1932), 15.

of Wright was "only from courtesy and in recognition of his past contributions."[166] It was also stated that including Wright was "at Hitchcock's insistence and with the help of Wright's friend, the critic Lewis Mumford."[167] This reluctant inclusion does not reflect any inadequacy in Wright's architecture; rather, Barr, as museum director, and Johnson, as exhibition curator, both acknowledge him as a great genius. However, they do not believe that his work consistently embodies the formal characteristics they have declared as guiding principles.

The catalogue's structure also mirrors the aim of presenting the International Style in a way that renders its principles objectively definable and clearly visible. Its orderly arrangement, which includes the introduction of the architect, then the model in the exhibition, a complete bibliography, and the illustrations, shows Barr's systematic approach to the art of cataloguing. Each introduction of architects, whether they are written by Hitchcock or Johnson, chronologically conveys the productions of the architect. These parts are essentially informative, employing a neutral stance and without integrating a filtered way of looking into the architects' productions through the defined principles. Consequently, it presents the architect and their buildings in a strictly chronological, thus objectively verifiable sequence, reinforcing an impartial perspective. This neutral introduction is followed by a detailed record of the architects' biography in the form of a list.

[166] Sybil Gordon Kantor, *Alfred H. Barr, Jr. and the Intellectual Origins of the Museum of Modern Art* (London: MIT Press, 2002), 299-300.
[167] Ibid.



PART II. THE EXHIBITING ARCHITECTS.

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Figure 4.8 The *Modern Architecture: International Exhibition* catalogue, the organizational framework

Assigning itself a role to order the production by ruling out the ambiguities, the catalogue functions as a complementary mediatory surface parallel to the exhibition space. The catalogue extends the role of the exhibition onto the page, providing a neutral, structured framework for engagement. Together, they construct a stable context in which modernist principles appear self-evident through guiding the viewers toward an “objective” reading. By privileging unfiltered chronology and

comprehensive documentation, the exhibition catalogue, as a constructed list, asserts authority over meaning, underscoring the dialectic between order and uncertainty within architectural production. In a parallel point of view, the inclusion and exclusion established by the act of listing reveal how subjectivity interferes with the catalogue's allegedly ‘objective’ structure.

The *Modern Architecture* exhibition catalogue, oscillating between rigid objectivity and hesitant subjectivity, demonstrates how the act of listing and its complementary descriptions are shaped by the aim of the directors, curators, and even the board of trustees. Beyond being an inert surface that objectively encodes a period’s architectural productions, tendencies, or more, this exhibition catalogue proves the flexibility of the act of listing, even if it is defined in a very rigid manner. Following this, a parallel reading of another exhibition catalogue, published within the scope of the exhibition curated by the MoMA Architecture department, *Deconstructivist Architecture*, intends to develop a deeper understanding of lists as ordering mechanisms. Having demonstrated how MoMA’s 1932 catalogue employed a finite, pragmatic enumeration of principles to assert its authority, a later exhibition catalogue of the *Deconstructivist Architecture* (1988) may reveal a formation that is open-ended, working-index methodology. A comparison of these two catalogues reveals the reemergence of the “etcetera value” once the constraining list is liberated, thereby facilitating a more poetic and indeterminate mode of architectural interpretation. This subchapter understands lists, specifically exhibition catalogues, in this section, as a surface that reflects changing aims and intents that actively shape architectural discourse.

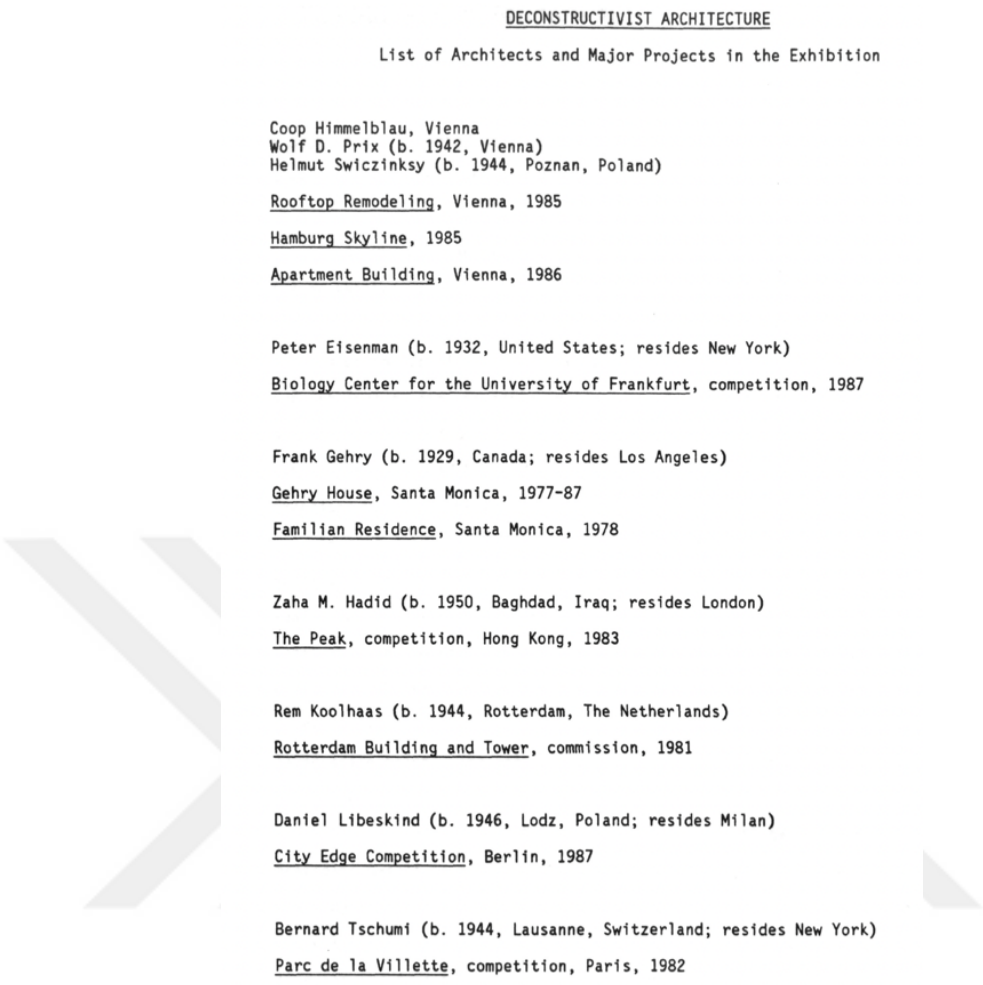
The exhibition *Deconstructivist Architecture* opened on June 23, 1988. It is curated by Philip Johnson, the former director of MoMA’s Department of Architecture and Design, in association with Mark Wigley. The preface of the catalogue, written by Philip Johnson, highlights that this exhibition and its catalogue do not attempt to

define a new style and label, as opposed to 1932 catalogue.[168] And the press release, dated March 1988, sets the exhibition's content as the works of seven international architects, which define a "new sensibility in architecture."[169] Likewise, as Johnson emphasizes in the preface, the media announcement also indicates that the *Deconstructivist Architecture* exhibition does not aim to validate a new 'style' but rather to demonstrate a developing 'tendency.' While the usage of the word 'style' in almost sixty years earlier press release and the catalogue is softened as 'tendency,' the emphasis on 'internationality' stays the same.

The list of the seven international architects is presented on the following page of the press release, alongside their major projects included in the exhibition, birthdates and birthplaces, and current locations as data points. This list does not appear again in the catalogue, neither as the table of contents nor as the exhibition object. However, this list is important in terms of making visible the relation between the statement of the exhibition and the data points selected to be included. Rather than providing full biographies, this list selectively includes each architect's birthplace, current location, and the sites of their exhibited projects. These specific data points are deliberately chosen to underscore the exhibition's international scope. By foregrounding geographic diversity, both in origin and practice, it is aimed to strengthen and make the claim apparent. Through this list, the curated information headings become a visual affirmation of the exhibition's claim to internationalism.

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[168] Philip Johnson and Mark Wigley, *Deconstructivist Architecture* (New York: Museum of Modern Art, 1988), 7.
[169] "Fact Sheet," *Deconstructivist Architecture*, March 1988, Museum of Modern Art, https://www.moma.org/calendar/exhibitions/1813, 1.



DECONSTRUCTIVIST ARCHITECTURE

List of Architects and Major Projects in the Exhibition

Coop Himmelblau, Vienna
Wolf D. Prix (b. 1942, Vienna)
Helmut Swiczinksy (b. 1944, Poznan, Poland)

Rooftop Remodeling, Vienna, 1985

Hamburg Skyline, 1985

Apartment Building, Vienna, 1986

Peter Eisenman (b. 1932, United States; resides New York)

Biology Center for the University of Frankfurt, competition, 1987

Frank Gehry (b. 1929, Canada; resides Los Angeles)

Gehry House, Santa Monica, 1977-87

Familian Residence, Santa Monica, 1978

Zaha M. Hadid (b. 1950, Baghdad, Iraq; resides London)

The Peak, competition, Hong Kong, 1983

Rem Koolhaas (b. 1944, Rotterdam, The Netherlands)

Rotterdam Building and Tower, commission, 1981

Daniel Libeskind (b. 1946, Lodz, Poland; resides Milan)

City Edge Competition, Berlin, 1987

Bernard Tschumi (b. 1944, Lausanne, Switzerland; resides New York)

Parc de la Villette, competition, Paris, 1982

Figure 4.9 The list of architects in *Deconstructivist Architecture* exhibition

The preface, after stating that it is not the aim to validate an architectural production seen in diverse geographies as the 'Style,' as it was done in the 1932 catalogue, however, it aims to document the new sensibility by looking at the works of a fairly selected group of architects.[170] It is also implied that the selected architects are not the sole representatives of this newly developed sensitivity. Johnson writes that:

[170] Philip Johnson and Mark Wigley, *Deconstructivist Architecture* (New York: Museum of Modern Art, 1988), 7-8.

> Deconstructivist architecture is not a new style. We arrogate to its development none of the messianic fervor of the Modern movement, none of the exclusivity of that catholic and Calvinist cause. Deconstructivist architecture represents no movement; it is not a creed. It has no "three rules" of compliance. It is not even "seven architects."[171]

As stated in this brief paragraph, the seven architects included in the exhibition are not to be labeled as the 'heroes' as it is declared in the *Modern Architecture* exhibition for Le Corbusier, J. J. P. Oud, Mies van der Rohe, and Walter Gropius. Deconstructivist architecture, in doing so, neither defines architectural 'heroes' nor prescribes methods of production through rigid rules or grandiose manifestos. Affirming the plurality, the preface constructs the claim of internationality through the birthplace and the countries in which the architects are actively working.[172] The data points included in the list, therefore, find their explanation in Johnson's sentences:

> The seven architects represented in the exhibition, born in seven different countries and working in five different countries today, were not chosen as the sole originators of the only examples of deconstructivist architecture. Many good designs were necessarily passed over in making this selection from what is still an ever-growing phenomenon. But these seven architects seemed to us a fair cross-section of a broad group. The confluence may indeed be temporary; but its reality, its vitality, its originality can hardly be denied.[173]

Here, Johnson explains how the selection is made, but not in the manner of the 1932 catalogue, which makes everything by the book and gives no place to uncertainty. While the 1932 catalogue states the exceptions within the list and presents an explanation for the reason why they are included despite their inconsistency, the

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[171] Ibid,7.
[172] Ibid, 8.
[173] Ibid.

inclusion and exclusion operated on the surface of the list remain flexible and open in the 1988 *Deconstructivist Architecture* catalogue.[174] This flexibility is also reflected in the formation of the textual descriptions of the catalogue.

However, before that, in order to understand the importance of the data points included in the list of architects, it would be beneficial to look at a scenario of what if this list were composed in a different manner, with the inclusion of a different data point. As it is said, the internationality claim, declared in Johnson's preface, derives from the birthplace and their place of residence. Knowing that the educational institutions are instrumental in shaping architectural knowledge and guiding undergraduates, to a certain extent, it is thoughtful to consider whether including them in the list, instead of birthplaces, has an impact on the exhibition's claim of internationality.

The list starts with Coop Himmelblau, and the founder architects' birthplaces are listed as Vienna and Poland. Both graduated from Vienna University of Technology and then both enrolled in the Architectural Association as post-graduates to the AA Diploma program, which functions as a program that provides professional qualification for the RIBA. Frank Gehry, Canadian-born architect, migrated with his family to the USA and he received his degree from the University of Southern California. The fourth architect on the list, Zaha Hadid, is listed with her birthplace, Baghdad, and her place of residence, London. Considering this data points and their inputs, Zaha Hadid may be misperceived as a Middle Eastern woman architect who received her education under exceptionally difficult circumstances. However, given that she spent her student years at boarding schools in Switzerland and England, such a perception would be misleading. She left the undergraduate program in

[174] By comparing the 1932 catalogue's claim of being international and 1988's, it can be said that although the claim of internationality akin to each other, the conclusion that comes with the claim of internationality is distinct. While the 1932 catalogue uses this as the value of validation of the Style that is effective in every geography through employing the same formal language and the founding principles, the 1988 catalogue links this internationality having similar approaches that are realized with the same interrogations on architecture to the emphasis of plurality.

Mathematics at the American University of Beirut and went to study architecture at AA. Rem Koolhaas, after working as a journalist in the Netherlands, moved to London to receive an architecture education at the Architectural Association. Later, he attended the classes at Cornell and Institute for Architecture and Urban Studies. Libeskind, born in Poland, living in Milan, migrated like Gehry with his family to the USA, and took his degree from Cooper Union; later he attended classes at the University of Essex.

By replacing birthplace information with educational institutions, the list indicates something other than a fair selection of international architects representing a broad cross-section. A list formed with another interrogation or claim reflects a rather different statement. From this perspective, this version of the list indicates the dominance of the Architectural Association in defining the 'new sensibility' in architectural thinking and making. The emphasis on internationality, that is both present in the press release and Johnson's preface, is construed as extending diverse geographies. However, in Wigley's text "Deconstructivist Architecture," it is difficult to find this emphasis as evident as in the foreword and the press release. Wigley understands the togetherness of the seven architects in the exhibition not as simple as independent architect from different parts of the world producing in the same language. He rather perceives their junction as the "curious point of intersection among strikingly different architects moving in different directions."[175] He understands this multiplicity as the complex network of relations between architect and their influences on each other. He identifies projects, not even architects, as the "brief moments in the independent programs of the artists."[176]

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[175] Philip Johnson and Mark Wigley, *Deconstructivist Architecture* (New York: Museum of Modern Art, 1988), 19.
[176] Ibid, 19.

This flexibility in Wigley's understanding can also be found in his manner of conveying the 'principles' of deconstructivist architecture. He starts with the claim that architecture is a cultural institution that prioritizes order and stability over disorder and instability.[177] He perceives the Russian constructivist as the point of departure for the deconstructivist architecture, yet he differentiates the latter in the way of making the distortion operational in the reconciliation between the idea and the structural requirements. As he says, deconstructivists do not only disturb the regular, pure forms, but they make this disturbance the structure itself. He describes the deconstructivist architecture as a "challenge to the values of harmony, unity, and stability, and proposing instead a different view of structure; the view that the flaws are intrinsic to structure."[178] He perceives this new sensibility as a challenge, yet he does not assert this sensibility as the definitive mode of architectural production that supersedes all other approaches. Further, he lists the act of this new sensibility as "disruption, dislocation, deflection, deviation, and distortion," yet he does not refer to any specific formal description, such as steel column, lightweight structure, and so on. This list, as its accompanying text, proposes a flexible definition that may encourage the etcetera value.

It is also worth mentioning the difference between the two catalogues in terms of their manner of listing. The *Deconstructivist Architecture*'s catalogue does not adopt a strict and complete listing, as the 1932 *Modern Architecture* exhibition's ambitious catalogue.

[177] Ibid, 10.
[178] Ibid, 11.



Figure 4.10 The *Deconstructivist Architecture* exhibition catalogue, the organizational framework

The over-structured table of contents of the 1932 catalogues takes a rather loose formation in 1988. The project pages are predominantly composed of project visuals accompanied by Mark Wigley's commentaries. Including as many images as possible is significant because these images guide the commentary text. The commentary, on the other hand, rather than being complete, chronological, and neutral in language, uses phrases from Wigley's introductory text to frame the projects. In that sense, it proposes an identification without labeling certain elements and materials of architecture as the signifier of the deconstructivist architecture. This

aspect of the catalogue prioritizes an ambiguous set of definitions, like a poetic list, rather than a clear-cut description. Thus, it produces variations as etcetera. The difference between the two catalogues may also be read parallel to Savaş's differentiation of the complete listing vs. working index. The working index in that sense, can be interpreted as the productive mode of listing.

The value of 'etcetera,' discussed in Eco's understanding of lists, reveals itself in the possibility of including an eighth architect to this list. Perceiving deconstructivist architecture through an informative yet open-ended set of definitions theorized in Wigley's text, even the productions of the celebrated figures of Modern architecture may be re-evaluated from a deconstructivist lens. This gives the opportunity to see the "ability to disturb" of the drawings, structures, or buildings of these celebrated figures who adopt an understanding of architecture that derives from pure geometries, order, and harmony. This reading is not to label Le Corbusier or Mies van der Rohe or their certain drawings, buildings, or details as deconstructivist, but it opens the way to productive ways of looking beyond clear-cut listed formal conditions.

Having established this lens, Le Corbusier, a Swiss-born and Paris-based architect with his Carpenter Center for the Visual Arts building, might be a fitting nominee for the 'etcetera value' of the list of architects representing the new sensibility. This structure satisfies all the formal requirements of Le Corbusier's five points: pilotis, free plan, free façade, horizontal windows, and roof garden. All of the formal requirements are checked, yet their composition does not refer to a harmonious unity, in a formalist sense. One of the most characteristic parts of the structure is the ramp that connects the two levels. Apart from working as a connector element, this ramp also disrupts the cubic volume. The series of columns, on the other hand, highlights the irreconcilable condition between the curved spaces and angled walls. Not only the ramp but the other circulation elements are autonomous defining their volume.



Figure 4.11 Le Corbusier's Carpenter Center for Visual Art

This initiation of a reading Le Corbusier's Carpenter Center for Visual Art is not to show the peculiarity of this specific work of architecture. The aim is not to single out the influential architect and his extraordinary work. However, it is to start an interrogation of how the 'etcetera value' operates beyond the itemized list, proposing readings that are unexpected, and might be erroneous but having the potential to be brilliantly productive.

MoMA's catalogue-making practices, exemplified by two exhibition catalogues from different eras, demonstrate how listing mediates between order and error through inclusion, exclusion, and selective exception. Having seen how these catalogues reflect Eco's finite/pragmatic versus infinite/poetic distinction, alongside Savaş's dual modes of listing, it is recognized that any list, serving as an interface, is inherently ambiguous and inevitably subjective. The following part of the text will focus on architectural manifestos, in which architects themselves craft bullet points, bold proclamations, and numbered "points" to shape architectural discourse. Like exhibition catalogues, manifestos encode a worldview in a series of enumerated statements. By hierarchically listing MoMA's curator-driven lists alongside the architect-authored manifestos, the text intends to expand the understanding of lists as an epistemological tool in architecture.

4.1.2 Manifesto: Eighty-nine Degree and the Oblique Function

The previous discussion of two exhibition catalogues reveals lists as deliberately structured inventories, shaped by the acts of inclusion, exclusion, and exception. This further shows that lists are not mere neutral records but operate as a reconciliatory surface on which the relationality between order and error is established. Having established the notion that lists may act as regulating mechanisms, in this part of the text, another distinct form of list, effective in shaping architectural production, manifestos will be framed as a list of declarative statements. While the exhibition catalogues operate through inclusion, exclusion, and exception, manifestos, as a list of declarative statements, operate with the positioning of 'againstness.' Therefore, the acts they generate are to affirm, oppose, and convert.

The line between order and error is drawn through the acts of affirming, opposing, and converting. Order, here, is understood as the new construct that any manifesto aimed at, therefore affirming it; error, on the other hand, is the motive of the manifesto to be written. As a literary genre, the manifesto is understood first as the prescription of a coherent set of 'principles,' 'programs,' or 'theory,' and in doing so, throughout the text, the inherent points of instability embedded in its enumeration are intended to be discussed.

To do that, the seminal books on manifestos will be revisited through the order-and-error framework. This review aims to uncover their inherent ambiguities and develop an understanding of their specific tone and motives. Then, two specific manifestos will be briefly discussed as exemplars of earlier discussions.

One of these books, in fact, the most referenced one, is *Programs and Manifestos on 20th Century Architecture*, edited by Ulrich Conrads and first published in 1964 and later translated into English in 1970. The book starts with the *Declaration of Independence. T-Square and Triangle Verses: Work Song* (1896) by Frank Lloyd Wright, included as an example of a personal manifesto, although it falls outside the

20th century. The editor of the book does not give any clues about why he reserved a special place for this manifesto; however, a speculative reading may answer this question through its unconventional forms. The unconventional nature of this manifesto derives from its being a personal promise rather than a public announcement, along with its being a manifesto written as a song.[179] Apart from this, the book presents 68 more manifestos that the editor thinks are instrumental in defining and guiding architectural production. Despite being from the 20th century, Conrads states the determinant factors, despite their being from the 20th century, as the manifestos that "represent the starting point, or a definitive stage, of a particular development in architecture, and on the other exercised determining the influence on architecture within the area of Central Europe."[180]

A glance at the titles of the selected manifestos, the abundance of the words 'program, new, principles, towards, points, theses, formulations, against definitions, aims, demand, down with, guiding' attracts attention. This accumulation is meaningful in terms of highlighting the ambiguous and in-between condition of the manifestos. These words can possibly be grouped in the titles of affirming (program, principles, formulations, aim, guiding, demand), opposing (against, down with), and converting (towards, new). Such vocabulary mapping not only corroborates the tripartite operative acts but also illustrates how manifestos habitually negotiate the threshold between stability (order) and rupture (error). Furthermore, the accumulation of the words listed above might also be read as an indication of manifestos' in-between nature, that is, between "what has been done and what will be done."[181] This phrase highlighting the liminal condition of manifestos, is from the edited book *Manifesto: A Century of Isms* by Mary Ann Caws. Then, reading the

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[180] Ulrich Conrads, ed., *Programs and Manifestoes on 20th-Century Architecture*, trans. Michael Bullock (Cambridge Massachusetts: MIT Press, 1970), 11.
[181] As it has been discussed in Mary Ann Caws book on manifestos: Mary Ann Caws, *Manifesto: A Century of Isms* (Lincoln: University of Nebraska Press, 2001).

accumulation of the words above, which are the words mainly used in the titles of the manifestos, in the light of Caw's observation, it becomes possible to interpret this accumulation not only as an indication of the three operative acts, but also as highlighting an in-between spatial-temporal condition. From this perspective, the word set 'against, towards, demand,' may be read as a gesture that rejects the current state and projects a hope toward a newly demanded condition, highlighting an in-between temporal condition positioned between 'what has been done and what will be done.' This condition also stems from the manifesto's taking a position of an in-between temporality. Nadir Lajihi writes in his book *An Architecture Manifesto: Critical Reason and Theories of a Failed Practice*, as it announces a 'new,' it also announces a formal break with the current situation.[182] Therefore, its purpose is to set a border between 'has been' and 'will be.'

The book *Manifesto: A Century of Isms*, like Ulrich Conrads' book, is an anthology that brings together fundamental manifestos of diverse artistic and intellectual domains. A comparison of the two books' titles reveals that each author understands the manifesto's impact zone with different definitions. Conrads relates the genre of manifesto, in an architectural framework, to the concept of 'program,' whereas Caws rereads manifestos in parallel to -isms. In Conrad's book, a very brief foreword prepares the reader, and throughout the text, explanatory notes for each manifesto appear. Caw's book, on the other hand, incorporates a very long and thorough editorial text. Under the title of "Poetics of the Manifesto: Nowness and Newness," she expands on this in-between temporal condition. She diversifies this condition by saying that "the manifesto moment positions itself between the accomplished and the potential, in a radical and energizing division."[183] Remembering Kuhn's definition of normal and revolutionary science, it is possible to read Caw's manifesto

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[182] Nadir Lahiji, *An Architecture Manifesto: Critical Reason and Theories of a Failed Practice* (New York: Routledge, 2019), 24.
[183] Mary Ann Caws, *Manifesto: A Century of Isms* (Lincoln: University of Nebraska Press, 2001), xxi.

moment in which a paradigm shift is about to happen. Either way, program or a -ism, the manifesto, beyond its ambiguous condition, marks a clear attempt to set a new order as opposed to the errors of the past.

Since this study aims to challenge the presumed border between order and error and show how different conceptions of orders are assured and recorded, this condition of ambiguity, which is to be revealed in many layers in the seminal books on the manifesto, is significant to it. In the opening chapter, a conceptual framework is established to argue that the boundary between order and error is not fixed but fluid and interchangeable. Building on this, it further discusses that the interfaces (table, pattern, and lists) that organize the relationality between order and error are the tangible manifestations of that fluid, interchangeable border. Thus, the manifesto's ambiguity is not a mere curiosity but central to this study, for it materializes the fluid boundary between order and error within the very forms of architectural interfaces.

Recognizing ambiguity as a significant feature of the interfaces, one finds that manifestos, as a particular kind of interface in the form of a list, embody an even broader uncertainty, one that transcends mere temporal liminality. Furthermore, this feature is rooted in the very etymology of the term. Anthony Vidler, in the book *After Manifesto: Writing, Architecture, and Media in a New Century*, starts with an etymological inquiry on the word 'manifesto.' He states that the root, 'manifest,' comes from the Old French word *manifeste* and in Latin *manifestus* meaning "struck by the hand, palpable, evident, made clear." [184] He further broadens the meaning of "manifesto" to include aggression, intrusion, and parasitic overrun. He reads the togetherness of the Latin-derived words, manus (hand) and *festus* (struck), deriving from the Latin, *infestus*, meaning "to attack, to trouble," and adds that *festum* also refers to a "feast," or "celebration."[185] From this interpretative reading, the inherent

[184] Craig Buckley, ed., *After the Manifesto: Writing, Architecture, and Media in a New Century* (New York: GSAPP Books/T6 Ediciones, 2014), 25.
[185] Ibid.

ambiguity of the word and of the genre becomes validated. It refers to both a celebrative announcement of the 'new,' along with an attack on the current.

Mark Wigley's text, entitled *Manifesto Fever*, also highlights this condition in a tone that is as exuberant as any manifesto. For him, "a manifesto is a weapon. It is a challenge to the status quo, a call for action, a call for change. You use a manifesto to change things."[186] Wigley understands the manifesto as a weapon that triggers the possible change. Considering these interpretations, rooted in both hand-struck evidence and aggressive intrusion, the rhetorical characteristics of the manifesto, which can be briefly summed as the persuasive tone, 'polemical clarity,' and the extravagant self-assurance, embody the tension between feasting and attacking, between what is already granted and what is yet to come. As an example of the self-assured tone, Rem Koolhaas' *Bigness: Or the Problem of Large* might be accurate. It starts with a bold, yet unfalsifiable statement that "architecture acquires the properties of Bigness. The best reason to broach Bigness is the one given by climbers of Mount Everest: 'because it is there.' Bigness is ultimate architecture."[187] As it can be seen in this brief statement, it starts with a provocative sentence that is hard to falsify because the explanation of the statement through Mount Everest, is even more self-proclaimed.

This specific tone of the manifesto derives from its purpose to challenge the authority, as Wigley states. However, like any other tool or term, its purpose and meanings are historical. As Craig Buckley observes, the earlier manifestos, appearing in the sixteenth century, are closely linked to power and the power subject as the authority.[188] They were to strengthen the authority rather than challenging it.

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[186] Ibid, 153.
[187] Mary Ann Caws, *Manifesto: A Century of Isms* (Lincoln: University of Nebraska Press, 2001), xx.
[188] Craig Buckley, ed., *After the Manifesto: Writing, Architecture, and Media in a New Century* (New York: GSAPP Books/T6 Ediciones, 2014), 10. Karl Marx and Friedrich Engel's 1848 *Communist Manifesto* is understood as a hallmark for the change in the purpose of the manifestos in time. An

Whether operating as a challenge to or a legitimization tool for the authority, the usage of 'we,' signifying the collective language, remains. The famous *Futurist Manifesto* (1914) by Antonio Sant'Elia and Filippo Tommaso Marinetti starts with a brief overview of the architectural scene starting from the eighteenth century and positions their criticism, the motive to write this manifesto, as the art of making buildings evolves; however, its core principles are not altered. After a clarification of the 'problem,' the manifesto once more states the current condition as:

> [w]e have lost the sense of monumental, of heavy, of the static; we have enriched our sensibility by a 'taste' for the light, the practical, the ephemeral and the swift.' We feel that we are no longer the men of cathedrals, the palaces, the assembly halls; but big hotels, railway stations, immense roads, colossal ports, covered markets, brilliantly lit galleries, freeways, demolition and rebuilding schemes. We must invent and rebuild the Futurist city.[189]

Then, it starts to list the points that it opposes-despises and proclaims.

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early example, Martin Luther King's ninety-five points-declaration is also given as an example that has an influence on the form of the manifesto, itemization by points.

[189] Ulrich Conrads, ed., *Programs and Manifestoes on 20th-Century Architecture*, trans. Michael Bullock (Cambridge Massachusetts: MIT Press, 1970), 36.

I oppose and despise:

1. *All the pseudo avant-garde architecture of Austria, Hungary, Germany, and America.*

2. *All* classical, solemn, hieratic, theatrical, decorative, monumental, frivolous, pleasing architecture.

3. The embalming, reconstruction, and reproduction of monuments *and ancient palaces.*

4. Perpendicular and horizontal lines, cubic and pyramidal forms that are static, heavy, oppressive and absolutely alien to our new sensibility.

And proclaim:

1. That *Futurist* architecture is the architecture of calculation, of audacity and simplicity; the architecture of reinforced concrete, of iron, of glass, of pasteboard, of textile fibre, and of all those substitutes for wood, stone, and brick which make possible maximum elasticity and lightness.

2. That this does not render architecture an arid combination of the practical and utilitarian, but that it remains art, that is to say, synthesis and expression.

3. *That oblique and elliptical lines are dynamic by their very nature and have an emotive power a thousand times greater than that of perpendicular and horizontal lines and that a dynamically integrated architecture is impossible without them.*

4. That decoration, as something imposed upon architecture, is an absurdity and that 'the decorative value of *Futurist* architecture depends solely upon the original use and arrangement of the raw or bare or violently coloured material'.

5. That, just as the ancients drew the inspiration for their art from the elements of nature, so we – being materially and spiritually artificial – must find this inspiration in the elements of the immensely new mechanical world which we have created, of which architecture must be the finest expression, the most complete synthesis, the most efficacious artistic integration.

6. *Architecture as the art of arranging the forms of buildings according to predetermined criteria is finished.*

7. *Architecture must be understood as the endeavour to harmonize, with freedom and great audacity, the environment with man, that is to say, to render the world of things a direct projection of the spirit.*

8. *An architecture so conceived cannot give birth to any three-dimensional or linear habit, because the fundamental characteristics of Futurist architecture will be obsolescence and transience. 'Houses will last less long than we. Each generation will have to build its own city.' This constant renewal of the architectonic environment will contribute to the victory of 'Futurism' already affirmed with 'Words in Freedom', 'Plastic Dynamism', 'Music without Bars', and 'The Art of Sounds', a victory for which we fight without pause against the cowardly worship of the past.*

Figure 4.12 *Futurist Manifesto*, 1914 by Antonio Sant'Elia and Filippo Tommaso Marinetti

This, employing "we" as a rhetorical tactic, apart from the intention to form a coherent body that thinks and reacts in similar strand, may also be expanded as an implicit presence of 'they.' In line with the opposing tone, the persistent usage of 'we' inevitably comes with a 'they.' This deliberate usage of the pronoun both aims to unify and creates an opposing stance by differentiation. This marks another ambiguity that is embedded in the tone of the manifesto. Oscillating between 'we' and 'them,' the manifesto incorporates both affirmation and rejection. More importantly, it includes an intention of conversion, therefore, transformation.

Charles Jencks mentions the moment of conversion[190] in the book *Theories and Manifestos of Contemporary Architecture* (1997), referring to Le Corbusier's influential work, *Towards a New Architecture* (1923). He shared his analysis about the language of the influential book by saying that Corbusier repeatedly addresses the reader as 'you' and uses 'we' to signify "an implied pact is built up between author and the convert."[191] And he adds, sarcastically, "a manifesto must manifest its message to you, personally."[192] Before diving into the importance of the personal voice, it is worth to mention that by its title alone, Jencks's book positions itself as a follow-up to Conrads's *Programs and Manifestos on Twentieth-Century Architecture*, while also gently critiquing Conrads's approach. Covering a later time frame, Jencks differentiates his and Conrads's approach towards the manifesto genre. His differentiation lies in the collage attached to the last page of the introduction chapter, St. Jerome reading Rem Koolhaas' *S, M, L, XL*. For him, since this book covers a later time frame and is written in a different period, the selection and its message differ. It does not aim at a selection that conveys a purified

[190] He uses this term in reference to religious practices.
[191] Charles Jencks and Karl Kropf, eds., *Theories and Manifestoes of Contemporary Architecture* (Chichester: Wiley Academy, 1997), 7.
[192] Ibid.

understanding of the whole century, as Conrad did, but Jencks embraces the genre's multiplicity and highlights it with a knowing irony.

