



Models of Diagnosis and Concept in the Pioneering Architects in Recent Architecture

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Abstract

Architectural sphere evolved into a different direction within the last three decades due to both the development of digital tools and the economic boom, accompanied by the discourses suggesting that radical changes were underway in design and production. In the context thereof, the present study aimed to understand, what today's leading architects considered design input, what factors led them to form, and the conceptual nature of the association they established between form and content. The available texts inked by the renowned architects on their public buildings built between 1990-2020 were accessed via their own web sites and publications. Those briefs were reviewed using textual analysis based on issue and concept notions, remaining loyal to the intra-text context. The conceptual information was then transformed into conceptual categories. The architects were selected among the renowned architects, where the Google Hits method was used to determine the status of being renowned. Accordingly, a total 1146 architectural briefs by 66 renowned architects on their public buildings were analyzed with an aim to transparently see, what was defined as a problem by the designer and by which concepts the designer sought solutions to identified problems. The approaches of recent architects suggested that the architectural discipline maintained its ancient design paradigms, including the quest for function, surroundings, and form, but the way those parameters were addressed and questioned was changed. Furthermore, the spatial configuration-oriented, ecology-oriented, and city-oriented concepts came to the fore, while metaphor and analogy were frequently used. The present study was limited to the own briefs of the renowned architects on public buildings designed between 1990-2020. Unlike the previous studies in the relevant literature, which focused on recent architectural approaches, the present study addressed the subject based on the architects' own texts. Thus, the architect's expression but not the author's interpretation comes to the fore, contributing in the objectivity of the study.

Keywords:

Architectural issues; architectural concepts; leading architects; today's architectural approach

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INTRODUCTION

The advancements in the communication and computer technologies by the second half of the 20th century led to the information revolution, which was also described as the "global village" by McLuhan (1962), as the "information age" by Castells (1997), as the "post-industrial society" by Bell (1973), and as the "third wave" by Toffler (1980). The information revolution had a widespread effect on a number of fields throughout the world, including the economic, political, social, and cultural spheres, and drove the discipline of architecture as closely related to above, into a rapid process of change. The architectural milieu evolved into a new domain and the ways by which the buildings were designed, produced, and represented changed almost radically with the rapidly developing computer technologies especially after the 1990s. As Mitchell (2001) suggested, the architects, who were inclined to draw what they could build and build what they could draw, focused on building the most unusual and extraordinary forms taking advantage of the opportunities created by this revolution.

Occasionally, the great changes as a product of those revolutions were also criticized. For example, although it emerged as a school, which adopted the dominance of the mind and science, attached importance to such concepts as freedom, democracy, and progress, and promoted rationality and therefore prioritized the faculty of thinking, the modernism, which was developed with the industrial revolution, had been the target of serious criticism by certain scholars following the 1960s: George Ritzer, for example, criticized modernism based on rationality referring to the Holocaust and argued that this would not happen in a less rationalized society in his work titled as "The McDonaldization of Society" published in 1993. At the urban level, Kevin Lynch criticized modernist approaches to the city and made certain suggestions for the reconstruction of cities, including Los Angeles, Boston, and Jersey City in his book "The Image of the City" published in 1960. Jane Jacobs' book, i.e., "The Death and Life of Great American Cities" published in 1961, is another example, which demonstrated, how the urban planners ignored true people, based on rich examples. In this book, Jacobs suggested that urban diversity and vitality were destructed by powerful architects and urban planners. Rem Koolhaas wrote in "What Ever Happened to Urbanism?" in 1995 that the alchemist promise of modernism failed, and suggested that the effort to transform quantity into quality through abstraction and repetition was just a deception and useless magic. Nevertheless, the enthusiastic modern architects and city planners of the period focused on increasing the welfare level of the individual and the society by means of their innovative, creative, and theoretical/experimental approaches, and they worked on to organize not only the physical environment, but also the human life through their functional, plain, and unadorned structures. The prominent architects of the period, including Frank Lloyd Wright, Le Corbusier, Mies van der Rohe, Walter Gropius, and Alvar Aalto strived for creating dwellings and

cities that would accommodate the needs of modernizing societies, and in the said process they paved the way for a universal architectural language. As a result of the adverse conditions of the World War I and II and the rising neo-liberal values, modernism was not able to fully realize the idealized order it promised, however. Thus, the logic based on a dichotomy of either right or wrong, the roots of which can be traced back to Aristotle, was replaced by both the wrong and right, or in other words, substituted by the proposition of "and", "or", and "both".

In 1966, Robert Venturi proposed a pluralistic approach in architecture based on his work titled as "Complexity and Contradiction in Architecture". This intellectual rupture aimed to distance from the theoretical elements of modernism and to present both the familiar, and the unusual, by the reuse of historical elements. Accordingly, it was intended to establish a new bond between architecture and the public. In the context of this new proposition, the concepts of chaos/contradiction/pluralism were brought to the forefront. In contrast to the absolute geometrical order of modern architecture that focused on functional efficiency, the post-modern architecture proposed imprecise, heterogeneous, and ambiguous buildings. Post-modern architects such as Venturi and Denise Scott Brown, as well as Charles Moore, Michael Graves, Robert Stern, Aldo Rossi, and James Stirling resorted to architectural symbolism to reinstate the lost depth of meaning, over the pure expression of a functional form. Accordingly, the regular geometries of modern architecture were replaced by the irregular and the architectural object was envisaged in a more pluralist direction with radical eclecticism corresponding to a multiplicity of tastes" (Jencks, 1991).

