



Discussing the object-oriented ontology of Harman and the changing status of architectural object

Gülşah GÜLEÇ¹, ORCID: 0000-0002-8041-2018

Abstract

Object-oriented ontology, particularly the object-oriented ontology of Harman, affects architecture since the 1990s. It is realized due to this ontology that architectural object cannot only be a real or sensual object; it can be withdrawn from senses and relations. According to Harman's object-oriented ontology, it is even independent from its environment. Hence object-oriented ontology is related to computer architecture by which objects are independently created within a computational and virtual environment. But it is not possible to literally adapt object-oriented ontology to architecture since architectural objects are generally bound up with formal and environmental relations. This ontology metaphorically affects architecture in such a way that architects see and realize object as an entity beyond its relations. Thus, they focus on the object itself. Digital technologies enable them to create architectural object composed of information not relation. There is accordingly a shift from relation to information in the architecture of the 2000s. The main contribution of the paper is to reveal this shift in contemporary architecture; so, it is discussed in the paper that object does not relate to anything but information in the digital age. It is the autonomous and information-oriented object that defines a new ontological framework for architects.

Highlights

- Architectural object is not just an object that exists as a formal or physical reality; it also exists as a sensual reality.
- It is challenging to understand what the real object is both in architecture and philosophy.
- Object-oriented ontology metaphorically affects architecture since architectural objects, whether they are real or virtual, are deeply bound up with formal, functional and environmental relations.

Keywords

Architectural object; Digital object; Garaham Harman; Object-oriented ontology.

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Contact

1.Faculty of Architecture, Gazi University, Ankara, Türkiye

gulsahgulec@gazi.edu.tr



Harman'ın nesne yönelimli ontolojisini ve mimari nesnenin değişen vaziyetini tartışmak

Gülşah GÜLEÇ¹, ORCID: 0000-0002-8041-2018

Öz

Nesne yönelimli ontoloji, bilhassa Harman'ın ontolojisi, 1990lardan beri mimarlığı etkilemektedir. Nesne yönelimli ontoloji sayesinde mimari nesnenin sadece gerçek ya da duyuşsal bir nesne olmadığı aynı zamanda duyulardan ve ilişkilerden bağımsız olarak var olabildiği fark edilmiştir. Harman'ın nesne yönelimli ontolojisi, nesnenin çevresinden de bağımsız olabildiğini göstermiştir. Bu yüzden nesne yönelimli ontoloji, nesnelerin sanal bir ortamda ve çevresinden bağımsız olarak tasarlandığı bilgisayar destekli mimari tasarımla ilişkilendirilmiştir. Ancak nesne yönelimli ontolojiyi tam olarak mimarlığa uyarlamak mümkün değildir; çünkü mimari nesnelere genellikle biçimsel ve çevresel ilişkilere sahiptir. Yani, bu ontoloji, mimarlığı metaforik olarak etkilemektedir; öyle ki, mimarlar nesnelere sahip oldukları ilişkilerin ötesine geçebilen varlıklar olarak görebilmiştir. Böylece nesnenin kendisine odaklanabilmişlerdir. Dijital teknolojiler ise mimarların ilişkilerden değil bilgiden oluşan mimari nesnelere yaratabilmesine aracılık etmiştir. Buna bağlı olarak, 2000li yılların mimarlığında ilişkiden bilgiye doğru yaşanan bir değişim gerçekleşmiştir. Makalenin mimarlık literatürüne olan en önemli katkısı çağdaş mimarlıkta gerçekleşen bu değişimi ve içinde bulunduğumuz dijital çağda nesnenin bilgiyle olan ilişkisini ortaya koymasıdır. Burada bahsedilen, mimarlar için yeni bir ontolojik çerçeve tanımlayan özerk ve bilgi yönelimli nesnedir.

Öne Çıkanlar

- Mimari nesne sadece biçimsel ya da fiziksel değil duyuşsal bir gerçeklik olarak var olan bir nesnedir.
- Hem mimarlıkta hem de felsefe alanında gerçek nesneyi tanımlamak ve ne olduğunu anlamak zordur.
- Nesne yönelimli ontoloji mimarlığı metaforik olarak etkilemektedir; çünkü gerçek ya da sanal olsun mimari nesnelerin biçimsel, işlevsel ve çevresel ilişkileri vardır.