Turning back to the discussion of the personal voice that announces a change to the public, Jencks's "volcano" and "tablet" metaphors are significant in terms of their ability to reveal a further ambiguity of the manifestos. This ambiguity stems from the in-between condition that is exuberant usage of the personal and insightful voice, and a collective and inclusive 'we.'

Jencks begins by stating that the motive of any manifesto is to trigger a change. He, then, adds another layer by saying that every manifesto is related to the advertisement: "an architect must become well known in other media besides buildings."[193] Following this polemical introduction, he reviews the genre in an unconventional manner through a religious reading. From this reading, he introduces two evocative metaphors. The first, the "volcano," speaks to the manifesto's capacity for sudden, cathartic "explosion of emotion," an eruption that sweeps aside complacency and demands attention.[194] In contrast, the "tablet" represents the manifesto's sober, declarative aspect: a crystallization of "pure theory," akin to an inscription set in stone.[195] Jencks's "volcano" evokes the eruptive power of individual conviction, while his "tablet" suggests the desire to fix ideas in stone, together illustrating the manifestos' pull between personal insight and collective authority. This duality is possible to be read in parallel to Mary Ann Caws' insight that manifestos once functioned "as pieces of evidence in a court of law," combining impassioned argument with the objective authority.[196]

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[193] Ibid, 6.
[194] Ibid, 7.
[195] Ibid, 12.
[196] Mary Ann Caws, *Manifesto: A Century of Isms* (Lincoln: University of Nebraska Press, 2001), xix.

By pairing these metaphors, volcanic fervor with tablet-like formality, Jencks captures the manifesto's inherent tension between fervent persuasion and measured declaration. In doing so, he unpacks the genre's distinct, yet inherently ambiguous power to ignite the public's exuberance via a personal tone while simultaneously articulating an ostensibly objective vision of the future.

The investigation of manifestos as a particular kind of architectural list reveals a complex interplay of rhetorical strategies that both stabilize and disrupt prevailing norms. By revisiting key anthologies, namely, Conrad's program-oriented compilation and Caws' ideological "-isms" survey, through the order–error lens, it becomes evident that each editor's curatorial choices add a character to the selective ordering. The selective ordering casts certain texts a canonical status, while it relegates others to the margins. As highlighted throughout the text, the ambiguous condition that is present in the temporal dimension, the etymological root, and its tone, is read in parallel to the rejected dichotomy of order and error. Arguing that order and error are not to be understood in direct opposition, rather their territories are drawn simultaneously and reciprocally, juxtaposing this understanding on the interfaces that are positioned in between the order and error to organize the relationality between them, this chapter on interfaces once more highlights the contingency of this border. The aim is not to claim that anything cannot be ordered at any time, and that the perfect order ever exists. Instead, it demonstrates that the legitimacy of any way of knowing and making depends upon the interfaces that both enact and negotiate the interplay of order and error. In other words, it rather argues that an order is possible, not in the sense of a rigid one, only through its reconciliation with error, and it is through the material form of these interfaces that such reconciliation is enacted.

The contingent nature of the border between order and error might be best illustrated through the manifestos of the two contemporary architects.[197] The reason why characterizing the genre of the manifesto as contingent arises from the very nature of the manifesto: that its principles depend on its author. Therefore, as it reflects the choices of an author dominantly, it holds a certain level of subjectivity. Despite the subjective tone in its core, the genre of manifesto adopts a language that is exuberantly assertive, as though only a single order exists. This confident and apparent certainty of the language in the manifesto conceals its contingent core. The manifesto, as the interface that lists and declares the 'new' rules to change the system, codifies its own authoritative claims, and at the same time, it aims to hide the contingency underlying them.

As exemplars of these dynamics that highlight the importance of the author in the manifesto, Claude Parent's *Twelve Subversive Acts to Dodge the System,* and Zaha Hadid's *Eighty-nine Degrees* might be accurate to refer to. Hadid's unconventional titled manifesto, along with a series of impressive drawings, as she explains, was developed after her fourth year in the Architectural Association, and it is dated as 1983. Parent's twelve acts, on the other hand, being an indispensable part of his theory *Oblique Function*[198], is dated as 2001, and it is also mentioned in his book *Errer dans l'illusion* (2003). The choice regarding these two manifestos depends on their explicit reference to the 'right' angle. It is unknown whether the two include a revolt against Le Corbusier's *Poem of the Right Angle* (1955); both of them can be read as a challenge to the authority of the right angle. Although they differ in terms

[197] Who are possible to be considered as contemporaries as they were active in the field of architectural production after 70s

[198] Oblique theory of Claude Parent is discussed thoroughly in Ertuğ Erpek master thesis that is written under the supervision of Esin Kömez Dağlıoğlu. This text is not to review Parent's understanding of architecture, as Erpek did, rather his 12 act to Dodge the system will be referred as a manifesto in order to show that how a guiding document for creating space becomes that certain and also that arbitrary.

of rhetorical stance, both manifestos assert their positions by shifting the architectural production off the orthogonal axis, but to slightly different ends.

Each manifesto subtly disrupts the orthogonal grid, one advocating a moderate tilt while the other embraces an almost full rotation, each gesture redefining the very notion of architectural orientation. Zaha Hadid's *Eighty-nine Degrees* starts with the emphasis on the new condition defined by the technology, and through its acceleration, the changing lifestyles. She then contends that, although these profound shifts have not yet left a visible mark on the built environment, their architectural counterpart is soon to be realized. Unlike technological revolutions in diverse domains, often defined by efficiency, mechanization, and systematization, Hadid locates architecture's and architects' legitimacy in the virtues of inventiveness, imaginative vision, and critical interpretation.[199] This manifesto, with its calm and unpolemical usage of language, does not pursue or propagate a fixed way of making and thinking architecture, but continues with a critique by saying that the role of architects is far beyond being "cake decorators."[200] She sets the *authors of architecture*'s task to "reinvestigate modernity." Considering the usage of the word 'authors of architecture,' the virtues of inventiveness, imagination, and interpretation once more gain the emphasis. This reinvestigation reflects itself, I argue, in the title and the accompanying drawings of Zaha Hadid.

The *Eighty-nine Degrees* stands for the undiscovered and undefined, therefore all the unnamed angles in architecture, as opposed to the legitimacy of the ninety-degree right angle. Although this slight deviation from the right angle is possible to be understood as an unintentional error that is made by oversight, it refers to a 'wandering' proposing a reinvestigation of new territories of making and thinking architecture. This drawing is an assemblage of her designs to reimagine London to

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[199] Zaha Hadid and Kenneth Frampton, *Planetary Architecture Two* (London: Architectural Association, 1983).
[200] Ibid.

guide the formation of the future built environment. And the trace of her reinvestigation first reflects itself in the blurring the boundaries between the ground and sky, and in its unconventional angle of looking that makes every angle meaningful, challenging the solid authority of the condition being perpendicular or parallel. As it is written in the manifesto, beyond “has been” and “is still,” it searches for the future, and this drawing is identified as the only beginning.

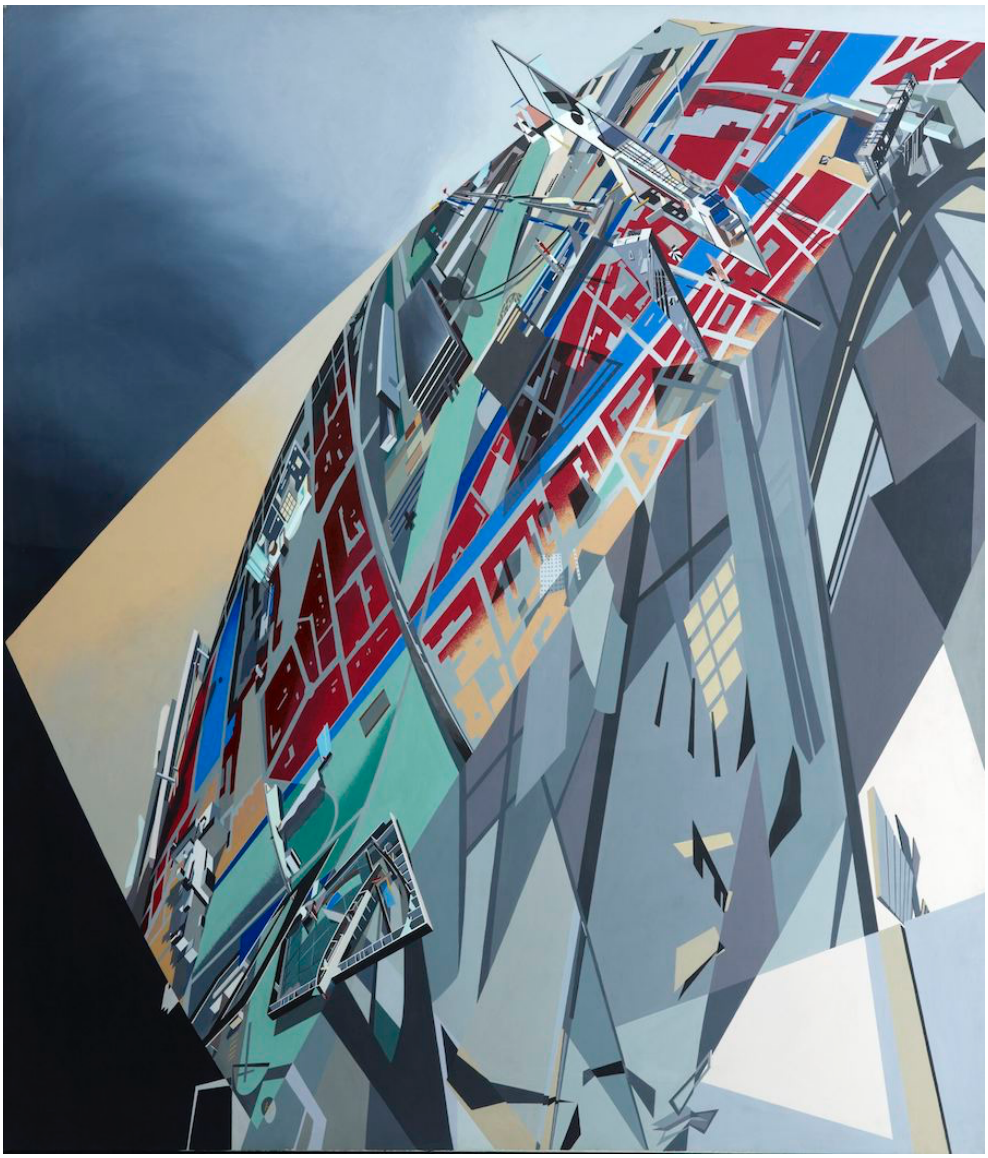
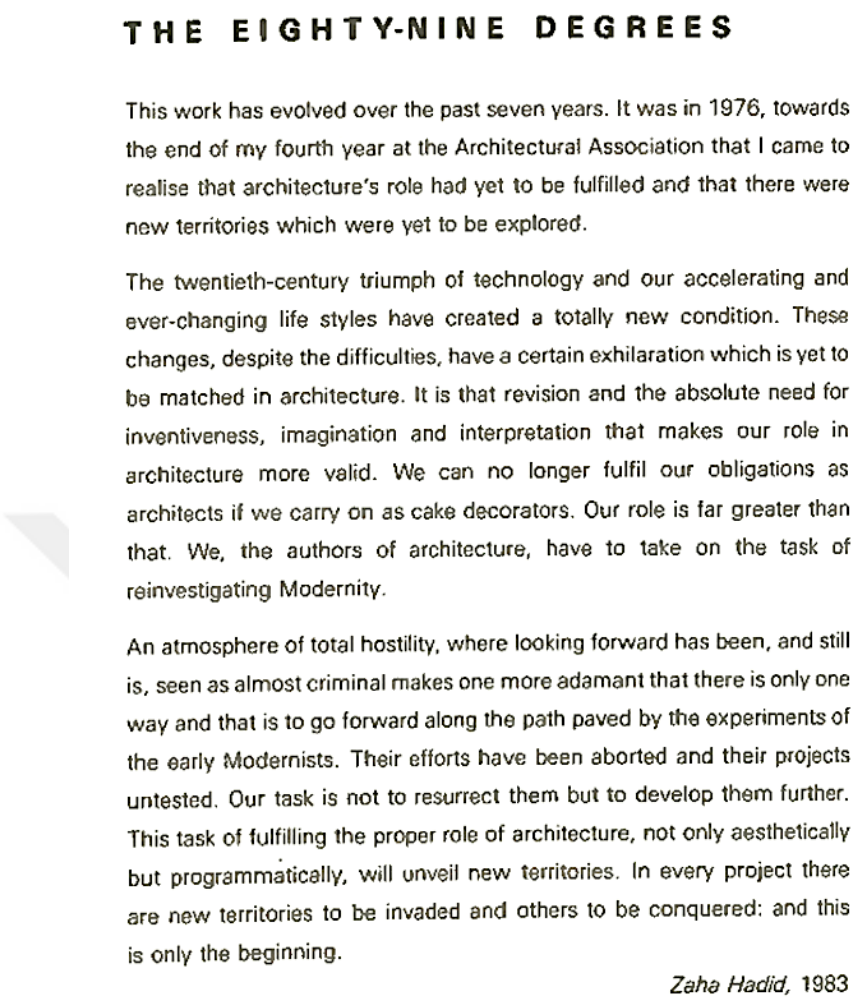


Figure 4.13 *Eighty-nine Degrees*, 1983, by Zaha Hadid



THE EIGHTY-NINE DEGREES

This work has evolved over the past seven years. It was in 1976, towards the end of my fourth year at the Architectural Association that I came to realise that architecture's role had yet to be fulfilled and that there were new territories which were yet to be explored.

The twentieth-century triumph of technology and our accelerating and ever-changing life styles have created a totally new condition. These changes, despite the difficulties, have a certain exhilaration which is yet to be matched in architecture. It is that revision and the absolute need for inventiveness, imagination and interpretation that makes our role in architecture more valid. We can no longer fulfil our obligations as architects if we carry on as cake decorators. Our role is far greater than that. We, the authors of architecture, have to take on the task of reinvestigating Modernity.

An atmosphere of total hostility, where looking forward has been, and still is, seen as almost criminal makes one more adamant that there is only one way and that is to go forward along the path paved by the experiments of the early Modernists. Their efforts have been aborted and their projects untested. Our task is not to resurrect them but to develop them further. This task of fulfilling the proper role of architecture, not only aesthetically but programmatically, will unveil new territories. In every project there are new territories to be invaded and others to be conquered: and this is only the beginning.

Zaha Hadid, 1983

Figure 4.14 *Eighty-nine Degrees*, 1983, by Zaha Hadid

The quiet yet persuasive *Eighty-nine Degrees* manifesto offers a reinvestigation beyond what is defined and entitled as authoritative. Although it seems to defend a specific angle, as aforementioned above, it is not the case. The *Eighty-nine Degrees* is a rather symbolic figure that includes all the other neglected, uncharted modes of architecture. It implies all the angles by referring to an angle, whereas Parent's oblique function, by saying oblique, relates to any angle other than ninety degrees. However, this opposition further highlights the authority of the perpendicular and the parallel.

Understood within the framework of order and error, here, both manifestos are considered as a revolt against the accepted order. The eighty-nine-degree and the broader obliqueness operate as deliberate "errors" within a regime in which the ninety-degree right-angle functions as the normative standard for producing architecture. However, as the focus of this chapter's claim is on the interfaces and their effective role in regularizing the norms and the exceptions, these two manifestos, as the lists to order current architectural making and thinking, are significant in terms of illustrating the pragmatic and poetic values embedded in these interfaces. The vagueness in Hadid's manifesto, together with the imperative tone in Parent's *Twelve Acts to Dodge the System* indicates how interfaces can inhabit both open-ended, exploratory spaces and rigorous, action-oriented programs, thereby revealing the dual potential of lists to provoke imagination.

Claude Parent (1923–2016) studied architecture at the École des Beaux-Arts after World War II and then gained early professional experience working in Le Corbusier's studio. In the 1960s, he and Paul Virilio founded the Architecture Principe group, where they first presented the Oblique Function theory in their magazine. Following the magazine, the book *Vivre à l'Oblique* (1970) also reveals the foundation of the oblique function, solidifying the principles of oblique architecture in a concise, influential manifesto.

The book starts with the claim that the principles of the oblique function are to be found in the past, giving the seventh century BC Turkey and villages in South Algeria as examples. It further advocates that "we must read the past as a future to be discovered."[201] As opposed to Hadid's emphasis on the technology, Parent and Virilio propose another way of looking that does not depend only on the changing conditions but also integrates a distinct reading of the past as a possible solution. The further pages include the critique of Baron Haussman in the sense that his way of

[201] Claude Parent, *Vivre À l'oblique* (Paris: Jean-Michel Place Editions, 2004), 5.

understanding urbanity propagates a two-dimensional city planning and Le Corbusier's vertical city legitimizations. Although Baron Haussman mentioned once, the name of Le Corbusier appears repeatedly. Parent condemns him as one of the committers of the most significant urban error in the name of progress: the belief in high-rise, densely concentrated housing.[202] Building upon these critiques, Parent reveals his understanding of oblique as opposed to vertical and horizontal, as the generative alternative.

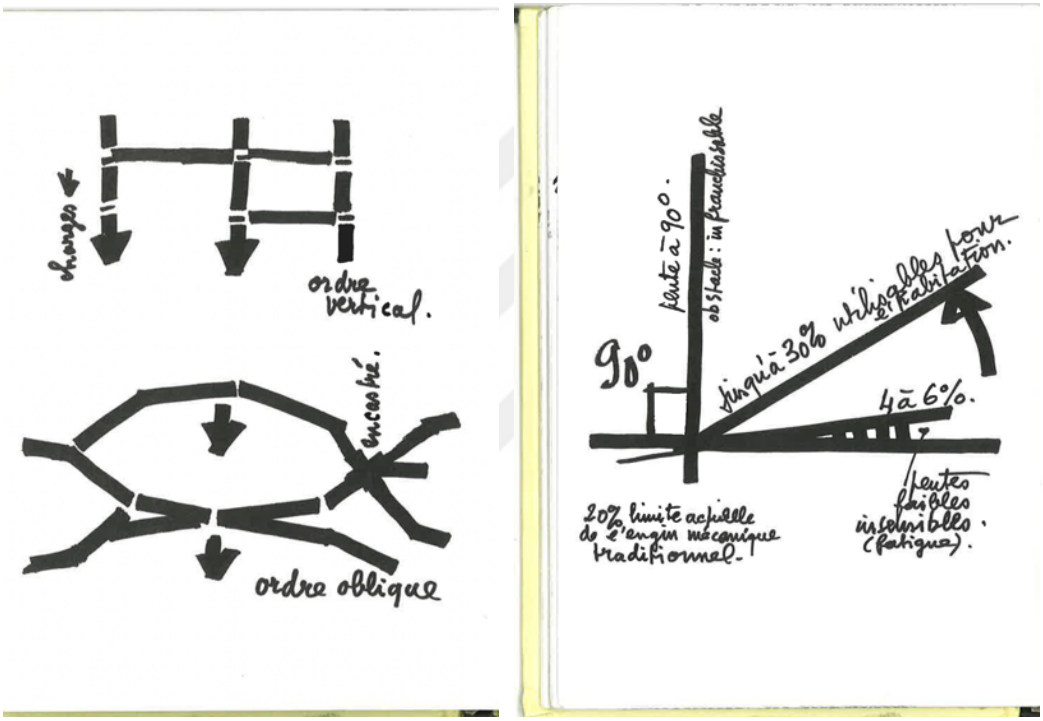


Figure 4.15 Pages from *Vivre à l'Oblique,* 1970

[202] Ibid, 15.

He says in one of the interviews that the potential of the oblique is discovered through a bunker sunk in the sand. [203] The juxtaposition of different materiality, the soft ground, sand, and the solid elevation of the concrete surfaces of the bunker, revealed a different kind of relationality that proposes other than conditions of perpendicular and parallel. For him, standing on an inclined surface offers another spatial understanding, which is different from being in a box. Later, in the lecture he gave in the event organized by Serpentine Gallery, *Manifesto Marathon* (2008), he starts with this comparison made between the spatial characteristics of a regular, orthogonal box and the space composed of oblique surfaces.[204]



Figure 4.16 Snapshots from Claude Parent's lecture organized as a part of *Manifesto Marathon*, 2008. The word libre is written above the *Fonction Oblique* and *infermé* above the orthogonal geometry.

[203] Niklas Maak, "Claude Parent: The Supermodernist," 032c (032c, February 7, 2022), https://032c.com/magazine/the-supermodernist-architect-claude-parent.
[204] Claude Parent, "Fonction Oblique," *Serpentine Gallery Manifesto Marathon 2008* (speech), accessed April 2025, https://youtu.be/m2kSk5W8uw8?si=IbdNXEwBD4iV77H7.

Considering his usage of the language, it is possible to say that his comparison is far from being objectively conveyed; it is formulated through a personal experience that derives from the bunker sunk in the sand. The conclusion he comes to is that the regular, conventional, everyday life spaces limit the person, whereas the oblique expands the boundaries. For him, oblique architecture eliminates the limits and liberates the person who is present there, and he supports his idea through quick simultaneous sketches.

In another lecture, he grounds his objection to the strictly limiting boundaries of space by highlighting the fact that he gives significance to movement, the changing condition of the relation between the space and the body.

The source for this interpretation is the manifesto that Parent published in 2001 entitled as “Twelve Subversive Acts to Dodge the System”. These acts are listed as:

1. open the imaginary
2.operate in illusion
3. dislodge the immobile
4. think continuity
5. surf on the surface
6. live the obliqueness
7. destabilize
8. use the fall
9. fracture
10. practice inversion
11. orchestrate conflict
12. limit without closing

He uses these twelve acts in order not to process within a limited mindset. Considering the keywords he uses- illusion, destabilize, fracture, inversion, conflict, Parent believes working against a system might have the potentiality to become creative and produce outside the limits of conventions. Subverting the system by imagining, falling into illusions, acknowledging the movement, destabilizing,

attaching discontinuities, searching for possible conflicts, is a method to think beyond an inflexible system and its rescripts and to search for the 'off' condition. These acts deliberately invert conventional thinking and harness "error" as a catalyst for creative innovation. By prescribing these acts, Parent extends obliquity beyond geometry into the domain of thought itself, insisting that liberation from rigid orthodoxy requires systematic subversion.

Taken together, Zaha Hadid's Eighty-Nine Degrees and Claude Parent's Oblique Function exemplify how manifestos function as interfaces where order and error are reciprocally defined. Hadid's text, quietly persuasive in tone, presents the 89° tilt not as an end in itself but as a symbol for all uncharted angles that lie just beyond the right-angle norm. Its annotated diagrams invite open-ended interpretation, hinting at future spatial possibilities without prescribing fixed rules. By contrast, Parent's Oblique Function delivers its message with militant clarity: any plane other than 90° is declared valid, while the right angle is exposed as an oppressive default. His Twelve Subversive Acts translate obliquity into concrete intellectual operations, insisting on explicit interventions, practice inversion, use the fall, limit without closing, to dismantle orthodox frameworks. Despite their differences, Hadid's poetic suggestion versus Parent's programmatic imperative, both manifestos affirm (they name new possibilities), oppose (they reject Cartesian orthogonality), and convert (they transform perception into action). In each case, the text itself becomes the interface through which a new architectural order is proclaimed, only by embracing its own manufactured errors.

Manifestos, differing from the pragmatic inventories, or in Savaş's words 'complete listing's, articulate an ideological agenda rather than merely listing the facts, as it can be seen in both of the mentioned manifestos. In the cases of both Hadid's *Eighty-Nine Degrees* and Parent's *Oblique Function*, the texts open with forceful declarations of intent: each itemized "rule" or "tilt" functions not as a mere datum, but as a guiding principle for re-making architectural practice. This prescriptive mode sets manifestos apart from tables that simply record or patterns that merely

reproduce: here, every statement is a rallying cry, designed to orient thought and action toward a clearly defined "new." Each presents declarative statements, though in their own manner, to set the principles and to guide the thinking and making processes. At the same time, because of their polemical nature, they inevitably insist and sometimes dictate their own 'correct' definition of the 'new.' By insisting on a single interpretation of the "new," they implicitly demarcate all that falls outside their vision as error. In Hadid's text, the insistence on an 89° deviation pronounces all other angles complicit in orthogonal stagnation; in Parent's, each of the Twelve Subversive Acts casts every un-oblique move as a failure of imagination. Therefore, they further highlight the border between order and error, becoming the interfaces in which order (the prescribed principles) and error (the unspoken contingencies or oversights) come into vivid relief. In this way, manifestos emerge as active, ambiguous interfaces: material embodiments of the fluid boundary between architectural order and its attendant errors. Through this rhetorical framing, manifestos expose the tension between order, embodied in their enumerated principles, and error, embodied in the unspoken assumptions, exclusions, and unintended consequences they leave unaddressed.

Because they operate at this fault line, manifestos become active, inherently ambiguous interfaces. They materialize the fluid boundary between architectural order and its attendant errors, forcing practitioners to confront the limits of any single programmatic schema. Where a table or pattern might stabilize a process, a manifesto deliberately unsettles it: it brands certain practices as insufficient, invites critical scrutiny of prevailing norms, and yet risks occluding its own blind spots under the guise of certainty. In this sense, manifestos and lists share a double capacity, to prescribe a coherent vision and to reveal the very instabilities that make ongoing reinvention possible. Hence, it can be concluded that manifestos are the interfaces both structure the aspiration to control and the inevitable presence of error.

4.2 Table

Having established that interfaces are not merely representational surfaces but active epistemological instruments that mediate between the conceptual and the operational, this chapter considers the table as one of the primary modalities of ordering architectural knowledge. In the previous section, the list was explored as a linear and often ambiguous interface that is capable of encoding both the poetic excess and pragmatic clarity of thought. While lists often preserve ambiguity, revealing the tension between inclusion and exclusion, finite and infinite, tables introduce alignment, classification, and comparison. Their format enables a different kind of epistemological operation. In contrast to the sequential structure of lists, which may preserve contingency, tables enact a surface of control, in which relational stability is visualized and prescribed. This distinction is central to the present study's broader concern: to understand how different types of interfaces construct, regulate, or destabilize the boundary between order and error in architectural thought.

As it is discussed earlier, unlike lists that rely on accumulation and sequence, tables operate through alignment and comparison, as it is discussed earlier. Their visual and spatial configuration enables the articulation of difference and similarity, proximity and deviation, often in service of rationalization and standardization. This subchapter focuses on the table not only as a graphic schema but as a conceptual device through which the boundaries between order and error are drawn, extended, or contested. Tables are thus considered here as paradigmatic tools of knowledge structuring, central to the disciplinary transformations that accompanied the rise of scientific thinking from the seventeenth century onward.

This section focuses on two pairings: Giovanni Morelli (1816-1891) and N. L. Durand (1760-1834), and Claude Perrault (1613-1688) and Peter Eisenman (1932), each representing contrasting but interrelated approaches to tabular thinking. Morelli, operating within the epistemic culture of 19th-century connoisseurship, uses

tabular morphology to trace authenticity through minute fragments, elevating the negligible as a key to the whole. Durand, in turn, erases particularities in favor of typological standardization, proposing a compositional logic based on the tabulated variation of building types. While Morelli's table is diagnostic and interpretative, Durand's is generative and mechanical.

Claude Perrault and Peter Eisenman, despite their historical distance, are brought into dialogue through their shared use of the table as a means to reframe the disciplinary boundaries of architecture. Perrault's tabular rationalization seeks to resolve contradictions among classical orders, whereas Eisenman's layered tables deliberately decompose meaning through misreading, repetition, and spatial superposition. These cases collectively demonstrate how the table, as a graphic and conceptual interface, can both stabilize and destabilize architectural knowledge depending on its configuration and purpose. Each pairing, while grounded in different historical and disciplinary contexts, demonstrates a unique approach to organizing knowledge and mediating the boundary between order and error. The tables they employ are not merely graphic instruments but conceptual tools that either encode knowledge for teaching and transmission or, alternatively, expose inconsistencies and destabilize normative frameworks.

The first pair, Morelli and Durand, represents a didactic and systematizing tendency. Both figures were deeply embedded in the scientific rationalism of their times. Morelli, a trained medical doctor, developed a morphological method for authenticating paintings through the classification of negligible fragments, ears, hands, noses, offering a repeatable system of judgment that resists subjective connoisseurship. Similarly, Durand, writing for the students of École Polytechnique, composed typological tables that presented architectural knowledge in a regularized, abstracted form. In both cases, the table serves as a teaching tool, a surface on which knowledge is made legible through encoding; whether to identify the authentic within the fragmented, as in Morelli, or to communicate compositional logic through regulated types, as in Durand. Despite their divergent attitudes toward the fragment, Morelli elevating it, Durand often erasing it, both aim to structure knowledge in a

form that is transmissible, functional, and systematized. Their tables exemplify how architectural and artistic knowledge can be rationalized through similarity and sequence, shaped by the scientific notion of classification and order.

The second pair, Perrault and Eisenman, foregrounds the table as a site of theoretical intervention, where epistemological stability is challenged rather than confirmed. Perrault, in his *Ordonnance for the Five Kinds of Columns*, uses tables to expose contradictions among canonical definitions of the classical Orders. His method, grounded in arithmetic average, seeks to reformulate order by extending its rules, a corrective gesture that emerges from within the system it interrogates. Eisenman, working from a post-structuralist paradigm, takes a more radical stance. His *Moving Arrows, Eros and Other Errors* reconfigures the table into a multivalent, layered textual device where meaning is deliberately left unresolved. Through superposition, scaling, and material complexity, Eisenman's tables do not encode but rather decompose and reformat architectural meaning, foregrounding error not as deviation to be eliminated but as generative misreading.

These two pairings also reflect differing pedagogical motives and epistemic modes. While Morelli and Durand build instructive systems for recognizing or producing compositions, Perrault and Eisenman mobilize the table as a conceptual field through which architectural thought is either restructured or deconstructed. The former encodes knowledge for replication; the latter renders visible the instability or contingency of knowledge itself. Thus, the table as interface reveals not a singular function, but a modality, sometimes mechanical, sometimes interpretative, occasionally metaphysical, through which the relation between order and error is drawn, negotiated, or undone.

As a parallel discussion, this subchapter aims to comprehend tables, as active interfaces from a perspective of the particular and the universal, reading Morelli and Durand as counterparts. The pair Claude Perrault and Peter Eisenman pair also intends to make a contribution to artistic freedom and the rational system.

By investigating these four instances, an understanding regarding the particular and the universal duality will be sought after: in the ways of Claude Perrault's ordering the proportional definitions of Orders offering an alternative method, Durand's cataloguing the building types proposing a different understanding for architectural making, or in Giovanni Morelli's understanding of the particular as the 'lost original.' The particular, there, was read in parallel to error in terms of its being off the acknowledged one or the universal. The medium to trace this was the tables used in Perrault's book Ordonnance for the Five Columns After the Method of Ancients and the table-like formation of the book pages of Durand's *Receuil*, and Morelli's book *Italian Painter*. Peter Eisenman, on the other hand, is read in comparison to Perrault, despite the time difference, expands the mode of making table to an unconventional method, highlighting the process oscillating between artistic freedom and the rational system.

Here, in order to highlight the claim of this small text, it is important to recall the shared characteristics of these two instances. One of the commonalities is that both scholars were in close relation to scientific developments of their times. Claude Perrault is one of the founder members of the *Academie Royale des Sciences*. He was educated as a Doctor of Medicine, later he pursued architecture after he translated Vitruvius into French. In a similar manner, Durand wrote *Receuil* to convey a certain level of architectural knowledge to the engineering students in Ecole Polytechnique. The other commonality, which is rather more implicit, might be that by questioning the rationale behind the architectural-making processes, both scholars aimed to rationalize and systematize the process without leaving a gap between the particular and the universal and in a way rendering the process repeatable and easy to convey. This initiations of rationalization and systematization of the discipline wavering between the particular and the universal; and the tables used, as the tools for ordering knowledge, are possible to be interpreted as the structuring derived from this tension between the universal and the particular. In Perrault's tables, the proportions are listed in the form of a table including particular built examples and universal textual definitions of the architects. In Durand's table-like pages, the instances are ordered

considering the kinship between the structures and the other criteria seems to be the scale. Morelli, on the other hand sets the particular as the negligible details of the renowned paintings.