On the other hand, the changes associated with the information revolution altered the nature of postmodern architecture as well. The first traces of the above changes appeared during the "Deconstructivist Architecture" exhibition held in the Museum of Modern Arts (MOMA) in New York in 1988, featuring the works of Coop Himmelblau, Peter Eisenman, Frank Gehry, Zaha Hadid, Rem Koolhaas, Daniel Libeskind, and Bernard Tschumi, among others. According to Wigley & Johnson (1988), the common grounds that brought those architects together were not that their works were similar in nature, but that they created their own rhetoric outside of the postmodern establishment. Wigley (1989) described the deconstructive architect as someone, whose objective was to find the internal dilemmas and structural flaws of the buildings, but not someone that torn them into shreds. As a matter of fact, similar to what McLeod (1989) suggested, deconstructivism incorporated certain aspects of modern architecture, including the preference for abstract forms, rejection of tradition, and interest in technological images, despite adopting a modality against the form-function relationship and purity of form.

By the 1990s, the architectural milieu has begun to change direction once again thanks to the developments in digital tools. Lynn (1993)

underscored that during that period, architects sought continuity of form against the deconstructivism cult and that was transformed into a theory of mathematical continuity. Leach (2002) investigated the above novel approach in the context of the city and suggested that the cities were being transformed by digital technologies; and that new technologies were beginning to exert a significant impact on the way the cities were designed and imagined. Mehaffy (2004) once again enunciated that architecture evolved into a new paradigm during the introductory speech for his “New Science, New Urbanism, New Architecture?” conference.

Carpo underlined that architects from the deconstructive tradition, including Zaha Hadid, Frank Gehry, and Peter Eisenmann, offered "a deliberate mediation or synthesis between 'postmodern unity of form' and 'deconstructivist fragmentation'" as a new alternative, and called that change a “digital turn” in 2013, and described the physical manifestation of that new paradigm as follows:

"In fact, in the first instance, a meaningful building of the digital age is not just any building that was designed and built using digital tools: it is one that could not have been either designed or built without them. Alert designers have ideas about what the new tools are and what they can do, and this intelligence – among many other things – inspires them to imagine unprecedented solutions." (2013:8)

As it is evident in Carpo's statement, the technological advances paved the way for radical changes in the design and production and accordingly, an understanding of form that did not compromise its autonomy and unusual representations started to emerge. Nevertheless, projects from certain geographies that allocated large budgets with an aim to serve as a tool for identity and representation and as a self-promoting attempt drove an explosion of and race for forms, especially regarding the public buildings, and as a result, the relations between re-shaped architecture and society were subject to an intense environment of dispute (Daley, 2013; Tamari, 2019; Mcguigan, 2010). The main emphasis of those criticisms was that architecture was morphed into a spectacle and that both the "architect" and the "architecture" were evolved into mere commodities.

Seeking answers for such questions as which concepts were taken as a basis to establish those relations, whether the formerly powerful concepts were still valid for where we were today, and which concepts came to the fore in today's production practices, is of particular importance today, where the urban space and urban life are re-produced, the bridges between art and economy, the city and the citizen are rebuilt and criticized at the same time. As a first step with an aim to answer above questions, 66 architects were identified based on the recognition status using the Google's hit (GH) method, and thereafter their own accounts of the public buildings built thereby between 1990 and 2020 were retrieved. Those briefs were considered important sources of information and analyzed on the basis of the relationship between issue and concept. The accordingly identified conceptual information were

then translated into conceptual categories in the next step in order to explain 'what were the considered design problems by the recent pioneering architects', 'the conceptual attribute of the relationship they established between form and content', and 'the way they approached design'. In addition, the present study also discussed whether the well-known contemporaneous architects adopted a shared language in terms of approach to design and whether they had similarities and/or differences compared to the previous periods.

The present study aimed to create a discussion framework that could serve in the making of a theoretical basis for recent architecture. Up to today, no comprehensive research has been conducted on the data that today's leading architects started with the design, the factors that led them to the form, and which concepts and how they used them in the face of these factors. In this sense, the study makes an important contribution to the literature.

The study also provides important clues on the architectural approaches of the future. Considering that the discipline of architecture is in constant motion and search, the study also forms a basis for future evaluations.

RESEARCH METHODOLOGY

One of the main sources of acquiring knowledge is the written language and textual description, the forms by which knowledge is conceptualized and organized (Oxman, 2004). In this sense, the present study analyzed the written texts by architects on their own works, which were important sources of information, where theory and practice could be evaluated together, and accordingly sought to reach conceptual information.