Anahtar Sözcükler

Mimari nesne; Dijital nesne; Graham Harman; Nesne yönelimli ontoloji.

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1. Mimarlık Fakültesi, Gazi Üniversitesi, Ankara, Türkiye
gulsahgulec@gazi.edu.tr

INTRODUCTION

This paper focuses on the object-oriented philosophy of Harman not to define it precisely, but to deal with its reflections in architecture in which object has been discussed by using such concepts as real, sensual, virtual, self-referential and digital since the 1990s. Even Harman does not literally define the object-oriented philosophy, because this ontology has no strict rules, norms or conditions explaining the very nature of object (Harman, 2013). So, the object-oriented philosophy of Harman establishes an ambiguous interdisciplinary ground to discuss what really an object is, also in terms of the discipline of architecture. In this context, the aim of the paper is to discuss the changing status of architectural object from “object” to “data”, depending on the diverse interpretations of the object-oriented philosophy put forward by contemporary architects, especially as Schumacher who is the defender of “the object-oriented architecture”, or in his own words “the autopoiesis of architecture”. According to him, architectural object has the potential of creating itself autonomously in the digital environment (Schumacher, 2012). Whether it is created digitally or non-digitally, object has always been a significantly important debate in architecture. However, the paper reveals that “object” has recently become “data” that is created and changed in relation with the ability of the architect as the computer user. This conceptual change is discussed through the object-oriented philosophy of Harman, which has affected the ways of creating and conceptualizing object in architecture.

As such, object is seen not just an object that exists as a formal or physical reality depending on the reflections of the object-oriented philosophy in architecture. Object also exists as a sensual reality as it is considered in the object-oriented philosophy of Harman (Harman, 2020). On the other side, the object-oriented ontology generally leads architectural object to be seen as a formal entity that is independent from its real and sensual qualities. It thus becomes challenging to understand what the real object is both in the disciplines of architecture and philosophy.

Architecture and philosophy have had close interdisciplinary relations throughout history. Philosophy, especially the object-oriented philosophy of Harman, brings a new perspective on defining and designing object in architecture. As mentioned before, this ontological thought is diversely interpreted by architects, in that Schumacher sees and interprets the object-oriented ontology as a theoretical background to justify the self-referential architectural object emerged in a virtual reality. Virtuality refers to a new environment in which emergent form, or object is created by digital technology. Schumacher justifies these objects through their relations with other objects in the virtual environment, in such a way that this relational ontology is actually a different theory rather inspired by the communication theory of Luhmann than the object-oriented ontology of Harman (Schumacher, 2012).

Moreover, object-oriented ontology seems to be misunderstood as a formalistic approach to create unfamiliar, or totally strange forms in architecture. Because objects are not limited to forms and their formal relations in this ontology. Objects are more than their relations. It seems irrelevant to

deal with the object-oriented ontology only to justify objects in architecture. It is not possible to literally adapt the object-oriented ontology to architecture (Gannon, Harman, Ruy, Wiscombe, 2015). Object-oriented ontology metaphorically affects architecture; since architectural objects, whether they are real or virtual, are deeply bound up with physical and non-physical relations.

However, architects today are even more interested in the object-oriented ontology. They turn real or hypothetical relations into parameters to design the architectural object by using computers. It is called as “parametric object” in the architecture of the first decade of the 2000s. Nevertheless, there is a shift from “object-oriented” to “information-oriented” architecture in the second decade of the 2000s, because it is realized that architectural object is actually composed of information, not relation (Schumacher, 2012). The paper points out to the fact that “relation” is also “information” created within the digital environment. Whether abstract or concrete, everything turns into digital information, or digital object in this environment. So much so that not only buildings as the ultimate objects of architecture, but also emotions and experiences even become the “digital objects” of the “digital age”. The paper focuses on this conceptual change within the context of the interdisciplinary relationships of philosophy and architecture.

THE INTERDISCIPLINARY RELATIONSHIPS OF PHILOSOPHY AND ARCHITECTURE

Philosophy and architecture are closely related disciplines as they both deal with reality. Philosophy presents architects a broader perspective on understanding the world by discussing objects and their objective and subjective realities. Architecture and its worldly realities cannot only be understood through the lens of the discipline of architecture. Hence, philosophy is involved in architecture, and new thoughts are developed at the intersections of these two disciplines.