It is also known that in order to fit the instances into that page structuring, some details, particularities are erased from the drawings of the buildings in Durand's process of table making. Tables, defined as the center of knowledge in the seventeenth and eighteenth centuries,[205] are utilized to render the relations visible. In this tabulated space, architectural knowledge is ordered and, in that way, a new method for proportions- *juste milieu* in the case of Perrault's, and a new way of architectural making- composition, in the case of Durand's, are grounded. In a quite similar manner, this kind of ordering knowledge is also found in an 19th century-art historian Giovanni Morelli's book on the Italian Painters. In this book, Morelli explains his method to make a true attribution of the work of art. This book also includes pages in a table-like format in which differences and similarities are related. He structures his ordering of true attribution, his rules to follow in order to make a true judgement on the work of art.

Seen as a tool that can either guide a controlled making process or suggest a rational method for judgment, the table visually represents the relationality of order and error. It stands on the limit considering its aim to draw the line between order and error, and makes the metastable condition visible. In a consecutive line of thought, although it seems contradictory, table, as the format of rational ordering, has less possibility to integrate error within its tabulated space. However, they can also be interpreted as the visual representations of the above-mentioned metastable conditions that can be seen in Eisenman's reconfiguration of the table as the triggering surface on which misreadings are encouraged.

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[205] Michel Foucault, *The Order of Things: An Archaeology of The Human Science* (London: Routledge, 2002), 82.

These distinct trajectories enable a conceptual differentiation within the broader discussion of tabular interfaces: "tables of knowing" refer to those that aim to encode, systematize, and transmit architectural or artistic knowledge through recognizable, repeatable forms, typified by Morelli's morphological catalogues and Durand's typological grids. These are pedagogical instruments shaped by the logic of clarity and didactic transmission.

The "tables of thinking," on the other hand, are not designed to stabilize knowledge but to provoke it, to unsettle fixed classifications, to reflect on the limits of codification, and to open space for reinterpretation. Perrault's corrective logic and Eisenman's decompositional matrix exemplify how tabular formats can become epistemological devices not of resolution, but of critical tension, generating thought by making contradictions and ambiguities operative.

4.2.1 Tables of Knowing

> The borderline between natural sciences and human sciences (or as it is sometimes seen, between science and everything else - social sciences, arts, humanities) has long been a difficult area, and is likely to remain so.[206]

As Ginzburg states the differentiation between natural sciences and human sciences is not a recent debate and the border between them does not have a clear-cut definition. It is also said that this distinction is further grafted as the distinction between science and arts, social science, or humanities. Apart from this grafted separation, the concept of science has also undergone changes. The term science, in pre-modern times, is used for the mythological, historical, and even for the magical situations.[207] However, with the Galilean understanding of science, the observable

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[206] Carlo Ginzburg, "Morelli, Freud and Sherlock Holmes: Clues and Scientific Method," *History Workshop Journal* 9, no. 1 (1980): 5–36, 7.
[207] David Freedberg, "Iconography between the History of Art and the History of Science: Art, Science, and the Case of the Urban Bee," essay, in *Picturing Science: Producing Art* eds. Caroline A. Jones, Peter Galison (London: Routledge, 1998), 272–96, 287.

becomes superior. The classifications, taxonomies and cataloguing are the features of the 17th century science.[208] *Things* are collected, observed and classified. This is the absolute way to construct knowledge within the framework of modern science. Ginzburg also states that the concept of science becomes narrower by depending on more on proof less on imagination and speculation.[209] This attitude extends and increase its impact till the mid-19th century.[210] Objectivity is emphasized, and it is used as the total opposite of the "artistry of Genius's intervention".[211] The obsession with classification and cataloguing turns into a solid rule to produce knowledge. This act of ordering the world reflects itself as the analytic *table*, which is a kind of an articulate representation of a whole with its subregions establishing the relations of proximity, distance, adjacency, and separateness.[212] The fragments and the whole are bonded within the space of this analytic tool, the taxonomic tables.

Although it is hard to delimit the borders of disciplines, the new understanding of science with its specific way of producing and ordering knowledge is dominant/influential beyond the borders of what is coded as science. Its impact is possible to be tracked down in art and architecture as well. Understanding the practice of classification as a relational system in which the fragment and the whole are structured, this text aims to illustrate two distinct approaches towards the fragment in relation to whole. Perceiving the fragment in relation to whole, this text aims to look at fragment as a key point which reveals two different approaches of classification within the scope of scientific understanding. To do that, N. L. Durand (1760-1834) and G. Morelli (1816-1891) are chosen as the two different tracks to examine the fragment-whole relation within the borders of taxonomic tables. Durand

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[208] Ibid, 288.
[209] Carlo Ginzburg, "Morelli, Freud and Sherlock Holmes: Clues and Scientific Method," *History Workshop Journal* 9, no. 1 (1980): 5–36, 5.
[210] Peter Galison, "Judgement against Objectivity," essay, in *Picturing Science: Producing Art* eds. Caroline A. Jones, Peter Galison (London: Routledge, 1998), 327-359, 332.
[211] Ibid, 328.
[212] Michel Foucault, *The Order of Things: An Archaeology of The Human Science* (London: Routledge, 2002), 81.

stands for architecture, whereas Morelli is to study the classification practices in art. Both scholars lived in more or less within the same period that the impact of scientific understanding is valid, and this impact is visible in their works: *Italian Painters: Critical Studies of Their Works* and *Recueil et Parallèle des Edifices de tout Genre, Anciens et Modernes*. Although this impact of organizing the knowledge depending on similarities and differences is common, the way they approach the parts of the whole diverges from each other.

The table is one of the tools to organize information in order to draw the limit between the order and error. In this text, it is interpreted as the interface on which order is defined, error is excluded, or order and error is related. Recognizing both the similar and the distinctive characteristics of the two, the text does not aim to bring a new concept to the design theory, but it is aimed to point out that error is inherent in the processes of making and analyzing. There, the similar condition was to break works into pieces to have a better understanding of them and the distinctive characteristic was that Durand creates and uses tables for making architecture whereas Morelli proposes a rational method for analysis of an already composed work of art.

4.2.1.1 Morelli's Table for the *Lost Original*

The Morellian method in connoisseurship marks a significant epistemic shift in the art history. To better understand the Morellian method as a shift, this text first revisits Giorgio Vasari's conception of connoisseurship, an approach grounded in intuition, taste, and the trained artistic eye, and later it turns its focus to Giovanni Morelli's critical response, which attempts to stabilize the practice through empirical observation and systematic classification. The contrast between these two approaches reveals not only a transition from subjective judgement to quasi-objective method but also foregrounds Morelli's underlying concern: to systematize the practice of connoisseurship in a way that it would be possible to follow repeatable procedures, ruling out the intuition. Since one of the broader tensions underpinning

the order–error framework is the divide between subjectivity and objectivity, this historical shift from Vasari's intuition-driven model to Morelli's analytical system helps clarify how interfaces, in this case Morelli's table, do not merely prescribe knowledge but actively participates in its formation by offering new ways of looking to the paintings. These surfaces introduce new ways of seeing, organizing, and ultimately redefine authorship through tracing hasty errors.

In his introduction written for the book *Art History and Its Methods: A Critical Anthology,* "A History of Methods", Eric Fernie explains Vasari's conception of connoisseurship as the process of "making judgements about the quality of artists' works for purposes of attribution and to decide whether they should form part of the canon of great works of art".[213] Further, he detailed this definition by saying that connoisseurship requires a sensitivity to form and close examination and analysis of the works of art to identify styles of schools, artists, and periods.[214] Connoisseurship, for Vasari, is the act of making critical judgments about the work of art for the purposes of attribution which will define the canonical examples of the periods, schools, or the artists. To make the *true* attribution, Vasari also mentions the existence of an expert "eye" as a significant value to detect the hand of the artist and to differentiate the copy from the original.[215] The act of distinguishing an original from a copy, in Vasari's conception, does not depend on a series of codified procedures but at certain extent, it includes an internalized sense of artistic value.

The dictionary definition of the word connoisseur is "a critical judge of any art" and "one well-acquainted with any of the fine arts and a critic in matters of taste."[216] Considering this definition, it is possible to say that the term is closely related to

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[213] Eric Fernie, "Art History and Its Methods: A Critical Anthology," essay, in *Art History and Its Methods: A Critical Anthology* ed. Eric Fernie (London: Phaidon, 2013), 10–21, 11.
[214] Ibid.
[215] Ibid.
[216] Ibid.

'taste', which connotes a 'subjective' and in a way irrational meaning. Besides the implication of subjectivity in the definition of the word, it is also possible to sense the subjective indecisive condition in Vasari's definition. Vasari mentions about the existence of an artistic eye to detect the hand of the artist and to differentiate the copy from the original.[217] The eye to make a judgment is not an ordinary eye, it has to be an educated one, equipped with intuition through performing the arts themself. Thus, the practice of the connoisseur also contains intuition.

Despite subjective connotations such as taste or intuition, Giovanni Morelli, a 19th-century scholar, studied the practice of connoisseurship within a rather systematized framework. He developed a method for making a true judgment to rule out subjectivity in the process, grounding the connoisseurship in line with scientific methods of observing and analyzing.

> We (connoisseurs) are thrown either upon tradition, or upon the general impression when we have to pass judgement on them (art works), and as the intuitive faculties differ in each individual, the conclusion arrived at must necessarily be of the most varied nature.[218]

Morelli discusses the role of intuition and taste in the practice of connoisseurship in his fictive text which he wrote as Ivan Lermolieff, a fictive Russian scholar. The text is in the form of a conversation between Lermolieff and an Italian expert on art. In this fictional dialogue, Morelli critiques the prevailing dependence on tradition and general impression in the attribution of artworks. He argues that such reliance inevitably leads to unstable and contradictory conclusions, as intuition differs from one individual to another. Morelli articulates his central critique of connoisseurship through the voice of the Italian expert in his fictional dialogue, highlighting that judgments in this practice often either rely on tradition or on general impressions of

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[217] Ibid.
[218] Eric Fernie, "Italian Painters," essay, in *Art History and Its Methods: A Critical Anthology* ed. Eric Fernie (London: Phaidon, 2013), 103–115, 113.

the artwork.[219] The reason why Morelli put forward the relation between judgment and intuition is to highlight that the conclusions arrived through intuition differ and vary; therefore, the dependence on intuition jeopardizes reaching an absolute truth.

Deriving from this anxiety to eliminate the intuition and the indeterminate conclusions, Morelli developed a method based on the systematic observation and classification of seemingly negligible details in paintings, hands, ears, and other morphological fragments that, he argued, unconsciously reveal the artist's authentic touch. He decomposes the painting into fragments to analyze and classify those bits and pieces to say a word about the whole. By isolating these fragments and organizing them into comparative tables, Morelli created a framework in which the part could stand for the whole, representing its true value. Grounded in morphological analysis, this process was intended to eliminate subjective error and enable reproducible judgments.

Morelli's book *Italian Painters: Critical Studies of Their Works* resembles a catalogue, a collection ordered according to a rationale. It is like an ordered compilation of decomposed fragments of paintings, formally recalling any page of a natural history book (Fig.1). The method is developed for the sake of proposing a repeatable process and having the capability to eliminate the range of subjective judgment. Rather than paying attention to overall composition, color usage or the decorative elements, Morelli asserts that the true being or the character of the artist yields itself in seemingly negligible details. Through taxonomic presentation, fragments of renowned artworks are grouped and compared, constructing a visual matrix of the hints of the originals. These fragments, often deemed too minor to matter, are reframed as empirical evidence of authorship. Edgar Wind reinterprets Morelli's method as the understanding that "the authentic fragment" is cherished "as

[219] Ibid, 103.

the trace of a 'lost original'." [220] He adds, although the original work of art is subjected to distortions by clumsy copyists and restorers, the authentic fragment is powerful enough to detect the lost original.[221]

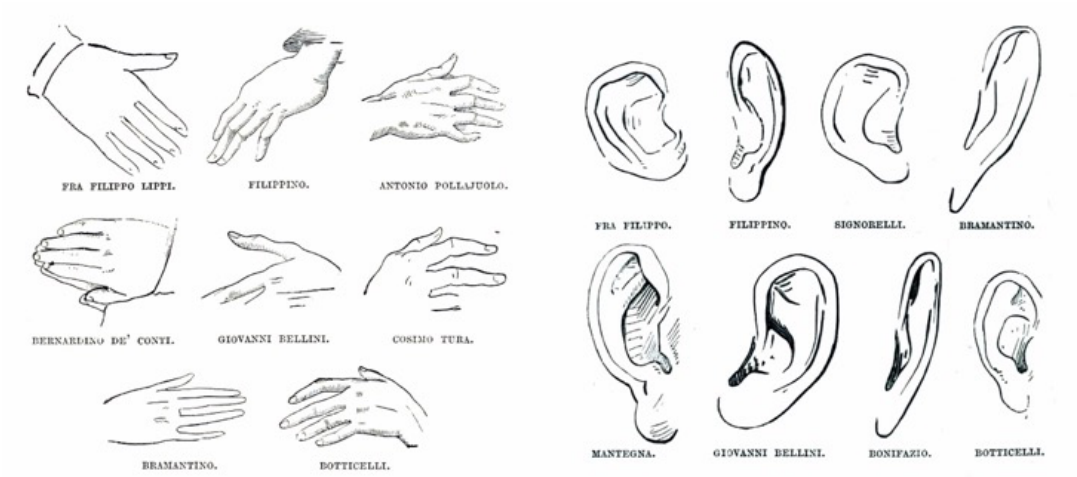


Figure 4.17 The page showing the representative fragments, from *Italian Painters: Critical Studies of Their Works*, Giovanni Morelli, 1892, first published in 1880.

It is believed that these details are executed so instantly that any copyist could not imitate the spontaneous brushstrokes of the artist. These fragments, often produced swiftly and subconsciously, tend to appear rough, imprecise, or seemingly inappropriate in relation to the overall refinement of the artwork. Precisely because of their technical imperfections, they become critically important: they contain the traces of the artist's unique hand and serve as representative indices of the whole. In their deviation from polished execution, these erroneous details reveal the authentic character of both the artwork and its maker. They reflect the true character of the artist and the work through their imperfection.

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[220] Edgar Wind, "Critique of Connoisseurship," essay, in *Art and Anarchy,* ed. Edgar Wind (London: Duckworth, 1985), 32–51, 42.
[221] Ibid.

Morelli's method thus enacts a double movement of fragmentation and reconstruction: decomposing the artwork into its neglected parts in order to reconstruct a claim of authenticity. A morphological study was performed to overcome making subjective, unstable and *false* judgements on the work of art. By employing this method depending on a systematic approach, anyone who has the capability to think clearly, and reason correctly can be a connoisseur.[222] For Morelli, even "the books are apt to warp a man's judgement".[223] Knowing the fact that Morelli was educated as a medical doctor, Ginzburg constructs a resemblance between Morellian method and the act of diagnosis in terms of proceeding of the methods.[224] He in a way diagnoses the parts of the paintings to evaluate the authenticity of the work or the true maker. His morphological tables, based on shape classification, function as a visual complement of his method and a tool to render the data encoded to teach. Reflecting the functioning principles of modern science, observation, collecting empirical data and classification in its most basic identification, his method works as a remedy for uncertainty, indecisiveness and 'false' judgement.

This highlights the significance of the order–error framework. Morelli's tables illustrate an example of where the tabulated surface enacts the function of an epistemic interface that encodes a regulatory distinction: between the authentic and the counterfeit, the original and the copy, the canonical and the ordinary. By locating the capacity for error not in the external features of a work but in the method of its judgment, Morelli locates error in an operative position. The method consolidates its validity through the possibility of improper applications, and it proposes a systematization that is only possible through the close reading of what appears most

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[222] Edgar Wind, "Critique of Connoisseurship," essay, in *Art and Anarchy,* ed. Edgar Wind (London: Duckworth, 1985), 32–51, 35.
[223] Eric Fernie, "Italian Painters," essay, in *Art History and Its Methods: A Critical Anthology*, ed. Eric Fernie (London: Phaidon, 2013), 103–115, 109.
[224] Carlo Ginzburg, "Morelli, Freud and Sherlock Holmes: Clues and Scientific Method," *History Workshop Journal* 9, no. 1 (1980): 5–36, 12.

irregular or inessential. In doing so, the table emerges not simply as a didactic tool but as a surface where error is the guiding essence of the work to reinstate an order.

While Morelli's method operationalizes the fragment to decode an already existing whole, seeking out the original through minute inconsistencies that bear the trace of authorship, another table-like interface, developed within the same historical climate of scientific rationalization, follows an inverse logic. In contrast to Morelli's interpretative emphasis on details as epistemic anchors, Jean-Nicolas-Louis Durand's *Recueil et Parallèle des Édifices* employs tables to encode architectural knowledge by erasing particularities in favor of typological abstraction. Where Morelli's table aims to reveal hidden orders by isolating anomalies, Durand's grid suppresses deviation to reinforce repeatable compositional principles. Both tables, however, function as didactic devices shaped by the epistemic ideals of their time, interfaces that mediate the relation between order and error through distinct strategies: one by exposing the irregular, the other by eliminating it. Taken together, they illuminate the multiple modalities through which tables of knowing contribute to the production, stabilization, and circulation of disciplinary knowledge

4.2.1.2 Durand's Typological Tables for Engineers

The contrast between Morelli's fragment-based decoding and Durand's typological abstraction has already been outlined. Although the purpose of both tables and their formats are akin to each other, the divergence lies in the process of table-making. Emerging from the same intellectual climate marked by the rise of scientific rationalism, Durand's table offers a different kind of interface, through his treatment of the pecularities. His tables are less concerned with the uncertain or the irregular than with producing a systematic body of knowledge tailored for pedagogical clarity. To better understand how his encoding mechanism operates, and how it negotiates the boundary between order and error not by isolating deviation but by suppressing it, Durand's *Recueil* must be considered in detail as a key example of how

architectural knowledge is formatted through the table as a surface of disciplinary regulation.

Nicolas J. L. Durand (1760–1834) and Giovanni Morelli were contemporaries, active during overlapping periods, yet they had operated in different disciplinary contexts. Far from aiming to reveal a clear-cut difference between the approaches of different disciplines, this parallel reading allows for a cross-disciplinary comparison of how classificatory methods were employed in architecture and art history alike. Whether they had any chance to have contact with each other is unknown; however, the similarity between the essences of the two scholars' major works is worth mentioning. Morelli's objective of systematizing the practice of connoisseurship to make it transmissible reflects itself in Durand's *Recueil et Parallèle des Edifices de tout Genre, Anciens et Modernes.* This book, as one of the most significant contributions of Durand, was intended as a textbook for engineering students, and it was prepared during his tenure at the École Polytechnique. *Recueil* has also been supplemented with another book, *Precis Leson D'architecture*. *Precis* is the textual configuration of Durand's reframing of architecture for the engineers, whereas the *Recueil* works as the compilation of his methodical tables on which architectural knowledge is re-regulated. The text and the table are segregated.

To compare Morelli's treatment of painting fragments, emphasizing their particular morphological characteristics, with Durand's approach to conveying architectural information to engineers, this text takes *Recueil* as its primary focus. As mentioned earlier, this book is evaluated as distinctive just because of its being a compilation of drawings of various buildings in tabulated format. It resembles a catalogue in which buildings are collected, drawn, and then ordered on the pages of the book. Each page is a systematic representation of the architectural productions of the past.

Beyond functioning as a selective compilation, the book organizes its content typologically, grouping buildings under categories such as churches, palaces, and hospitals. The drawings, presented in orthographic projection, either as plans or elevations, are positioned on each page to exemplify variations within a specific type.

On each page the evolution and variation of an instance into a rather complex construct is visible. Even the page layout itself represents the sense of evolution, a progressive way of architectural production. By looking at the pages of *Recueil*, it is possible to see the progression of a building type with it's the most basic version to the most complex composition. From the most basic condition to the most complex, the table speaks for the constitution of certain types and their variation, stating the rules of certain types visually, in plan, and elevation. The pages are treated as a systematic table to reach the 'universal' compositional logic of certain architectural typologies by Durand.

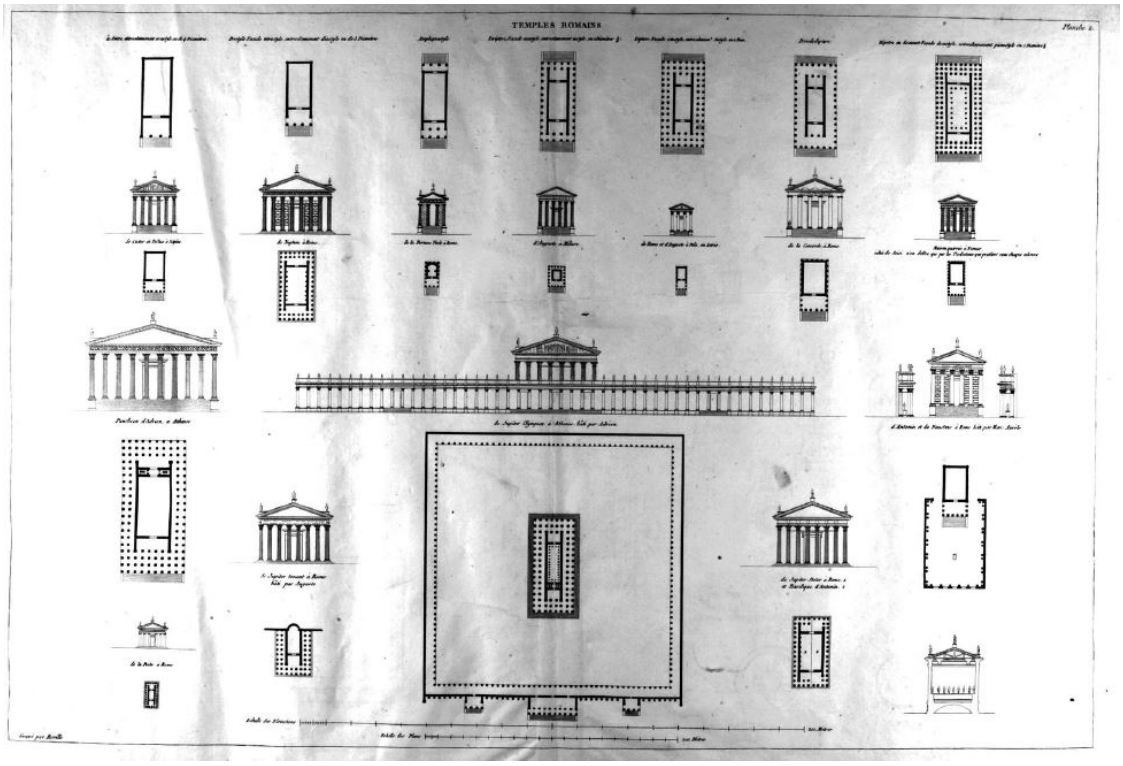


Figure 4.18 The page showing the constitutive fragments, from *Recueil et Parallèle des Edifices de tout Genre, Anciens et Modernes*, J. N. L. Durand, 1800.

Rafael Moneo situates his reading of *Recueil* in his article 'On Typology. Here, he defines the pages of the mentioned books as the "repertoire of models, constitute the materials available to architects," and further adds that this repertoire represents itself as "typological series that is generated by the relationship among the elements that

define the whole."[225] From Moneo's identifications, it becomes possible to say that the pages of *Recueil*, reconstructs the relations between the parts and wholes. Fragments on the pages in a table-like organization reveals the variation and progression. Adding to Moneo's statement, in this table-like organization, fragment reveals itself as the constitutive element for the whole, as opposed the constituent fragment in Morelli's understanding.

Durand's visual strategy in *Recueil*, placing discrete architectural examples in typologically organized grids, does more than a mere catalogue of historical buildings; it constructs a visual taxonomy through which the logic of type is abstracted from individual examples. The act of compiling variations on a single page is not only a pedagogical tool but also a means of stabilizing a universal compositional rule through the strategic suppression of particularities. It is within this tabular logic of repetition and difference that the concept of type is codified, guiding architectural production in depth.

The grid in Recueil does not simply display buildings, it articulates relationships between them, emphasizing similarity over difference and laying the groundwork for a generalized architectural language. In doing so, it transforms particular structures into abstracted instances of a broader type, aligning with a mode of thinking that privileges order and universality over error and particularity. Building on this logic, Moneo argues that the very notion of type emerges from the act of grouping, a cognitive and disciplinary operation that inherently privileges universality over particularity. [226] Further, he emphasizes that the act of grouping and creating a general rule out of those groups dismisses the individual existence. The individual character of the structures or their particularities are erased for the sake of reaching the general principle, which can be applied to many cases and offer a generic

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[225] Rafael Moneo, essay, in *Oppositions Reader: Selected Readings from a Journal for Ideas and Criticism in Architecture, 1973-1984*, ed. Michael Hays (New York: Princeton Architectural Press, 1998), 22–45, 29.
[226] Ibid, 23.

solution. This way of perceiving and producing architecture is later criticized by the 20th century scholars. It is considered as too restrictive and mechanized.[227]

> The square grid ended the idea of architecture as it had been elaborated in the Renaissance and used until the 18th century; the old definition of type, the original reason for form in architecture, was transformed by Durand into a method of composition based on generic geometry axis superimposed on the grid. The connection between type and form disappeared.[228]

As stated, the dissolution of the connection between the type and form is caused by the imbalanced imposition of the 'scientific' terms such as grid, axis or quantification. The particularities and the individual values of the works are flattened in order it to be fit into an order aimed to be constructed. This order, in this case, reflects itself through the regulation by the grid, axis, and ruled by quantification.

The same article also mentions that the diagrammatic plans of certain structures in *Recueil* are simplified and regularized by reducing the characteristics of the instances.[229] Durand provides the mentioned systematization and rationalization by reduction in order to impose his reframing. To achieve a clear, non-subjective construction, he subjectively eliminates the details which he considers negligible and insignificant.

The tendency to simplify, reduce, and regularize can be read parallel to the broader ambition, an architecture depending on a rational logic of emerging scientific disciplines. By eliminating irregularities and flattening historical specificity, Durand's work aspires to produce a repeatable and universally applicable design methodology. In this context, the table becomes more than a didactic aid; it transforms into a tool of epistemic standardization, an interface that organizes

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[227] Ibid, 32.
[228] Ibid, 29.
[229] Leandro Madrazo, "Durand and the Science of Architecture," *Journal of Architectural Education (1984-)* 48, no. 1 (1994): 12–24, 13.

architectural knowledge not around exception, but around the principle of reproducibility.

This sensitivity to systematization and standardization, to some extent, may be interpreted as the outcome of the intellectual environment in which Durand taught architecture. At the École Polytechnique, working alongside some leading scientists and engineers of the day, he was in the position to observe the widening gap between scientific and technological definitions and the comparatively loose logic of architectural processes. Durand tried to bridge this gap with his tables, though he no longer cherished the illusion that architecture would even regain its dominance over engineering, a discipline that had been invigorated by its close ties with science.[230]

In his preface to Précis, Picon emphasizes that Durand was shaped by both the dominant intellectual climate of his era, marked by scientific thought and rationalization, and by the institutional framework of the École Polytechnique, where he taught. In that way, he over-systematized the production, eliminate the details and individual characteristics of the buildings and assimilated architecture and its productions into scientific projects.

Considering the pages of the book *Recueil* and Durand's reduction of certain details to befit into a system, it can be said that the fragment for Durand is something to be neglected for the sake of serving the big statement. In this case this is the ultimate scientification and systematization without providing a liberated space for architectural production. From the pages of the book, it is understood that the fragments on the page create a type of building with different variations. The way of architectural production is defined and formed as from part to whole.

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[230] Jean-Nicolas-Louis Durand and Antoine Picon, *Précis of the Lectures on Architecture: With Graphic Portion of the Lectures on Architecture*, trans. David Britt (Los Angeles: Getty Research Institute, 2000), 24.

Here, the divergent points of scientification and systematization seen in Morelli and Durand become evident, especially in how each thinker mobilizes the fragment in relation to the whole. Both operate through tabular structures that aim to organize knowledge, yet their operational principles diverge in fundamental ways. In Morelli's method, the fragment is isolated not to be neutralized or suppressed, but to serve as a critical clue, an epistemic trace through which the integrity of the whole can be reconstructed. His table collects details precisely because of their irregularity, treating the minor, often overlooked parts as the trace of the 'lost original.' In contrast, Durand's table does the opposite: it neutralizes differences and subordinates fragmentary particularities, embedded in the structures, in order to construct a compositional system. In his *Recueil*, fragments are not used to reconsider the whole, but to validate it, filtered and aligned to support a universal typology.

This distinction can also be understood through the lens of order and error. Morelli's table functions as an interface that surfaces error, as deviation, in other words as the imperfect value of the painting, in order to decode and make a true judgment. Error, here, is not mere a failure but a diagnostic trace and an element that may offer a different reading of the same painting. Durand's table, on the other hand, aims to suppress such imperfections by erasing or minimizing particularities that do not conform to a rational, universal schema. In this sense, Durand treats the fragment as a potential source of error to be disciplined, while Morelli foregrounds the fragment as a site where error becomes a mode of insight.

Their divergent treatments of particularity also reflect their disciplinary contexts. Morelli, trained in medicine, brings a diagnostic sensibility to art: the fragment is a symptom that can lead to a deeper truth. Durand, teaching architecture to engineers at the École Polytechnique, adopts a mechanistic logic rooted in standardization and abstraction. While both act under the shadow of scientific rationalism, their respective epistemic commitments differ: Morelli's method embraces variability and difference as interpretive tools; Durand enforces uniformity to ensure transmission and replication. They both employ the idea of a metaphysical image, yet the difference between their methods is such that Morelli functionalizes the part to be

‘excised’ for his tables to predict/determine the objective truth, whereas Durand follows Galison’s observation of the 18th-century practice of excising the erroneous parts for the sake of universality.

As such, these two modes of tabular knowledge production reveal the ambivalent role of the interface. The table is not a neutral container but a framing device that mediates between order and error. In Morelli, it exposes the irregular to challenge assumed truths. In Durand, it conceals the irregular to assert a purified order. Both rely on the visual logic of the table, but their relation to error, and to the epistemological status of particularity, could not be more different.

This contrast also echoes Lorraine Daston’s distinction between “thick” and “thin” rules. Morelli’s fragment-based classification leans toward thick rules, those that accommodate ambiguity and exceptions, while Durand’s systematic reduction exemplifies the thin rule: rigid, exclusionary, and universalizing. Understood this way, the table becomes an interface of epistemic negotiation, not only organizing knowledge but determining what counts as valid within a given order. It is precisely at this threshold, where universal principles collide with particular anomalies, that the productive tension between order and error becomes visible.

Rather than treating these examples as isolated historical curiosities, this comparison allows us to see how architectural and art-historical knowledge is structured through visual interfaces that both prescribe and conceal. The table, as seen in both Morelli’s and Durand’s work, emerges as a critical epistemological device, shaping not only how knowledge is conveyed but how error is either surfaced or suppressed. It is in this sense that the tables of Morelli and Durand offer two competing paradigms of ordering: one that reveals by means of deviation, the other that codifies through subtraction.

With the differences and similarities of mentioned approaches, this text is an attempt to look at configuration of the particular and the universal through the table form of ordering. The table-based knowledge organization is used by two different scholars from distinct domains. Morelli and his way of constructing the connoisseurship takes

its strength from the exceptional parts of the painting. Durand on the other hand, eliminates the particulars to be fit in a preconceived set of series. Recalling Lorraine Daston's differentiation of rules- thin and thick, it might be said that Morelli finds his position closer to the thick rules in the spectrum. Here, the tension between the particular and the universal are possible to be read in parallel to error and order.

4.2.2 Tables of Thinking

The previous discussion on Morelli and Durand's classificatory tables illustrates conditions in which the table, as an interface, mediated between the particular and the universal to propose a way of knowing, structures not only the organization of knowledge but the very conditions under which knowing becomes possible. Both tables not only regulate the border between the particular and the universal, but they also decide what to know through inclusion and exclusion, emphasis, or erasure. By organizing fragments into comparative structures, the table sets epistemic hierarchies and stabilizes certain truths while obscuring others, thereby shaping the framework through which knowledge is produced, legitimized and circulated. Through their respective tables, both figures, each a significant scholar in their field, develop a new method of knowing and transmitting.

Mediating between the particular and the universal, surfacing or suppressing error depending on its epistemic alignment[231], this chapter now shifts its focus from knowing to thinking. While the former emphasized classificatory strategies that stabilize knowledge through the tabulated ordering, the latter sets its focus on the architectural reasoning itself. Thinking, here, refers to the process of reasoning of

[231] The epistemic position in Durand's or Morelli's table can be understood in the framework of Enlightenment rationality, depending on systematization, abstraction, and the universalizing tendencies of scientific classification. This alignment can also be seen in Perrault's calculating tables, in which all the proportional relations are listed, and an arithmetic average is taken. However, Eisenman's reconfiguration of the table as transparent square-shaped layers to be juxtaposed and multiply misreadings belongs to another regime of knowing, which may be related to post-structuralist understanding.

architecture and how it is framed, contested, or reformulated through tables. Here, the aim is to explore thinking not as a solitary mental act but as a mode of conceptual operation that emerges within specific visual and disciplinary formats.

