Mobilities of media in architecture's theoretical discourse in the 21st century

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Abstract

Increasing permeability of disciplinary boundaries results in the theoretical and conceptual mobilities among different disciplines. Architectural theory has a unique position within these transactions since it transformed into an ever-expanding knowledge terrain via interdisciplinary perspectives. By undertaking different modes of appropriations in the architecture-media relationship, this study aims to disclose the directions and extents of these transactions. For this reason, a comprehensive literature survey was performed on certain databases. From these searches an examination list is created by selecting the studies focusing on media and architecture. Next, these studies are categorized based on their dominant themes and analyzed via Michael Ostwald's model, which is composed of uni-directional, hybridization, and multi-directional appropriation modes. The study found that architecture predominantly and more easily engages with media in the uni-directional mode since this mode does not affect the basic premises of the discipline and just expands its knowledge domain. Yet, hybridization and multi-directional appropriations are also observed, resulting in more significant impacts on architecture's disciplinary knowledge. This significance is primarily due to the interpenetration of the concept or theory appropriated from media and the transformations it suggested for architecture's premises. Specifically, in multi-directional appropriation, architectural theory and media theory intertwine preeminently. The study concludes that it might be the shared origin of two knowledge fields as revealed in the concepts of extension/prosthesis that underlie the convenience of these conceptual transactions.

Highlights

- This article focuses on various conceptual and theoretical intersections between architecture and media. It traces these intersections in a group of studies produced in the 21st century.
- The studies are categorized based on their dominant themes. These themes demonstrate the heterogeneity of media in architecture.
- The article adopts M. Ostwald's model and examines architecture's different modes of appropriation from media.

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21. yüzyılda medyanın mimarlığın kuramsal söylemindeki hareketlilikleri

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Öz

Disipliner sınırların artan geçirgenliği farklı disiplinler arasında kuramsal ve kavramsal hareketlilikler meydana getirmiştir. Bu hareketler içerisinde mimarlık kuramı özel bir konumda yer alır; çünkü mimarlıkta kuram, disiplinler-arası yaklaşımlar ile gittikçe genişleyen bir bilgi alanına dönüşmüştür. Çalışma, mimarlığın disipliner sınırlarının genişlemesine ve yeniden tanımlanmasına neden olan bu benimsemelerin sınırlarını ve yönlerini açığa çıkarmayı hedefler. Bu hedef doğrultusunda, mimarlık ve medya kesişimindeki geniş literatürden, çeşitli veri tabanlarında üç aşamada gerçekleştirilen aramalar ile belirlenen bir ön değerlendirme listesi oluşturulmuş ve bu listeden ağırlıkla medya ve mimarlığa odaklanan çalışmalar seçilerek bir inceleme listesi belirlenmiştir. Bu listedeki çalışmalar ise baskın temalarına göre sınıflandırılmış ve Michael Ostwald'in kuram/kavram benimsemelerini tek yönlü benimseme, hibritleşme ve çok yönlü benimseme şeklinde açıklayan modeli aracılığı ile çözümlenmiştir. Çalışmada yapılan çözümlemeye göre mimarlık, medya kuram ve kavramlarını ağırlıkla ve daha kolaylıkla tek yönlü olarak benimsemekte ve bu tek yönlü benimseme ile kendi bilgi alanını genişletmektedir. Ancak, hibritleşme ve çok yönlü benimsemenin de olduğu görülür; bu iki benimseme biçimi disipliner bilgi için daha önemli etkiler oluşturur. Bunun nedeni medyadan alıntılanan kavram veya kuramın disipline tam olarak nüfuz etmesi ve bu nedenle mimarlık için önerdiği dönüşümdür. Özellikle, çok yönlü benimsemede mimarlık kuramı ve medya kuramının olabilecek en üst seviyede iç içe geçtiği görülmüştür. Çalışma, kavramsal hareketliliklerin elverişliliğinin bu iki bilgi alanının uzantı/protez kavramlarında açığa çıkan ortak kökeninin altında yattığı sonucuna varır.

Öne Çıkanlar

- Bu makale, mimarlık ve medyanın çeşitli kavramsal ve kuramsal kesişimlerine odaklanır ve 21. yüzyılda üretilmiş bir grup çalışma üzerinden bunların izini sürer.
- İncelenen çalışmalar baskın temalarına göre gruplanmıştır, bu temalar medyanın mimarlıktaki heterojen varlığını yansıtır.
- Makale M. Ostwald'in modelini kullanarak mimarlığın medya kuram ve kavramlarını farklı benimseme biçimlerini inceler.

INTRODUCTION

For architecture, a disciplinary turning point can be identified around the destabilizing developments of the 1960s. This critical threshold is marked as a crucial starting point in different anthologies on architectural theory. While in *Rethinking Architecture*, Neil Leach (1997) refers to the period as one of "intensifying change", in *Theorizing a New Agenda for Architectural Theory*, Nesbitt (1996) characterizes the three decades since 1965 with the words: "social upheaval, a loss of faith in the modernist project, and 'certain disillusionment with social reform' within the profession". From this point on, Nesbitt sets out to unfold the condition of architectural theory since the mid-1960s via a particular mode of plurality. For Nesbitt, this plurality, which stems from the shuttering of grand narratives, corresponds to the postmodern turn in architectural theory and brings forth "the proliferation of theoretical paradigms or ideological frameworks". As addressed by Hays in *Architecture theory since 1968* (1998), this plurality is an expansion that burgeons from the integration of architectural culture into architectural theory. However, Hays draws attention to a significant change for culture; as he proclaims the traditional understanding of culture that one belongs to or possesses can no longer arise spontaneously but "*must be constantly constructed, deconstructed, and reconstructed through more self-conscious theoretical procedures*" (Hays, 1998).

These studies attempt to describe and define a specific mode of transformation in knowledge production in architectural theory since the 1960s and show how the loss of a single monolithic theoretical basis gives place to a more polyphonic atmosphere. It is possible to claim that different alliances with other disciplines and theoretical paradigms elasticized the field within this plurality. Indeed, architecture has always borrowed from other disciplines "to illuminate its central questions" (Crysler et al., 2012, p. 14). However, these reference fields shifted from well-established disciplines to "more fluid theoretical discourses" in the late twentieth century (Crysler et al., 2012, p. 14). To put it more clearly, since the 1960s, the supremacy of "little narratives"[i] (Lyotard, 1984, p. 60) legitimated multistranded disciplinary expansion of architecture's knowledge production.

On the other hand, the turn of the century witnessed a confusion, which is often called "theory's death". Concerning architectural theory, Troiani and Kahn refer to this process as "theoretical meltdowns" (2016, p. 486). Being a transdisciplinary phenomenon that does not pertain to architecture, for Hight, the death of theory became official with the last issue of Assemblage in April 2000 (2009). However, the acceptance of the "death" and embracing obsoleteness of theory in the global marketplace create a crisis for the "conditions of acting architecturally" (Hight, 2009). This disciplinary crisis for "theorizing architecture" is, on the other hand, linked to its practice which has become somewhat "limitless" (Troiani and Kahn, 2016, p. 487). The mutations that theory underwent were certainly accelerated by electronic society and communication in the 1990s.

The attempts to make sense of the bewildering new technologies, which started to change the medium of design, prompted the incorporation of subjects and themes that are not purely theoretical. The more the impact of new technologies on the discipline became visible via their practical outcomes, the more intensely issues related to architectural culture entered into the agenda of theoretical discourse.

While the influence of certain paradigms and theoretical frameworks on architecture is quite evident, such as postmodernism or deconstruction, there are more obscured concepts and theoretical frameworks that are influential for architecture yet hard to trace due to the inclusion of architectural culture in theoretical discourse. As a crucial element of architectural thought and practice, media-bounded concepts and theories inflect the discipline without turning into strong paradigms. They do not have a rooted disciplinary base in their motherlands, nor are they purely theoretical. Though it is possible to point out several theoretical and conceptual interactions between media and architecture, describing the impact of media on architecture via a coherent and single paradigm is not possible.