Firstly, architects, who actively worked between 1990-2020 were identified upon a preliminary review. Then, the Google hits (GH) method was used to select well-known architects from among these architects. Google Hits is the number of webpages returned in a Google search for a person's name. The method is a recent scientific method to identify well-known status of individuals (Schulman, 1999; Bagrow, 2004; Simkin, 2013; Simkin, 2015; Yücesoy & Barabasi, 2016). The GH analysis was based on the "number of searches on the Internet" using the "Pageviews Analysis" platform. In the context thereof, searches in all languages were included in the analysis. Architects, including Kenzo Tange, Philip Johnson, Jorn Utzon, Arata Isozaki, Alvaro Siza, Gae Aulenti, Balkrishna Doshi, Lina Bo Bardi, Luco Costa, James Stirling, Paolo Soleri, Tomas Taveira, Ralph Erskine, Paolo Portoghesi, Oswald M. Ungers, Charles Moore, Leon Krier, and Tom Wright were excluded from the first list, because their own accounts of the works could not have been accessed. As a result, 66 well-known architects with GH scores above average number of hits were identified. Those architects are given in Table 1 in alphabetical order.

Table 1. Architects by Recognition Status and the Number of Texts Included in the Study

	Architects	Number of public buildings whose texts were analyzed	Architects	Number of public buildings whose texts were analyzed	Architects	Number of public buildings whose texts were analyzed		
1	Adrian Smith	6	33	Mario Botta	11	63	Toyo Ito	2
2	Alberto Campo Baeza	9	34	Massimiliano Fuskas	13	64	Winy Maas	14
3	Aldo Rossi	2	35	Ma Yansong	15	65	Yvonne Farrell	7
4	Ben Van Berkel	28	36	Michael Graves	10	66	Zaha Hadid	43
5	Bernard Tschumi	18	37	Michael Sorkin	2			
6	Bjarke Ingels	45	38	Moshe Safdie	19			
7	Dominique Perrault	11	39	Nicholas Grimshaw	49			
8	Cesar Pelli	44	40	Norman Foster	59			
9	Christian Portzamparc	12	41	Oscar Niemeyer	4			
10	Daniel Libeskind	28	42	Peter Eisenman	6			
11	David Adjaye	24	43	Peter Zumthor	2			
12	David Childs	74	44	Rafael Moneo	9			
13	David Chipperfield	21	45	Rafael Vinoly	34			
14	Eduardo Souto De Moura	5	46	Rem Koolhaas	33			
15	Francine Houben	57	47	Renzo Piano	34			
16	Frank Gehry	6	48	Ricardo Bofill	10			
17	Hans Hollein	2	49	Richard Meier	12			
18	Hans Kollhoff	1	50	Richard Rogers	12			
19	Helmut Jahn & Murphy Jahn	6	51	Robert A. M. Stern	30			
20			52	Robert Venturi & Denise Scott Brown	13			
21	Herman Hertzberger	16	53					
22	leoh Ming Pei	20	54	Santiago Calatrava	38			
23	Jacques Herzog & Pierre De Meuron	29	55	Shigeru Ban	11			
24			56	Sou Fujimoto	3			
25	Jeanne Gang	18	57	Steven Holl	28			
26	Jean Nouvel	19	58	Tadao Ando	2			
27	Jon Jerde	2	59	Tatiana Bilbao	7			
28	Kazuyo Sejima & Ryue Nishizawa	3	60	Terry Farrell	12			
29			61	Thomas Heatherwick	7			
30	Kengo Kuma	58	62	Thom Mayne	21			
31	Ken Yeang	4						
32	Kevin Roche	6					TOTAL	1146

Secondly, the buildings to be included in the analysis were decided. The selection of the buildings was limited to the public buildings commissioned between 1990 and 2020.

Thirdly, the available texts inked by the renowned architects accessed via their own web sites and publications on their public buildings built between 1990-2020 were reviewed using textual analysis based on issue and concept notions, remaining loyal to the intra-text context, and the conceptual information were then transformed into conceptual categories. Each text was analyzed in the contexts of issue (yellow legend) and concept (orange legend) and with respect to their intra-textual context (Figure 1).

ZAHA HADID: EVELYN GRACE ACADEMY

An opportunity to broaden the educational diversity of this active and historic London area. Following the principle of 'schools within schools', the design generates natural patterns of division within highly functional spaces which give each of the four smaller schools a distinct identity, both internally and externally.

The Evelyn Grace Academy not only broadens the educational diversity of Brixton, but also augments the built environment in a predominantly residential area. The Academy presents itself as an open, transparent and welcoming addition to the community's local urban regeneration process.

The strategic location of the site within two main residential arteries naturally causes the built form to be coherent and to assume a strong urban character and identity, legible to both local and neighbouring zones.

The Academy offers a learning environment that is spatially reassuring and able to engage students actively, creating an atmosphere for progressive teaching.

Its highly functional spaces present generous environments with maximum levels of natural light, ventilation and understated but durable textures. The communal spaces — shared by all the schools—encourage social communication with aggregation nodes that weave together the extensive accommodation schedule.

Similarly, in order to generate a setting that encourages interaction, the external shared spaces are layered to create informal social and teaching areas at various levels based on the convergence of multiple functions. The scheme provides an educational complex that is equally esteemed and cherished by the pupils and community.

Source: Zaha Hadid Architects: <https://www.zaha-hadid.com/architecture/evelyn-grace-academy/> Erişim: 11.06.2020

Figure 1. Analysis of Briefs in the Contexts of Issue and Concept.