Building on this, the works of Claude Perrault and Peter Eisenman stand as two distinct yet resonant instances where architectural thinking is made visible. Both construct tables, not merely to register data but to enact a change in the disciplinary logic of architecture. Perrault's scientific tables challenge the fixedness of classical orders by exposing contradictions and generating alternative principles through rational extension. Eisenman's multivalent table, on the other hand, undermines the very stability of such principles by embracing ambiguity, layering, and misreading. Positioned within different epistemic regimes, these tables do not merely organize knowledge, but they perform architectural thought. This subsection thus approaches Perrault and Eisenman as thinkers/architects whose graphic methods serve as critical operations of architectural reasoning, articulating alternative relations between order and error not through what is known, but through how one comes to thinking.

As discussed earlier, the order and error pair are perceived as a part of complex relations, rather than being in mere opposition. Remembering Foucault's known proposition that "error can only emerge and be identified within a well-defined process"[232], this subsection of the study is to discuss the two distinct modes of tabular reasoning that relate to distinct modes of architectural thinking, or in a broader context, the differing epistemic regimes. Within this historically challenging configuration of error, Claude Perrault, with his unconventional interpretation of order[233] in 1685 and Eisenman's subversive re-interpretation of error in his

[232] Michel Foucault, *The Archaeology of Knowledge* (New York: Pantheon Books, 1972), 223.

[233] Perrault and his remarks on orders have been the subject of seminal books Wolfgang Herrmann's *Theory of Claude Perrault* starts with a detailed personal history of Perrault and continues to discuss issues: Orders, Beauty, optical adjustments. His evaluation of Perrault's theory is critical combining the 17th century France, relation with Colbert and Perrault's diverse practice. Also, Joseph Rykwert's *Dancing Column: On Order in Architecture* problematizes the source of Orders as human body. For him starting from Vitruvius's legitimation of the orders Doric, Ionic and Corinthian, he thinks that the origin depends on rather a myth. Then, he groups different scholars considering how they

discussion on proportion and harmony as the essence of classical orders in 1980s[234], will guide the discussion.

Perrault's approach to error stands at a rather distinct spot within the broader ordering efforts of the 17th century. In an effort to redefine the canonical architectural orders, he exposes inconsistencies across various proportional systems that are believed to be the same in terms of their mathematical definition, to ensure an architecture that is composed in a proper manner. He revealed these inconsistencies by laying them side by side within a tabular framework. Through this visual comparison, error is identified in the form of contradiction, mobilized not as a flaw to be dismissed, but as a critical tool to unsettle the authoritative status of the Classical Orders. The interface on which he makes errors visible is a table listing architectural artifacts, books and architects' definitions on the same page. Apart from a mere listing, this table, through presenting a matrix composed of columns and rows, proposes a new method for mathematical definitions of the architectural orders.

Eisenman, far from leaning on the pre-set rules in architecture, criticizes the unquestionability of well-known ways of producing architecture such as the anthropocentric proportions highlighting the human as the core, and cosmological geometry emphasizing the unity as the total form. Criticizing the defined rules and their fixed condition, he positions error as the counterpart to truth, asserting that error

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interpreted orders and further discuss the trends affecting the definition of Orders such as music. Another book of his *First Moderns: The Architects of the Eighteenth-Century* dwells more on architects therefore Perrault is also mentioned intensely. For a more recent publication on proportions the edited book *Proportional Systems in the History of Architecture: A Critical Reconsideration* by Matthew Cohen and Maarten Delbeke can be visited. Delbeke's chapter is on Perrault and beauty which wanders within the limits of subjective and objective judgement.

[234] This can be found in various writings of Eisenman. He takes this issue in his article "The End of the Classical: The End of the Beginning, the End of the End," in *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995,* ed. Kate Nesbitt (New York: Princeton Architectural Press, 2008), pp. 211-227, 219. Further he defines the condition of the classical tradition to give value only to the truth and discard the potential of error or fiction as misreading. Because, by doing that Classical presupposes its own truth. Also, it is mentioned in the introduction text of the mentioned biennale project.

operates with truth referring to Heidegger.[235] In that line, he defines his practice of architecture as a text and highlights the inevitable nature of error that is not to be detected but multiplied. Reflecting this understanding, the biennale project *Moving Arrows, Eros, and Other Errors* stands in the juxtaposition of architecture and text. The project is represented as a book, in the format of a 32x32 cm box consisting of 30 transparent plates containing drawings and 9 textual definition plates. The square dimensions of the box and the transparent plates recall a Cartesian organization in which the lines of the relational grid are created immanently by the geometrical and material characteristics of the plates. The design development drawing of the project that is represented on a single page and read vertically supports this assumption. This drawing works as Eisenman's visual statement on the demarcation line between order and error, aiming to multiply it through decomposition.

Although these two architect-theoreticians' approaches differ, the similarity in their visualization of textual statements in the form of tables is provocative. Table operates as an epistemic surface where two distinct modes of error emerged: contradiction, in Perrault's rational recalibration of classical order; and misreading, in Eisenman's decompositional engagement with architectural meaning. Although their works are historically incomparable, the dialogue[236] between the two illustrates two distinct ways to render error operational by extension and decomposition.

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[235] Peter Eisenman, "The End of the Classical: The End of the Beginning, the End of the End," in *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995,* ed. Kate Nesbitt (New York: Princeton Architectural Press, 2008), pp. 211-227, 219.
[236] The concept of dialogue is used referring to Bakhtinian terminology.

4.2.2.1 Claude Perrault's Scientific Tables: On Orders and Extending the Rules

Despite its solid and unchangeable meaning, the identification of orders in architecture has been continuously revisited and reformulated, of which Claude Perrault observed as a contradiction. The validity of orders and their definitions are not changed drastically while the measurements, proportions and the modules were being altered with each scrutiny. What Perrault calls as contradictions are represented in his book through scientific tables.

> It is also for this very reason that all those who have written about architecture contradict one another, with the result that in the ruins of ancient buildings and among the great number of architects who have dealt with the proportions of the orders, *one can find agreement neither between any two buildings nor between any two authors, since none has followed the same rules*. This shows just how *ill-founded* is the opinion of people who believe that the proportions supposed to be preserved in architecture are as certain and invariable as the proportions that give musical harmony its beauty and appeal, proportions that do not depend on us but that nature has established with absolutely immutable precision and that cannot be changed without immediately offending even the least sensitive ear.[237]

Claude Perrault, in his book *Ordonnance for the Five Kinds of Columns After the Method of the Ancients*, critiques the assessment of orders' absolute and unchangeable character as "ill-founded". Perrault's remark on orders might be interpreted in relation to the intricate nature of orders in architecture that defines a regulatory mechanism employing the proportional relations between the parts of column. These orders were treated as a quasi-system that is neither an entirely standardized production nor an invalid structure. For Perrault, the Orders and the

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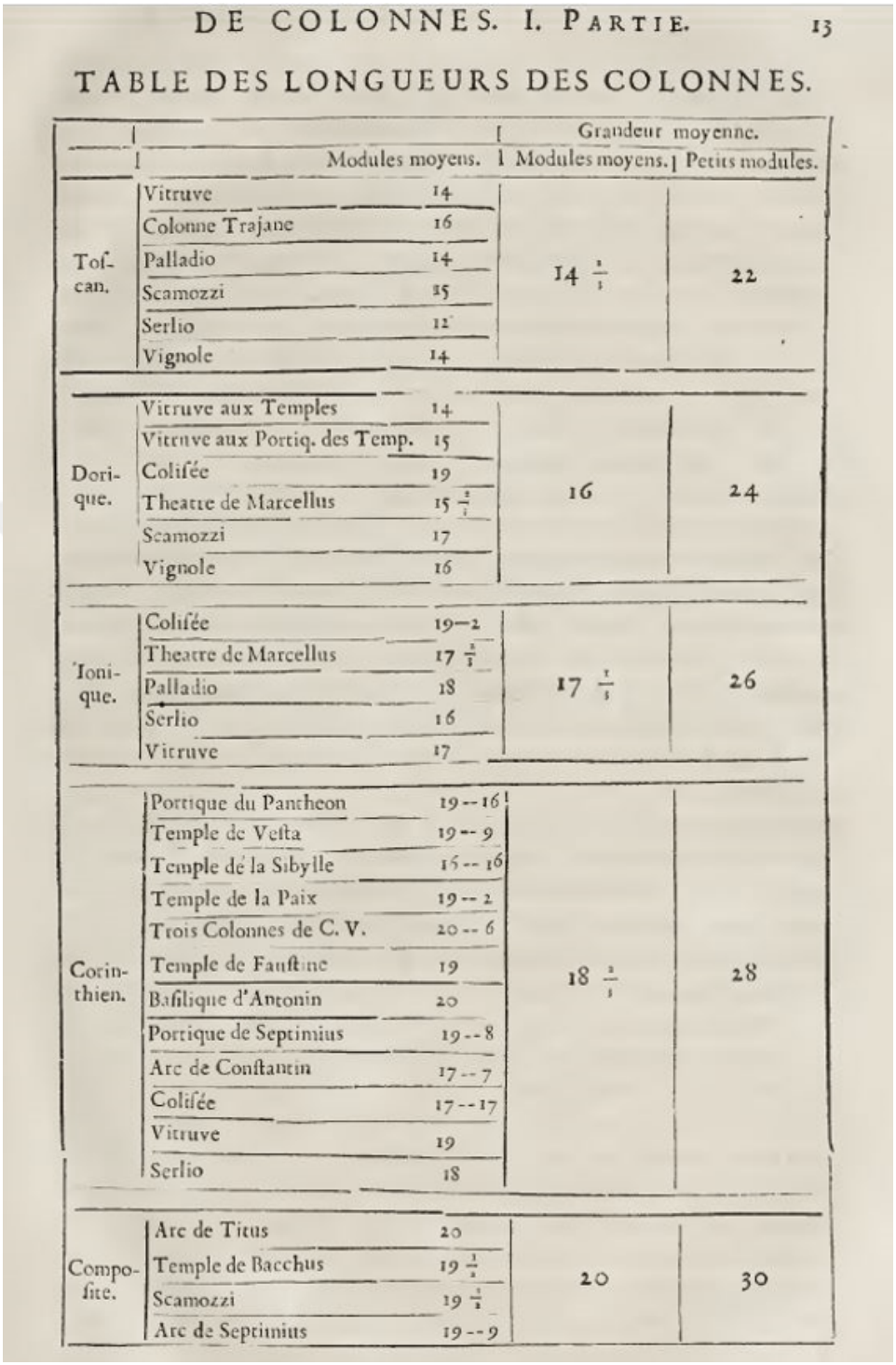
[237] Claude Perrault and Alberto Pérez-Gómez, *Ordonnance for the Five Kinds of Columns After the Method of the Ancients* (Santa Monica, CA: Getty Center for the History of Art and the Humanities, 1993), 48. Italics belong to me.

application present a discrepant condition between the scholars who defined the Orders and the built edifices that are alleged to be built according to the mathematical definition of them. When one of these different definitions is set in the focus, one might evaluate certain textual definitions or the built edifices as error. In Perrault's case, this 'contradiction' reflects itself as the urge to rationalize the Orders. The discrepant condition in the different definitions, as observed by Perrault, paved the way for a new ordering, a new method that would eliminate seemingly erroneous definitions and productions.

This act of defining rules and differentiating the appropriate from the deviant, in a way, entails the act of exclusion. Thus, the meaning of the orders is closely related to errors intended to be avoided. Aforementioned previously in Chapter 4.2.1, while Alberti lists possible errors as 'defects', and Serlio defines them as 'accidents', errors are perceived either as a deficiency or a mistake listed to be aware of and to be excluded. For Claude Perrault, errors are defined and perceived rather differently. Considering the contradictions in various definitions of orders, the validity and the exactitude of the orders were questioned. According to Wolfgang Herrmann, these contradicting measurements, far from being interpreted as flexibility by Perrault, they were understood as faults to be corrected.[238]

In order to eliminate the faults, Perrault introduces an unconventional method in his book, challenging the static idea of order through errors in its definitions. Throughout the book, the lack of agreement and contradictions, as a form of error, are detected and listed in the tables used more than once in the book.

[238] Wolfgang Herrmann, *The Theory of Claude Perrault*, (London: A. Zwemmer, 1973), 109.



DE COLONNES. I. PARTIE. 13

TABLE DES LONGUEURS DES COLONNES.

		Modules moyens.	Grandeur moyenne. Modules moyens.	Petits modules.
Toſcan.	Vitruve	14	14 1/3	22
	Colonne Trajane	16		
	Palladio	14		
	Scamozzi	15		
	Serlio	12		
	Vignole	14		
Dorique.	Vitruve aux Temples	14	16	24
	Vitruve aux Portiq. des Temp.	15		
	Coliſée	19		
	Theatre de Marcellus	15 1/2		
	Scamozzi	17		
	Vignole	16		
Ionique.	Coliſée	19—2	17 1/3	26
	Theatre de Marcellus	17 1/2		
	Palladio	18		
	Serlio	16		
	Vitruve	17		
Corinthien.	Portique du Pantheon	19--16	18 2/3	28
	Temple de Veſta	19--9		
	Temple de la Sibylle	15--16		
	Temple de la Paix	19--2		
	Trois Colonnes de C. V.	20--6		
	Temple de Fauſtine	19		
	Baſilique d'Antonin	20		
	Portique de Septimius	19--8		
	Arc de Conſtantin	17--7		
	Coliſée	17--17		
	Vitruve	19		
	Serlio	18		
Compoſite.	Arc de Titus	20	20	30
	Temple de Bacchus	19 1/2		
	Scamozzi	19 1/2		
	Arc de Septimius	19--9		

Figure 4.19 the table from *Ordonnance for the Five Kinds of Columns After the Method of the Ancients,* indicating the different heights of columns in the unit of modules.

In his tables, Perrault lists significant buildings and leading scholars, which he defines as protagonists, in relation to the Orders and their mathematical measurement. The first column of these tables is reserved for the labels of the orders, the successive column includes selected scholars who wrote on architecture (including Vitruvius, Serlio, Palladio, Scamozzi, and Vignola) and prominent buildings of the past (the column of Trajan, theatre of Marcellus, the arch of the Constantine, the portico of the Pantheon, and many more) with the modules used.

He indicates error as these contradictions listed in the table by comparing not only existing architectural monuments but also the seminal books of architecture. The first column (not to be confused with the architectural column) is reserved for the orders (Toscan, Doric, Ionic, Corinthian, and Composite), and the second is divided into sub-rows listing the buildings and seminal architectural treatises' authors with proportional definitions of orders. Even though it is prepared as a single page treated similarly to the other pages of the book, without proposing a privileged condition, this table presents Perrault's unconventional method in the last two columns, *juste milieu*. In this study, the table serves as the visual counterpart to Perrault's approach on order and error, aiming to detect and eliminate errors to rationalize the orders. He renders error operational in the form of contradiction to extend the rule of architecture.

Although the organization of the selection recalls a systematic and objective format, a closer observation reveals inconsistencies within its structure. The selection criterion is hard to perceive, as neither the rows' division nor the number of buildings and scholars included strikes an inherent order. The selection seems random and unconscious; however, the method he developed is rather unique. Contrary to his contemporaries, he does not overlook the inconsistencies embedded in the Orders over time, but he aims to rationalize the inconsistencies in his selection collected in the tabular space, by proposing to take the arithmetic mean of the numbers written in the first column.

> Since there is no apparent explanation for such great diversity in the sizes of entablatures, the only way to establish a rule with some degree of probability is to take the middle course, using a dimension that has some affinity to that of the column, such as double its diameter, and that is equally distanced from the extremes found in ancient works.[239]

Perrault's method derives from the direct mean of the values assigned to buildings and scholars. He employed mathematics and flattened the variety of definitions to eliminate the errors. In this way, he grounds his definition of order in a discipline other than architecture, mathematics. For him, a true proportional system exists and mathematics is the most trustworthy agency to address inconsistencies. Wolfgang Herrmann criticizes Perrault's solution as "prosaic, unimaginative and removed from aesthetic considerations" and ultimately deeming it disappointing.[240]

Herrmann's characterization of Perrault's approach as prosaic may stem from the reduction of architecture into numbers and equations. Employing arithmetic means offers a solution external to architecture, re-regularizing the discipline by applying another discipline's logic of thought. He introduces a reductionist layer to the system which distances the orders from building both as an act and structure. Perrault's urge to detect and eliminate errors is an urge to re-regulate the discipline. This re-regulation reflects itself in the tabular space created as the list of contradictions. Here, the 'contradictions' within a well-defined system (in this case, orders set by Vitruvius) are reinterpreted in relation to error as a form of transgression. Perrault uses errors not to break the system but to extend the rules for their redefinition. Then, the new basis for the rule is generated via mathematics.

Perrault's intervention thus exemplifies a moment in which error is not rejected but systematized and/or mobilized as a means to stabilize architectural knowledge

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[239] Claude Perrault and Alberto Pérez-Gómez, *Ordonnance for the Five Kinds of Columns After the Method of the Ancients* (Santa Monica, CA: Getty Center for the History of Art and the Humanities, 1993), 72-73.
[240] Wolfgang Herrmann, *The Theory of Claude Perrault*, (London: A. Zwemmer, 1973), 103.

through external rationalization. His table operates as a regulatory interface that detects contradiction within a supposedly coherent system and transforms it into a new norm via mathematical abstraction. Yet, this method ultimately preserves the idea of a knowable and regulable order but it is recalibrated. What Perrault extends, Eisenman unravels. In contrast to Perrault's effort to correct and contain inconsistencies, Eisenman's work emerges from a different epistemic horizon: one in which the demarcation between order and error is no longer extended but actively destabilized. The following section turns its attention to Eisenman's multivalent table, not to rationalize architecture but to decompose its meanings, , where error is rendered operational not through contradiction, but through misreading, ambiguity, and multiplicity.

4.2.2.2 Peter Eisenman's Multivalent Table: On Text and Decomposing the Meaning

In contrast to Perrault's effort to stabilize architectural order through mathematical means, Peter Eisenman's project dissolves order by amplifying error. Drawing on the post-structuralist tradition, particularly through his engagement with Derrida, Eisenman treats architecture as a textual field in which meaning is inherently unstable. His practice foregrounds misreading, deferral, and recursive layering, positioning error not as a fault to be corrected but as a productive disruption. His 1986 Venice Biennale project, *Moving Arrows, Eros, and Other Errors*, exemplifies this approach: a three-dimensional box of transparent plates whose superpositions resist closure and fixed interpretation. Here, architecture functions as a text made of traces, where each new combination generates a different reading. In contrast to Perrault's arithmetic mean, which collapses variation into a new center, Eisenman's system thrives on disjunction, shifting the demarcation line itself into a space of play.

To better understand the different modes of tables exemplified in Perrault and Eisenman, this text grounds its comparison to the mentioned biennale project. Since it has been said that these different modes of tables hint at diverse epistemological

regimes, the comparison between Perrault and Eisenman becomes especially instructive. Both figures engage the table as an epistemic surface, yet they do so under radically different regimes of knowledge. Thus, while Perrault's table is anchored in Enlightenment rationality, Eisenman's model operates within a post-structuralist paradigm that privileges ambiguity, multiplicity, and misreading. This shift reframes the table itself, from a tool of clarification to a device of destabilization, marking a transition from ordering error to thinking through it.

This epistemic reorientation, shifting from the regulation of error to its generative potential, necessitates a broader theoretical lens. In Eisenman's case, this lens is shaped not by the mathematical objectivity that underpinned Perrault's ordering strategies, but by the linguistic turn and the post-structuralist critique of the meaning itself. Here, the concern is no longer about how to fix or extend a rule, but how meaning disintegrates under the weight of its own constructions. To understand the epistemic logic of Eisenman's architectural tables, and how they render error as a condition of possibility rather than deviation, it becomes crucial to situate his work within the intellectual atmosphere of late 20th-century theory, particularly its engagement with language, textuality, and the instability of reference.

In line with this shift, Eisenman's work can be better grasped when situated within the broader theoretical currents of post-structuralism. Thinkers such as Gayatri Spivak and Robert Young's understanding of how post-structuralist discourse resists stability, fixed meaning, and established interpretive frameworks is significant to understand Eisenman's reconfiguration of the table, which is an inherently structuralist interface. For Young, the post-structuralist discourse "constantly divides itself against itself and transgresses its own systems, post-structuralist criticism avoids becoming fixed, avoids becoming an established method".[241] Spivak, in her preface to Derrida's *Of Grammatology*, frames textual meaning as inherently

[241] Robert Young (ed.), *Untying the Text: A Post-structuralist Reader*, (Routledge, 1990), 7.

unstable, susceptible to constant deferral and reinterpretation.[242] This instability, rather than being a limitation, becomes the very condition through which meaning is produced. Within this intellectual atmosphere, the focus turns from identifying coherent truths to tracing the fluid relationships between signifiers, a shift that finds architectural expression in Eisenman's treatment of form, drawing, and textuality. His work aligns with a linguistic paradigm that exceeds the binary logic of Saussurean signification, instead embracing a network of traces, references, and semantic drift.

Starting with the famous decoding of French linguist Saussure, the interest in language and meaning increased and, in a way, paved the way for post-structuralist thought. Lectures given by Saussure between the years 1906-1911 were translated into English in 1959 and after, a series of books and articles on language and meaning were written by different scholars.[243] Relatedly, this interest reflects itself in the discipline of architecture in the writings of the most cited architectural thinkers such as Diana Agrest, Mario Gandelsonas, Manfredo Tafuri, Charles Jencks, Bernard Tschumi, Mark Wigley. Peter Eisenman, both in his textual and architectural productions, is a part of that environment. His PhD thesis entitled *Formal Basis of Modern Architecture (1963)*, as the title suggests, conducts a formal analysis of certain architectural works of Le Corbusier, Aalto, Wright and Terragni from a perspective that is inspired from linguistics. The aim of the thesis, as he writes in a later book stemmed from the thesis, is to propose a "textual reading that displace canonical interpretations" configuring architecture as a formal language and focusing on syntactic assets.[244]

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[242] Gayatri Spivak and Jacques Derrida, *Of Grammatology*, (Baltimore: John Hopkins University Press, 1998), xlix.
[243] Noam Chomsky, Roland Barthes, Jacques Derrida, Michel Foucault, Julia Kristeva and Umberto Eco are the most cited authors wrote on the topic.
[244] Peter Eisenman et al., "Terragni and the Idea of a Critical Text," essay, in *Giuseppe Terragni: Transformations, Decompositions, Critiques* (New York: Monacelli Press, 2003), 295–301, 301.

While Eisenman's encounter with Saussure and his decoding of meaning and language might be questionable his close relation with Derrida is rather obvious. They had letter correspondences that were published in the journal *Assemblage*; together with Tschumi, they developed the concept for La Villette project; they co-authored Chora L Works, with Jeffrey Kipnis in which the concept of *chora* is elaborated in relation to La Villette project. Considering both his interaction with Derrida, who writes immensely on language, writing and text- and Eisenman's interest in linguistics, it is possible to say that Derrida's textuality as a free play of traces, in a "differential network, always referring to something other than itself" might have an impact on Eisenman's theoretical approach. [245] Relatedly, Eisenman defines text as "a tissue of ever-changing traces and interpretations.[246]

Both definitions emphasize that there is no fixed meaning in textual structures. Meaning is constructed with the interplay of various traces' series of different readings. Therefore, it is multivalent in terms of displacements and unpredictable in terms of being open to different possibilities. For Eisenman, the text and textuality is free play of traces that decomposes meaning with each reading. This specific form of decomposition, opening up multivalent meanings, is evident in his 1986 Venice Biennale Project.

Recalling the word cloud associated with error in the history of architecture- defect, accident, abuse, or fault- it might be said that the concept of error is set within the boundaries of negative connotation. However, recently, apart from perceiving it within that spectrum, the concept of error has been re-evaluated in relation to the concepts of *invention*, *anomaly* or *misreading*. Error is decoded as a tactic which

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[245] Harold Bloom, Geoffrey Hartmann, and Jacques Derrida, "Living On," essay, in *Deconstruction and Criticism* (New York (N.Y.): Continuum, 1979), 75–176, 84. Also, it is widely known that Chomsky with his book *Aspects of the Theory of Syntax* is highly influential in terms of understanding deep structure and adopting it to architecture. For Eisenman semantics refers to cultural values such as context and the function whereas syntax is for the formal integers of architecture that he defines as universal.

[246] Peter Eisenman, *Giuseppe Terragni: Transformations, Decompositions, Critiques*, 300.

leads to an invention; an anomalous condition which highlights the deviation; and a possible misreading that makes multiple readings available, as argued by certain scholars. [247] Eisenman, as being one of these scholars, grounds his theory and practicing of architecture on language. In the introduction of *Written into the Void*, Jeffrey Kipnis defined his practice as "writing".[248] In one of his interviews Eisenman states that "architecture is textual".[249] As a distinct reflection of this understanding, architecture as text, his biennale project *Moving Arrows, Eros, and Other Errors* puts three different texts of the tragedy, Romeo and Juliet, into dialogue and transforms the most definite type of relationality, the relation between Romeo and Juliet, into a free play between the traces through drawings.

The project was conceived for the 1986 Venice Biennale, and it takes its basis from the well-known tragedy *Romeo and Juliet*'s three different versions.[250] Apart from including 'error' in the title, the project is significant in terms of its textuality. This story is intrinsically intertextual proposing drifting fluid meanings because each version contains traces from the previous texts.

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[247] Here, invention is discussed in relation to error in Daniel Sherer's article entitled as "Error or Invention? Critical Receptions of Michelangelo's Architecture from Pirro Ligorio to Teofilo Gallaccini" in *Perspecta* 46, 2013, 76-121. The word anomaly, on the other hand, is uttered by Sarah Goldhagen in her seminal article "Something to Talk about: Modernism, Discourse, Style" in *Journal of the Society of Architectural Historians* 64, no. 2 (2005): 144–67 in relation to Kuhnian understanding of science. Goldhagen refers architectural productions outside the canon as erroneous productions and says that rather than excluding these erred productions, they are better to be aware of and to be analyzed. Misreading and error is discussed in relation to Eisenman's definition of architecture as a text.

[248] Peter Eisenman and Jeffrey Kipnis, *Written into the Void: Selected Writings, 1990-2004*, (New Haven: Yale University, 2007), x.

[249] Valeria E. Koukoutsi-Mazarakis, "Résidences Secondaires: How Eisenman Houses Fictive Structures of History" (dissertation, 1989), 101.

[250] Written in 1530, 1554 and 1596.

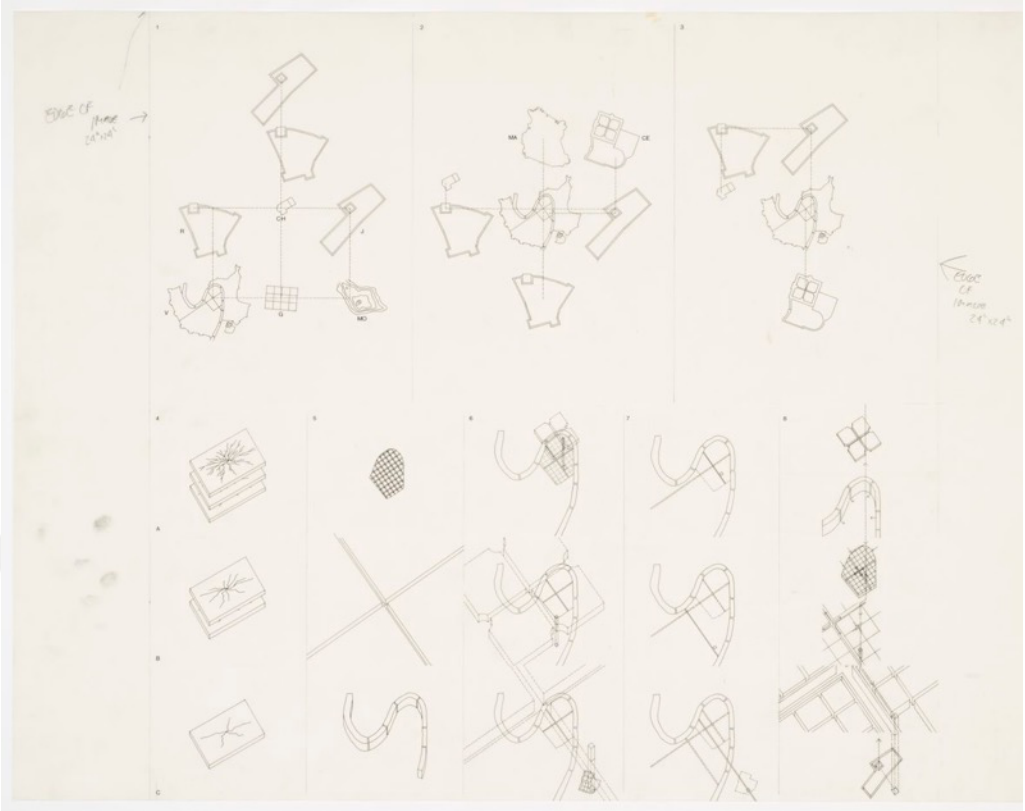


Figure 4.20 Design development drawing of the project *Moving Arrows, Eros, and Other Errors*, Romeo + Juliet, 1983, DR1994:0148:143, Peter Eisenman fonds, *Collection Centre Canadien d'Architecture*/*Canadian Centre for Architecture*, Montréal

The common themes in the story- union, division, and their dialectical relationship- are retold through architectural models, diagrams, and drawings with a series of superpositions and juxtapositions. Through the diverse and infinite acts of superposition and juxtaposition, different narratives of Romeo and Juliet are not mapped in a conventional manner but with the process of scaling. Such process of scaling also sets the critique of the project directed towards the conventional architectural production processes.

The introduction text of the project starts with the critique of the anthropocentric grounding of architecture criticizing humans' being the measure of all things.[251] For Eisenman, architectural scale is holistic, and it unifies all architectural production by placing human in the center. The process of scaling, as a counter term, is the major tool to subvert the universal and stable being of architectural scale. Scaling, as a process, is set to destabilize the conventional conditions of architecture; program, site, and representation, by proposing discontinuities, recursivity, and self-similarity. [252] Within this fluid definition of architecture as text, here, the appereance of error as creative misreadings and scaling, is used as a tool to promote further misreadings in architectural means. Through scaling, the project becomes a text that enables various readings with both the changing scales and their superposition and juxtapositions. Eisenman further explains the relation between textuality and misreading as:

> Text refers inwards to its own structure. Text has the capacity for an infinite combination of previous texts into new texts; the three-dimensional experience yields open-ended readings. This introduces the possibility of error, of a text not leading to a truth or a valued conclusion, but rather to a sequential tissue of misreading- errors which produce the condition for each new level of reading. Here narrative is no longer a teleology from an origin to a final goal of truth, but rather is an infinite series of infinite superpositions.[253]

Given the fact that the root of the word, error, *errare* means not just arriving at the destination but it also means "wandering", "adventure" rather than being mistaken.[254] Since the process of creative wandering is explored through drawings, the representation is not a secondary supplement to the project; its specific mode

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[251] John Whiteman and Peter Eisenman, "SITE UNSCENE – Notes on Architecture and the Concept of Fiction. Peter Eisenman: Moving Arrows, Eros and Other Errors," *AA Files 12* (1986): 76–84, 77.
[252] Peter Eisenman, *Tracing Eisenman: Peter Eisenman Complete Works*, ed. Cynthia Davidson (London: Thames & Hudson, 2006), 118.
[253] Whiteman and Eisenman, SITE UNSCENE*,* 82.
[254] Harper Douglas, "Etymology of error," *Online Etymology Dictionary*, last updated November 18, 2015, https://www.etymonline.com/word/error.

constructs the statement visually. Both the book and the design development drawing of the project enhance the idea of promoting errors as creative misreadings. The format of the book is unique. It is a 32x32 cm box containing thirty separate transparent plates. While the box and its three-dimensionality recall a spatial practice conducted both in the development and experiencing of the project; the transparent plates and the square dimensioning make infinite combinations and superpositions possible. The structuring of this box defines a matrix like Perrault's visual statement but in a multivalent and fluid character. The defined matrix is multivalent and fluid because it creates its own columns and rows together with multiple superpositions. Through these superposition and combination of transparent plates and the process of scaling, the project becomes a text enabling multivalent, uncertain, changing readings.