In effect, media intersects with architecture in three ways: as a concept, via its theoretical frameworks, and its divergent forms. In addition to the combined effects of "theoretical meltdowns" and the rise of digital, architecture's plural engagements with media create different formations and deformations within and across the disciplinary boundaries. As a study field, media does not demonstrate a coherent outlook in its interaction with architecture. Hence, it can be claimed that the knowledge terrain at the intersection of media and architecture has a unique position for architecture's disciplinary expansion. Architecture is indiscernibly linked to its representations that are primarily in the media domain, so it is hard to decide to what degree architectural theory is merely borrowing media-bounded concepts and ideas from outside and to what extent these concepts and theories are transformed and modified within the discipline. Moreover, the digital revolution erased the distinctions between different media. Since the 1990s, "a convergence process between acoustical, optical and audiovisual media" significantly altered the communication environment (Micconi and Serra, 2008). This further complicated the concept of media, thus its relation to architecture.

Aiming to amend this vague situation that intensified in the 21st century and delineate the disciplinary interactions among media and architecture with precise contours, this study explores different modes of theory and concept appropriations in architecture's theoretical discourse after the 2000s. First, it tackles the heterogeneous formations of the phenomenon in the architectural discourse via a categorization of dominant themes. Following that, a model proposed by Michael Ostwald in "Architectural theory formation through appropriation" is embraced. This model is adopted due to its potential in diagnosing different degrees and extents of theoretical exchanges without sacrificing core disciplinary grounds. Moreover, Ostwald develops this model specifically for architectural theory. To explain different modes of theory and concept appropriations from other disciplines, he defines three phases; uni-directional appropriation, hybridization, and multi-directional appropriation (1999). Among these, uni-directional mode help mark the adaption of a theory or concept from a non-architectural terrain without severe modification. On the other hand, hybridization corresponds to the migration of a concept or a theory where a certain degree of erosion occurs in the meaning. Therefore, it allows tracing meaning shift via "translation and

translocation". Lastly, multi-directional appropriation indicates the use of already combined concepts. This appropriation usually takes place as the readjustment or reformulation of a concept that derives from architecture in a non-architectural terrain. Hence, the borrowed concept/theory performs in multiple directions. A group of studies at the intersection of architecture and media are analyzed based on this model. Thus, the research aspires to contribute to architecture's theoretical discourse from a meta position. This contribution is expected to be achieved by providing an elucidative ground for architecture media relationship, which becomes increasingly central to the discipline with new media developments in the 21st century.

METHOD

By aiming to clarify a multitude of interchanges between architecture and media, this research problematizes the degree and direction of "travels" between these two epistemological fields and attempts to explain the origins, modifications, and hybridizations of traveling theories and concepts (Bal, 2002). To attain this goal, an expanded literature survey, which is limited to the studies produced in the 21st century, is conducted. From the survey, the most relevant and diversifying approaches to the media-architecture relationship are selected, and an examination list is created. First, the studies in this list are analyzed and categorized based on their dominant themes in theory. They are then examined with reference to Ostwald's model, and different appropriation modes are analyzed. The selection of the studies and the creation of the list are decided according to the emphasis on media architecture interaction. This emphasis is traced via the existence of a simultaneous reference to media and architecture or a reference to their subcategories either on the title or in the abstract.

Since the study does not claim to derive a quantitative result and instead focuses on the qualitative, the selected and closely examined studies do not claim to constitute a whole. Still, they represent different engagement modes between architecture and media. It should be noted at this point that the primary constraint of the present research stems from the geographical limitation of the studies that were surveyed before this selection. Studies from Western countries dominate the literature survey. Hence, the research reflects architecture's media-related concept/theory appropriation within predominantly Western cultural and scientific geography and does not claim to provide a universally valid account.

The expanded literature survey is composed of successive stages. Primarily, the survey focuses on scholarly work produced in English after the 2000s. Media is a broad concept; when it is matched with architecture, an immense number of studies appear. This abundance is delimited in the first stage of the literature survey with the aid of the following instrumental search terms: 'discourse, knowledge, experience, and theory'. All combinations of these terms with "architecture" have been used on Scopus and Web of Science, necessary filters are applied, and most relevant studies are selected by paying attention to the discipline of the publication. Hence, studies published preeminently in the architectural context, i.e., architectural conferences, architectural journals, etc., are selected. The list was enriched by other sources found by tracing the reference lists of the most relevant studies. Finally, each study is examined by considering the prominent accentuation and its relation to media.

The first phase of the analysis aims to clarify the main themes of theory on architecture media interaction and to demonstrate the distribution of studies under these themes. These themes were determined by paying significant attention to the main concerns, frameworks, and highlights of the studies. In other words, certain parallelisms and discrepancies among 'discursive objects' enabled to clarify dominant tendencies as themes that emerge from architecture media interaction. Ostwald's model enables to track interactions among architecture and different disciplines, yet it falls short of explaining the plurality and heterogeneity within theoretical discourse. Therefore, this phase, on the one hand, reflects the heterogeneous nature of theory formation in architecture; on the other hand, it provides a base to review different approaches systematically. The second phase consists of the close examination of how architecture appropriates multiple forms, theories, and concepts of media in its knowledge production via the model provided by Ostwald. This phase involves a thorough analysis of the studies in the selected list. The procedures of this analysis can be summarized as follows: scrutiny of general terms and their discipline of origin, revealing main positionings with regard to architecture and media, tracing the stabilities or modifications of media and architecture as discursive objects within the examined study. These considerations form a framework to dismantle disciplinary and theoretical origins and mobilizations. Thus, they provide a ground to explain Ostwald's model further.

THEORIZING MEDIA IN ARCHITECTURAL THEORY

Interdisciplinarity not only results in the stretching of disciplinary boundaries; it also paves the way for shared concepts and theories. This interdisciplinary mobility of concepts is not peculiar to architecture. Moreover, as Mieke Bal (2002) demonstrates, such travels are pretty common, especially for humanities, where concepts "migrate between disciplines, individual scholars, historical periods or academic communities". As a result of such travels, many concepts and theories that originate from media theory or different forms of media open new vantage points for the discipline of architecture. On the one hand, these interactions expand architecture's disciplinary field; on the other hand, they transform its outlook. Because as a complex and multi-layered phenomenon by itself, media enables to construct numerous connections with architecture. These connections vary from architecture's recalibration as a medium to its extension via different communication environments. Media-related expansion portrays such a vast terrain for architecture that it leaves room for both conceptual and practical coexistences. However, the degree and the content of these interchanges, loosening and transforming meanings and forming new ones remain unaddressed in the literature. Increasing attention to the subject can be pinpointed in the last years (Buckley, 2019; Brown, 2018; Cairns, 2017; Wilson, 2015). This popularity brings an inevitable diversity of perspectives. However, all these attempts operate without clear navigation for their position within the theory and in architecture's inter and transdisciplinary interactions.