STUDIES AIMED TO EXPLAIN RECENT ARCHITECTURE

As a result of the increasing effect of digital technologies on design and production practices, the architectural environment entered a new era during the transition to the 21st century and a design approach emerged, accommodating the power of digital technologies (Mallgrave & Goodman, 2011; Lynn, 1993; Leach, 2002; Mehaffy, 2004; Carpo, 2013). In that sense, the Guggenheim Museum designed by F. Gehry in Bilbao (1991-1997) illustrated one of the first buildings that represented the zeitgeist of the new age. Subsequently, the traces of that new approach were evident also at the Venice Biennale organization held in 2000 and 2004. As a matter of fact, those biennials were of particular importance being the first platforms that sought to theorize the evolution and transition innate to the discourse and practice of architecture (Oxman, 2005). Patrick Schumacher presented his Parametrisation Manifesto for the first time during the 2008 biennial, suggesting the precedence of the variability, continuity, and differentiation potential concepts.

As regards the textual productions on the theoretical context of the digital, Greg Lynn's series, which started with "Folding in Architecture" in 1993, followed by "Folds, Blobs, and Bodies" in 1995, and "Animate Form" in 1999, were among the prominent studies that engaged in the architectural agenda the most.

During this new period defined as the "Digital Baroque" by Muschamp (2000), the form production was liberalized and the digital technologies accelerated novel architectural possibilities (Kolerevic & Klinger, 2008), facilitating the appearance of new types of form that were formerly not possible to build. As Cache (1995: 88) suggested the objects were now being calculated instead of being designed.

According to Picon (2010), the new possibilities made available by digital simulation allowed the architects to be liberated from the limited repertoire of modern architecture, and therefore, adopting a particular understanding of form on the basis of creating scenarios that represented a radical break from traditional planning. Leach (2009) asserted that architects were responsible not only for the production and the form of the space in this new period, but also for the generative processes that composed that space. Therefore, the basic components of design, including presentation, production, performance, and evaluation were re-defined in the light of the digital technique (Oxman, 2005).

There are other attempts to define the contemporary architecture based on differing perspectives. Relevant examples include but not limited to the pioneer-innovative architecture (advanced architecture) by Gausa et al. (2003), new digital architectures by Kolarevic (2003), quantum architecture by Jencks (1997), and relational architecture by Lozano-Hemmer (1999).

Digital technologies were not considered merely a tool in the production of architectural form, but at the same time had an impact of the production of knowledge and thought as suggested by Colletti (2017) and Heidegger (1977). However, this does not alter the fact that the design is unique to the individual. Therefore, no framework has yet been suggested in the relevant literature that encompass the intentions of the pioneering architects of the recent period, what they consider as a design problem, what data they incorporate into their designs, and by means of which concepts they seek solutions to such problems. In this context, it is of particular importance to elaborate on the architectural approach of the contemporary period based on the phenomena of issue and concept, which comprise the two factors in the transformation of architecture.

ISSUES AND CONCEPTS AS TWO FUNDAMENTAL FACTORS IN TRANSFORMING THE ARCHITECTURE

In the implementation of architectural design and production, issue is intertwined with the phenomena of form and concept. The architect operates in line with the fundamental issues of the act of design, including the client, function, terrain, and representation, when deciding on the form. The architects seek to achieve original and rational outcomes by establishing inter-conceptual relations and different connections, to the extent of their knowledge and experience. In this process, concepts serve as the key elements allowing the architects to formulate and solve the problems, and to recognize and express the connections and relationships between various areas (Cowdroy & Graaf, 2005). Concept

plays an active role in imagining new realities and acquiring creative skills in design. Lawson & Dorst, (2009) defined the relation between concept and creativity as reframing the design problems. In this sense, thinking in concepts can also be considered a process by which the designer navigates through an abstract problem space and resorts to various strategies to elaborate the problem definition (Gero & Neill, 1998). On the other hand, it is sometimes not possible to predict a work of art before it is ever produced (Bergson, 1922). At this point, concepts act as a kind of mental glue, as Murphy (2002) suggests. They keep together the ideas freely floating in the mind and form a basis or a theme for further design decisions.

The architect, who tackles the production of form, or one of the most important elements in deciding the quality of architectural design, within the scope of problems, has to oversee the social ideals, vital interests, and aesthetic values as well. At the same time, in such cases, mostly the dialectical opposition between issues and form phenomena emerges. For example, a form that has been shaped as a result of considering topography a problem may conflict with its content or may not be able to connect with its environment/city. The architect accommodates the conceptual unification ability with an aim to overcome such situations and achieve the goal. In this context, the concept functions as a bridge between the form and the problem, i.e., the foundation of its production. Therefore, the phenomena of issues, concept, and form are not independent from each other, but rather create/complement each other. In the present study, taking above as a point of departure, the approaches adopted by the recent pioneering architects towards design were discussed based on issues and concept parameters.

FIELD STUDY

The present study aimed to draw a theoretical framework towards recent architecture, and therefore, architectural texts on 1146 public buildings built between 1990 and 2020 by 66 well-known architects were elaborated using an analytical process-based method. The public buildings analyzed within the above framework included 479 cultural, 250 educational, 138 transportation, 51 health, 40 sports, and 188 administrative buildings and social areas.