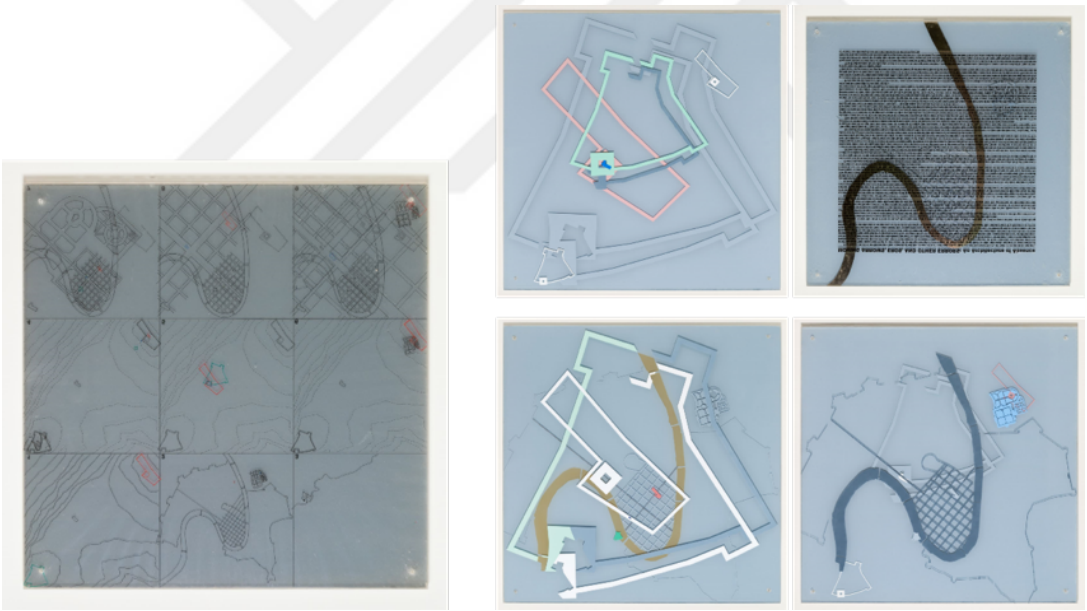


Figure 4.21 Transparent plates of the project *Moving Arrows, Eros, and Other Errors*, Romeo + Juliet, 1983, DR1994:0148:143, Peter Eisenman fonds, *Collection Centre Canadien d'Architecture/Canadian Centre for Architecture*, Montréal

Therefore, Eisenman foresees the probability of error and consciously renders it operational to decompose the meaning. He does not employ an extrinsic system of ordering but uses architectural tools that reproduce each reading itself with its open-ended character and thus with productive errors. In the *Chora L Works*, Eisenman asks Derrida that "how can you be sure Jacques, that I am going to receive your ideas when you write? You have to allow misreadings. The possibility of misreading indicates a correct reading."[255] He admits that condition and consciously uses error in the formal processes of scaling and superpositions. For him, error is not to be excluded but to be configured as a productive tool which shifts and decomposes the line between the real and the imaginative continuously.

The text starts with the initial claim that the relation between order and error is unstable. This historically challenging and changing relationality is aimed to unfold through two anachronous approaches to error. The manner in which error is treated defines the types of operation on the demarcation line, while the concepts of order and text refer to different frameworks that help to understand the time-bound conditions of the approaches.

As mentioned in the introduction of this chapter, two approaches of Perrault and Eisenman are not comparable in the conventional sense. Despite the dissimilarity in terms of context, their shared choice of visualization requires an emphasis. Perrault, challenging to the canon, aimed to rationalize the definitions of orders through errors in the form of contradictions, using table format. This table is a two-dimensional surface on which a random selection of buildings and scholars from different geographies and time periods are listed. This unconscious listing connotes the fixed and coded nature of 'order' not because of its consistency but in terms of its rigid structure.

Another table, yet different in characteristics, illustrates Eisenman's approach to error. The table mentioned here is the book of the mentioned project presented as a

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[255] Jeffrey Kipnis and Thomas Leeser, *Chora L Works: Jacques Derrida and Peter Eisenman* (S.L.: Monacelli Press, 1997), 10.

three-dimensional box. Although it does not refer to a conventional table as appearance, the transparent plates compiled as separate surfaces are capable of creating a multivalent, relational, and unstable table with combinations and superpositions. Error, here, is diversified as creative misreadings that also benefited from the three-dimensionality of the unconventional table. As discussed, Eisenman knew semiology, therefore, this kind of three-dimensional table on which various readings are construed is not a coincidence. He was conscious about his selection and the mode of representation of the project. The conscious choice for a wandering multivalent meaning through the mode of representation reflect the nature of 'text'.

Both approaches are peculiar in regard to their statement on the relationality of order-error. What creates this peculiarity, that is immanent to both architect-theoreticians' approaches, is the environment they choose to visualize: a two-dimensional single page and a three-dimensional box. The table serves as the interface to reconstruct the relation of order and error with an emphasis on different textualities. The rigid nature of the Perrault's table offers less room for speculation, reducing in-between conditions, whereas, the more fluid nature of Eisenman's allows an indefinite space for interpretation, producing multiple readings. This condition also correlates with the act of listing present in table format and the act of superposition of transparent layers.

Thus, by referring to the introduction, both forms of tables reflect the operation in the demarcation line: extension and decomposition. Perrault's arithmetic mean stands for the extension altering the method to draw the line. In the case of Eisenman's architecture as text, the line is decomposed and multiplied for multiple meanings.

4.3 Pattern

Despite its manifold history, various interpretations and loaded definitions developed in diverse disciplines, ‘order’ was previously defined as a regulating mechanism that gives rise to a minimum ground of commensurability, coherency and consistency. In this line of thought, the term may refer to a rationale as the order of reasoning, which may be a grid, a formal reflection of a geometrical organization, an algorithm, a function that defines mathematical relationality, or a metaphorical or geological strata structuring many layers. Moreover, it may refer to the rules of a language, to a discursive practice or an institution. Although these variations as sets of rules may seem rigid and monovalent, order can be understood as an abstract construct defining relations, drawing borders, and calibrating processes of making.

This abstract formulation of order, as a system of relations, rules, and calibrations, finds its operative and conceptual clarity through specific interfaces that materialize these regulatory mechanisms. As discussed in the chapter “Displaying Interfaces: Mediatory Surfaces,” these interfaces are active participants in architectural production, both in the making and thinking processes. Recognizing the diversity of their operational logics, previous subchapters discuss each interface through a distinct analytical focus: lists are considered focusing on their rhetorical articulation through distinct genres, tables through their ability to transmit or destabilize architectural knowledge via relational processes.

Among them, pattern, as conceptualized by the tailor’s pattern, demonstrates how order is drawn, distributed, and realized. By prescribing cutting lines on fabric and defining assembly rules for garment components, the tailor’s pattern generates parts, organizes their interrelations, and calibrates the transformation into a coherent three-dimensional envelope. Learning from the tailor’s pattern, in a broader sense, the concept of pattern is intended to be read as a projective schema that draws the generative lines, defines the relations between the parts, and regulates the negotiation between the geometrical logic and the material context. In other words, considering patterns as projective schemas, this subchapter proposes a reading of patterns as

systems that extend the rules into other domains, whether in the form of urban planning decisions, multi-scalar design environments, or conceptual frameworks within architectural thinking.

While the tailor's pattern provides the material basis for thinking about pattern as a projective schema, this understanding finds its conceptual reference, though in a more implicit but formative manner, in Robin Evans's reconceptualization of projection. In *The Projective Cast: Architecture and Its Three Geometries*, Robin Evans[256] employs the term 'projective' not merely as a representational technique, but as a foundational operation in architectural thinking and making. It is this deeper framework that lends conceptual force to the projective quality attributed to pattern in this thesis.

He articulates a crucial distinction between Euclidean and projective geometry, one that marks a shift in focus from the object itself to its perceptual manifestations. Whereas Euclidean geometry is concerned with the true measures of angles and lengths, aiming to decode and stabilize the object, projective geometry turns its attention to the object's images: "shadows, maps, or pictures," as Evans puts it.[257] Although the object's measurements remain constant, its image is inherently unstable, always subject to deformation by the conditions of sight. When considered within the domain of architecture, this divergence between the Euclidean and the projective suggests distinct modes of architectural reasoning. The Euclidean model privileges objective proportionality and fixity, seeking to impose exactitude onto form. The projective, by contrast, embraces ambiguity and acknowledges the generative potential of distortion and instability. As Evans notes, while Euclidean

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[256] Architectural representation has been a central concern in architectural theory, discussed by numerous scholars such as Rosalind Krauss, Dalibor Vesely, Eve Blau, Yvé-Alain Bois, and this list may be expanded further, each approaching the concept of 'representation' through distinct theoretical frameworks. However, in this study, the term 'projective' is read primarily through Robin Evans's work, both due to his impact on the discourse and his seminal book *The Projective Cast: Architecture and Its Three Geometries.*

[257] Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, Mass: MIT Press, 2000), xxxii.

figures appear as if they could be applied directly onto material surfaces like templates, projective figures belong to a "more elusive and mercurial realm," resisting direct application and defying stable interpretation.[258]

Rather than directly appropriating the technical framework of projective geometry, this thesis draws conceptually on Robin Evans's rethinking of projection as a mediating mechanism between perception, geometry, and representation. Acknowledging Evans's transposition of projective geometry into architectural thinking, the thesis formulates an understanding of pattern, particularly through the figure of the tailor's pattern, as a projective schema that both generates and negotiates. Rather, it draws upon those frameworks conceptually to underscore the pattern's generative potential, its capacity to extend, translate, and transform rules across varying contexts and scales. In this formulation, pattern is not a fixed figure to be imposed, but a dynamic schema that holds a coherent rule set while anticipating variation. It mediates between geometry and contingency, rule and exception, image and material. As such, the projective aspect of pattern is not only structural but also operative: it underscores pattern's capacity to extend, translate, and transform architectural rules across multiple contexts and scales.

Either rigid or abstract, producing within a defined set of rules can create works that illustrate a serial repetition in variation, whether in terms of their construction methods, guiding principles, or basically in terms of visual appearance. Complementarily, this section expands on the concept of pattern not only as a repetitive formal order, but also as a three-dimensional interface that patronizes the relations between the constituent parts to set an order or, conversely, introduces a more flexible definition. Within this conceptual frame, seriality stands out as one of the most persistent themes associated with pattern's role in architectural production. The emphasis on 'projective,' therefore, derives from the dual capacity of the pattern:

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[258] Ibid.

the ability to generate structured and repeatable series, and its inherent flexibility that allows for negotiation with context.

A pattern, understood as a projective schema, does not simply impose fixed rules; rather, it mediates between those rules and the conditions of the milieu into which they are projected. This negotiation unfolds between the patterned rules and the specificities of the milieu of projection. Sometimes, this projection results in a reconciliation between logic and context; at other times, it exposes incompatibilities that make the irreconcilability apparent. In this sense, the 'projective' aspect of pattern lies both in its forward-oriented capacity to propose a yet-unknown entity within a series and in its responsiveness to diverse contextual conditions[259], where predefined geometrical rules put into dialogue with complex realities.

This last chapter, "Displaying Interfaces: Mediatory Surfaces", explored how the sense of order in architecture emerges through mediatory interfaces, despite its ambiguous conditions repeated in diverse forms. Prior to this subchapter, lists are unfolded as the surfaces on which the orders and the rules are encoded. Following a linear logic of accumulation, they are not neutral surfaces but active instruments of ordering. They operate through inclusion, exclusion, and exception, as seen in

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[259] Esin Kömez Dağlıoğlu, in her article "The Context Debate: An Archaeology," reevaluates the positions towards the term 'context' in architectural practice in order to reveal both the hidden negligence of the term and the inherent flexibility that the term offers in architectural discourse. Her evaluation starts with 1940s gestalt psychology, that highlights a thread in which context is read in relation to perception and the environment and it is followed by evaluation of 1950's multiple stances such as Smitsons' understanding of 'context' within the social framework that highlights daily practices and productive 'as-found' conditions, the discussion of continuity in Italy in relation to 'context' in terms of the architectural productions situated within a historical tissue, highlighting the tradition and being merely a historicist, and Rossi's opposition to scene-making strategy to interact with the 'context,' advocating an understanding of 'context' as a "singularity of the place contructured through architecture," transposed in USA as Venturi's understanding of the term as a 'difficult whole.' Another highlight is from 60s refers back to the gestalt psychology, one of its practice is Colin Rowe's re-reading of Nolli plan. After 1980s, the term 'context' is overlooked, according to Kömez. This different positions towards the context may give an insight to the processes of negotiation between the abstract construct, logic, and social, material, perceptional dimensions of the 'context,' once more revelaing the flexibility of the term. For further information: Esin Komez Daglioglu, "The Context Debate: An Archaeology," *Architectural Theory Review* 20, no. 2 (May 4, 2015): 266–79.

exhibition catalogues, and through rhetorical moves such as affirmation, opposition, and conversion in manifestos, often articulated through bullet-pointed declarative statements. Following the discussions on "Lists," a rather more intricate regulating mechanism, "Tables" are elaborated as either an interface that stabilizes the border between order and error, as in Claude Perrault's reformulation of architectural orders through mathematical tabulation, or an interface that challenges the coherence of architectural reasoning, exemplified in Peter Eisenman's multivalent tables. Both refer to an architectural thinking that underlines the role of the table in the formation[260] of architectural knowledge. Durand and Morelli, presenting a similar, yet different table-making practice diverging from Perrault's and Eisenman's purposes of table-making, present tables as operational surfaces on which the acts of decoding and encoding run parallel to each other for the purpose of rendering a subject transmissible. Patterns, relatedly, is to be unfolded in this chapter first by delving into definitions of pattern in diverse disciplines and then within the light of the highlighted notions of these definitions, architectural patterns will be discussed in order to develop an understanding pattern as a projective schema: a regulative construct that organizes repetition without prescribing uniformity, and enables the negotiation between formal logic and contextual particularities in architectural production.

This understanding of pattern as a projective schema, that produces structured variations and responsive reconciliations, helps to initiate a re-reading of the acknowledged formulations and mottos in architecture. This re-reading, not being the major focus of this section, is significant in terms of developing an understanding of the acknowledged ordering mechanisms as patterns learning from the tailor's pattern. In histories of architecture 'order' has been reflected in efforts to regularize architectural production. To name a few, we can refer to the five classical Orders and

[260] For the detailed theoretical reading of this word 'formation', please see Sezin Sarıca's thesis "Towards an Architectural *Bildung*: A Model Glossary and an Operational Curation," (PhD diss., METU, 2025).

Palladio's formulation for Italian villa, followed by Durand's ready-made tabulated building parts, Adolf Loos' motto: "ornament is crime", Mies van Der Rohe's "less is more", Le Corbusier's five points of architecture.[261] These, all are significant in terms of systematizing, guiding, and controlling the architectural making and thinking. These formulations establish principles that are neither entirely universal nor purely context-bound; rather, they function as repeatable logics that can be projected into different design environments. Palladio's villa schemes, for instance, systematize proportions to yield spatial coherence, enabling adaptation to varying site conditions while preserving an internal formal logic.[262] Loos' slogan, by negating ornamentation, projects an aesthetic reduction that becomes a pattern in itself, reiterated across forms that reject excess yet vary in material, scale, or program. Mies' minimalist dictum similarly sets a calibrated threshold of reduction, generating a field of possibilities governed by restraint rather than explicit form. Le Corbusier's five points, often interpreted as prescriptive, in fact open up a combinatory logic that shapes space through structural and spatial possibilities.

Each of these acknowledged figures and their formulation of how to think or make architecture operates not only as a conceptual directive but also as a framework capable of creating structured variation and contextual negotiation. One of the commonalities between these is the will to guide the process of making architecture

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[261] This list can be expended to include the inquiries on the origin of architecture- like in the case of Quatremere de Quincy and Laugier, or material reasoning of in Semper's "elements". These are excluded for the sake of clarifying the regularizing attempt not focusing on the origin, or the material capabilities/roots of architectural element, but with a pragmatic tendency focusing on lists, rules that guide architectural production processes. It is to define a set that emphasizes the fact that sometimes formulization of the process of making architecture can be either too strict that defines each and every step or to aphoristic that accuses an element of architecture or rhetorically favorizes a condition of making architecture above all.

[262] The book, *Possible Palladian Villas (Plus a Few Instructively Impossible Ones)*, written by George Hersey and Richard Freedman starts by saying that this certain type of villa embodies certain geometrical rules, hard to define, yet their presence is obvious. Depending on this claim, they also created a computer game to generate yet-unkonwn entities that can be produced with the Palladian rules for the villa. His complex formula, therefore, produces series that are incomplete, in this way it can be related to the understanding of pattern as a projective schema. The same book also includes the failures and the accomplishments of the computer program.

and to plan the way an architectural edifice is created. The inevitable outcome of this guidance is various formal repetitions, which are illustrated not in a format of mimesis but instead diverge to form a cohesive 'series.' Although production in series does not necessarily imply an ill-considered, poor architecture, it may end up with a built environment created with haste, not necessarily acknowledging contextual peculiarities or changing conditions. Therefore, a set of too rigid or too aphoristic formulations might cause the danger of obscuring the complex relations between the environment and the architectural elements or behind diverse processes forming the territory[263] we have been interacting. Much like the tailor's pattern, which prescribes cutting lines and assembly rules while simultaneously allowing for flexible margins that accommodate bodily particularities and material contingencies, these architectural formulas may be read as patterns that draw the generative lines and establish the rules for the combination into a three-dimensional entity, ideally mediating between formal coherence and contextual responsiveness, balancing order and adaptability, or not.

Building upon this claim, this section of the text understands 'pattern' as the interface that guarantees the order of logic, parametrizes the process and regulates the formation. Understanding 'Patterns' as the materialization of an ordering mechanism, it aims to prepare a ground to discuss the relations between themes of seriality and series in architecture, in a broader sense, it intends to grasp the relation between the age-old term 'style' and production in series.

Having elaborated a pattern as a projective schema that both structures variation and negotiates contextual specificity and having situated this notion within architectural formulations that balance formal logic and adaptability, the following subchapter shifts the focus to diverse domains other than architecture. It draws from a range of disciplinary frameworks, music, mathematics, and cognitive science, to demonstrate

[263] Sinan Cem Kızıl, "Architecture as Territory: Politico-Aesthetic Constructions and Representations of Space-Time" (PhD Thesis, 2023).

how ‘pattern’ functions not only as an architectural mechanism but also as a broader epistemic construct. These interdisciplinary perspectives provide insight into how pattern operates as a tool for perception, repetition, and variation across fields, reinforcing its role not as a stylistic embellishment but as a foundational mechanism of reasoning, ordering, and making.

4.3.1 Pattern: Materialization of Ordering Mechanism

Although “orders” change names and forms, whether they are -isms operating through an ideology or checklists cataloging formal principles, the motive to regularize the production persists. Through patterns, it becomes easier to learn, teach, and memorize. Patterns are one of the interfaces to control and regularize the production, guiding the process of making and thinking. By drawing on interdisciplinary definitions of ‘pattern’, this subchapter intends to establish an understanding that pattern is not configured as a mere repetitive decorative element; as mentioned previously, it is rather a projective schema, as mentioned previously. The identifier ‘projective,’ here is used not primarily referring to the projective geometry or orthogonal projection in architecture, as it is discussed in the introduction part of this subsection. However, it borrows from them in order to highlight conceptually the pattern’s potential to transform. The transformation in this context is understood as the pattern’s capability to enable structured variations, not copies. This understanding offers a reconfiguration of the pattern beyond being form-based instruction but operating as a mediatory interface that proposes a regulating logic and its spatial or material actualization, referring back to the tailor’s pattern. Operating as a regulating logic, the pattern assures the creation of a series through repetition without eliminating the differences that may occur due to environmental, material, and contextual contingencies.

As with any tool that regularizes a process, the reception of patterns might vary from being a beneficial tool that provides an identifiable and repeatable structure for the production to a patronizing instrument that imposes reductionist rules. Whether beneficial or patronizing, each discipline both reads and/or generates patterns as means of understanding ways of making and having a control over the making process. Therefore, although each discipline uses this term in variation, pattern is employed in relation to order. For example, in Turkish Classical Music, there are rhythmic patterns, called *usul* in Turkish, and melodic progression patterns called *makam* in Turkish.[264] *Makam* refers to the set of textual rules defined for composing and performing a Turkish Classical musical piece; *usul* refers to the rhythmic counterpart of *makam*. Both define the set of rules codified as rhythmic and melodic progression patterns that together describe the form of the work and giving guidance for how to compose or how to read and memorize the production of the musical work.

Either to put the rules for a new composition or to read it in an analytical manner, various disciplines define and use patterns. In mathematics, a pattern is understood under four headings: logic patterns, number patterns, geometric patterns, and word patterns. It is defined as “a set of numbers arranged in a sequence such that they are

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[264] “Turkish Classical Music: Makams,” Turkish Music Portal, accessed May 1, 2025, http://www.turkishmusicportal.org/en/types-of-turkish-music/turkish-classical-music-makams. *Usul* means "method, procedure, or rhythm," while *makam* refers to "position, place, or mode" in Turkish. Together, they constitute a fundamental structuring system in Turkish classical music, guiding both rhythmic and melodic composition. In Western classical music, the rough equivalent of makam is found in musical scales and modes, systems based on the selection and organization of 7 tones within the 12-tone equal temperament. However, while Western traditions emphasize precision, fixed intervals, and notational standardization, Turkish classical music allows for more flexibility, microtonality, and nuance within its performance practices. This distinction is not only conceptual but also material: the piano, as a symbol of Western musical logic, offers fixed pitches and standardized keys, whereas the kanun, an emblematic instrument in Turkish music, is designed to accommodate microtonal adjustments through manually controlled levers. The structural logic of the system thus directly influences the physical design of the instrument, the gesture of performance, and the visual language of notation. In short, the way the rules are formulated (whether through *usul* and *makam,* or scale and rhythm) informs not only how the music is composed, but also how it is enacted and embodied.

related to each other in a specific rule."[265] Through reading patterns, an educated guess is possible.[266] This mathematical perspective highlights how patterns provide a framework for anticipating outcomes, emphasizing their predictive and structural role. In Western music, patterns manifest as "repeated structures within single pieces," where successive components describe the contour relationships between notes.[267] These musical patterns demonstrate a reading on composition and how repetition and variation have the capability to create harmony. Markus Christen, who is a neuroscientist, says that "science begins with the (at times naïve) recognition of patterns" and by emphasizing the regularity, he defines pattern as "regular configurations of different components."[268]

These examples across disciplines, ranging from music and mathematics to neuroscience, highlight the shared logic behind pattern identification and formation: a set of operations that balance constraint and variation, repetition and transformation. While the vocabulary and media differ, all suggest that patterns are more than surface-level regularities; they are mechanisms for organizing thought and guiding practice. Architecture, like these disciplines, relies on such mechanisms not only to structure material form but also to generate solutions in response to spatial, social, and environmental problems. It is in this capacity that Christopher Alexander's notion of pattern, as a spatial problem-solution pair, enters architectural discourse as a tool for reasoning, not merely styling.

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[265] "Definition of Patterns, Types of Patterns, Rules of Patterns in Math," Cuemath, accessed December 18, 2024, https://www.cuemath.com/geometry/patterns/.
[266] Ibid.
[267] Darrell Conklin, "Pattern in Music," *Journal of Mathematics and Music* 15, no. 2 (May 2021): 95–98, https://doi.org/10.1080/17459737.2021.1947404.
[268] Markus Christen, "Patterns in the Brain: Neuroscientific Notes on the Pattern Concept," essay, in *Pattern: Ornament, Structure, and Behavior*, ed. Andrea Gleiniger and Georg Vrachliotis, (Basel: Birkhäuser, 2009), 71–84, 71.

In his book *A Pattern Language,* Alexander defines 'pattern' as any recurring identifiable problem within the built environment along with its solution.[269] In this regard, his understanding of pattern offers an operational configuration that is identified to be applied, adapted, and transferred in varying design situations. This understanding, recalling the cognitive processes that derive strength from the legibility highlighted in the definition of pattern, may also be read as an earlier conception of image recognition. Aligning with the principles of image recognition, Alexander's definition of pattern emphasizes the process in which perception is guided by the ability to detect regularities and operate through them. This structured regularity both helps to identify the problem, in Alexander's words, and accordingly propose a 'design solution' that is pre-designated for a design situation. Although he emphasizes that no pattern exists in isolation in the introductory chapter of his book, the structure of the book says otherwise. He groups each pattern within an environment as if it is a mathematical problem that offers solutions.

The emphasis of the formal repetition in understanding the concept of regularity in relation to the pattern is established in Alexander's conceptualization of the pattern. This emphasis on the formal repetition is expanded by Ernst Gombrich's reading of the same concept, regularity, which refers to a deeper cultural emphasis. For him, apart from being related to a sole technical aspect of the act of repetition, regularity is possible to be read as a sign of intention. As he writes, "(t)he regularity is a sign of intention; the fact that they are repeated shows that they are repeatable and that they belong to culture rather than to nature."[270] Following this reconfiguration, 'pattern' can imply an intentionality, and might also be read as a persistent will of a designer or a valid sign of a larger phenomenon, such as water cycles, and an ordering. Gombrich's simple yet inspiring reading of pattern proposes a re-reading

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[269] Christopher Alexander, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), x.
[270] Ernst H. Gombrich, *The Sense of Order: A Study in the Psychology of Decorative Art* (Oxford: Phaidon Press, 1979), 7.

that architectural patterns are not just a technical implication of repeatability but also as cultural artifacts, highlighting a positioning or even an ideology. A pattern, in that sense, when it is configured beyond decorative connotations, is an organizing mechanism that both conveys a way of thinking and a way of making.

These diverse disciplinary insights collectively emphasize that 'pattern' should not be mistaken for a superficial decorative or stylistic embellishment. Rather, it emerges as a cross-disciplinary reasoning tool, a structuring logic that mediates between constraint and creativity, rule and variation, in a more broader sense mediating between the rational system and the artistic freedom. Whether in the rhythmic scaffolding of musical improvisation, the predictive rigor of mathematical sequences, or the cognitive basis of recognition and classification, pattern offers a generative framework for making sense of form and process. This redefinition foregrounds the epistemic productivity of pattern across disciplines, and particularly within architecture, where its role expands beyond formal repetition inherently including regulatory, adaptive, and improvisational operations. These perspectives, highlighting the diversity in the definitions of pattern and positioning it beyond a surface treatment, offer an understanding of pattern as a regulating mechanism that enables structured variation distinct from the uniform replication. The structured variation reflects itself across disciplines in various ways. As discussed, it manifests itself as the flexibility in musical orders that enables improvisation, as the predictability of mathematical sequences that allows for anticipation, or as the legibility of cognitive processes that proposes clarity through patterned thinking. In this light, the concept of pattern emerges as a spatial and cognitive interface that precedes the surface-based expression relating to the decorative essence.

Transitioning from this interdisciplinary foundation, the next subchapter focuses on architectural thinking, where the concept of pattern assumes an even more tangible role, not merely in guiding appearance but in shaping the very logics of spatial production. By revisiting canonical modernist formulations, such as the grid and the Modulor, and contrasting them with more intuitive or materially contingent practices like Ray Eames' paper doll drawings, the architectural notion of pattern will be

reframed as a projective schema, one that allows structured flexibility rather than prescriptive uniformity. The selection is intentional, not because these three historically prominent mechanisms of ordering are indispensable and not to be replaced with other cases, but because their juxtaposition reveals distinct yet complementary ways in which pattern operates as a mediating logic in architectural thinking. This mediating logic operates primarily in between rational thinking and artistic freedom, yet it also highlights distinct relationalities of pattern to repetition, mechanization, and standardization, being significant themes that affected the scene of architecture beyond many other disciplines in the post-war period. This period can also be another explanation for the reason why to this selection, considering both Le Corbusier and the Eames couple are actively producing in the mentioned time frame. Not conventionally named as 'patterns,' the grid and the Modulor reveal both their capacity to structure architectural production and the possible drawbacks when they are understood as overdetermined geometrical rules. Ray Eames' paper doll patterns, in contrasts, indicate a more open-ended, materially responsive engagement with 'pattern,' suggesting alternative modes of ordering that enable play and error as possible sources of variation.

To prepare the ground for the discussion of pattern as the architectural ordering mechanism, the next subchapter first deals with the pattern definitions in art and architecture, with the intention of further revealing the tension between being a decorative motif or a projective schema. This discussion will be guided through the significant books that set the understanding of pattern on a two-dimensional basis, then it will continue with brief discussions on the grid, the Modulor, and the paper doll patterns, to discuss how patterns have the capacity to organize spatial relations.

4.3.2 Pattern in Art and Architecture

The previous discussion establishes an understanding of a pattern that is not primarily two-dimensional or merely decorative, but rather a projective schema developed through interdisciplinary definitions of the term. Relatedly, this section looks into the architectural understanding of pattern in order to discuss the specific formats of patterns that guide architectural production both in making and thinking. This inquiry starts with the two major books' definition of pattern. The selection of these books is not indispensable, but the characteristics of the time in which they were written render their parallel reading interesting. The mentioned books are *Pattern Design* and *Basic Design: Principles and Practice*. Neither book is primarily architecture-focused; they, rather, approach pattern through a broader perspective focusing on applied arts such as graphics and typography, textile, ceramic, glass, furniture, industrial, and fashion design.

Being one of the two books mentioned, *Pattern Design* is written by Lewis F. Day, who had previously authored a series titled *Text Books of Ornamental Design* in 1897. First published in 1903 and second edition in 1933, the book *Pattern Design* is the expanded version of one of the books in the series, *The Anatomy of Pattern*. Although written and published at the beginning of the 20th century, the book is grounded in a 19th-century framework, taking its core ideas from *The Anatomy of Pattern* (1897). As such, its notion of pattern is shaped by a framework strongly influenced by the Industrial Revolution and its associated principles, namely, mechanization, repetition, and standardization. These principles, being extremely related with the contemporary mode of production, underpin an understanding of pattern as a form of geometric regularity that systematizes production and ensures visual and structural continuity. Relatedly, the book starts with the partial sentences that emphasize these principles, alongside introducing "What Pattern is."

> Pattern not understood- The meaning of the word- Comes from repetition, and is closely connected with manufacture- Has always a geometric basis- Use and necessity of system in design- Lines inevitable, and must not be left to chance.[271]

Far from being arbitrary, these introductory phrases, although fragmented, reveal the book's conceptual framing of pattern as an operative logic rooted in geometric repeatability, one that structures and rationalizes processes of production, within the broader framework of manufacturing. To fully grasp this framing, it is significant to highlight the choice of specific terms. The choice of using the word manufacture is particularly significant, in that in terms of its connotation: producing in large numbers with the systematic division of labor.[272] This word, although its etymological root refers to a meaning "making by hand,"[273] gains another definition that highlights the systematization and mechanical production akin to industrial developments. This semantic shift not only reframes a change in production/creation but also it underlines the industrial ideology embedded in the notion of pattern. Another noteworthy linguistic choice is the usage of the words inevitable' and 'chance.' The last fragmented sentence, "lines inevitable and must not be left to chance," acknowledges the presence of unavoidable conditions, yet it advises not to leave them to chance. These words, when read in the context of the period's emphasis on mechanization, repeatability, and standardization, become particularly significant. This, once more highlights the implicit emphasis of systematization in the word manufacture, in a way that it does not give a free space to 'chance,' therefore no space for any uncertainty, unexpected, and creative wandering.

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[271] Lewis F. Day, *Pattern Design* (London: B. T. Batsford, 1903), 1.
[272] "Manufacture Definition & Meaning," Merriam-Webster, accessed June 1, 2025, https://www.merriam-webster.com/dictionary/manufacture and 1. Manufacture | english meaning - cambridge dictionary, accessed June 1, 2025, https://dictionary.cambridge.org/dictionary/english/manufacture.
[273] "Manufacture - Etymology, Origin & Meaning," etymonline, accessed May 1, 2025, https://www.etymonline.com/word/manufacture.

The emphasis on having no space for chance presents itself within the course of the book more than once. The deviation from the "geometric plan" is regarded as an "unnecessary risk," that any designer of experience would not prefer to fall into.[274] The designer accepts the 'geometrical plan,' the elaborated substitution for the word 'pattern,' as the basis, without putting the work's internal coherence and legibility in danger. The discordant parts, as Day refers to as the "doubtful lines," should be eliminated in the process with the expertise of the designer, so that the uncertain and deviant condition would not overshadow the structured repetition. In this framing, chance becomes the enemy of structure, and pattern is only possible when ambiguity is systematically ruled out.

The elimination of ambiguity and adhering to a clear, geometrically grounded framework pave the way for a more detailed conceptualization of pattern. Rather than simply describing the visual qualities of pattern, the book constructs it as an operational logic rooted in rhythm and recurrence by saying that "where there is ordered repetition there it (pattern) is. Take any form you please and repeat it at regular intervals, and, as surely as recurrent sounds give rhythm or cadence, whether you want it or not, you have pattern."[275] Here, repetition functions as the skeleton of design, as its generative logic. Yet this is not an open-ended system: the designer's freedom is limited to the boundaries of the unit that creates the pattern by repetition. The repeated unit, as the smallest particle of the pattern must conform to the broader rhythm and structure of the whole.