As discussed by addressing theory's death and the rise of interdisciplinary, it is impossible to mention a solid and close framework for theory in the 21ˢᵗ century. Not only architecture's theoretical landscape has been transformed with its inclusion of architectural culture, but it has been enlarged by different forms of practicing architecture, such as pedagogy, historical research, or calls for action. Thus, in the 21ˢᵗ century, architectural theory operates within an enlarged scope and with an inevitable "heterogeneity" (AlYousefi, 2019). For architecture-media interaction, a

similar condition can be observed. This heterogeneity can be seen to have its subcategories. In other words, architecture media interaction develops around specific themes and subjects. According to the studies examined in the article, these themes appear as space, urban digital media, media-architecture, film medium, networks, information technologies, and representation (Table 1). There are certain affinities among the themes in the list. Media-architecture and urban digital media can be seen as different scales of an akin approach, but despite their similar perspective, what they undertake differs in scope. On the other hand, the film medium is essentially a different type of representation, and there is a great deal of scholarly production around this medium. Indeed, film theories distinguish themselves from other media forms, and their impact on architecture is not confined to the representational potential. While networks and information technologies are also linked, there is an accentuation and scale difference between the two. Lastly, studies that scrutinize the peculiar correlations between space and media seem emergent, so approaching media from the perspective of space compose another group.

Table 1 - Distribution of dominant themes in the list of examined studies.

	Thematic Category	Name, Author and Year of the Study
1	Space	Mediated Space | Brown, J. | 2018
		Media, Architecture and the Moving Subject of Pedagogy | Ellsworth, E. | 2004
		Warped Space: Art, Architecture, Anxiety in Modern Culture | Vidler, A. | 2000
2	Urban Digital Media	*The City is a Medium | Kittler, F. A. and Griffin, M. | 1996
		The Media City | McQuire, S. |2008.
		Infostructures: A Transport Research Project | Häusler, M.H. Tomitsch, M. Gardner, N. | 2010
		Urban Media Cultures | Tscherteu,G., Pop, S. Stalder,U. and Struppek, M. | 2012.
		Deep Mapping the Media City | Mattern, S. |2015
3	Media Architecture	Media Architecture, Engaging Urban Experiences in Public Space| Brynskov, M., Dalsgaard, P., and Halskov, K. | 2015
		Media Architecture: Using Information and Media as Construction Material | Wiethoff, A. and Hussmann, H. (Eds.) | 2017
		We Live Here: Media Architecture as Critical Spatial Practice | Colangelo D. | 2021
4	Film Medium	*Montage and Architecture | Eisenstein, S, | 1989 [orig. 1940]
		Structures and Sequences of Spaces | Moretti, L. | 2002
		The Architecture of the Screen: Essays in Cinematographic Space | Cairns, G. | 2013
		Sequences in architecture: Sergei Ejzenstejn and Luigi Moretti, from images to spaces | Molinari, C. | 2021
5	Networks	Network Fever | Wigley, M. | 2001
		The Organizational Complex. | Martin, R. | 2003
6	Information Technologies	Information Obsession: the Eameses' Multiscreen Architecture | Colomina, B. | 2001
		*Prosthetic Theory: The Disciplining of Architecture | Wigley, M. | 1991
		Unclear Vision | Colomina, B. | 2009
7	Representation	Image, Text, Architecture: the Utopics of the Architectural Media | Wilson, R. | 2015
		Cinemetrics: Embodying Architectural Representation in the Digital Age. | McGrath, B. and Gardner, J. | 2008
		Visioning Technologies: the Architectures of Sight. | Cairns, G. | 2017

*These studies do not belong to the 21st century, but they form the basis of important discussions in other studies.

Uni-directional appropriation

The first relationship of appropriation Ostwald (1999) defines is "uni-directional", where a theory or concept originated from a non-architectural terrain has been adapted without a strict modification; it "migrates" to architecture from outside and becomes "a catalyst for the development of a particular form of architectural theory". Ostwald explains this with a straight line that connects deconstructionist architecture and French philosopher Jacques Derrida's work. In the case of media, uni-directional appropriation can be observed in such differing accentuations that it is possible to mention a wide array of topics: these diversify as screen:façade alliance, new notions of space, cooperation of media and physical environment at urban scale, architectural representation and its extensions into other media, information technologies-architecture unity.

What is expected from a uni-directional appropriation is the use of media or media-originated tools and concepts without losing their primary sense and simultaneously proliferation of new perspectives for architecture. At this point, it is common to encounter studies that tackle media as a physical component that can be added to an architectural element (Häusler et al., 2013, Brynskov et al., 2015; Basaran, 2016; Wiethoff et al., 2017; Colangelo, 2021; Aksu, 2022). This rather application-oriented approach to media-architecture togetherness develops from an oft-repeated idea: 'screenization' of façade. This approach seems to be constructing its discourse under the term "media-architecture"; while growing via multiple organizations since 2007[ii]. The institutional body Media Architecture Institution (MIA), which is composed of designers, architects, interaction designers, artists, and researchers, plays a significant role for both the research and practice around media-architecture. This institution organizes events and conducts projects that bring media, art and architecture together via screen-based designs.

The extension of media into the urban environment, which repeats the media-architecture approach on a different scale, is also one of the most evident uni-directional appropriations from media. Forming an essential part of the projects developed by MIA, these studies examine the existence of multiple media formations in the urban environment. In this sense, *Infostructures* (Häusler et al. 2010)*,* and *Urban media cultures* (Tscherteu et al. 2012) exemplify different aspects of media use in the urban environment. While the former, a case-based study, adopts a more pragmatic and practical view by suggesting digital technologies to solve the problems of public transportation, the latter looks into what seems to be turning into a culture via the intense use of media in the form of installations, projections, and surfaces in public space. At the threshold between screenization of façade and urban media, Wiethoff and Hussmann conceptualize the use of media as an (im)material component of public space via interactive, light-emitting elements on the outer shell of architectural structures. Their approach adds the materialities of information next to the traditional materials (Wiethoff & Hussmann, 2017). Kandemir also tackles the link between architecture and information technologies without modifying architecture or media. In this study, however, Kandemir defines some categories in which immaterial elements engage with the architectural object. These can be summarized as the use of digital tools in the design phase, the interactivity of information technologies, and the control of non-material components of an architectural object. Among these, the last category draws attention with its novel approach. Kandemir's inference on that matter can be rephrased as the evaporation of architecture's materiality via its reliance on information technologies.

The function of screening that architecture acquires or the extension of digital media in the urban environment is the most prominent and direct example of architecture and media interaction in a literal sense. On the other side, there exist the media production spaces that operate as an intermediary zone between the real and constructed. From this perspective, Brown tackles real, imagined, or hybrid spaces as different genres of mediated space; entertainment, advertising, and broadcast news (2018).

Although it is epitomized in the table with few studies, architecture's representation in the media composes a broad category that includes numerous studies that vary from architecture in magazines to films and photographs as enlarged architectural territories. In these studies, media is primarily considered an outcome, an environment that intervenes in architecture's production, perception, and reception. Thus, the emphasis shifts from architecture's material existence to its extensions into other mediums (Wilson, 2015). The broad scope of these approaches owes much to their approximation and intersection with visual culture studies. In this regard, discussing architecture via different visual environments, especially film and photography, is quite prevalent. At this point, the film medium's potential for architecture distinguishes itself since architecture and film converge on the superimposition of movement and space.

British scholar Graham Cairns (2013) deciphers architectural spaces via a filmic lexicon in *The architecture of the screen: essays in cinematographic space*. Cairns scrutinizes a wide range of qualities that a space acquires in its conceptual or literal encounter with film, video, or digital media. His cinematographically refined interpretations of space vary between Jean Nouvel's use of sequencing as a design tool to Carlo Scarpa's "intrinsically filmic" work (Cairns, 2013, p. 104). Moreover, perceptual fusions of space and film also carve a niche in Cairns's discussion via performances and installations. Thus, he merges the filmic and the architectural in various contexts and attunes the latter to the former.