RESULTS

The data indicated that the design problems identified by the recent pioneering architects were highly varied, yet it was possible to categorize them. First, it was seen that the pioneering architects identified 19 distinct design issues under 7 basic categories. Among the identified issues, the concerns for the physical surroundings took the first place, followed by function and program concerns and natural environmental concerns. The legal-administrative limitation concerns and internal factors were the least mentioned issues. The identified issues and their frequency of emphasis numerically are as follows (Table 2):

Table 2. Conceptual Categories Related to the Issues

451	CONCERNS ABOUT PHYSICAL SURROUNDINGS	Factors about the Physical Surroundings (290)	Concerns about close surroundings, such as to be located in an exquisite neighborhood, establishing relations with existing buildings, located between the boulevard and the road, re-defining the relations between the existing and the new, located in an industrial coastal area, located along the railway line or highway, located in a financial district, and located on a historical trade route, etc.
		Factors about the Land Itself (161)	Concerns stemming from the land itself, such as a form imposed by the geometry of the land, orientation of a triangular plot, the small-, large-size of the plot, and the area-scale dilemma
430	FUNCTIONAL AND PROGRAM-FOCUSED CONCERNS	Factors about the Function (325)	Functional and program-focused concerns, such as being versatile and multi-purpose, providing the requirements of the program, responding to increasing demands and intensity, offering a future-oriented working area, and meeting ever changing needs
		Factors about the Spatial Configuration (82)	Concerns that focus on reflecting on the relationships between the space and the user, such as providing continuity between the interior and the exterior, to be located side by side or on top of each other, located in front of or inside, transmissivity, adjacency, orientation, centrality, continuity, and separation
		Factors about the Physical and Emotional Comfort (19)	Concerns about ensuring the user's physical and emotional comfort, such as making use of natural light and ventilation, noise control, acoustics, thermal comfort, offering landscape vista, reassuring, privacy, belonging, and providing different experiences
		Factors about Social Sust. in Design (4)	Concerns regarding the sustainable design approaches, such as creating a sustainable and inclusive architecture, accessibility, design for all, and conforming to universal design criteria
200	CONCERNS ABOUT THE FORM	Concerns about creating an image (68)	Concerns about the image of the architectural form, such as being symbolic, presenting a remarkable image, creating an iconic form, constructing a form in human dimensions, and to be visible from anywhere
		Concerns about Reflecting the Mission and Vision (132)	Concerns mostly about reflecting the mission and vision on the form, such as emphasizing democracy, demonstrating impartiality, reflecting power and status, building confidence, and reflecting the theme
411	NATURAL ENVIRONMENTAL CONCERNS	Factors about the Geography (132)	Concerns based on geographical factors such as to be located by the sea, connecting the river to the promenade, located on a steep slope, surrounded by rivers, mountains, and lakes, located along the river, and providing sea transportation
		Factors about the Biotic Environment (125)	Concerns based on the biotic environment, such as to be located in an agricultural region, preserving the rural features, protecting the existing landscape, and preserving the natural life
		Ecologic Concerns (106)	Ecology-based concerns such as producing more than the consumption, the necessity of being ecological, minimizing energy and resource consumption, caring for the use of limited resources, and minimizing harm to the natural environment
		Factors about the Abiotic Environment (48)	Climatic concerns expressed in such phrases as responding to harsh climatic conditions, protection from excessive sunlight, protection from sandstorms, standing up to the power of cold climate, and reducing rainwater and snow load
293	CONCERNS ABOUT SOCIAL FACTORS	Urban Factors (221)	Concerns based on the interface of the city and society and/or urban arrangements, such as establishing inter-regional relations, creating public spaces, providing an intersection on the city road, need for a new dialogue with the city, strengthening the modernization, and enriching the public life
		Sociocultural Factors (45)	Concerns of both social and cultural origin based on tradition, culture and social actions, such as the protection of urban heritage, fostering multiculturalism, and representing values
		Socioeconomic Factors (27)	Concerns arising from both the social and economic relations, and the relations between the two, such as renewing the city in economic terms, creating a popular area that would attract tourists, being a part of economic development
119	CONCERNS FOR LEGAL AND ADMINISTRATIVE RESTRICTIONS	Concerns about Building and Const. Challenges (60)	Concerns over structure, shell, and materials, such as constructional challenges, juxtaposing different building typologies, manufacture, assembly, transportation, and flows
		Customer-originated Factors (53)	Concerns about meeting the expectations and demands of the client, such as a tight budget, limited time allotted for construction, and colors and forms of client's choice
		Factors about Legal Restrictions (6)	Concerns arising from zoning permits and legal requirements, such as floor heights, roof slope, and building typology
67	INTERNAL FACTORS	Inherent and Reflective Factors (67)	Concerns about adopting an attitude based on certain cases, such as creating an architectural landmark, adding one's own interpretation, following a maestro, exhibiting resistance, and introducing a new architecture, etc.

The results were indicative of the fact that the pioneering architects of the age had highly diverse considerations to achieve the form and based the syntactic structure of the form on concrete data. Furthermore, it was found that the land and the concerns for physical surroundings were the most frequently emphasized issues by the architects, who embarked on the data obtained therefrom as important inputs to be incorporated into the design. The pioneering architects of the era most frequently referred to land-associated data, including whether the area was narrow or wide, or had different geometries, and/or the topographic features in addition to the data collected from the surroundings, e.g., being located in a commercial area or a historical district or being close to important buildings.