[274] Lewis F. Day, *Pattern Design* (London: B. T. Batsford, 1903), 8.
[275] Ibid, 3.

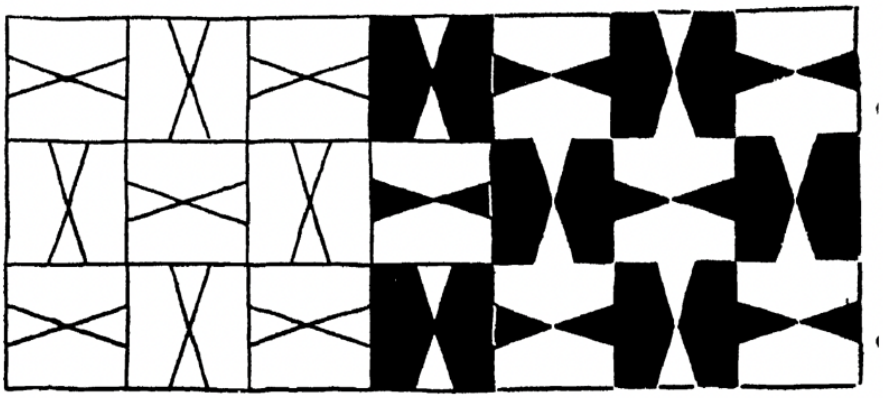


Figure 4.22 The pattern example from the book *Pattern Design*, showing the projective capacity.

Seen in this light, *Pattern Design* frames pattern primarily in relation to applied arts, linking it directly to repetition and the systematization of production. Written at the times of industrial expansion, the book reflects the design ideology of its time and renders 'pattern' as an operational logic to ensure geometric regularity, standardization, and the elimination of the chance factor. Although the book elaborates on 'pattern,' mainly as a two-dimensional surface treatment, the operational logic that both highlights its strength in creating a structure through repetition and in proposing legibility through the detection of the same act is still valid. The repetition, here, is mechanical, in the sense that 'art' will be able to be integrated in the contemporary industrial making.

The pattern definition of the second book, *Basic Design: Principles and Practice* (1960), refers to motif, as the smallest unit that creates a pattern through its repetition.

> The motif exists first as a unit by itself, secondly, repeated in a row, functioning as a border, and thirdly, row upon row, or in a field commonly called 'allover pattern'.[276]

[276] Kenneth Francis Bates, *Basic Design: Principles and Practice* (New York: The World Publishing Company, 1960), 69.

Almost with the same emphasis on repetition, the book explains the process of creating a pattern step by step. However, unlike the previous book's framing, which prioritizes strict regularity and minimizes uncertainty, this text introduces a more interpretative and flexible approach. This book, written in 1960, in the post-war period, establishes the concept of pattern, again depending on geometrical repetition, yet it encourages deviations within this geometrically designated order. The foreword starts by stating the significance of inventing the 'new,' and throughout the book, the areas of freedom for the designers are highlighted, such as the negative spaces between the motifs or the proximity between figures. Although the creation of a pattern is conveyed as structured steps, as if it implies an answer to how-to, the introduction says it intends to discuss "why to," highlighting the theoretical approach, in his words.[277]

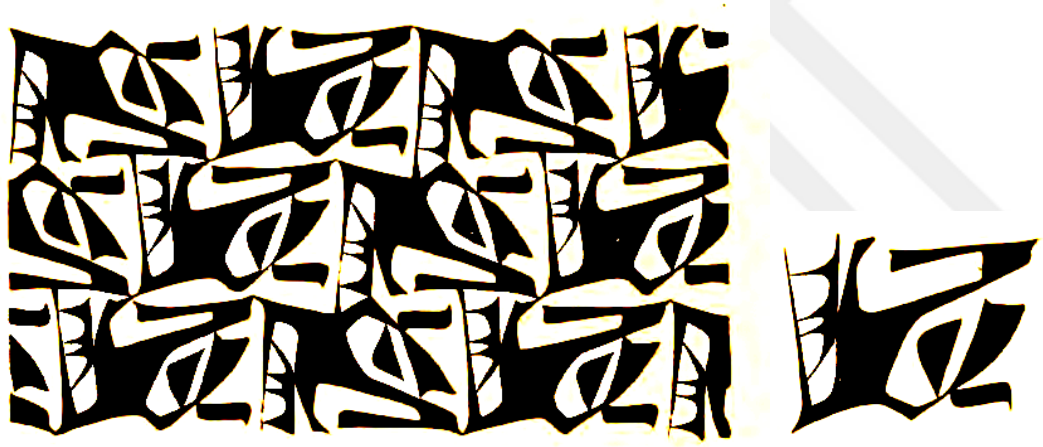


Figure 4.23 The pattern example from the book *Pattern Design*, showing the projective capacity and a more intricate organization

Interestingly, the introduction continues by saying that the rules guiding the design process cannot be prescribed entirely.[278] It states that it should be known that there are unchanging rules, but the designer should also be aware of the "laws which

[277] Ibid, 11.
[278] Ibid, 12.

govern balance, rhythm, opposition, etc."[279] Although the distinction between the rule and the law, at first glance, seems interchangeable, this distinction refers to the acknowledged dichotomy inherent in the creative processes. Rules suggest prescriptive and often external impositions, while 'laws' are understood as inherent and perceptual. This distinction both emphasizes the tacit way of knowing embedded in the design-focused practices and highlights the shift from a mechanical adherence to norms to more intuitive ways of making. The book understands the creative processes as "purely empirical" and a "matter of trial and error."[280] In a broader sense, this distinction might be read as a further reflection on the negotiation between the purely rational system, in this case the geometrical rules externally established, and the artistic freedom allowed through the gaps defined in this structured set of rules that may overrun the sole validity of the rules.

The book *Basic Design: Principles and Practice* treats the concept of pattern as both a generative and analytical tool, used to structure a composition or to decode an existing one, much like the earlier book discussed. However, the pattern here is not understood as mere mechanical repetition; rather, it is framed as a foundational code from which more complex and nuanced compositions emerge. It functions as a means to establish a sense of order in visual design, accessible to both students and design enthusiasts. In contrast, another book that directly targets architectural education, *A Method for Basic Design* (1979), published in the METU Faculty of Architecture Press, barely mentions the term 'pattern' at all. When it mentions it uses the word not in the sense that a repeating geometrical construct, but it refers to a process of developing a rational thinking and adopting it as a thinking pattern in decision making processes.[281] Relating rational thinking directly to 'order,' the book glorifies order:

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[279] Ibid.
[280] Ibid, 53.
[281] Bilgi Denel, *A Method for Basic Design* (Ankara: Middle East Technical University, Faculty of Architecture, 1979), 44. "This will involve within the design process the development of a set of

> Order is supreme. Without order nothing will make sense. Order is rational. It can be backed by reasons. Order is control; it has no room for accidents. Reasons at first can be backed by common sense. Assuming that a reason backed by common sense to be correct, we experiment pros and cons to arrive at an answer that satisfies our goals. So long as this empirical piece of knowledge is not in contradiction with the facts, we can accept it to be correct. If and when a contradiction arises, one of two things will happen: either there is an operational error to be corrected or our basic premise is not true. This is the basis of problem solving method in basic design. This is also the method of logic.[282]

And further, it indicates the act of repetition as one of the acts that ensure order, which structures visual vocabulary.[283] This repetition, although not operationalized with the concept of pattern as it is the case in the previous two books, operates through the similarity of the shapes, size, and proximity.[284] The book's decision not to use the word "pattern" may reflect a conscious effort to move away from its decorative connotations, suggesting a desire to reconceptualize the term within a more rational or process-oriented framework.

There are important points that needs to be highlighted in the presented definitions. In the first book, the intrinsic relationality of pattern to systematic thinking in design leaves no room for coincidence or chance. The second definition emphasizes motif as the smallest element of a pattern that allows a room for modulation, therefore providing an ordered way of configuration through reserving a space for error and

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objective criteria together with certain design attitudes to be developed for the proper decision making. Thus all along the way, the student is constantly forced to make decisions for which he must find logical reasons that consistently fall into the pattern that he has set for himself and be responsible for. Inevitably all exercises will begin with a period of experiment to formulate and clarify the problem that will lead to period of discovery during which time alternate models will be constructed and tested against the goals. Finally all will culminate in a period of control and refinement in which the choice for the solution to be implemented will be presented." Here, the word pattern is used as an abstract thinking pattern beyond being geometrical. It refers to a process of developing a rational thinking and adopting it as a thinking pattern in decision making processes.

[282] Ibid.

[283] Ibid, 24.

[284] Ibid.

creative negotiation. Considering these two different books' understanding of pattern, apart from the obvious relationality with systematic thinking, the emphasis on repetition stands out together with the mechanical character of this repetition. The first one relates pattern creation with manufacturing, further to be related to industrial production, and in the second one, the form of the repetition is described in a linear format, which is already a set scheme, yet it finds negative spaces to practice artistic freedom.

Given the terms used to define the concept of 'pattern', particularly 'repetition' and 'motif', together with the avoidance of the word 'pattern' in the book *A Method for Basic Design,* there is a tendency to confuse 'pattern' with 'ornament', a term that often carries a negative connotation within the context of Modern paradigm. While ornament and pattern, one can generate another, their distinction become more pronounced with the admiration of the industrial developments. For Andrea Gleiniger, an art and architectural historian, this emphasis on mechanical repetition in pattern formation together with the early 20th century's engagement with the industrialization led to a dissociation between the concepts of pattern and ornament.[285] Ornament, once integral to architectural expression, was dismissed as a 'crime' while 'pattern' acquired a more generative meaning that aligns with the notions of rationality, abstraction and standardization.

[285] Andrea Gleiniger, "New Patterns? Old Patterns? – On The Emotional Appeal of Ornament," essay, in *Pattern: Ornament, Structure, and Behavior* (Basel: Birkhäuser, 2009), 13–24, 13.

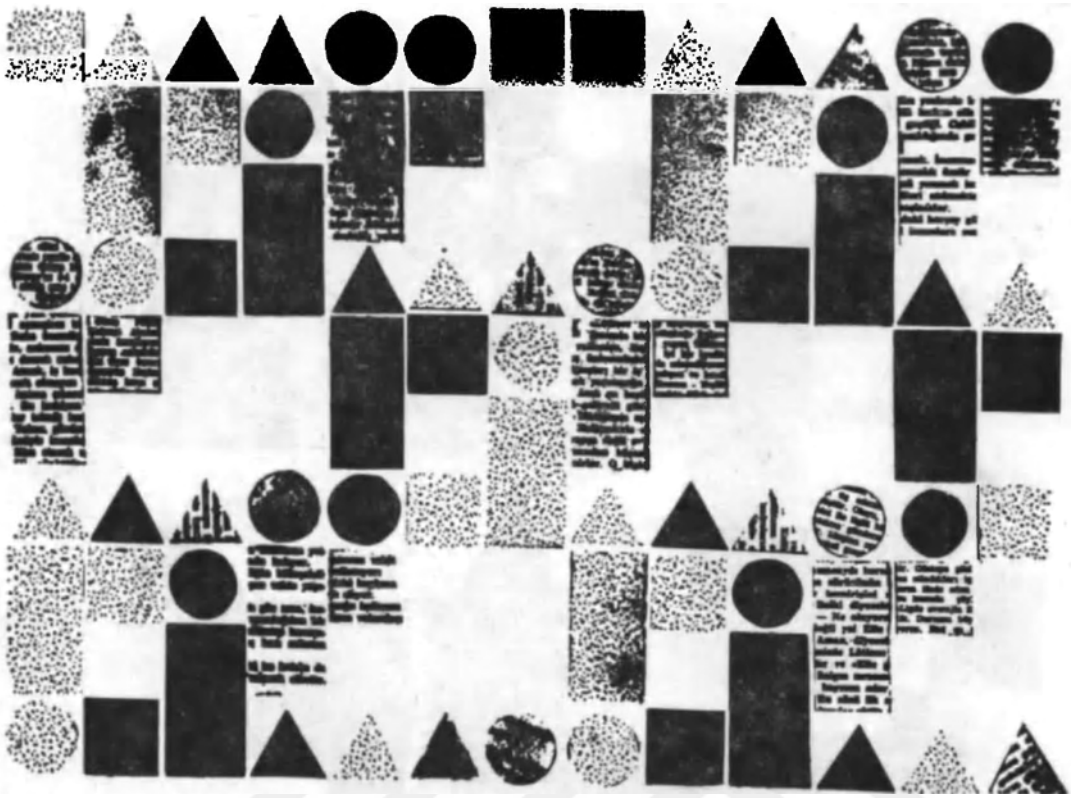


Figure 4.24 A successful example from the book *A Method for Basic Design*

'Pattern's appropriation of a rather generative meaning is evident in 20th century architectural discourse. Christopher Alexander's use of pattern in the sense of a diagram, Kevin Lynch's reading of the city through five coherent patterns, the Metabolists' repeating elements learning from the growth patterns of living organisms and mat-building pattern that establishes different orders for different layers can exemplify the slight change in the meaning of pattern from a decorative concept to a more operative and abstract significance.

Supporting this conceptual evolution, the dictionary definition and the root of the word suggest a foundational role. The term derives from the French *patron*, rooted in the Latin *pater*, meaning 'father' or 'protector'. The dictionary definition refers to a meaning "specimen, example, model". In this sense, pattern not only signifies repetition but also implies guidance, structure, and an underlying logic, an idea that resonates with its modern architectural applications.

As the connotation of the word changes, how it is understood and employed might also differ. When pattern is perceived as a model that regularizes a process of making, it carries generative potential, allowing a structured logic to be adapted across diverse contexts, yielding varied outcomes while retaining an internal coherence. In this sense, pattern functions not merely as a decorative overlay but as a projective schema: a framework that organizes relations, establishes repetition, and mediates between internal logic and external contingencies. However, understanding a pattern only as a fixed guide orders visual field through repetition has the risk of being reduced to a static, prescriptive system. Such an over-codification may lead to outputs that are overly uniform, mechanistic, and unresponsive to context, undermining the adaptive flexibility that patterns may offer.

This tension becomes evident when geometric regularity is mistaken for stylistic formula. The danger lies in mistaking the formal attributes of a pattern, symmetry, repetition, or gridal order, as ends in themselves, rather than as means to negotiate variation within order. The result is a flattening of design potential: patterns are applied, rather than projected; replicated, rather than transformed. The exploitation of De Stijl might be a telling example in that sense. While the movement originally engaged the grid to explore compositional tensions and spatial logic, its reduction to primary colors and perpendicular lines has led to the proliferation of aesthetic clichés. Stripped of its generative rationale, De Stijl becomes easily consumable and widely imitated, explaining the abundance of poor imitations of Mondrian's paintings in decorative contexts, but the relative scarcity of projects like the Schröder House, where the grid remains operative and transformative, interscalarly engaging with the material, context and space.

Taken together, these divergent perspectives on pattern, ranging from industrial standardization to interpretive composition, reveal not a singular definition but a conceptual field in which pattern functions as both a structuring mechanism and a site of negotiation. While Day's early 20th-century account firmly roots pattern in repetition, systematization, and predictability, Bates's post-war text opens up a further space for partial deviation and intuitive response, bridging the divide between

rational control and artistic freedom. What unites them is the shared premise that pattern, regardless of its decorative legacy, plays a central role in regulating form and meaning within the design process. Moreover, their historical and epistemic framings signal two paradigmatic shifts in how repetition, regularity, and creative agency are conceptualized in relation to visual logic and disciplinary production.

In what follows, the discussion moves toward more explicitly architectural examples to test and extend this understanding. Rather than viewing pattern solely as surface ornament or compositional technique, the next section turns to three influential cases, the grid, Le Corbusier's Modulor, as a design and organizational logic, and Ray Eames's paper doll patterns, to explore how pattern operates as a projective schema within architectural thinking and making. The Grid is intended to be discussed as a pattern for rationalization operative across multiscalar environments, whereas the Modulor is approached as a pattern established to negotiate between the metaphysical ideals of beauty and the architectural order. In contrast, Ray Eames' paper doll patterns, alongside the broader architectural practice she shared with Charles Eames, are discussed as alternatives to Le Corbusier's "utopian totalities," foregrounding a more flexible and playful engagement with patterned systems. These examples help foreground the tension between standardization and variability, logic and context, and ultimately, between order and the potential for error embedded within patterned systems.

4.3.2.1 Grid: A Generator for an Architectural Pattern

Grid is a foundational and paradigmatic schema in both architecture and visual arts, famously discussed as one of the Modernist myths in Rosalind Krauss' "Originality of the Avant-garde and Other Modernist Myths" and extensively elaborated in architectural theory by the renowned figures such as Robin Evans, Anthony Vidler, Stan Allen. Acknowledging the loaded intellectual history of 'grid,' this subchapter does not intend to provide a comprehensive historical or critical survey of its evolution and significance. Instead, it frames grid as one particular instance of

'pattern,' understood as a projective schema that proposes order through repetition and geometric abstraction. The aim is not to account for all the symbolic, compositional, or ideological roles the grid has been read related to, but rather to trace its operational logic within architectural thinking and making as a mechanism that mediates between the designerly intentions and the contextual materialities. Within this limited scope, to highlight 'grid' as one of the modalities of pattern in the architectural scene, the focus is narrowed down to Le Corbusier's employment of the grid, particularly in relation to his broader ideas of industrialization, standardization, and urban order. This focus, while remaining limited, supports the overarching argument of the thesis that situates pattern as a mediatory surface that organizes the negotiation ground for the formal logic and the contextual specificity, for example the aforementioned duality of universality of particularity.

A critical analysis in architecture is incomplete without referencing Le Corbusier, the influential Swiss architect known not only for his iconic buildings but also for his seminal books that established foundational principles for architectural design. From city planning to cottage design, he established rules for architectural practice, often in an abstract or sometimes contradictory manner, and not always bound to context. For Le Corbusier, grid is not only a tool to establish a structural system for a building but also a guideline to establish a city. To name a few, *Ville Contemporaine, Plan Voisin*, *Cité de Refuge*, *La Ville Radieuse*, and the urban plan for Chandigarh can be counted as the representatives of his vision for urban planning.

His book, *The City of To-morrow* published in French 1925 and translated into English in 1929 can be understood as the written words of his vision. The first page of the book sets the 'town' as a tool, positions the 'city' in opposition to nature and understands 'geometry' as the foundation to intervene in the external world.[286] After declaring his tool, positioning, and the foundation to operate in the external world,

[286] Le Corbusier, *The City of To-morrow and Its Planning*, trans. Frederick Etchells (London: The Architectural Press, 1929), 1.

the first chapter, "General Considerations" starts with an effort to validate the straight line by saying that: "Man walks in a straight line because he has a goal and knows where he is going; he has made up his mind to reach some particular place and he goes straight to it."[287] The authority of the straight line, established through the men's pattern of walking, is further related to "reason" as opposed to feelings by a limited comparative reading of the men's straight road and the pack-donkey's meandering path.[288] The difference, not surprisingly, culminates in the men's intelligence for Corbusier, in the ability of rational thinking. The dominance of the straight line, apart from the walking pattern of the men, is imposed in the following pages by illustrating town plan fragments and through the geometry of the infrastructural decisions.

> But a modern city lives by the straight line, inevitably; for the construction of the buildings, sewers and tunnels, highways, pavements. The circulation of traffic demands the straight line; it is the proper thing for the heart of a city. The curve is ruinous, difficult and dangerous; it is a paralyzing thing.[289]

These sentences go beyond affirming the straight line; they rather articulate Corbusier's broader vision of how the lines of the city should be and should not be. The paragraph condemns the curvy lines, and this condemnation should not be read as a pure aesthetic choice. Knowing that, Corbusier's distaste for the 19th-century city, it can be said that curved lines come with a symbolic connotation of the dysfunctional old. For Corbusier, the 19th-century city fails to meet the requirements of the new way of life, is chaotic in terms of growth pattern, and uneasy to be controlled. The curved lines stand for all the adjectives listed above, in contrast the straight line comes to signify control, clarity, and the promise of a new, rational

[287] Ibid, 10.
[288] Ibid, 11.
[289] Ibid, 16.

urban order that is to be discovered with the new condition of the city shaped by the industrial developments.

The next chapter of his book, which is on "Order" further solidifies this opposition between the straight and the curved. This chapter starts with the sentence "the right angle is the essential and the sufficient implement of action, because it enables us to determine space with an absolute exactness."[290] This chapter devotes itself to the affirmation of the right angle from a metaphysical understanding by saying that

> I repeat that man, by reason of his very nature, practices order; that his actions and his thoughts are dictated by the straight line and the right angle, that the straight line is instinctive in him and that his mind apprehends it as a lofty objective.[291]

Here, Corbusier relates the sense of order with the straight line and right angle, and he further states the "rightness of the right angle"[292] by relying on a supposition of an instinct inherent in 'men,' that is previously marginalized in the first chapter, favoring reason. The same chapter, again, refers to geometry as the tool for order the chaotic essence of nature. By doing so, Le Corbusier says, "man, for his own security, creates and surrounds himself with a zone of protection in harmony with what he is and what he thinks."[293] Through pure geometry, to feel safe, the chaotic essence of the 'nature' is order, highlighting the duality of nature and culture.[294] Order, perceived as one of the operative parameters of the 'culture,' is understood as

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[290] Ibid,19.
[291] Ibid, 23.
[292] Catherine Ingraham, *Architecture and the Burdens of Linearity* (New Haven: Yale University Press, 1998), 68. Ingraham refers Le Corbusier's discussion on 'order' within the framework of straight line and the right angle in the book *City of To-morrow* using this phrase "rightness of the right angle".
[293] Ibid,28
[294] Ibid, 43. He further explains as such: "When man begins to draw straight lines he bears witness that he gained control of himself and that he has reached a condition of order. Culture is an orthogonal state of mind. Straight lines are not deliberately created. They are arrived at when man is strong enough, determined enough, sufficiently equipped and sufficiently enlightened to desire and to be able to trace straight lines."

the essential condition of the modern sentiment, alongside exactitude.[295] Geometry, relatedly, is the spirit of the age.

> The city of to-day is a dying thing because it is not geometrical. To build in the open would be to replace our present haphazard arrangements, which are all we have to-day, by a uniform lay-out. Unless we do this, there is no salvation. The result of a true geometrical lay-out is repetition. The result of repetition is a standard, the perfect form (i.e. the creation of standard types). A geometrical lay-out means that mathematics play their part. There is no first-rate human production but has geometry at its base. It is of the very essence of Architecture. To introduce uniformity into the building of the city we must industrialize building. Building is the one economic activity which has so far resisted industrialization.[296]

Before delving into grid as a multiscalar projective pattern that intends to order the built environment, it is beneficial to remember this chapter's focus. As it is mentioned in the beginning, the focus is the 'pattern' as the surface working as a projective schema to order architectural thinking and making through repetition. Yet, this subchapter, which is on 'grid,' did not use the word pattern explicitly until now. Although Corbusier did not use the word 'pattern' in any sense, his definition of order that depends purely on geometry and repetition, considered with the discussion made in the chapter "Pattern: Materialization of Ordering Mechanism," recalls for an understanding of pattern, not necessarily decorative, but projective.

This insistence on beginning with "building" as the foundational act of organizing the city resonates with a deeper conceptual structure, that of pattern. Much like a motif, the smallest repeatable element that gives rise to an ordered configuration, for Corbusier, building becomes the generative unit of a larger urban fabric. His ideal, *Machine to Live in*, reflects the smallest unit that is capable of creating a unified pattern. His industrialized city does not unfold organically but is composed through

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[295] Ibid, 44.
[296] Ibid, 171.

repetition, standardization, and alignment, all of which recall the operational logic of a pattern. Industrialization is crucial in this scheme not simply for its economic promise but for its capacity to reproduce elements with mechanical precision, thereby enabling the formation of a coherent and uniform urban landscape. Geometry, in this view, serves not only as a visual principle but as a mediating device between logic and production. It provides the basis for repetition and, in turn, for the patterning of the city itself.

In this formulation, pattern is no longer tied to surface decoration or ornamental excess; it emerges as a projective schema, a guiding logic that extends from individual building components to the scale of the entire urban grid. Repetition here is not reductive but generative: it establishes continuity. The city becomes a patterned construct, guided by rational thinking and industrial process. Grid produces a spatial order that is both measurable, predictable and controllable. In this light, Corbusier's city operates as an architectural pattern, a system that encodes and projects order through its smallest, repeatable parts.

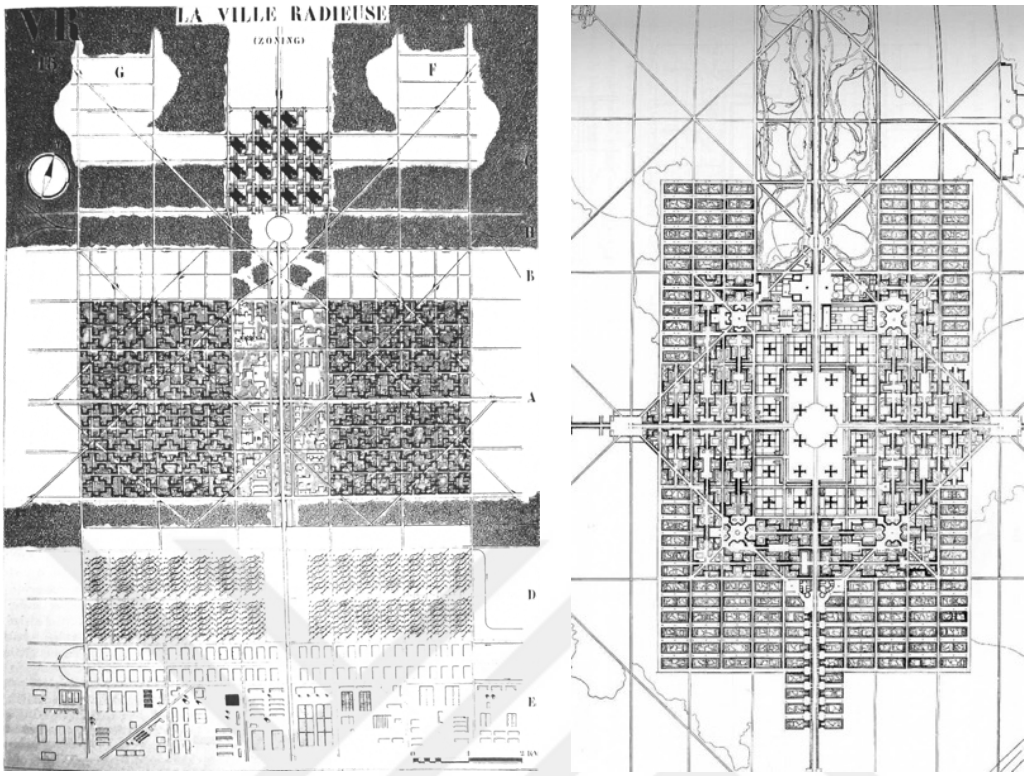


Figure 4.25 Plan drawings of *La Ville Radieuse*, 1930, recalling the pattern examples above mentioned.

The gridal order for Le Corbusier, like many modernist architects, is for efficiency, equity and rationality. The architect even wrote a poetry book titled: *Le Poeme de l'Angle Droit* published in 1955 that consists of 19 drawings and matched poems on the topics of the "environment". The drawings are made beforehand, and poems are the later additions. In this book it is possible to perceive the disinterest in the context. Although he talks about natural patterns like tidal events or the meanders, all remain in a very poetical manner. Also, he implies that we understand nature with right angles by saying that "erect on the terrestrial plain of things knowable to you sign a pact of solidarity with nature: this is the right angle. Vertical facing the sea there you are on your feet".[297]

[297] Le Corbusier, *Le Poeme de l'angle Droit = Poem of the Right Angle* (Ostfildern: Hatje Cantz, 2012), plate A3.

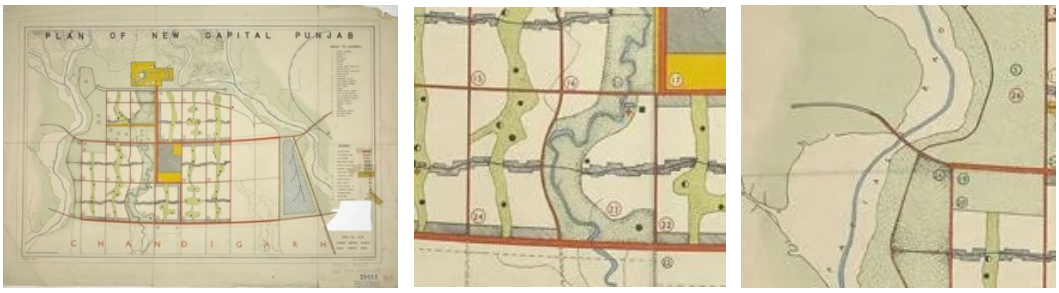


Figure 4.26 “Plan of New Capital Punjab” and close-ups from the drawing



Figure 4.27 The physical model of the urban planning proposal

Establishing rules with a single element is, at the very least, a bold endeavor to impose order on an entire city. While it may be considered an interscalar tool, it falls short of encompassing the complexities of cultures, natural formations, and architectural traditions. Le Corbusier’s urban plan proposal for Chandigarh with its physical model might be one of the illustrative cases to show how an interscalar pattern, the grid, is used as a guide giving an order to the land. In the physical model, the tough land formation which is in highly three-dimensional and irregular character is shown. In contrast to this natural complexity, the model also presents straight

perpendicular lines that propose repeating sequences to divide the land into sectors. With the juxtaposition of these two, the model, apart from being an abstract tool to understand a place, illustrates a degree of dissonance. The plan drawing, on the other hand, shows the sectors, water sources, and assembly building layout, but does not reveal the tension between the irregular-complex and straight-ordered, as much as the physical model. What Le Corbusier projected onto the irregular land formation symbolizes the intentionality that is expressed through the straight lines and right angles, in other words, through grid-based order. This intentionality reflects to desire to draw a border between nature and culture, rejecting the curved and endlessly affirming the straight.

The principles of urban layout proposal for Chandigarh, as William Curtis writes, were decided in four days following a four-week in-situ research.[298] Although Corbusier's understanding of tomorrow's city is guided by the juxtaposition and contrast of the elements of mechanism, nature, geometry, and modern institutions, with Curtis' words, it is also stated that Corbusier did not just impose the geometrical pattern to ensure the uniformity of these elements.[299] It is known that he takes into consideration of India's spiritual and material past. Considering the differentiation of the straight line and the curved in his book on urbanism, Punjab might be a challenging condition for Corbusier.

This tension becomes especially evident when Corbusier's abstract geometrical vision confronts the material specificities of the site. While his broader ideological framework acknowledged the symbolic and spiritual dimensions of Indian culture, the physical implementation of the grid appears to override the particularities of the terrain. The Chandigarh model, where rugged topography meets idealized perpendicularity, offers a striking visualization of this unresolved dialogue between imposed order and environmental complexity. A closer look at the drawing unveils

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[298] William J. Curtis, *Le Corbusier: Ideas and Forms* (Oxford: Phaidon, 1999), 190.
[299] Ibid, 63.

that the creek and its formation do not inform the line drawn next to it, specifically in the borders of sector 23. This non-changing sequential grid organization has successfully set its own order on the land as also an interscalar tool to further organize the built environment. However, whether the land and the lines recognize each other is another critical issue. It seems none of the natural elements are registered in the lines of the plan apart from a slight deviation in the third guiding line.



Figure 4.28 The current google map views

This has demonstrated how Le Corbusier's urban visions, particularly through the use of the grid, operationalize pattern as a rationalizing and industrializing tool, a projective schema meant to impose order across all scales. Yet, while this formulation of pattern enables continuity, measurability, and efficiency, it also risks suppressing local particularities, material specificities, and the potential for variation. In particular, the Chandigarh case highlights the limitations of a rigidly applied grid pattern that prioritizes standardization over contextual responsiveness. In this light, pattern emerges not only as a spatial device but also as an ideological instrument that oscillates between unifying order and disciplinary constraint.

To further explore how patterned systems negotiate between structure and deviation, logic and contingency, and how they materialize architectural thought at different scales and degrees of flexibility, the following section turns to two contrasting examples: Le Corbusier's Modulor and Ray Eames's paper doll patterns. While the Modulor translates universal proportions into an architectural measure, aiming to bridge metaphysical beauty and rational structure, Eames's work, in contrast, introduces a lighter, more playful, and adaptive approach. Together, these cases illustrate the intricate relationship between pattern and flexibility, highlighting how patterned thinking shapes, limits, or liberates architectural making.

4.3.2.2 Modulor: A Generator of a Proportional Pattern



Figure 4.29 Le Corbusier holding the plan of the Chandigarh alongside the wooden icon of Modulor

This photograph, taken during the urban planning process of Chandigarh, captures Le Corbusier, the chief architect, with the master plan for the new capital and the wooden Modulor icon. He looks towards an empty land defined by the horizon, highlighting the right angle and resembling the clarity and order in his architectural vocabulary.