A detailed approach that can be located at the intersection of architecture and its representation via media can be found in *Visioning Technologies* (2017). Again Cairns, the editor of the book, attempts to clarify how architecture is "restructured and reframed" by visual and theoretical frameworks that originated from optical media, which is the central focus of the study. Moreover, the historical evolution of media and architecture's parallel transformation is displayed, focusing on human perception. Within the study, the contributions are categorized depending on the media types; the essays are grouped under themes of perspective, photography, film, and digital technologies. This grouping reflects both a division and a presupposed evolution of media that architecture engages. Relying on his engagement with the subject for the past twenty years, Cairns claims that "certain patterns of technological motivation and evolution repeat themselves with the emergence of every new technology of sight" (2017, p. 3). While in *Visioning Technologies,* this repetition is theorized as optical mimicry, the importance of revealing this and similar patterns are encouraged by Cairns, who underscores the need to provide a historical background for the increasingly digitalized new era.

Interestingly, when the concept of digital media enters into architecture without a strict modification, it tends to generate discussions that cover architecture's existence and circulation in cyber space. It is seen that this medium's potential and intrinsic qualities are engaged without

modification in the meanings of both architecture and media. However, this identification excludes the implications and potentials of using the digital medium as a design tool, which has been widely discussed in the 1990s and early 2000s in relation to Deleuzian "fold" or Greg Lynn's "animated form". The virtual existence of architecture in the cyber space mainly deals with the dissemination of architecture's knowledge via digital publications and platforms (Erdem, 2021; Esen & Dinç-Kalaycı, 2021); if not, it deals with the use of the internet as a repository of knowledge. Surprisingly, in the Turkish context, there is plenty of studies around the implications, functions, and potentials of digital media to extend architecture's knowledge domain[iii].Nevertheless, not all studies embrace the issue from a positive side; as Boyacıoglu and others discuss, digital media also paves the way for architecture's transformation into a commodity in the global market (2015).

An interesting framework for the medium's agency in representation with reference to the digital medium can be found in McGrath's and Gardner's theory of Cinemetrics (2008). Opposing the closed and stabilized schema of the perspectival regime suggested by Evans, McGrath and Gardner proposes a dynamic, open-ended, and cybernetically informed drawing system that pertains to the technology of the 21st century. This model goes beyond informing the drawing process and hints at a new way of thinking about architecture as well; because this open-ended proposal suggests considering architecture within the greater web of relations. In constructing the theory of cinemetrics, McGrath and Gardner appropriate concepts and ideas from cybernetics and film theory without any modification. Indeed, they benefit from these fields for theoretical elucidation in deciphering architecture's environing atmosphere in the digital medium. As a result, an exciting discussion on digital representation is presented by the unaltered use of Henri Bergson's theories and Deleuze and Guattari's concepts movement-image and time-image.

Table 2 - The list of studies that appropriate media in the uni-directional mode.

	Thematic Category	Name, Author and Year of the Study	Mode of Appropriation
1	Space	Mediated Space | Brown, J. | 2018	uni-directional
2	Urban Digital Media	Infostructures: A Transport Research Project | Häusler, M.H. Tomitsch, M. Gardner, N. | 2010	uni-directional
		Urban Media Cultures | Tscherteu,G., Pop, S. Stalder,U. and Struppek, M. | 2012.	uni-directional
3	Media Architecture	Media Architecture, Engaging Urban Experiences in Public Space | Brynskov, M., Dalsgaard, P., and Halskov, K. | 2015	uni-directional
		Media Architecture: Using Information and Media as Construction Material | Wiethoff, A. and Hussmann, H. (Eds.) | 2017	uni-directional
		We Live Here: Media Architecture as Critical Spatial Practice | Colangelo D. | 2021	uni-directional
4	Film Medium	The Architecture of the Screen: Essays in Cinematographic Space | Cairns, G. | 2013	uni-directional
5	Networks		
6	Information Technologies		
7	Representation	Image, Text, Architecture: the Utopics of the Architectural Media | Wilson, R. | 2015	uni-directional
		Cinemetrics: Embodying Architectural Representation in the Digital Age. | McGrath, B. and Gardner, J. | 2008	uni-directional
		Visioning Technologies: the Architectures of Sight. | Cairns, G. | 2017	uni-directional

Elaborating the role of the medium as an inherent mechanism in architectural research is not a rare approach. Moreover, the prevalence of digital media further incited this paradigm and caused growing attention to the subject after the 2010s[iv]. Although the inclusive concept-term of medium/media seldomly took central place and became the sole object of inquiry, frequently it is deployed as a complementary component to other agendas (McKim, 2018; Ellsworth, 2004, Dorrian et al., 2020). In between these two poles, more often than not, it provides a visually, politically, and culturally loaded ground to examine architecture. Discussions on media fabricate fresh viewpoints and render what is visible yet unseen more explicit and articulate. Uni-directional appropriation seems to be used as a convenient tool in theoretical discourse since this mode does not affect the basic premises of the discipline and just expands its knowledge domain by adding new territories of exploration.

Hybridization

The second type of appropriation in Ostwald's (1999) model is "hybridization", which defines more blurry ground than uni-directional appropriation. In hybridization, during its migration between two distinct knowledge domains, the theory/concept loosens; its original meaning erodes with the processes of "translation" and "translocation" (1999, p. 55). Moreover, this hybrid form of theory may embody the aspects of both the old and the new disciplines since the coherence of the concept is open to reduction in translation. Ostwald exemplifies this via the discrepancy between the source and use in Venturi's work. In advancing his idea of "compositional complexity", Venturi relies on T. S. Eliot. Ironically, in its original discipline of literary theory, Eliot's writings are considered to deploy "a dominant *ordering influence* over the text". What this reflects is the changing, expanding, and transforming meanings during migration.

In the case of architectural theory and media, hybridization occurs predominantly via the travel of the concept of medium. In its interaction with architecture, medium gains new characters; its sheer meaning starts to acquire additional connotations. This potential of medium has been diagnosed via historical and critical studies of Beatriz Colomina since the 1990s (Colomina, 1991, 1994, 1999). Yet, as a prolific scholar, she continues to dwell on that matter with different perspectives in the 21st century as well. In two studies, which date to the early years of the 21st century, Colomina utilizes a hybrid mode of appropriation with different degrees and emphases.

In "Unclear vision", Colomina interprets glass as a communication mechanism; she develops an argument that parallels medical imaging technologies' influence on the human body and the transparency in modern architecture (2009). Thereby she conceptualizes an architectural element, glass, as a communication apparatus. For Colomina, glass precisely represents the act of communication as when reading a newspaper brings "the outside in" and sending a letter "gets the inside out". Moreover, she claims that as the fluidity of communication systems increases, glass "literally takes over more and more of a building" (Colomina, 2009, p. 78). Colomina's conceptualization translates an architectural element into a type of media. This claim, on the one hand, opens new possibilities by enlarging what is recognized as media; on the other hand, it attributes a new character to the use of glass in architecture.

Additionally, in "Information obsession: the Eameses' multiscreen architecture" Colomina deals with the interdisciplinary design practices of Charles and Ray Eames in the postwar period (2001). As technological by-products of the war, communication technologies start to disseminate vastly in this period, becoming integral to the promotion of nations' power. Simultaneously their impact penetrates into everyday life and results in a duality where the boundaries between publicity and privacy erode. This threshold can be argued to constitute the primary concern of Colomina, most obviously in *Privacy and Publicity* and *Domesticity at War.* However, in "Information Obsession: the Eameses' multiscreen architecture," she pays particular attention to the space of media without using any explicitly articulated theoretical tool. Instead, she deploys the concepts of space and media in tackling Eames's multimedia installation, hence elaborates a novel dimension of space that spring from information technologies. According to Colomina, "spaces are defined as arrays of information, collected and constantly changed by the users" (2001, p. 218). Colomina's critical look in this article reverses both the static conception of space and the limited frontiers of technological interfaces. As a result of this hybridizing mode, she proposes the space of information as something between physical and virtual.