One of them is the ontological thought of Harman, who has been discussing the reality of object since the 1990s. Philosophers deeply think on the reality of an art and architectural object especially in terms of its immeasurable qualities. On the other side, architects generally relate to the measurable qualities while thinking on an object. This is one of the tensions between philosophy and architecture to understand what really the object is (Gannon, Harman, Ruy, Wiscombe, 2015). There have been a lot of discussions to understand the object in the discipline of philosophy throughout the 20th century. Harman is one of the philosophers, who is on the agenda of architecture with his philosophical thoughts, because he brings new perspectives on defining architectural object in the 1990s, namely at the digital turn in architecture.

His object-oriented ontology becomes even more popular in the 2000s, particularly for the architects who interest defining and designing objects by using digital technology. However, it is suggested that object-oriented ontology does not have a direct relevance to architecture; most of what is relevant primarily operates at the metaphorical level (Gannon, Harman, Ruy, Wiscombe, 2015).

Nonetheless, objecthood is a topic that is worth to discuss in architecture. In that, Harman’s object-oriented ontology leads objects to be defined and discussed by their autonomous qualities in recent architecture. Due to this ontology, architectural objects earn existential autonomy, especially by

their singular and independent forms. Yet the influence of object-oriented ontology on architecture mainly remains metaphorical. Its benefit for the discipline of architecture is to refocus on the object itself (Bernier-Lavigne, 2016). Object-oriented ontology is therefore acknowledged as a way of thinking to understand the changing status of object in architecture.

The Object-Oriented Ontology in Philosophy

The term of ontology is used with different meanings in different disciplines, but it actually refers to the discipline of philosophy, namely the branch of philosophy which deals with the nature and structure of reality. Ontology is the science of being that studies the attributes belonging to things because of their very nature in philosophy. Unlike the experimental sciences, which aim at discovering and modeling reality under a certain perspective, ontology focuses on the nature and structure of things per se, independently of any further considerations, and even independently of their actual existence (Guarino, Oberle, Staab, 2009). When things are discussed via objects or their realities, ontology is named as object-oriented ontology. Object-oriented ontology dates to the late 1990s in philosophy. Harman begins to use the term of object-oriented philosophy in 1997. He borrows the term from computer science, but it is not inspired by object-oriented programming. For him, whether fictional, real, natural or artificial, everything is an object in some way (Harman, 2020).

Harman suggests that objects are either undermined or overmined in architecture. If undermining says objects are too superficial and you have to go deeper and get down to the small things of which they are made, overmining says objects are too deep. It says that there is nothing hidden behind appearances. So, overmining is more about the relations, not the objects. It reminds the relational ontology that Schumacher adopts in his parametric architecture (Gannon, Harman, Ruy, Wiscombe, 2015)

On the other side, there is a contradiction between object-oriented ontology and relational ontology. Relationism arises from the ontological philosophy of Deleuze and Guattari who are interested in the rhizomatic formations of objects such as flows, relations, connections and assemblages. They suggest that a book is neither an object nor a subject; it is an assemblage that is made of various relations and connections. A book is in connection with other assemblages as well. A body is also an assemblage as a book by which organs are connected to each other. According to Deleuze and Guattari, these connections and the flowy relations between them create the rhizome that eventually leads the object to be formed (Deleuze, Guattari, 1987). In the 1990s, contemporary architects as Schumacher, who use digital technology to create emergent forms, or objects, particularly inspire from the conceptions of flows and relations. Architectural objects are thus emerged from the relations with others and their environments. In that, architecture either stems from environmental forces, or topological deformations, or parametric differentiations. The relational ontology here is based on the fact that entities have no autonomous realities, but their realities are due to other things which they interrelate (Bernier-Lavigne, 2016).

However, objects are seen as the autonomous entities independent from their relations and qualities in the object-oriented ontology of Harman (Harman, 2020). Harman suggests that there are two kinds of objects as real and sensual objects. Real object withdraws from experience, but

sensual object exists only in experience. The object-oriented ontology is interesting for architects because of the tension between real and sensual objects (Weir, Harman, 2021).

This tension is formerly created by Husserl and Heidegger as the inspiring philosophers of the 20th century. Heidegger leads us to distinguish real objects and their sensual qualities. According to him, the qualities of an object cannot simply exist on the surface, or in its appearance. The hidden real qualities of objects are in the deeper appealing to human senses and perceptions. Yet Husserl reduces the objects to their appearances. He thinks that there is nothing hidden about the object. For him, we can only determine the crucial qualities of an object by using our minds, and ignoring our senses (Harman, 2013).