A basic reading of this photograph might reveal this photograph as symbolically significant in terms of staging an important scene that describes Corbusier's architectural thinking and making. With the master plan in his hand alongside the Modulor figure, he mediates between a geometrical pattern, as the material reflection of the intention of the architect, and an intricate urban context, as the physical land with its tough landscape, water sources, and the contrasting plain ground. He projects his vision for the new capital onto bare land, representing the tabula rasa, through the gridiron layout and the Modulor, which represent the tools for ordering the land. The grid, as discussed in the previous section, gives a pattern to establish relations between the sectors that also helps to predict the growth pattern for the urbanity. The Modulor, is not mentioned in the book *The City of To-morrow*, yet the book in which Corbusier explains the geometrical and contextual principles for the Modulor, describe this proportioning pattern as the founding relational rule for the urban planning process.

The Modulor, invented by Le Corbusier, is to provide a rational base for architecture. Through a human figure that learns from a mathematical pattern, it aims to organize architectural space. The two-volume book expands on the background in which the Modulor was invented and the mathematical processes followed to reach the mediatory formula between metaphysical beauty and mechanized processes. Published in 1950, the narrative of the book extensively relies on music, integrating the terms that are common to both music and architecture, such as scale, proportion, harmony, modulation.[300]

[300] Le Corbusier, *The Modulor 1: A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics*, trans. Peter de Francia and Anna Bostock (Basel: Birkhäuser, 2000), 15.

> Sound had to be registered at certain determined points, its perfect continuity being destroyed in the process. It was necessary to represent sound by elements which could be grasped, breaking up a continuous whole in accordance with a certain convention and making from it a series of progressions. The progressions would then constitute the rung of scale, an artificial scale of sound.[301]

This quotation is not in direct relation to the architecture and the ordering processes, yet it hints at the translation between performing an art and registering it. The process of translation derives its motivation from the need to understand and organize sound, which is grasped in perfect continuity, and involves the act of "breaking up a continuous whole" into a series of progressions. This act of fragmenting a continuous whole is realized through a "certain convention." Here, what Le Corbusier refers to as a certain convention might be read as a mechanism that decodes, systematizes, and registers a harmonious whole. This mechanism, understood as the musical notation system, includes a certain set of rules, procedures, and exceptions. Despite being unrelated directly to the ordering, Corbusier's choice to start his book on the Modulor with this reading, which highlights an artificial scale established in music, might be read as a validation of his own artificial tool, the Modulor, to order architectural thinking and making.

The need for and the urgency of an artificial scale, validated via its invention in music, are further rendered as essential by discussing the conventions in measuring throughout history. Corbusier first states that "the Parthenon, the Indian temples, and the cathedrals were all built according to precise measures which constituted a code, a coherent system: a system which proclaimed an essential unity."[302] This sentence is followed by a statement that the tools that they had been using, to measure (elbow, finger, thumb, foot, pace) were integral to the human body; therefore, they were giving the right measures to the creation of any space for human beings. At this point,

[301] Ibid, 15.
[302] Ibid, 18.

by referring to the French Revolution and the rise of secular thought, he suggests that the ideal of progress and unification sought to conquer the world through science and mathematics.[303] So that, the "concrete measure" that is "devoid of personality and passion," the 'meter' is invented, as Corbusier defined as a strange and unreal method of measurement.[304] Further, he condemns this universal scale of measurement as the responsible for the dislocation and perversion of architecture, neither for its liberation nor its adaptability to industrial manufacturing methods. Within the course of the book, the danger of using the metric system is once more highlighted through a personal anecdote that says between the years 1925-1933, he felt the need to build the human scale after he perceived that the meter is nothing but a number.[305]

> During the productive years between 1925-1933- a time of building in France, before the war and the alarms of wars, our man had felt the desire, the urge, the need to build the human scale. This made him draw on the wall of his studio, a metric scale four metres in height, in which he could confront himself, against which he could measure his own stature, drawing across it a set of true measures, those of resting, sitting, walking and so forth… This experience showed that the metre is nothing but a number, fortunately governed by the decimal system, but an abstract number all the same, incapable, in architecture, of qualifying an interval (a measure in space).[306]

Instead, he proposes an alternative method for organizing the proportional relations, one that does not entirely abandon the space- body relation and the metric system. This measurement, mentioned as his dream, "grid of proportions" is to serve as a rule for the whole project on the building sites, setting a norm that offers an endless series

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[303] Ibid, 19.
[304] Ibid, 20.
[305] Ibid, 32. As if this is a brand-new concept in history of architecture he measures himself, and considers the need of a human scale. The text that he mentions this process is written in third person singular.
[306] Ibid, 32-33.

of proportional relations for the masons, carpenters, and joiners.[307] This understanding of the Modulor recalls one of the characteristics of pattern that they make easier to learn, memorize and create. Hinting at a definition of pattern that is not merely for geometric repetition but as a tool that enables learning, memorization and making, the Modulor, although it is not conventionally classified as pattern, can be read as one. It is 'invented,' with Corbusier's word, as a projective schema that produces ordered proportional series, structuring both the act of construction and the spatial logic of architecture itself.

The invention of this projective schema is described in the book both through a series of precise geometrical procedures and through the architect's own empirical observations during his travels. Corbusier, deduced from his travels, identifies a recurring pattern in the heights of the structures he visited.[308] This recurring pattern, for him is valid across diverse regions, the Balkans, Turkey, Greece, Switzerland, Germany or France, regardless of whether the architecture is primitive or highly developed. As he writes "all harmonious architectures of a height of about 2.10 to 2.20 meters," suggesting that certain measures, beyond the metric system, recur across cultures and techniques, reinforcing the idea of a universal architectural logic in thinking and making embedded in the space and the human body.[309] From this interval, 2.10 to 2.20 meters, 2.16 meters is evaluated as the measure for the height of the man with arm upraised, yet throughout the book, the height of the man with arm upraised is continually changed from 2.10 to 2.16 and 2.26 at last. This foundational dimension, which takes almost the most decisive role in setting the other secondary measures, changes in the book more than once. The seemingly arbitrary change, although explained when it is transformed into 2.26 meters, raises questions about the supposedly universal and objective logic of the system, signaling

[307] Ibid, 37.
[308] Ibid, 28.
[309] Ibid.

a contingent and at times subjective foundation of this pattern that takes its basis from objective knowledge provided by science and mathematics.

Apart from changing the height of the icon, another contingency might be found in the sudden inversion of the geometrical pattern so that it does not turn into a man in a handstand. While the Modulor claims a basis in mathematical and geometric rationality, its third phase introduces a reversal at the lower end of the diagram, an irrational adjustment intended to force the system into alignment with the idealized figure of man with an upraised arm.

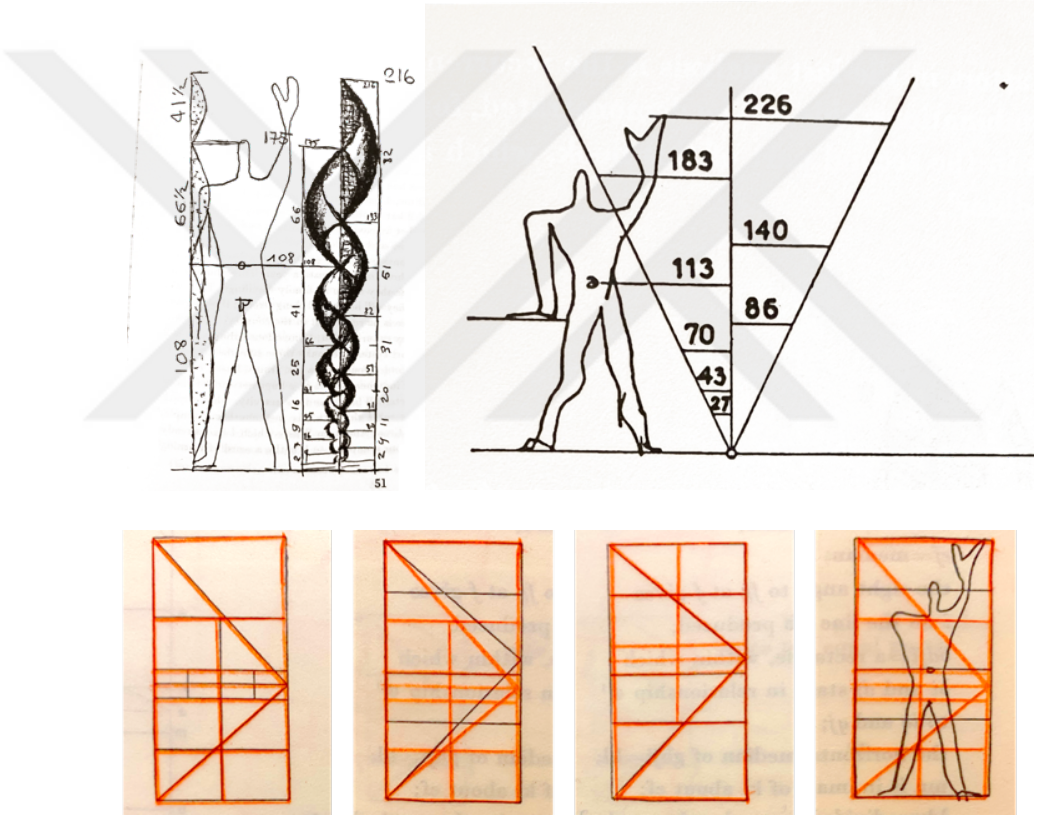


Figure 4.30 Modulor and its mathematical and geometrical order. The two diagram on the upper line show the irrational change in height. The bottom diagram indicates the sudden inversion of the geometrical pattern. The red lines belong to author, they are drawn both the test the process in terms of consistency and to understand the reversing act's reason why.

Starting from a square, its dimensions are determined according to the recurring pattern that Le Corbusier observed; a series of geometrical procedures is applied to reach the golden section. However, the narrative of the book might be misleading in terms of revealing the starting point as the human body and its dimensions. The golden section is not presented as the pre-established goal, instead the narrative of the book refers to a process in which the relationality between the quadrangles is miraculously aligned with the Fibonacci series as if it is not the ultimate aim to reach as the guarantee of the 'perfect' harmony. This may refer to more like a retrospective justification than a rigorously grounded invention.

A renowned architectural critic and historian Robin Evans discusses in his book, *The Projective Cast: Architecture and its Three Geometries*, the development phases of the Modulor, revealing Le Corbusier's ambivalent stance that can be summed as between being able to subjectively decide and the search of a solid objective grounding. He notes that the Modulor emerged from Corbusier's textual definition, which was later interpreted and developed by one of the architects working for him, Gerald Hanning at Corbusier's request. His description was:

> Take a man-with-arm-upraised, 2.20 m. in height; put him inside two squares, 1.10 by 1.10 metres each, superimposed on each other; put a third square astride these first two squares. This third square should give you a solution. The place of the right angle should help you decide where to put this third square. With this grid for use on the building site, designed to fit the man placed within it, I am sure you will obtain a series of measures reconciling human stature (man-with-arm upraised) and mathematics […]. [310]

[310] Jean Louis Cohen, "Le Corbusier's Modulor and the Debate on Proportion in France," *Architectural Histories, 2(1): 23, 1-14,* 6, 2014.

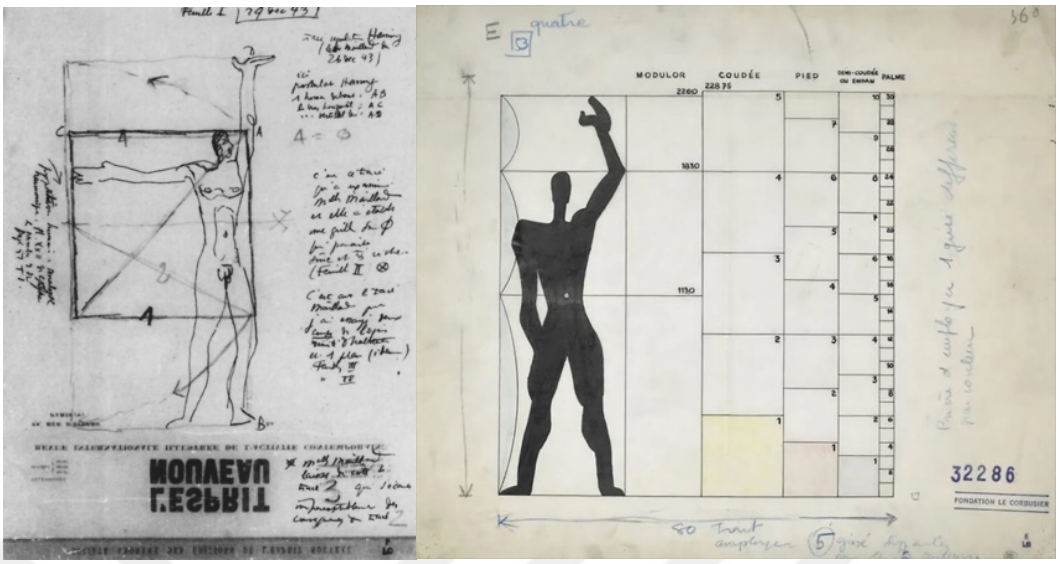


Figure 4.31 Le Corbusier's sketches of Modulor, the first highlights the square as the founder geometrical base, and the second implies it projective order.

One of the noteworthy anecdotes is that with the help of textual description, Hanning proposed a diagram, but this diagram was incorrect. The development of the Modulor lasted for seven years, and to reach the "right" proportional measurements, Le Corbusier worked with mathematicians, Bernard Hoesli, Hansjörg Meyer, R. F. Duffau, Maillard to correct the diagram that Hanning proposed. However, the proposals generated by the mathematicians did not convince Le Corbusier. At the end, Corbusier said that the "ugliness of the various 'correct solutions'" made him irritated.[311] Later, as Evan writes, "he convinced himself that the original mistakes were somehow more true than the corrections."[312] His search for a rational ground for architecture coincides with mathematics, but Corbusier found the solutions generated within the scope of mathematics ugly. This incompatibility between

[311] Robin Evans, *The Projective Cast: Architecture and its Three Geometries* (Cambridge, Mass: MIT Press, 2000), 291.
[312] *Ibid*, 275.

different systems of thinking, here it is visual reasoning and geometry, can also be found in many stages in Corbusier's professional career.[313]

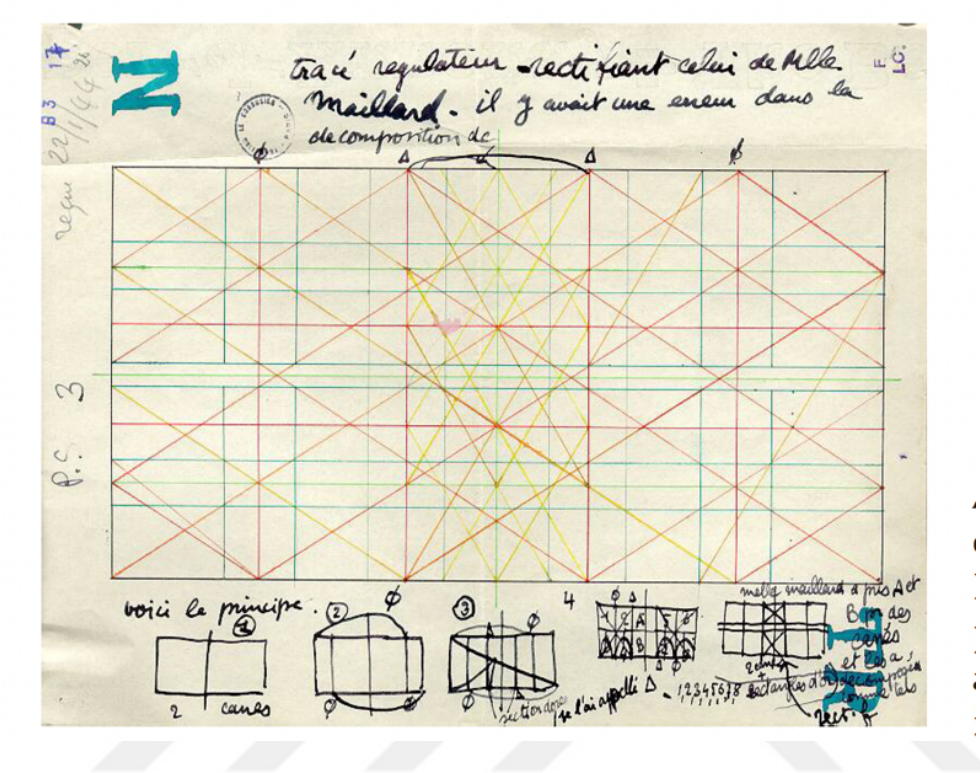


Figure 4.32 Hanning incorrect diagram to develop Modulor. On the left bottom the red line is repeated twice marking different points.

[313] In a similar strand, Timothy Benton in his article Tim Benton, "Pessac and Lege Revisited: Standards, Dimensions and Failures," essay, in *Le Corbusier and Pessac 1914-1928*, ed. Brian Brace Taylor (Paris: Le Corbusier Foundation, 1972), 64–99, 85, dwells on two housing projects of Corbusier, Lege and Pessac, focusing on the attempt to reach a standardized way of producing architecture. In his article, titled as *Pessac and Lege Revisited: Standards, Dimensions and Failures*, as the title suggests various failures are mentioned including the design processes guided by dimensioning of certain industry related elements like window frames and glasses; the dialogue between the architect and the engineer full of misunderstandings in treading the dimensions, structural elements; and even the process of attracting buyers or tenants. According to Benton, while the intention of Corbusier and his housing project is commendable- "architecture should contribute to the radical reform of society" within the framework of Modern Movement, these projects' failure stems from the decisions disconnected from industrial production and the inherent conflict between persistent artistic ambitions and the rigid constraints of the material world.

This underlying contradiction, between the desire for rational coherence and the resistance posed by divergent systems, surfaces again in Le Corbusier's own writings, particularly in how he frames the Modulor not simply as a tool of precision, but as an ideological response to broader cultural and industrial tensions. He defines Modulor as the "measuring tool based on the human body and on mathematics."[314] Further, he identifies aims of this measuring tool as:

> To harmonize the flow of the world's products. These products are going to be prefabricated on a world-wide scale: a great event now taking place in the history of humanity.
>
> To standardize, which is to run the risk of arbitrary choice, and the reverse of that risk: a wonderful freeing of the methods of economic production.
>
> More: to avoid the deadly error of making shortcuts to standardization, of standardizing by mutual concessions. The promise, guaranteed by experience, always to offer harmony, variety, elegance, instead of banality, monotony, and lack of grace.
>
> More still: to reduce the obstacle created by the irreconcilable systems of measurement, the metre and the foot-and-inch.[315]

Considering the Modulor within the frame of these aims, it is quite apparent that its invention is closely related to the tension between the arbitrary choices and the mechanized reality of industrial production. The stance that Le Corbusier took as a response to this tension can also be sensed in these lines. He does not offer any reconciliation ground between these by saying that no mutual concessions should be sought, stating that such search is a deadly error.

This perspective invites a broader reflection on how pattern, as both a tool and a conceptual framework, can mediate between conflicting demands: the need for universalization and efficiency in industrial production, and the desire for elegance, variety, and human resonance. It is within this unresolved tension that the Modulor

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[314] Le Corbusier, *The Modulor 1: A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics*, trans. Peter de Francia and Anna Bostock (Basel: Birkhäuser, 2000), 55.
[315] Ibid, 107.

emerges, not as a neutral instrument, but as a projective schema shaped by both ideological ambition and personal conviction that hardly allows deviations.

In the "mind", the section of the book, *Poem of the Right Angle,* where the Modulor is placed, Le Corbusier celebrates mathematics as the "spark stolen from the flame the Gods nourished to make word play…" and continues to say that "human body has chosen number as its admissible vehicle. … proportion which orders the relations with our surroundings."[316]

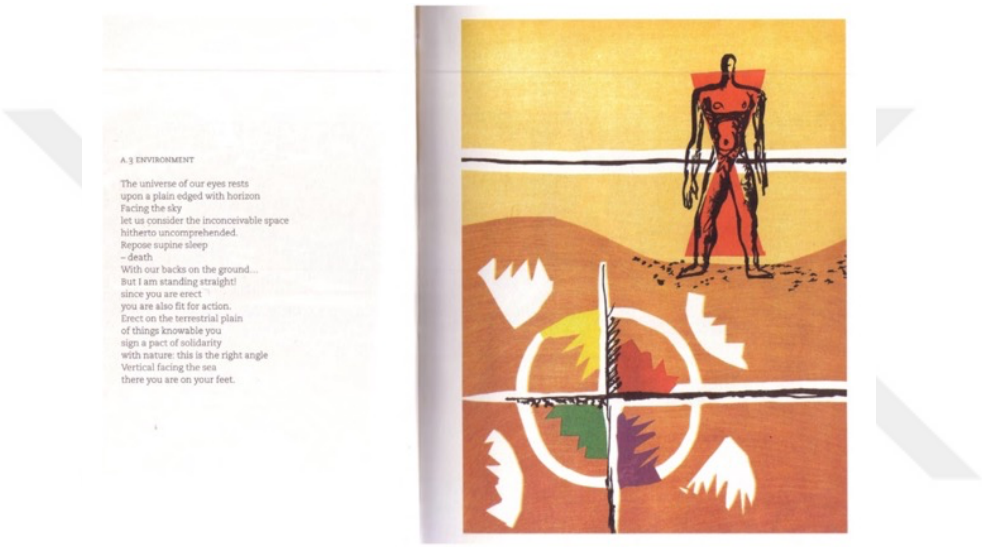


Figure 4.33 A page from *Poem of the Right Angle,* 1947-1953.

Perceiving gridal order and the Modulor as the ultimate ordering tools of producing "new architecture", the texts of Le Corbusier written on these matters fluctuate in between searching for a rational ground and explaining the rational through a coincidental, emotionally charged usage of the language. This ambivalence, being rational and irrational at the same time, is one of the many topics written about Le

[316] Le Corbusier, *Le Poeme de l'angle Droit = Poem of the Right Angle* (Ostfildern: Hatje Cantz, 2012), plate B2.

Corbusier.[317] The Grid and the Modulor, both are praised as the "right" orders to produce defining no exception or accidental causes. However, a closer examination of texts by scholars analyzing Corbusier's architecture reveals striking inconsistencies, rooted in the gap between his unwavering belief in his own principles yet failing to consistently apply them in his design process.

In this light, while the Modulor can be recognized as a projective pattern, one that establishes a relational system extending from the scale of the body to that of the city, Le Corbusier's formulation of it oscillates between rational precision and poetic abstraction. He defines the Modulor's base as "an element of surface, a grid in which mathematical order is adapted to the human stature,"[318] suggesting a system rooted in proportional clarity and universal applicability. Also, recalling pattern as one of the mediatory surfaces that regulates the relations between the physical context and

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[317] William J. Curtis, in his book *Modern Architecture since 1900*, includes Le Corbusier and his practice under the title of "Le Corbusier's Quest for Ideal Form". Although it is not the primary focus of the chapter, his inquiry points out instances from Corbusier's endeavor that is in between the particular and the universal. Considering the Maison Domino, Curtis reads Corbusier's understanding of ideal as being the universal at the same time, or the definition of *objet-type* refers to a mass-produced elements to be integrated to the architectural thinking. The chapter also emphasizes the poetic language of Corbusier and the power of his rhetoric in validating his personal judgement as the universal and ideal. While discussing Ozenfant House's window frames in relation to the concept of *objet-type*, Curtis says that the window frames symbolize the "maximum utility and the necessities of economic manufacture," yet they are specially made to look line mass-produced factory ones. This, being not the sole focus of Curtis' text, it shows that the quest for the ideal form includes semi-conflicts in the thinking and making. In the book Le Corbusier: Ideas and Forms, Curtis defines Le Corbusier as the "rationalist and lover of systems of classification" yet "experienced the world in its uniqueness," implying that his architecture and its strength derives from this duality. Tim Benton who read the rhetoric of modernism through Le Corbusier built works, lecture notes, and books refers to the duality enmeshed within his thinking and making practice as "the juxtaposition of cold reason with a burning passion." James Stirling, in his article "Le Corbusier's Chapel and the Crisis of Rationalism," concludes by stating that "Le Corbusier, proceeding from the general to the particular, has produced a masterpiece of a unique but most personal order." This conclusion is supported by his earlier argument, which draws a parallel between the chapel's position within Modern architecture and the role of Mannerism within the Renaissance, as a deliberate distortion of established forms, signaling a crisis within the architectural language. Nikolaus Pevsner, despite Corbusier's claim on producing within the frame of the rational, uses the term "the most debated monument of new irratonalism" to refer to Ronchamp Chapel as Daniele Pauly states in his book *The Chapel at Ronchamp*.

[318] Le Corbusier, *The Modulor 1: A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics*, trans. Peter de Francia and Anna Bostock (Basel: Birkhäuser, 2000), 41.

the abstract logic, his understanding becomes more interesting. Positioned between mechanized industrial production and the production of elegant varieties, the Modulor might be understood as a projective schema. However, the narrative surrounding its invention, shaped both by empirical observations and by a series of geometrical procedures, reveals a degree of interpretive freedom that is not equally sustained in its application. While the Modulor aspires to mediate between the human and the mechanized, its rigid codification risks suppressing the very openness it draws upon. In this sense, Le Corbusier's attempt to resolve the tension between standardization and arbitrariness through a singular, idealized system may inadvertently narrow the space for creative negotiation, transforming a generative schema into a prescriptive template.

4.3.2.3 Ray Eames' Pattern Dolls

Considering various definitions of pattern, it becomes possible to say that although patterns have the risk to be exposed to a simplistic reduction, thus offhand repetition, they can also provide flexibility, a capacity to alternate a rule or hold a compensation for an error within themselves. In architecture, music, mathematics, or tailoring, patterns find their common purpose as ordering and/or understanding a creative process but also having the possibility to interplay between the established rules and creativity without necessarily following a formula. Le Corbusier's renowned mechanisms to order the architectural production, the grid and the Modulor, have been discussed within this perspective, which oscillates between being purely rational and proposing creative variations. This duality, deeply embedded in Corbusier's design philosophy, is further explored in this subchapter through a specific drawing of an architect-couple, though not directly related to building or making buildings. This drawing, being a paper doll pattern, is considered as a precise representation of the couple's ideology of architectural production, one that positions pattern not merely as a repeating geometrical structure but as a generative and interpretative tool that enables play, difference, and variation.

Suggesting a more open-ended logic of 'ordering,' the paper doll pattern, in consideration of the Eames' practice of architecture, the paper doll pattern is to be discussed as a distinct form of the projective schema, resisting totalization and celebrating minor deviations. Read alongside Corbusier's dream of pure rational approaches to architectural making and thinking, paper doll pattern represents a form of a mediating surface, not working as a prescriptive template to enforce uniformity, but intends to generate diversity while still maintaining coherence. In this sense, patterns, whether in the form of grid, or a human based proportional rule, or a paper doll pattern, can be understood not only fixed prescriptions, but flexible frameworks that mediate between repetition and variation, rule and exception, order and error. Seen in this light, the paper doll pattern means more than a cut-out toy, it becomes a projective schema that structures variation without prescribing uniform outcomes. This modest drawing, relatedly, can be understood as a conceptual artifact that is playful yet methodical, through which the Eames' approach of making and thinking prioritizes responsiveness over control and seriality over sameness.

This broader interpretation of pattern becomes especially legible in the multidisciplinary work of Ray Eames, whether in her sole productions or with Charles. Ray Eames, lived between the years 1912-1988 and trained in abstract art and graphic design. Her active contribution to art and architecture can be observed between the 40s and 70s.[319] She is known as one of the architects of the Eames House, built as a part of a larger project, the *Case Study House Program,* that was initiated by the Art and Architecture magazine that dwells on the issue of housing after the Second World War.[320] Although primarily she is acknowledged with the

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[319] Considering her active practicing years, Le Corbusier and Eames' can be accepted as contemporaries of each other.

[320] Although the design of the house is handled together with Charles and Ray, the magazine does not mention the name Ray Eames and the project is announced as the eight talented men will undertake the design of the houses that are rational, reasonable and enabling a good living condition. "Eight nationally known architects, chosen not only for their obvious talents, but for their ability to evaluate realistically housing in terms of need, have been commissioned to take a plot of God's green earth and create "good" living conditions for eight American families. They will

Eames House and the furniture design, her practice and creative visions extend to multiple disciplines, not only architecture but textile design, exhibition and filmmaking, toys, even together with Charles they designed a model for leg splint.

One such early and seemingly modest drawing, explicitly labeled as “pattern,” offers a telling glimpse into how her design sensibility approached repetition, variation, and structure. The paper doll outline, yet its simplicity belies the conceptual richness embedded in its logic, echoes her broader interest in playful modularity and open-ended systems.



Figure 4.34 Ray Eames’ paper doll patterns, labeled as ‘pattern’

The thought-provoking part of this piece of paper is that the creation of seriality of the paper dolls stems from the empty space of the paper. Remembering the tailor’s pattern that projects the form of the garment part onto the fabric through a solid piece of paper outlined, the paper doll pattern of Ray takes its productive force for creating seriality from the empty space of the paper. In other words, Ray Eames’ understanding of the pattern emerges from the negative space defined within the

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be free to choose or reject, on a merit basis, the products of national manufacturers offering either old or new materials considered best for the purpose by each architect in his attempt to create contemporary dwelling units. We are quite aware that the meaning of "contemporary" changes by the minute and it is conceivable that each architect might wish to change his idea or a part of his idea when time for actual building arrives. In that case he will, within reason, be permitted to do so. (Incidentally, the eight men have been chosen for, among other things, reasonableness, which they have consistently maintained at a very high level.)”

paper. Not as a difference but as a compelling parallel, designing through the negative space may be critically situated alongside the concept of seam allowance in tailoring. Although it may seem redundant, as it is the space left between the cutting line and the raw edge of the fabric, seam allowance plays a crucial role, mediating between the materiality of the fabric and the projected coherence of the pattern. It allows for tolerance, correction, and possible adjustments in the process of assembling the garment parts. By doing so, this concept, which takes its power from the empty space between the cutting line and the raw edge of the fabric, opens a room for material responsiveness and the uncertainty that is inherent in any process of making, even in standardized processes.

In Ray Eames' paper doll pattern, the use of the empty space similarly suggests a mode of production that is flexible, tolerant, and resistant to rigid formal prescriptions. Compared to Corbusier's approach, which defines a strict metaphysical order that pushes the limits of any geometrical pattern to project it almost without any exceptions, Eames's approach defines an order through considering the 'seam allowance'. Eames' order considers the productive possibilities that would accommodate any possible misconduct but also accommodates the possibility for expanding beyond the order defined by the pattern itself, creating room for creative operations of addition and exclusion.

When situated within the broader discourse of mechanized manufacturing and serial production, this strategy gains further significance. Rather than rejecting the industrial paradigm, Charles and Ray Eames engaged it critically, seeking to expand its operative logic. Their molded plywood leg splint, designed during World War II, is exemplary in this regard: a mass-produced object that responds not only to efficiency but also to bodily specificity and ergonomic care. It marks a conceptual refusal of rigid standardization and instead proposes a mode of production that remains alert to material contingencies and human variation, offering a critical yet operative counterpoint to the dominant narratives of modernist manufacturing, as seen in Corbusier.

This orientation toward variability within the constraints of serial production is not limited to their approach to ergonomics and fabrication. Rather, it extends into their broader design philosophy, where material experimentation, visual assemblage, and spatial composition are deployed as tools to resist formal rigidity. It is in this context that their contribution "functioning decoration" finds a conceptual resonance as it illustrates their logic of thinking and making, in parallel to producing through the negative space. Illustrated through the seam allowance and the negative space in Ray Eames' paper doll patterns, their broader design philosophy may be speculatively read as the productive use of what initially appears as redundant, marginal, or even counter-functional.[321]

In the book Charles and Ray Eames, the term "functioning decoration" is defined as "the process of collecting and creatively assembling odd or seemingly disparate objects into a functional integrated whole".[322] As this definition implies, the process of creating "functioning decoration" starts with collecting odd or seemingly disparate objects and then making a whole out of them. The main principle of choosing these objects to be cluttered is their odd and disparate being, therefore how they would create a functional whole could not have a fixed method; the way to assemble them changes for any set of clutter. The coupling of the terms "function" and "decoration," conventionally understood as opposites, further exemplifies the Eames' refusal of categorical clarity. Whether the choice to assemble this word couple together has a mocking effect or not, the disparate condition of the term fits well to the definition and the acts of it. Much like the seam allowance or the negative space in a paper template, the pairing of these terms foregrounds contradiction not

[321] For example, the seam allowance in tailoring may look like a redundant strip of fabric, but it enables adjustment, tolerance, and correction, thus becoming essential to the garment's flexibility. Similarly, in the paper doll pattern, the negative space that separates and serializes the dolls becomes the means by which variation and repetition are simultaneously maintained. This reframing of the "marginal" as generative shifts the pattern from a rigid prescription to a responsive interface, one that can accommodate irregularities and reinterpret formal constraints as opportunities for design.