In the same context, postwar America, Reinhold Martin grapples with corporate architecture by addressing media theorist Marshall McLuhan (2003). However, Martin draws more on *Mechanical Bride* and less on *Understanding Media.* To construct a cybernetically informed theoretical structure, Martin mainly refers to McLuhan and Gyorgy Kepes and, at times, their interaction with Giedion. He thus attempts to expound on the organizational complexity, which he describes as "networks of networks". In this conceptualization, the meanings of both medium and architecture are enlarged. Martin deals with architecture both on theoretical and practical levels. His reference to Kepes enables him to unite cybernetics with aesthetics via the issues of control and communication. In this exploration, architecture is presented as a medium that bridges science with art. On the other hand, he elaborates the curtain wall, a physical architectural element, as a means that communicates information at multiple scales. By unfolding the potential of this element to receive and transmit information, he discovers new conceptual meanings of architecture and media. In other words, the features and prospects of architectural elements in a particular typology are tackled with a lexicon informed by cybernetics. This conception enables to develop not only a unique and architectural meaning for "organizations" but also embodies the invisible aspects of corporate architectures via their visible components. In the end, he describes the networks embedded in one system, i.e., architecture, in relation to another complex entity, i.e., communications media (Martin, 2003).

In addition to Marshall McLuhan, whose influence on architecture has various paths, the ideas of German literary scholar and media theorist Friedrich Kittler are worth mentioning for the impact of media theory on architecture. However, the relation of Kittler's ideas to new conceptions of space is less direct and therefore hard to trace. Yet, his unique perspective that underscores the materiality of discourses and his deployment of media as a methodological source bring about genuine paths that are followed by his successors. These continue to influence theories on urban space particularly. The strong position Kittler acquires in media theory owes to his determined endeavors that underline the primacy of media for discourse. Developing a unique approach that combines post-structuralist understanding with the materiality of media, his *Discourse Networks*

1800/1900 (initially published in 1985 under the title Aufschreibesysteme 1800/1900) extends Foucault's formulation and strives to include all technical media. In line with his materialist approach, Kittler adopts a mechanistic tone in his writings and lays the emphasis on the hardware. The intersection of his ideas with space can be found most avowedly in "the City is a Medium". Originally published in 1988, this work reflects a techno-materialist media approach within a specific context; that is city space. Kittler embarks on to describe the city through a set of actions and operations by paralleling media and city. The analogical link Kittler builds involves three acts; storage, transmission, and reproduction. He considers buildings, vaults, archives, monuments, tablets, and books as storage facilities. In contrast, the city appears to be the medium that is capable of transmitting the complex culture stored in the facilities as mentioned earlier. For Kittler, the complex human order of the city reflects an elevated condition in comparison with the limitedness of present electronic mechanisms of storing and transmitting information (1996).

Along the same line and under the influence of both Kittler and McLuhan, Scott McQuire examines the contemporary city as "a media-architecture complex" in *Media City* (2008). Basing his claim on "the proliferation of spatialized media platforms" and "hybrid spatial ensembles", he demarcates his focus as media city rather than digital city for two reasons. First, to accentuate "a longer and more diverse history of the mediated production of urban space", and second to combine the ideas of the aforementioned two key figures. McQuire takes 'media' as an environment in McLuhan's sense but also interprets the city as a 'medium' in Kittler's sense. Synthesizing two crucial approaches to media on the city scale, McQuire transplants media theory into public and private spaces and social life in the contemporary city.

Similar to McQuire in grappling with the mediated city, yet diverging via her theoretical basis, Shannon Mattern tackles the urban space and media relationship from a materialist and media archaeological viewpoint. Mattern draws on the ideas of Friedrich Kittler, Errki Huhtamo and Jussi Parikka. In that sense, her endeavor can be pinpointed within the boundaries of media archaeology. Nonetheless, different from these theorists, she proposes to take archaeology in the literal sense and pursues a literal "excavation of the deep material history" of the city (Mattern, 2017). Thus, she, on the one hand, changes the medium of the city in a way to include infrastructural layers and the spaces in between them; on the other hand, she simultaneously develops not only just materially accentuated but a spatially informed theory for media archaeology.

Table 3 - The list of studies that appropriate media in the hybridization mode

	Thematic Category	Name, Author and Year of the Study	Mode of Appropriation
1	Space	Warped Space: Art, Architecture, Anxiety in Modern Culture | Vidler, A. | 2000	hybridization
2	Urban Digital Media	*The City is a Medium | Kittler, F. A. and Griffin, M. | 1996	hybridization
		The Media City | McQuire, S. |2008.	hybridization
		Deep Mapping the Media City | Mattern, S. |2015	hybridization
3	Media Architecture		
4	Film Medium	*Montage and Architecture | Eisenstein, S, | 1989 [orig. 1940]	hybridization
5	Networks	The Organizational Complex. | Martin, R. | 2003	hybridization
6	Information Technologies	Information Obsession: the Eameses' Multiscreen Architecture | Colomina, B. | 2001	hybridization
		Unclear Vision | Colomina, B. | 2009	hybridization
7	Representation		

Some studies are hard to categorize with regard to Ostwald. This challenge primarily stems from a dichotomy where the origin of theory/ theoretical tool lies in a discipline different from media but as a concept, media possesses a central role in the content. The lines that demarcate theoretical tool from what is examined is not always clear, and this creates certain situations where categorization becomes impossible. These studies might show the characteristics of hybridization, but they hybridize with a discipline that is different from media theory. Such a case can be observed in *Warped Space* by Anthony Vidler, where Vidler mainly draws from psychoanalytical theory in providing a new poetics of negative space saturated by digital media. In his endeavor, Vidler underscores the impact of the digital both on the perception of space and the materiality of architecture. Due to his theoretical background informed by psychoanalysis, Vidler mainly highlights the "post-psychoanalytical imaginary" of space.

As the diversity of the approaches mentioned above reflects, the polymorphous nature of architecture media interplay becomes visible in various studies. It might be due to this character that, medium can be easily adapted to new meanings and generates fresh conceptions. In hybridization, networks and information technologies dominate other themes. Most often, the potential of these immaterial and infrastructural components is explored via architectural terms. While architecture proffers dimensionality and corporeality in the physical world, information technologies intervene in many spatial processes. Therefore, discussions that are triggered by information technologies and networks also entail interrogation of an aspect of space that is hybrid in character. This space which is born out of the interaction between concepts that govern microelectronics and their corporeality, oscillates between labels as "information space or the space of information". This liminal space can be traced across different scales. Furthermore, the elaboration of the city medium with such an approach consolidates this potential and points to a materialist shift in the organization of the immaterial.

Multi-directional Appropriation

The third phase of the model, "multi-directional appropriation" comes into sight as the most complex mode of appropriation. It indicates the use of already combined concepts. In a sense, this use refers to the recalibration of a concept developed in a terrain that is not architectural but draws from architecture, mostly analogically and for "gaining authority" (Agacinsk, 1992). It is for this reason that the borrowed concept/theory functions in multiple directions. This is quite evident in transactions between philosophy and architecture. Tschumi skillfully summarizes this centuries-long interplay with a couple of sentences: "Philosophy once imported its metaphors (foundations, structure, etc.) from architecture. In turn, architecture imported concepts from philosophy (from positivism to post-structuralism) and also exported polemics (postmodernism)" (Tschumi & Ingraham, 1992). The third model of appropriation owes much to this "metaphoric and metonymic presence of architecture within diverse disciplines" (Ostwald, 1999). Additionally, for the appropriation to be considered multi-directional, there should be a return to the discipline.