Another marked design issue was pertaining to the functional and programmatic concerns. Challenges such as being able to relax while walking, making maximum use of natural light and natural ventilation, presenting diverse functions as a whole, interacting with the surroundings, providing different experiences in different spaces, and creating exciting spaces were the main concerns of almost all the architects included in the study.

Natural environmental concerns were also frequently expressed by the architects. In this context, natural environmental factors such as abiotic and biotic components, geography, and ecology were attached importance in the scope of the design problems referred to as by the recent architects.

In addition to the three design issues above raised by the architects included in the study, the concerns towards social factors involving in socioeconomic, sociocultural, and urban components were also considered challenges to be addressed. As frequently expressed in the texts, such concerns as creating new urban spaces at the interface of the city and society, reflecting cultural values, branding the city, providing the city with a new face, and contributing to the economic development of the city were among the important design inputs for the recent architects.

The recent architects also pointed out their concerns about form. The architects, who rather worried about whether the form of their creation reflected their own mission and vision, acted upon such concerns as manifesting the status of their affiliated institution, reflecting the power of the city, emphasizing the importance attached to democracy, and designing a form worthy of a given school's name. Although the concerns about 'creating an image' were also included in this category, the texts rather indicated distinctive themes on how the form should be in a formal sense, with the inclusion of creating a striking image, being visible from everywhere, presenting a signature figure, and presenting a powerful form.

Concerns about legal-administrative constraints, which implicated the factors associated with building and construction, legal restrictions, and customer demands, were also referred in the design issues mentioned by the recent architects, albeit less frequently compared to other concerns.

Inherent, reflective, and autonomous factors were also less frequently underlined by the architects.

The concepts that were produced, preferred, and utilized by the recent architects towards a solution for the identified design issues were also highly diverse. However, it was possible to categorize those concepts based on their focal points. In this context, 20 different conceptual foci were identified under 9 categories that were used by the recent pioneering architects to solve the design issues. Among those, especially the function- and program-focused concepts, followed by the natural environment- and form-focused concepts, were the prioritized concept

groups. The identified conceptual foci and their frequency of emphasis numerically are as follows (Table 3):

Table 3. Conceptual Categories

1907	CONCEPTS FOCUSED ON FUNCTION AND PROGRAM	Concepts Focused on Spatial Configuration (634)	Concepts that focus on configuration of the space such as a fluid circulation, gathering people in the center, intertwined spaces, moving the exterior to the interior, offering a visual connection between spaces, and an uninterrupted articulation
		Concepts Focused on Function (462)	Function-based concepts such as offering a convenient plan, shell's responsiveness to the interior organization, diversity, temporality, harmony of form and function, and reflecting and highlighting the function
		Concepts Focused on Physical and Emotional Comfort (443)	Concepts that focus on the physical comfort of the user, such as infusion of natural light, spreading sound evenly, thermal comfort and concepts focusing on the emotional comfort of the user, such as allowing the view, creating areas for meditation, offering impressive and surprising encounters, creating much-needed moments of calm and relaxation, and offering rich experiences
		Human-focused Concepts (168)	People-focused concepts such as accessibility, inclusivity for all the diverse groups, offering a flexible design approach, acting according to inclusive design principles, and attracting people of all ages
1233	CONCEPTS FOCUSED ON FORM	Concepts Focused on Scale and Geometry of Form (1010)	Concepts that focus on the scale and geometry of form, such as an iconic building of monumental size, a hybrid form, a cylinder rising up to the sky, an abstract form, convex and concaves that broaden and narrow horizontally and an elongated lower, and quadrilaterals stacked on top of each other
		Mission and Vision-Focused Concepts (223)	Concepts that reflect the values of the affiliated institution, such as striking a democratic stance, an appropriate form for its status, a transparent image, reflecting the values of the school, and a solid form symbolizing justice
		Ecology-focused Concepts (412)	Ecology-based concepts such as creating an energy-efficient building, creating an ecological construct, self-sufficiency, production according to the consumption, vertical gardens, green roof, sustainability, and energy-efficiency
1234	CONCEPTS FOCUSED ON NATURAL ENVIRONMENT	Concepts Focused on Biotic Environment (365)	Biotic environment-focused concepts such as moving the vegetation to interior, strolling with bird calls, glorifying the landscape, protecting the rural area, and adapting to the natural landscape, etc.
		Geography-focused Concepts (238)	Concepts based on geographical data such as making the island more prominent, reflecting the valley, stretching towards the sea, connecting the sea and land, and heading towards the hills
		Climate-focused Concepts (219)	Concepts based on climatic data such as making use of the island's pleasant climate, minimizing harsh shadows, creating a structure that captures natural light, taking advantage of the local microclimate, modulating the wind, providing the dynamism of daylight, allowing the breezes in, and benefiting from daylight
		City-focused Concepts (739)	Urban-focused concepts such as creating independent urban attributes, offering generous public spaces, translating the city directions and contours, creating a meeting node inside the city, making an important contribution to the city, and giving the city a strong identity
1014	CONCEPTS FOCUSED ON CITY AND SOCIETY	Concepts Focused on the Sociocultural (256)	Concepts based on the socio-cultural values of the city such as conforming to the daily life of the community, belonging to the local culture, respecting the traditions and customs of the region, being in conformance with local tradition, complying and inspired by traditions, etc.
		Concepts Focused on the Socioeconomic (19)	Concepts based on strengthening the city's economy, such as offering a very important economic gateway for the region, creating economic miracles, proving to be an important element of urban development, and attracting both domestic and foreign visitors
		Metaphor and Analogy (675)	Metaphorical concepts that focus on the indirect relations/abstractions established with "biology" such as existence, growth, evolution, metamorphosis, a growing organism, simulation of growth processes, grapes on vine and/or with "objects" like a machine, reminiscent of musical notes, such as branches of a tree and analogic concepts that focus on the directly established relationships/tangibles such looking as a spacecraft, in the form of a bird, a star symbolizing the Holocaust, and a sailboat floating in water
675	METAPHOR AND ANALOGY		
461	LEGAL- AND ADMINISTRATIVE-FOCUSED CONCEPTS	Concepts Focused on the Building and Construction (461)	Technical and structural concepts such as providing innovative construction technology, focusing on assembly details, using advanced technology, unusual materials, making use of traditional construction methods; concepts based on legal limitations such as turning limitations into opportunities, spreading horizontally instead of rising vertically, capturing the extraordinary within constraints; and concepts that focus on customer demands and desires such as achieving international standards, reducing costs, making the most of the budget and fast completion
		Concepts Integrating with the Existing (195)	Concepts based on integration with the given environment, such as providing continuity with the existing context, a meaningful coexistence of the existing and the new, being inspired by the provocative existence of the existing art building, and commonality
406	CONCEPTS FOCUSED ON PHYSICAL ENVIRONMENT	Area-focused Concepts (167)	Concepts based on the scale and shape of the area, such as maximizing the length of the area, adopting an approach that is appropriate for the area, utilizing the shape of the area, conforming to the geometry of the area, according to the topography of the area, and taking advantage of the topography
		Concepts in Conflict with the Existing (44)	Concepts that create a contrast with the existing surroundings, such as creating a multi-layered perspective, offering a heterodox element, obviously distinguished from the others, being different and original, and striking a different stance
		Concepts Focused on Qualitative Characteristics (255)	Concepts focusing on quality such as dynamic, luxury, striking, beautiful, simple, plain, straightforward, subtle, complex, contemporary, modern, classic, and spectacular
225	QUALITATIVE CONCEPTS		
221	CONCEPTS FOCUSING ON INTERNAL FACTORS	Inherent-Reflective-focused Concepts (221)	Concepts based on the knowledge and experience of the architect such as offering a glimpse of 21st century art, ushering a new era, receiving high admiration, realizing the dream of every architect, creating one's own museography, offering the natural scheme of things, offering a unique language, paving the way for a new understanding of architecture, and going beyond the known