[322] Pat Kirkham, *Charles and Ray Eames: Designers of the Twentieth Century* (Massachusetts: The MIT Press, 1995), 177.

as an error to be corrected but as a generative mode of thinking. Both cases point toward a mode of patterning that resists prescriptive rigidity and embraces contingency, divergence, and interpretive flexibility. In this sense, functioning decoration and the paper doll pattern converge as expressions of a broader attitude toward design, one that values improvisation within structure, recognizes the agency of what lies between or outside the lines, and ultimately proposes pattern not as repetition of the same, but as the ordering of difference into a legible system.

Considering Ray and Charles Eames' material choices, the structural rationality of their architecture and the time period of their practice, even the term decoration should be a taboo. While emphasizing Modern architects' desire to make everything neat and clean, Robert Venturi also drew attention to Eames' unusual interiors by saying "good old Victorian clutter."[323] For him what makes them remarkable is their unique and divergent position within the whole scene of Modernist Architecture with their "eclectic assemblages".[324] Their practice was also referred as an alteration of the aesthetic ground rules of Modernism by moving away from the machine aesthetic by the 1966 issue of *Architectural Design*.[325] Besides, their practice can be defined as intuitive and 'case' specific. In Kirkham's words "what they did to the interior raised issues related to signification and decoration".[326]

When read alongside the grid and the Modulor, Ray Eames' use of pattern reveals the plurality embedded in architectural thinking. If the grid functions as a universal framework and the Modulor as a human-centered mathematical ordering system, the paper doll pattern introduces a looser and more intuitive kind of logic. Together, these three cases form a spectrum of patterning practices, ranging from industrial rationalization to affective variation, demonstrating that pattern in architecture is never singular but always situated, adaptable, and open to reinterpretation. Taken

[323] Ibid, 167.
[324] Ibid, 167.
[325] Ibid.
[326] Ibid, 98.

together, these three instances, the grid, the Modulor, and the paper doll pattern, illustrate the spectrum of how pattern operates as both a conceptual and operative device within architectural thinking. From rigid standardization to intuitive assemblage, from geometric abstraction to material contingency, pattern serves not as a fixed formula but as a mediatory schema that negotiates between order and its productive disturbances. This reconceptualization allows us to reclaim pattern from its decorative or purely repetitive associations and reframe it as a tool for epistemological organization, spatial reasoning, and design imagination.

In shifting from these three emblematic examples to a more abstract framing, the discussion moves beyond individual cases to consider the broader implications of pattern as a conceptual and stylistic device. What links the grid, the Modulor, and the paper doll is not merely their formal structure or historical moment, but their capacity to shape the design ethos, how architecture thinks, organizes, and materializes ideas. In each, pattern is mobilized differently: as geometric law, as anthropometric tool, as expressive assembly. This variation signals that pattern should not be reduced to a stylistic residue or compositional backdrop. Rather, it must be understood as a generative interface that mediates between systems of production and the idiosyncrasies of material, bodily, and cultural contexts.

The concept of pattern and seriality inherently ties to the notion of style, as both involve creating order within a framework while allowing room for interpretation and variation. Patterns, while often perceived as rigid structures, hold the potential to introduce flexibility and alternate paths, much like the way seriality reflects production within the constraints of a designated manner. In this sense, seriality can serve as an implicit definition of style, a guiding principle that balances repetition with creative divergence. Eames' work exemplifies this dynamic, from Ray's paper doll patterns utilizing empty space to their "functioning decoration," which transforms disparate elements into cohesive, functional wholes.

4.3.3 On Pattern and Style: Modulor, Grid and Pattern Dolls

Becoming almost the logo of modernist ambition[327], grid emerged as a revolting stance that proposed a model for the antidevelopmental, the antinarrative, and the antihistorical.[328] The Modulor, with the aim of defining a new proportional order for the space, can also be interpreted as another order to build within the same perspective.[329] Both can be identified as different orders to create space; both invisible yet guiding geometrically or mathematically, and from a broader view they are both accepted within the boundaries of creating architecture in a certain manner; International Style, Modern Architecture.

Focusing on the "Grid", in the first chapter of her seminal book *The Originality of the Avant-Garde and Other Modernist Myths*, Rosalind Krauss raises awareness about how the key mottos, whether formal or textual, can transform into myths through presenting her critical remarks of this transformation. She examines the grid across various art forms and reaches a semi-conclusion: despite the grid's core principle, modernist art ultimately generates its own narrative, origin and naturally its own history; and being one of its operating structures, the grid turns into a myth at the end.[330] Similar to other ordered/ structured systems of productions, the transformation of the "grid" into a myth likely stems from its persistent reduction and repetitive application of codifying its operationality. As the best-case scenario,

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[327] Rosalind E. Krauss, *The Originality of the Avant-Garde and Other Modernist Myths* (Massachusetts: MIT Press, 1986), 9.
[328] Ibid, 22.
[329] Grid, a geometrical order, and the Modulor, a proportional order- should be differentiated in terms of their reference to the history. Grid. Although it is not a recent invention grid offers a new perspective with new key themes like equity, rationality and efficiency. However, Modulor, as the invention of Le Corbusier, Modulor does not change much how the proportional relations should be established- the human body. Accepting human body as the main regulator for designing spaces is far from being a brand-new concept. Its applications are known starting from the middle ages as the cathedral plan schema.
[330] For example, De Stijl as one of the styles exploring the potentials of grid and gridal orders is reduced as the usage of primary colors and lines in ninety degrees. Once it is reduced into basic content related simplistic configuration its exploitation becomes easy. That's why it is possible to see many bad copies of Mondrian used as decoration but not many Schröder Houses.

one strand of the codified operationality might end up with "icy perfectionist"[331] productions which have the capacity to create a balanced environment to experience, however, the other end of this spectrum might lead to a creation of built environment with the consecutive acts of copy-scale-paste that is possible to see in almost every city.

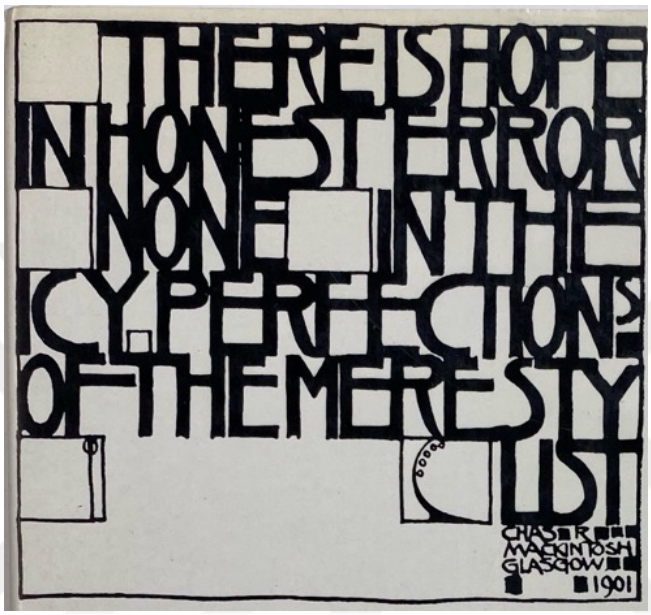


Figure 4.35 Charles Rennie Mackintosh's graphic statement, 1901.

The repetitive and reductive application of the "patterns" in modern architectural production[332] mirrors the dynamics of recurring formal elements across broader architectural paradigms. This dual-edged nature of codification, balancing between "icy perfectionism" and "uninspired replication," creates environments that are at once defined by their structured clarity and marred by their lack of contextual adaptability. This phenomenon resonates with Goldhagen's exploration of formal "tropes" in modernism. Just as the grid becomes a myth through its relentless standardization, the recurring tropes of modernism, as Goldhagen argues, the

[331] Charles Rennie Mackintosh's graphic statement says that "there is hope in honest error, none in the icy perfections of the mere stylist.", 1901.

recurring tropes of modernism reify its complexity into a style, reducing its multifaceted richness to easily recognizable but often oversimplified patterns.

In Goldhagen's seminal article Something to Talk About, in which she dives into Modern architecture and its identification, the recognizable and often oversimplified recurring elements/themes are mentioned as formal "tropes". [333] For her, apart from their partiality, these formal tropes do have the power to define a paradigm by reifying modernism in architecture into a style and at the same time making it easy to ignore Modernism's "complexity and multifarious richness".[334] The usage of the term "trope" is appropriate considering the dictionary meaning of the term that is "a recurring theme in a narrative as a rhetorical device".[335] However, thinking of another definition put in *The Princeton Encyclopedia of Poetry and Poetics* makes the usage of the term more compelling. Princeton Encyclopedia further defines trope as "a change in meaning as a movement: the artful deviation of a word from its ordinary signification."[336] Understanding the usage of trope in literature, therefore implies two key characteristics: one is the repeatability of a theme or an element makes it a trope, and the second is its being a stylistic deviation from the norms of a language.

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[333] Sarah Williams Goldhagen, "Something to Talk About: Modernism, Discourse, Style," *Journal of the Society of Architectural Historians* 64, no. 2 (June 1, 2005): 144–67, https://doi.org/10.2307/25068142, 144. Further she lists those tropes as: Modernist buildings have flat roofs and use a lot of glass, except when they don't; they are shaped by an orientation toward volume rather than mass, except when space takes second place to innovations in program, materials, systems, and so on; they allude to or employ industrially produced materials such as reinforced concrete or metal, except for those in stone, wood, and brick; they are orthogonally geometric, except in the many cases when they are not. They employ open plans and separate structure from skin, except when they don't. They deploy an asymmetrical distribution of spaces and forms except when they are neoclassicizing; they are "abstract" except when they use symbolism, reference, and representation in plan, section, elevation, and detail.
[334] Ibid.
[335] Ibid.
[336] Roland Greene et al., *The Princeton Encyclopedia of Poetry and Poetics* (Princeton: Princeton University Press, 2017). However, this term and how it is interpreted changes for different school of thoughts. For example, for romantics it is not a deviation but a coded system.

Although patterns for guiding the creative process have evolved in definition and form, they have consistently shaped the roadmap of architectural practice, as seen in examples like the grid, the Modulor, and Goldhagen's formal tropes. While establishing a sense of a structured way of making, patterns have the risk of oversimplification and producing dull serialities by featuring rigid consistencies. Once it is reduced to a simplistic configuration, it becomes more susceptible to exploitation.

Comparing Eames' understanding of pattern and their avoidance for creating dull serialities with respect to Le Corbusier and his patterns in various forms- either the Modulor, the grid or the five points that he designated like a revelation, it becomes possible to say that patterns have different capabilities according to how they are configured. Although capable of creating serialities, a mismatched understanding of a pattern could end up with a meaningless repetition that is unresponsive to the production, creation or experiential environments. Le Corbusier's saying that the Modulor is visible in every part of Ronchamp is similar to produce the paper model of this building with the method below, it is mismatched, inconsistent.

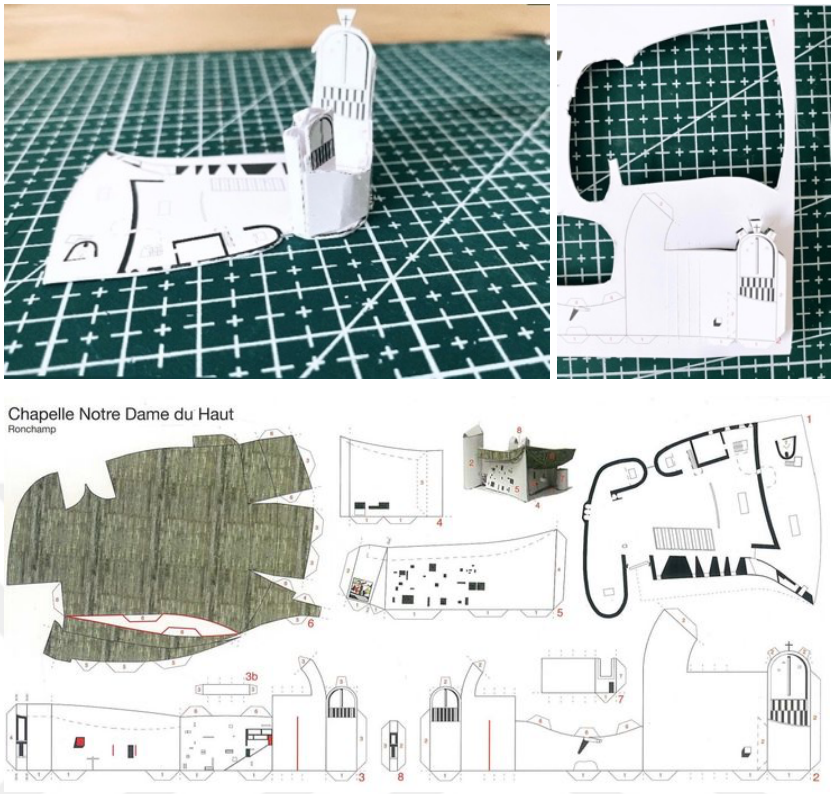


Figure 4.36 Paper model of Ronchamp, indicating the incompatibility to produce the structure through this method.

Navigating between strict order and improvisation, echoing Ginzburg's perspective, the cases Le Corbusier and Eames' help to redefine the role of style as both an inclusionary and exclusionary force, echoing Ginzburg's perspective. Their ability to challenge conventions of modernist design through intuitive and eclectic practices ultimately bridges the interplay of pattern, seriality, and style, demonstrating how these concepts collectively shape the creative process.

Thinking upon the architects and their productions mentioned above, seriality might also refer to produce within the limits of a designated manner, which in turn might be an alternative definition of style. In a similar tread, Ginzburg in his essay "Style as Inclusion, Style as Exclusion" starts the discussion with a historical anecdote on an assault in Venice. The reason he chooses this anecdote as his pre-text is the pun made with the word "stylo". In his narration, stylo is used both as a cutting device, a

knife, with which the assault is made and as a pen meaning the legal procedure for which the assault has been made. From then on, Ginzburg says style has a "important role in acceptance of cultural diversity as well as in establishing cultural hegemonies.[337] Later he continues to look at style in literary culture starting with Cicero's *De oratore* focusing on individual style or style as a broader classification tool and how style is related to the concept of appropriateness.[338] Rethinking modern architecture, with the terms pattern, seriality and style, a small contradiction might be yielded depending on the way these terms are configured. Through rejecting the historicity or the norms that produce architecture and configure a tabula rasa for architectural production, Modern architecture wants to get rid of "styles" in order to be able to operate as an ideology/discourse. However, by over-formulating the production, it obscures the valid danger of ignoring the ideology behind.

[337] Carlo Ginzburg, "Style as Inclusion, Style as Exclusion," essay, in *Picturing Science, Producing Art*, ed. Peter Galison and Caroline A. Jones (New York: Routledge, 1998), 27–54, 27.
[338] Ibid.

CHAPTER 5

CONCLUSION: A NONCORRECTIVE *ERRATA*

This thesis does not conclude with a closure, but with *errata*. Conventionally, *errata* refer to a peripheral list of errors and their corrections, isolated from the main text and usually positioned at its margins, either at the end or beginning of a publication.[339] Here, however, the term is not reclaimed to introduce a new framework, but to reiterate one already traced throughout the thesis. This concluding section does not compile /errors/[340] in need of a resolution; rather, it revisits the co-constitutive force of 'errors,' as developed across the preceding chapters, operating not in opposition to 'order,' but alongside it, in architectural production. This is not a corrective inventory, but a noncorrective summary: a final reminder of the 'errors' embedded in architectural thinking and making processes, rendering the key moments discussed in the thesis in which the trajectory of 'error' runs parallel to 'orders,' more explicit.

Throughout the study, the negative connotation of the word 'error' that is established in relation to 'order' has been aimed to be liberated, starting from the etymological root of the word, *errare*. This Latin word, meaning "wandering", not only highlights a conceptual space in which error is positioned in a neutral place, but it also refers to

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[339] https://www.dictionary.com/browse/errata

[340] This usage is adopted from Damisch's reading of /Cloud/. As mentioned in the third chapter, when he uses the Cloud between forward slashes, this indicates that he refers to the Cloud as a pictorial element. Correspondingly, if he uses the word in italic, it refers to the cloud as a word consisting of five letters. Here, the reason why error is used in between forward slashes is to refer to errors in the sense that actual, material ones, and the ones that are accepted as mistakes because of any shortcomings of material, thinking, or technique. The thesis in general does not use these forms of error, /error/ or *error*, because it intends to discuss errors with its ideological weight and epistemological contingency. Adding another typographical usage error is always used in quotation marks as 'error,' throughout the text.

a spatial discovery that refers to a mode of movement without a fixed destination. Therefore, considering only the etymological root of the word triggers an understanding that does not necessarily point towards a failure, but a process of open-ended exploration. It refers to being in a state of wandering, moving without a predetermined end, navigating through uncertainty. Order, in contrast, is conventionally associated with clarity, coherence, and systemic stability, a spatial and conceptual logic that regulates, aligns, and categorizes. The Turkish word *düzen,* commonly used to translate 'order', on the other hand, adds another implicit relationality between order and error hidden in language. *Düzen,* as it is mentioned in Chapter Two, derives part of its resonance from its linguistic proximity to *düz*, meaning "flat, straight, or even." While *düzen* implies systematic arrangement or harmony, *düz* evokes a surface without disturbance, a space of linearity and predictability. When order is read through this semantic overlap, it reveals not only a desire for structure, but also a tendency toward flattening, toward the erasure of variation, ambiguity, and contradiction.

Building on this linguistic and conceptual entanglement, the thesis turns to broader disciplinary frameworks to further articulate how the relationship between order and error unfolds across architectural thinking and making. Learning from different domains, the scientific discourse, linguistics, especially *galat-ı meşhur*s, philosophy, this study argues that order and error are interdependent in the processes of architectural production, whether it is by making or thinking, and sets this understanding in Chapter Two. They are not ontologically discrete or hierarchically arranged but mutually interdependent, yet, they are historically contingent, epistemologically constructed, and operationally unstable. Order only becomes intelligible through the articulation of its exception; error only becomes legible through the framework of an established logic. Read alongside *errare;* to wander, such an order appears less as an open framework and more as a regulative mechanism, a mode of normalization that favors the linear over the erratic. In this light, architectural error does not simply oppose düzen, but interrupts *düz*, it unsettles

the flattening tendencies of systems, not by destroying them, but by folding them, bending their straight lines into contingent forms of reasoning.

Having remembered the major claims of the thesis that offers the understanding that the trajectory of order and error parallel to each other and it is impossible to identify one without the other, this conclusive chapter first revisits the key moments in which error is operative throughout the thesis, encompassing both architectural thinking and making, at multiple scales and disciplinary thresholds. It then reflects on the broader implications of this inquiry, framing architecture not as a closed system governed by universal norms, but as a contingent and negotiated field where order and error remain mutually entangled. Rather than presenting a definitive taxonomy or a unified theory of error, the thesis offers a set of critical conceptual lenses, the universal and the particular, subjectivity and objectivity, artistic freedom and rational system, through which the dynamic relationship between order and error may be re-read. These lenses do not resolve the opposition but multiply its possibilities.

Across its three chapters, this study has examined architectural error as it emerges across different contexts: in construction and material processes, in theoretical models and epistemic categories, and in the representational surfaces that mediate architectural knowledge. While each set of examples has foregrounded different scales, techniques, and historical problematics, together they disclose a recurring condition: that architectural 'order' is never pure, fixed, or self-contained, but always formed in relation to the possibility, and productive actuality, of error.

The first group of moments of 'errors,' appears in architectural making: in the ghost pediment of the Pantheon, the elliptical column of Lorsch Abbey, the structural failure of the Hancock Tower, or the diagonal incision at Çemberlitaş Hamamı. These examples reveal error not as isolated malfunction but as a trace of larger infrastructural, political, or logistical entanglements, points at which architectural systems strain under their own ideals. Drawing from Francis Bacon's triadic categories (*in course, in erring, in wrought*), the second group of the error-operative moments is refigured as a force internal to architectural reasoning. From Giulio

Romano's misaligned triglyphs to Eisenman's Houses, error shifts from being pedagogically excluded to becoming compositional.

The Baconian triad refers to three states of nature, and Chapter 3 reinterprets architectural production by transposing this configuration into a framework that conceives architecture not as a stable essence, but as a set of mutable states, phases that remain distinct yet transformable to each other. In doing so, Chapter 3 illustrates a framing of architectural production as sequences of mutable states. Within this logic, the term 'interface' in Chapter 4 emerges as a key mediating condition that is not a mere neutral surface but a transitional threshold that orders the relations between distinct architectural states. In this way, the chapter sustains an underlying continuity with the broader thesis, by suggesting that architecture operates not through fixed categories, but through continuous negotiation across conceptual and material thresholds. Like the boundary between phases of matter, the interface marks a site where transformation becomes possible, visible, and operative. Lists, tables, and patterns, far from being passive instruments, act as epistemological interfaces that structure fluid transitions between construction and concept, norm and deviation, continuity and rupture.

Through this lens, Chapter 4 extends the epistemological scope of the interface by focusing on concrete forms of architectural interfaces, lists, tables, and patterns, that negotiate the unstable boundary between architectural order and its internal inconsistencies. It sets the visual and epistemic interfaces ot as passive representations but as active surfaces where order is staged, challenged, or disassembled. The canonical list (MoMA 1932), the recursive list (Deconstructivist 1988), the manifestos propagating certain subjective tendencies (Hadid's 89 Degree, Parent's Oblique Function), Durand's taxonomic tables, Morelli's lost original matrices, Perrault's corrective tables, Eisenman's multilayered transparent table configuration, Le Corbusier's Grid and Modulor or Ray Eames' paper doll patterns all reveal how architectural knowledge is never neutral, but always mediated,

through formats that contain both what architecture intends and what it cannot absorb.[341]

It is precisely through the interfaces, lists, tables, and patterns that relationality between 'order' and 'error' is both registered and enacted. Through these mediatory surfaces, architecture not only represents but actively produces its own epistemic regimes. These interfaces are not secondary supports but primary actors: they mediate between idea and form, rule and variation, inclusion and exclusion. Each of these devices enacts a different mode of reasoning: the list oscillates between index and canon, the table confuses between classification and misalignment, and the pattern negotiates between rule and deviation. They do not merely organize architectural knowledge; they reveal its instabilities. They expose how inclusion implies exclusion, how repetition invites rupture, and how visualization often disfigures what it seeks to clarify. Then, engaging with these surfaces becomes not a simple act of depicting architecture, but to decide what counts as error, what is to be excluded, appropriated, or recodified.

At this point, it should be stated that although error may appear as the dominant motif of this study, its underlying objective lies elsewhere: not in celebrating failure for its own sake, but in revealing how error, when made visible and conceptually operative, opens alternative ways of thinking about order itself. By tracing how errors emerge across acts of drawing, building, theorizing, and classifying, the thesis reframes architectural order not as a fixed ideal, but as a contingent, historically embedded, and operationally unstable interface. The critical productivity of error is foregrounded precisely to destabilize the norm–deviation binary, and to recover a more generative, flexible notion of ordering, one that absorbs irregularities rather than excluding them.

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[341] This selection of moments of 'errors,' though defines a limited area, is intended to be align with what Umberto Eco calls the "value of the etcetera": an acknowledgment that incompletion and openness are not deficiencies, but essential conditions for epistemic and spatial expansion.

In this light, the thesis does not offer a taxonomy of errors, but a method for distinguishing which ones matter: those that merely haunt the system, and those that redraw its contours. Accordingly, the term ‘error’ appears under a wide range of names, ‘deviation, misreading, contradiction, anomaly, transgression, imperfection, failure,’ among others. This terminological variety does not derive from the uncontrolled usages of terms, but it is a deliberate conceptual choice to expose the multidimensionality of error across different architectural registers. In epistemological frameworks, terms such as ‘anomaly,’ ‘exception,’ or ‘surgical excision’ mark error’s role in destabilizing dominant modes of knowledge production. Within the realm of architectural making, ‘misalignment,’ or ‘material failure,’ reveal how error manifests through unpredictable conditions of design and construction. When situated in representational and visual regimes, ‘misreading,’ ‘distortion,’ and ‘contradiction’ point to the productive ambiguities embedded in regimes of representation and interpretation. Finally, in methodological terms, this semantic multiplicity reflects the argument that error does not constitute a deviation from architectural norm, but operates as its constitutive other, resisting the reduction of error to a singular definition. This multiplicity also emphasizes its capacity to migrate across discursive boundaries, opening up alternative routes for architectural reasoning.

This conceptual and terminological dispersion is not only at the level of the terminology choice but is also enacted through the selection of moments of errors that are operative in architectural production. The methodological stance adopted here resists the logic of accumulation, in other words, it does not seek to catalogue errors as discrete instances, but instead cultivates a mode of discernment, a critical sensitivity to read architecture through its errata. Each example, the ghost pediment, the elliptical column, the misaligned triglyphs, the list that accommodates exceptions, the recursive table, the misfit pattern, functions as an erratum not to be corrected or erased, but to be read. They are not footnotes to architectural history, but its structural folds. They do not exist outside architectural reason, but they exist

within its most fragile logics. This is the epistemological threshold where architecture ceases to affirm its order and begins to negotiate with its margins.

In conclusion, this study rejects the conventional binary between order and error, instead demonstrating that these terms are not mutually exclusive categories but exist in a state of ongoing interaction and transformation. Rather than treating architectural 'errors' as monstrous anomalies to be dismissed, it repositions them as "wonders" or productive deviations that reveal the internal logic, limits, and potentials of the discipline itself. It argues that interfaces, such as lists, tables, and patterns, function as active epistemological instruments that shape, regulate, and at times blur the relationship between order and error. The interface, therefore, is never understood as a mere visual surface or formal frame; it is rather configured as a site of epistemic negotiation, operating through a dialectic of norm and deviation, staging the relationship between order and error as neither resolved nor oppositional, but entangled.

This is where Theodor Adorno's notion of "reconciliation" offers a critical and philosophical expansion between the seemingly fixed binary of order and error. "Reconciliation," for Adorno, is not about harmonizing contradiction into unity, but about sustaining and critically inhabiting tension. In architectural terms, reconciliation does not correct the errant form, nor restore a disfigured order, but it allows error to persist as part of the system it disturbs. Just as the interface refuses to erase misfit or irregularity, reconciliation refuses to close contradiction. It is not an act of aesthetic repair but of epistemic acknowledgment, a form of critical intimacy with failure, friction, and inconsistency. In this way, both interface and reconciliation are not modes of resolution but of mediation: they sustain the unstable relation between systems and their disruptions, and in doing so, make visible the contingent and constructed nature of architectural order itself.

Through this approach, the study offers an alternative reading of an architectural history, not as a linear progression or stylistic succession, but as a continuous negotiation between systems of order and their embedded irregularities. Ultimately,

it reframes architecture not as a domain governed by universal norms, but as a contingent and negotiated field where rules are constantly constructed, questioned, and reconfigured through their own limitations. By analyzing how error operates across different modalities, material, conceptual, and visual, it reframes architecture as a practice that is epistemologically open-ended, historically embedded, and operationally unstable. The thesis contributes not only to architectural theory but also to wider debates on knowledge production, representation, and classification.

As a potential trajectory for further research, this study's engagement with lists, tables, and patterns may be extended beyond their immediate analytical function. These are not merely representational tools, but foundational instruments of architectural thinking, used both in the process of designing and reading what has been designed. While the focus here is limited to these three interfaces due to their simplicity and clarity as ordering devices, they stand in for a wider range of cognitive tools that structure architectural reasoning. In this sense, their analog form should not be mistaken for obsolescence. On the contrary, in an era increasingly shaped by digital design environments and AI-generated outputs, these 'simple' tools can be understood as the early, abstracted models of much more complex systems of organization and logic now employed in parametric and algorithmic design. Lists as indexing systems, tables as relational matrices, and patterns as repeatable-yet-variable schemes are all native to computational thinking. Lists, tables, and patterns, though often dismissed as rudimentary or pre-digital, are in fact among the most elemental tools through which architectural thinking is enacted. They are used not only to represent, but to generate; not only to describe, but to structure. In this sense, they are not merely historical or static artifacts, but projective schemas that prefigure many of the relational logics now native to parametric design and computational workflows. The list anticipates database structures and indexing protocols; the table aligns with the matrix logics of classification and typological sorting; and the pattern resonates with algorithmic repetition, modular variation, and recursive rulesets.

What this study emphasizes, then, is not a nostalgic return to the analog, but a recognition of its ongoing operational power. These interfaces embody a sparse

complexity, clear in form, but dense in implication. This thesis thus argues that architectural reasoning benefits not from chasing ever-greater precision, but from cultivating sensitivity to how ordering tools operate, and where they deviate. In this sense, the analog becomes not a fallback but a framework: one that allows us to imagine and produce with an awareness of limit, deviation, and productive failure. Lists that refuse closure, tables that complicate classification, patterns that accommodate imperfection, these are not simply tools of the past. They foreground questions of selection, normativity, deviation, and epistemic framing with a tactile immediacy that digital systems often obscure. This has a particular urgency today, as AI-generated and data-driven design increasingly risks displacing critical agency with automated fluency. In such a context, the analog may serve as a counter-method, not by resisting computation, but by exposing its assumptions. They are ways of thinking that remain vital, especially as architecture negotiates its place between the human and the algorithmic, between design as speculation and design as automation. The analog is not less sophisticated than the digital; it is differently complex. It offers a scale of resistance and intelligibility that opens space for epistemic sensitivity and design ethics.

This thesis, then, does not end with certainty, but with discernment. Its errata are not corrections but coordinates, tracing where architecture falters, folds, or misaligns, and where, precisely in those sites, new orders may begin to take form.

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FOREIGN LANGUAGES

Turkish (native), English (advanced), French (beginner)

PUBLICATIONS

Refereed Journal Articles

Derebaşı, Bengisu. "Classification: The Fragment and the Whole." *Archimaera* 10 (March 2023): 107–14.

Kızıl, Sinan Cem and Bengisu Derebaşı. "Everyone Knows Who is Stupid Around Here." *Footprint Delft Architecture Theory Journal* 36, 2025, 33-48.

Sarıca, Sezin and Bengisu Derebaşı. "Seats and the City: Sitting as an Idle Act in Ankara Neighbourhoods." *PLANARCH Journal,* 2025. Forthcoming.

Edited Books

Savaş, A., Bengisu Derebaşı, İpek Gürsel Dino, Sezin Sarıca, S. İnan, and Ş. Akın. *Research and Conservation Planning for the METU Faculty of Architecture Building Complex by Altuğ-Behruz Çinici, Ankara, Turkey*. *Keeping It Modern Project Report*. Getty Foundation, 2018.

StudioLog 2022-2024. Eds. Ayşen Savaş, Selahattin Önür, Bengisu Derebaşı, and, Serda Buket Erol. Ankara: METU Press, 2024. e-ISBN: 978-975-429-424-8.

CONFERENCES

Derebaşı, Bengisu. "A Subversive Inquiry into Ordering of Architecture: Error as a Transgressive Tool," *EAHN Thematic Conference, Transgression: A New Paradigm?,* École Nationale Supérieure d'Architecture de Paris-Belleville, virtual conference, November 2021.

Derebaşı, Bengisu, and Sezin Sarıca. "Excavating Frontispieces: Fossils, Ruins, Elements." *140 Yılın Mimarlığına Tanıklık*, İstanbul, 2022.

Derebaşı, Bengisu, and Sezin Sarıca. "Excavating Frontispieces: Fossils, Ruins, Elements." *Architectural Studies | Foundations • Positions • Words: Encounters with the 21st Century*, İstanbul, 2023.

Baş Bütüner, Funda, Bengisu Derebaşı, Sezin Sarıca, and Dilara Yaraş Er. "A Pedagogical Experiment: Strategies for Populating Landscapes." *60th IFLA World Congress: Code Red for Earth*, İstanbul, July 26, 2024.

Güneri, Gizem Deniz, Funda Baş Bütüner, Bengisu Derebaşı, and Sezin Sarıca. "A Terrestrial Words – Stock." *60th IFLA World Congress: Code Red for Earth*, İstanbul, July 26, 2024.

Workshops

Participant, Derebaşı, Bengisu. "Order and Error in Architecture." EAHN-AH Editorial Workshop, online, 2022.

Participant, Derebaşı, Bengisu, and Sezin Sarıca. "Excavating Frontispieces: Fossils, Ruins, Elements." *DocTalks*, online, 2022.

EXHIBITIONS

Savaş Ayşen, Bengisu Derebaşı, Fatma Serra İnan, and Sezin Sarıca. "Travelling Exhibition: METU Campus Documented." 2019.