For media, the multi-directional mode of appropriation has its best outlook in Marshall McLuhan's and Mark Wigley's overlapping ideas. In developing "prosthetic theory," Wigley (1991) places architecture next to communication technologies and explains both as extensions of the body. Remarkably, as shown in Figure 1, this idea originates in *Civilization and Its Discontents,* where Freud (1930/2010) enumerates the tools that civilizations developed to compensate for the "deficient" body parts. Here, Freud regards dwelling as an extension to substitute the absence of the mother's womb, which is the first lodging[v]. Wigley takes this idea further and describes how the body is being transformed via these artificial extensions. The transformation Wigley hints at the shift from mechanical to digital, which results in architecture's relocation within electronic space (1991).

Consideration of architecture as an extension of the body resounds in Marshall McLuhan's media theory as well. In *Understanding media: the extensions of man,* McLuhan (1994) claims medium as the extension of the body. As McLuhan propounds, storing and channeling energy becomes possible with the extensional layer of the skin and clothing. Clothing's near but younger "twin" housing indirectly extends the internal control mechanism of the organism. Hence collective means to achieve "storing heat and energy" is materialized as housing. In other words, McLuhan conceives shelter as an indirect extension of the bodily control mechanism. This parallel McLuhan draws between clothing and architecture reminds one of Gottfried Semper's four elements. In *The four elements of architecture,* Semper (1851/1989) questions not only the origin of architecture but the origin of elements that define space and links the four primary techniques with four elements of architecture. Regarding the hearth, he addresses ceramics and the function of a building; the framework to carry roof is linked with carpentry and tectonics; and the mound with masonry and stereotomy; lastly, the enclosing membrane is connected with the textile arts. Textile and hearth appear as recurring elements, both addressed by Semper and McLuhan. Yet, the relationships they established between clothing and architecture differ by a narrow margin. While Semper seeks certain traces in the traditions of "costume" to align it with tectonics, McLuhan develops a rather phenomenological approach; he deploys architecture as the material existence of human's being in the world.
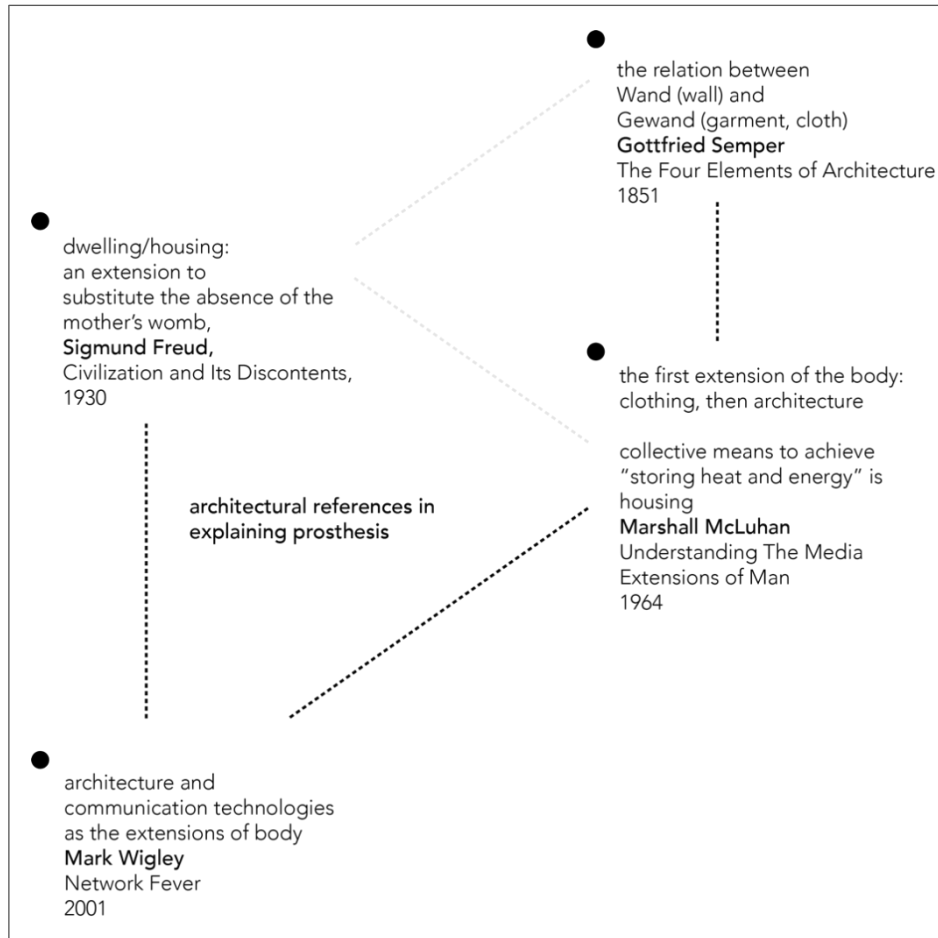
Figure 1 - A diagram that explains the multi-directional relations behind the idea that "architecture is an extension of the body" (created by the author).

Beyond its positioning next to communication technologies, Wigley's theory of prosthesis contains more comprehensive meanings for architecture. Wigley deploys the concept metaphorically to explain architecture's physical and conceptual extension into the university, the organizational habitat of the "thesis". Moreover, he exhibits how the idea is always architectural and how architectural discourse is a prosthesis that draws from and extends toward debates of other disciplines. His references to technology do not transform into a coherent and robust body of arguments within the text. Instead, they stay as discrete, empowering parts at times serving to strengthen his overall argument; architecture's shifting positions as the assembler of the institution of university and as assembled part within it. Still, at the end of the text, Wigley recalls his technological concern and presents his *coup de grâce*; he claims that both the status of the architectural object and architectural discourse were displaced when electronics took command and housed both the theorist and the theory. For Wigley, this displacement cannot be theorized because prosthetics cannot be disciplined. Retrospectively, Wigley's resignation from the theorization of the digital can be seen as a form of reaction. The article dates to a critical period when the discussions around computer-based information technologies intensified. Since the early

1990s, there have been multiple attempts to digest the emergence of the digital medium; these have been either finding a way to absorb and act within the digital or withdrawing from such an enterprise.

Though Wigley resigns from dealing with prosthetic theory in the digital realm, what he puts forward is quite relevant and holds great potential for architecture's digital existence. As he points out by drawing from Freud, prostheses are the products of culture. These human-made replacements stand for artificial extensions to substitute or supplement what is absent. As a prosthesis, the camera not only substitutes the human eye but also reproduces the seen object. For this reason, placing architecture next to other technological extensions of the body is only a partial answer. Technology generates architecture's prostheses, and neither the character of this constitution nor their link with the originating physical body finds an answer in Wigley's account.

The prosthetic theory is not Wigley's only study where he grasps the issue by considering its roots and manages to handle his focus with its theoretical origins. "Network Fever" starts with a whining tone where Wigley points to the dominance of nets in many discussions since "nowhere escapes the net" (2001). He diagnoses this omnipresent phenomenon as the precursor that leads to the dissolution of architectural objects into information. By delving deep into the details of an eight-day boat trip around the Greek Islands, which brought together quite influential theorists, Wigley aims to show the impact of Buckminister Fuller's ideas on McLuhan's studies. According to Wigley, Fuller had been describing technology as an extension of the body since his first book, *Nine Chains to the Moon,* in 1938. Moreover, Fuller advocated a radical architecture enabled by the "worldwide dwelling services network model" to replace the traditional one. Based on this, Wigley claims that Fuller visualized global networks long before they arrived and that McLuhan's ideas on media as the extension of the body, as well as his conception of the global village, owe to this meeting and Fuller's studies. However, the travels of these concepts in architecture mostly neglect its base source in Fuller and are developed with regard to McLuhan. Therefore, Wigley's study can be argued to be an essential example to understand what is disguised as coming from media theory is already developed in architecture; it just thickens during its mobility across the fields.