The results showed that the recent pioneering architects framed the identified design issues through a variety of concepts, where the function- and program-focused concepts were on the top of the list. The most frequently used expressions that suggested function- and program-focused concepts included providing the users with different experiences, presenting surprising places, arousing strong emotions, creating an invigorating atmosphere, strengthening emotional interaction, providing an extraordinary circulation, promoting creativity, and a lofty ascension. However, these concepts were based on an

approach, which targeted the emotions and feelings of users instead of an understanding based on the organization of functions and/or relations.

Natural environment-focused concepts constitute another important group of concepts that shape today's architectural approach. Naturally, concepts focusing on climate, geography, and biotic environment were always incorporated into the architectural discipline. However, the prominent natural environment-focused concepts today are far above of the concepts pertaining to the traditional architecture that focused on coping with natural conditions, and that the new approach is marked with acting sensitive and in protection of the environment.

Another notable group of concepts were embodied in the form-focused concepts. The texts analyzed in the scope of the study suggested that the recent architects frequently mentioned such semantic concepts as being sculptural, an organic form, a moving shell, an asymmetrical layout, a wavy form, reflecting the energy of the museum, presenting a democratic image, and creating a form appropriate for the status of the education received, all focusing on both the scale and geometry of the form and the reflection of the mission and vision. At this point, it would be more accurate to consider the form-focused concepts based on metaphor and analogy notions. As a matter of fact, the analyzed texts indicated that form-focused concepts were often inspired by biological metaphors and analogies. The relevant examples included metaphors suggesting the growing branches of a tree, the corolla of a desert rose, a glacier, an inverted mountain, and a hard oyster protecting the soft elements inside, and analogies, including a shattered guitar, a sailboat floating on the water, and a flying bird.

The concepts focused on the city and society were also used by the pioneering architects of the age. Textual analyzes suggested that the architects in question were inclined to reinforce the existing and/or forgotten relationships, albeit in a different way, rather than creating new relationships between the city and society. The foregoing approach of the architects, who apparently intended to establish a closer relationship between the city and the citizens, based on the use of such concepts as providing public spaces, creating a focal point for the city and its inhabitants, being in harmony with the city, and approximating the city and the resident society, suggested that they considered the city as a whole with the people.

Another concept group identified as a result of the study was the building and construction-focused concepts. Architects of this century occasionally used building- and construction-focused concepts such as employing innovative technologies, extraordinary use of ordinary materials, maintaining the tradition of working with reinforced concrete, combining local skills with advanced technologies, and reducing the costs.

Physical environment-focused concepts were also used by the recent architects. Concepts that were incorporated into the existing, that were area-focused, and that were in conflict with the existing, respectively,

were included in this group. The relevant examples included standing as an extension of the street, reflecting the existing structures, entering into a harmonious dialogue with the nearby façades, resonating with the medieval landscape, being an entity on its own, creating a contrast with the existing, standing out from its immediate surroundings, following the geometry of the area, adapting to the topography, and adapting to the scale of the field.

Qualitative concepts and inherent-reflective concepts were used the least in the 1146 texts that were analyzed in the scope of the study.

DISCUSSION

By its nature, the architectural discipline is in constant motion. That motion can be traced back throughout the history. For example, unlike the modernist architects, who rejected the historical texture surrounding the site and tried to create brand new physical environments, the post-modern architects strived for establishing an asymmetrical dialogue between the building and its surroundings in the following period. The aforementioned concerns about the physical environment also drive today's architectural approach. Nevertheless, unlike the past practices, today's architects embrace the physical environment as a guide, and in this context, the data collected from the physical environment both at the scale of the area, and the surrounding environment serves as an important resource for architects as regards presenting an original design.

It is possible to trace the function- and program-focused concerns, i.e., another prominent issue, back to much older times in history, as early as Vitruvius. The function, which the Roman architect Marcus Vitruvius Pollio (c. 90 - c. 20 BCE) emphasized as one of the three pillars of successful architecture, was weaponized by the modernist architecture against the traditional architecture, by the post-modern architecture against the modernist architecture, and by the deconstructivist architecture against the both. Although the way the function is addressed and questioned over time has changed, it still maintains its role as the main concern of architecture. Nevertheless, concern for function is recently addressed through an approach that is far from conflict, without imperative obedience or opposition to the form and without one prevailing over the other, but on the contrary, a balance is sought between form and content. Nevertheless, the function concept today is built upon an approach that refers to the mind of the user and strives for evoking different emotions and feelings through spatial arrangements that have been intended to be rich and unconventional.

Another input that helps shaping today's architectural approach is the natural environment. However, as a result of the analysis of the texts included in the study, today's approach adopts a sensitive attitude towards the environment and protects it, far beyond the concepts of traditional architecture that focused on coping with natural conditions. As a result of the analysis of the texts included in the study, the

aforementioned approach is not based on an attitude that aims to protect the environment from people, but on the contrary, it is fed upon an understanding of natural environment that still embraces a human-based perspective and keeps focusing on preserving the natural environments, on which human beings can live for thousands of years. Having been based on principles of sustainability, including energy conservation, making use of the climate, acting in harmony with the geography, protecting the rural areas, and creating a green architecture, these concepts are suggestive of the fact that architecture is now considered in conjunction with ecology.

As an ancient issue, the concern about social factors can be traced back to Plato's State. That gained importance once again, especially during the modern period, and architects such as Le Corbusier imagined to radically change the social life as inspired by the desire to create the ideal society. However, the social factors are being neglected in profit-oriented projects by today's architects, dominated by an approach, where cities are branded and brand structures come to the fore, and thus, the same are interpreted substantially different from the previous approaches.

The analysis of the texts in question suggested that today the way by which the concerns about form were addressed has also changed. The form that modern era architects suggested to act as per the function, that post-modern era expected to convey meaning with historical references, and that deconstructive architects aimed to bring a new interpretation upon discussion, is considered by today's architects based on the concern of creating unique, signature forms that would become a brand. Form-focused concepts are rather based on biological metaphors and analogies, and are shaped based on those concepts. Therefore, these concepts seem to have evolved into a different channel diverging from the conception of modernist architecture based on pure geometry, the conception of post-modern architecture focusing on historical references, and the conception of deconstructive architecture embracing on the fragmentation of form.

In summary, it was seen that the ancient design problems of the architectural discipline and the identified concepts are still valid today, but the way they are addressed and questioned has changed notably. In that sense, although the architectural discipline is in constant motion and quest, it has not immensely changed. The aforementioned change can be considered as an important indication that the pioneering architects of the era tended to engage in a quest for multifarious forms. As a matter of fact, today the architects have started to generate a wide array of forms, paving the way for the advent of a vast repertoire of form. In this sense, the recent architects, who are involved in a quest of form inspired by diverse factors, follow a substantially different route compared to the modernist architects with similar points of departure, the postmodernist architects, who aimed to contribute to the production of meaning, and the deconstructivist architects, who minded to reflect the contradictions in the society by means of the contrasts between the buildings of their

creation and their surroundings (as well as by the contrasts between the intrinsic elements of the buildings). On the other hand, given that function and performance were still considered important factors, the recent trend matched up with the modernist architecture and hence, the importance of function in architecture was underscored.

The results of the study, as a whole, shed light on the approaches that shape today's architecture, and furthermore, provide important clues on the future architectural approaches. On the grounds that the architectural discipline is in constant motion and quest, the present study also paves the way for future evaluations. As Güzer (2016) suggested, it becomes increasingly important to discuss the conditions and consequences that shape the buildings at certain legs of an ever-accelerated milieu of construction and urban transformation.

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Resume

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