On the other hand, it is possible to come across situations where theoretical tool seems to come from some other discipline but carries essential ideas developed elsewhere. At first sight, this might seem like a hybridization with a field different from media, just in the case of Vidler's *Warped Space* (2000). Yet, in the analysis and conceptualization, media becomes influential, and its meaning is affected by the theoretical operations. Hence, both the sense of architecture and media transform during the process. Such a case can be traced in Ellsworth's, *Places of Learning* (2004). Specifically, in the chapter "Media Architecture and the Moving Subject of Pedagogy", Ellsworth develops a theoretical framework via concepts from contemporary philosophy, mainly with respect to Elizabeth Grosz, and from cultural theory. Her alternative approach to pedagogy strives to explore the joint contributions of architecture and media to imagine the subject of pedagogy as a moving subject. In this endeavor, Ellsworth deals with the embodied experiences of space and time. In relation to Grosz and Eisenman, she touches upon the idea of architecture as "the housing or clothing of the bodies, matter, and spaces". Conceiving media as a technology modeled and implicated in architecture, she suggests seeing "media as membranes- as interfacings of inside to outside, outside to inside". Interestingly, these inside-outside relations are just the reverse of what

Colomina suggests in conceptualizing architectural elements, i.e., glass as a communicatory tool. Moreover, the basis of the idea that Ellsworth develops concerning Grosz and Eisenman is actually no different than Fuller's and McLuhan's ideas that regard technology as the extension of the body. Therefore, Ellsworth's attempts to interpret media via the characteristics of architecture and vice versa is nothing but multi-directional appropriation whose linkages are so ramified that it disguises as a new idea.

Many medium originated techniques can be seen to 'migrate' to architecture. In its original discipline of film theory, the impact of montage on the film structure is elaborated by the productions of Soviet filmmakers Lev Kuleshov, theories of Sergei Eisenstein, and Dziga Vertov. However, a close reading of these seminal studies reveals that there is not a uniform theory of montage. Yet, be it a "linkage" (Kuleshov) or "collision" (Eisenstein), montage structures the whole to form a synthesis in the viewer's mind. Most avowedly, after Eisenstein's introduction, the theory of montage established its strong position between architectural ideation and moving-image. Eisenstein, who considers architecture a pre-cinematic media, allocates a vital role to architecture in his montage theory. In his study written between 1937 and 1940 and reappeared in Assemblage in 1989, he tackles the arrangement of shot impressions, put in different terms 'visual arrangements constructed via movement'. By addressing Choisy's descriptions of the Acropolis in *Histoire d'architecture,* Eisenstein aligns montage sequences with the rhythm of the building. Based on this, it can be claimed that architecture lies at the heart of Eisenstein's montage theory. The role of sequences as a design method and to represent space are developed by architects with direct or indirect references to Eisenstein. Le Corbusier's "combination of perspectives and views from the eyes of the spectator", Rem Koolhaas' fragmenting and reassembling approach, and Tschumi's designing the architecture experience via the layers of movement, space and event appear as the most visible examples of the montage's impact in architectural theory in the 20th century (Kioumarsi, 2016).

Table 4 - The list of studies that appropriate media in the multi-directional mode.

	Thematic Category	Name, Author and Year of the Study	Mode of Appropriation
1	Space	Media, Architecture and the Moving Subject of Pedagogy | Ellsworth, E.| 2004	multi-directional
2	Urban Digital Media		
3	Media Architecture		
4	Film Medium	Structures and Sequences of Spaces | Moretti, L. | 2002	multi-directional
		Sequences in architecture: Sergei Ejzenstejn and Luigi Moretti, from images to spaces | Molinari, C. | 2021	multi-directional
5	Networks	Network Fever | Wigley, M. | 2001	multi-directional
6	Information Technologies	*Prosthetic Theory: The Disciplining of Architecture | Wigley, M. | 1991	multi-directional
7	Representation		

As a concept that carries intrinsic linkages to architecture, montage is accompanied by the concept of sequence during its migration to architecture. In the 21st century, this filmic couple keeps generating new theoretical frameworks in architecture. They sustain to be crucial tools, still

preserving the theoretical roots embedded in Eisenstein's theory, yet mounting on it. As Molinari discusses in detail with respect to Luigi Moretti, montage becomes a compositional tool in the design that brings the successions and variations of spaces based on "geometry, size or pressure". In "Structures and Sequences of Spaces" (1952), Moretti employs the idea of "sequential order" to amplify the pivotal role of "empty space as the locus of experience in architecture". Unlike Eisenstein, who grapples with a sequence of images, Moretti deals with the elements placed in sequence, that is, the spaces and their volumetric qualities (Molinari, 2021). Moretti's approach both intersects and differs from Eisenstein's theory of montage. In brief, the multi-directional travel of montage starts in film theory when Eisenstein develops it by drawing on architecture. Then it pervades back into architecture and becomes a theoretical tool to design, to think about, and to organize relations among different spatial arrangements.

It is not rare to come across multi-directional appropriation in studies that deal with architecture and media. Drawing from what is already stated and discussed is just the natural flow of knowledge accumulation. This dynamic mobility of concepts and vagueness around the origin of ideas form Wigley's central focus in "Network Fever", whereas it is also possible to see other examples in which neither the sources with the same arguments are addressed nor even recognized; the same statements may arise with different outlooks. For instance, what Ellsworth's work signals is a hindered understanding of Fuller's and McLuhan's ideas, whose origin in Ellsworth appears elsewhere. On the other hand, due to the popularity of McLuhan's work, media as the extension of the body has become such a benumbed argument that referring to it does not require any in-depth discussion or recognition of its base in Fuller. Nevertheless, it is the multi-directional appropriation that enables to trace the origin of ideas as discursive objects, the emergence surface of these objects, and the disciplinary ties within that emergence. Therefore, multi-directional appropriation provides an in-depth look into the field. Additionally, as revealed by Molinari with reference to Eisenstein and Moretti, this mode allows constructing a novel approach to the already combined set of ideas. Despite the architectural origins of Eisenstein's theory of montage, Moretti formulates montage and sequence as a compositional tool in the visual and sensational arrangement of spaces.

CONCLUSION

By appropriating concepts and theories from other disciplines, architecture's theoretical discourse constantly transforms. The analyses in this article help better understand this transformation with reference to media. It can be said that via uni-directional appropriation in theoretical discourse, architecture's disciplinary boundaries are enlarged. Architecture's discursive area expands with the emergence of new discursive objects because this mode acts as a propagator rather than a transformer. Theories and concepts appropriated without modification open up novel discussions without touching the central premises of the discipline. In this mode, it becomes easy to delve into new territories. In enabling to probe architecture's external relations, media mostly converges to representations in different mediums. This mode is open to combinations where the conceptual bodies of both architecture and media remain intact, yet they intersect and act together. Studies dealing with media-architecture can be recalled as the supreme example of this appropriation where media continues to carry its general meaning, that is, communicatory means, yet exists with

architecture. Similarly, the discourse around urban digital media evolves from the research on media-architecture and extends into urban space. What is discussed with relation to public space and with relation to media-architecture merge; so, the changing character of urban space via media facades and other mediated components appears as a new territory of research. Dealing with the intricate relations in spaces where media is produced forms another example of this expansion. Additionally, as the inevitable result of computer-aided design, the digital medium infiltrates the issue of representation. Moreover, the constant circulation and dissemination of architectural objects in cyberspace triggers this as a crucial matter of inquiry. Thus, the digital medium's capacity as a representation environment appears as a new field of inquiry. In the same vein, the affinities between architecture and cinema, which primarily rest on the concept of movement, inaugurate a discourse around the space of the film medium. The representation of space in film predominantly overlaps with architectural concerns. Thus, cinematic space turns into an architectural matter. As all these examples and their accompanying analyses presented in the article demonstrate, uni-directional appropriation mode opens new paths. A spatial explanation of this 'transformation' can be stated as 'surface expansion'; alternative issues and concerns start to enter architecture's agenda in an 'additive' manner. In brief, uni-directional appropriation operates horizontally and expands the territory of architectural theory by adding up new ideas or areas of research without affecting core disciplinary values.

Hybridization differs from uni-directional appropriation because it usually has an impact on the architectural premises as well. Depending on the appropriated concept or theory, via hybridization novel and unnoticed visions for architecture are generated. These new perspectives owe their existence neither solely to media nor architecture. This mode can be argued to operate at the boundaries of the discipline, and it contributes to the discipline's permeability. Hybridization's function differs from the uni-directional mode because it affects what is understood from architecture or an essentially architectural concept. For instance, exploring the medium of the city via theories and concepts of media allow recalibrating the scope of city space; both the spaces of infrastructure and different layers that cities generate for centuries enter into the discourse via this perspective. On the other hand, learning from city space and manifold operations embedded within it enable to reconsider organizational processes behind media technologies. These deep and relatively more elusive approaches test architecture's resistance to novel conceptions; studies that operate as hybridization somehow deal with the limits of what is architecture and what is architectural. Hybridization positions architectural theory on a different level by changing the flexibility of its boundaries. While considering architecture as a medium is an oft-repeated idea that has different interpretations in many studies, utilizing architecture as a medium enables one to theorize new attributions for space. These range from information conveying characteristics of architectural elements to the liminal space between information environments and spaces that house these technologies.

Lastly, multi-directional appropriation can be argued to operate vertically and to increase the profoundness of the appropriated theory or concept. This verticality can be understood as the uncovering of an accumulated work by various theorists. This mode of appropriation, therefore, results in the deepening of knowledge rather than increasing the surface area as claimed in the uni-directional mode. This enables to develop a comprehensive and profound understanding of the

interplay between media and architecture. Multi-directional appropriation manifests the entangled migration of the idea that architecture is an extension of the body, which makes it the primary communication medium. This shared origin between architecture and media has different accentuations in different theories where its modifications initiate new discussions. Due to this shared origin, architectural theory can be seen to gestate even more theoretical and conceptual appropriations via its interaction with media. From a different perspective, the intrinsic presence of architecture in the development of montage theory takes another shape when montage has been utilized as a tool of design via the composition of spatial sequences.

The miscellaneous relationships that architecture establishes with media generate a vast literature, which is entangled by different types, concepts, and theories of media. By showing the internal links among this web of relations, this study maps and carves out certain themes in architecture media relationship, then categorizes and analyzes different modes of appropriation in the studies produced in the 21st century. These analyses are developed with respect to a limited selection in the article, nevertheless this selection is deemed useful in discussing different modes of appropriations. All three modes as presented by Ostwald can be seen in architecture-media relationship. The modes of appropriations are not theme dependent, but certain concepts such as media-architecture are more likely to be appropriated in uni-directional sense, while some theories, such as McLuhan's media theory, are more likely to be disguised and reappear in architectural discourse after multiple mobilities.

With these results, this study locates the theoretical impacts of media in the discipline. Comprehending multiple borrowings from media might be helpful for architects who engage with media in their theoretical attempts. Based on this awareness and in-depth understanding of the operations of media in architecture, one can understand that the problem of media in architecture does not pertain to the 21st century. Even though theoretical studies produced in the 21st century are tackled in the article, discussions reveal that many media-saturated ideas in architecture originate from postwar developments and theories that emerged during or after this period.

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D. Danışmanlık / Supervision	E. Malzeme, Kaynak Sağlama / Material, Resource Supply	F. Veri Toplama, İşleme / Data Collection, Processing
G. Analiz, Yorum / Analyses, Interpretation	H. Metin Yazma / Writing Text	I. Eleştirel İnceleme / Critical Review

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ENDNOTES

i. The "little narratives" is used with reference to Lyotard in the following context "We no longer have recourse to the grand narratives-we can resort neither to the dialectic of Spirit nor even to the emancipation of humanity as a validation for postmodern scientific discourse. But as we have just seen, the little narrative [petit récit] remains the quintessential form of imaginative invention, most particularly in science".

ii. These organizations vary from Media-Architecture Conference to Media Facades Festival and more recently to Media Architecture Biennale.

iii. Despite the Western literature that forms the main focus of the study, there are many studies that deal with architecture and media from various perspectives in Turkish context. To reflect the Turkish context with reference to thematic categorization of this study, two databases TRIndex-TRDizin - and The Council of Higher Education National Theses Center (YÖK Ulusal Tez Merkezi) were scanned via Turkish keywords 'mimarlık' for architecture and 'medya' for media. Though the selected Turkish studies were excluded from the list, they were addressed in the body of the article when needed. These studies predominantly deal with cyberspace and appropriates terms and concepts of media in uni-directional mode:

Serhat Kut, 2013, Sibertektonik Mekan (Cybertectonic Space), Unpublished PHD Dissertation, Istanbul Technical University. Bilgen Boyacıoglu-Dundar, Ozlem Erdogdu-Erkarslan, Tulay Erenoglu, 2015, Küresel Mimarlık Pazarında Yeni Bir Araç Olarak Dijital Medya (Digital Media as a new Tool in the Global Architecture Market). Mimarlık, (384), 74-77. Hanife S. Tasdelen, 2018, Mimarlığın Dijital Habitusu, Erken Tasarım Sürecinde İnternet Kullanımı, (Digital Habitus of Architecture: Internet Using in the Early Design Phase) Unpublished Master Thesis, İstanbul Technical University. Kubra B. Erdem, 2021, Yeni Medyada Mimarlık Eleştirisi ve Yayıncılığı (Architectural Criticism and Publishing in New Media). Unpublished Master Thesis. Istanbul Technical University. Işıl Esen, Pınar Dinç-Kalaycı, 2021, Rise and Functions of New Media in Architecture: An Investigation via Archdaily. GRID Architecture, Planning and Design Journal, 4(1), 1-25.

For media-architecture theme, it is possible to point out two dissertations that tackle the use of media as facades or other design elements in architecture: Işıl Aksu, 2022, Mimarlıkta etkileşimli Medya Tasarımlarının Fayda Potansiyellerinin İncelenmesi (Investigation of the Utility Potentials of Interactive Media Designs in Architecture). Unpublished Master Thesis, Eskişehir Technical University. Demet Basaran, 2016, Medya Cepheleri ve Mimarlık İlişkisinin İncelenmesi (Researching the Relationship Between Media Facades and Architecture), Unpublished Master Thesis, İstanbul Technical University. These as well appropriate concepts and terms of media in uni-directional mode.

iv. Most of the books published around the issue dates 2010s. However, the emergence of these ideas might be roughly located to 1990s.

v. Freud describes as following: "With every tool man is perfecting his own organs, whether motor or sensory, or is removing the limits to their functioning. Motor power places gigantic forces at his

disposal, which, like his muscles, he can employ in any direction; thanks to ships and aircraft neither water nor air can hinder his movements; by means of spectacles he corrects defects in the lens of his own eye; by means of the telescope he sees into the far distance; and by means of the microscope he overcomes the limits of visibility set by the structure of his retina. In the photographic camera he has created an instrument which retains the fleeting visual impressions, just as a gramophone disc retains the equally fleeting auditory ones; both are at bottom materializations of the power he possesses of recollection, his memory. With the help of the telephone, he can hear at distances which would be respected as unattainable even in a fairy tale. Writing was in its origin the voice of an absent person; and the dwelling-house was a substitute for the mother's womb, the first lodging, for which in all likelihood man still longs, and in which he was safe and felt at ease."

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