In the object-oriented philosophy of Harman, formal realities are more important than sensual qualities. His philosophy depends on an ontological, not a phenomenological thought. It is actually a formalist philosophy dealing with the autonomous existence of objects (Harman, 2022). He thus discusses that architectural objects cannot engage with their surroundings. They remain as autonomous entities with their latent qualities. They are beyond their qualities, constituent pieces and relations (Harman, 2013). Hence, object-oriented ontology leads architects to focus on the object itself since the last decade of the 20th century. This ontology even becomes more important in the architecture of the 21st century in which objects are autonomously designed in a new reality called as virtuality. Digital technologies enable objects to be discussed as “digital objects” both in the disciplines of architecture and philosophy. Whether object is defined and discussed by the concepts of “virtual” or “digital”, object-oriented ontology continues to dominate the discipline of architecture in this century.

The Object-Oriented Ontology in Architecture (or The Object-Oriented Architecture)

It is suggested that object orientation in architecture dates to the 19th century. Architects of that century mostly focus on objects as things connected to the cultural life of the city. However, it is totally different from the object-oriented ontology that ignores cultural referentialities, while describing an object both in today’s architecture and philosophy (Allen, 2018).

In today’s ontology, objects are seen as autonomous and self-sufficient entities. They are autonomous, non-culture-bound objects that remind the modern objects in architecture. It is called as “the crisis of the object”, due to the assumption that modern objects are meaningless. However, they have new meanings stem from the technological advancements of the 20th century. So much so that, they are designed as the objects of those modern times such as airplanes, automobiles and other machines (Hartoonian, 2006).

Eisenman asserts that modern and classical objects resemble each other, since the first idealizes technology in an endless present, and the latter idealizes history as an endless past. So, classical and modern objects, and also postmodern objects as the neo-classical ones have similar compositional characters representing an ideal past or present. Eisenman proposes a de-compositional architecture towards the end of the 20th century. He believes that objects should have a de-compositional character in architecture. De-compositional objects are autonomous objects, because they are not designed to have historical, cultural, technological or other meanings (Eisenman, 1984).

Baudrillard and Nouvel also promote to design autonomous objects in architecture. They promote the singularity of objects. Baudrillard defines singular object as an object that challenges cultural connections and aesthetical conventions. He thus describes singular object as a monster. A monster that seems as if it belongs to somewhere else. For him, the example of this monstrous character is Pompidou Culture Center in Paris (Figure 1). It is a monster, since it demonstrates nothing except itself; it is, in this sense, a singular object (Baudrillard, Nouvel, 2002).



Figure 1. Pompidou Culture Center, Renzo Piano, Richard Rogers, Paris, 1977
(<http://structpedia.com/pompidou-center/>)

The idea of singularity is closely related to the idea of autonomy, as it refers to the autonomous characteristics of the architectural object. As Harman suggests, there is a reaction to the idea of autonomy in architecture by decomposing and dissolving the building that tries to be a discrete object. Diller and Scofidio's Blur Building is an example of the dissolving object (Figure 2). As such, architects dissolve the form of the building into its ground, or its surrounding landscape by turning it into a fog-like structure (Harman, 2020).



Figure 2. Blur Building, Diller Scofidio and Renfro, Swiss Expo, 2002
(<https://atmospherics3.wordpress.com/about/>)

This is only one example revealing the shift from figure to ground in the architecture of the 1990s and 2000s. This shift leads architects to focus on ground rather than figure in their design projects. They interrogate the conventional relations between figure and ground enabling figure to dominate the ground in architecture for decades. They accordingly discover the mutual relations between figure and ground, and design grounded structures instead of ungrounded sculptures.

It becomes a common approach to design architectural objects which are blended into their contexts. Yet Harman suggests that great art and architectural objects are independent from their contexts, and they can travel somewhere else. He surprisingly discusses this independence through

Oslo Opera House which is a building seems to be interrelated with the context by its ramp-like structure (Figure 3). He thinks that the building looks like an iceberg as if it suddenly appears on the water, and this leads him to see it as an object (Harman, 2020).



Figure 3. Oslo Opera House, Snohetta, 2007
(<https://architectuul.com/architecture/oslo-opera-house>)

It even becomes a more common approach to design architectural objects blended into their contexts in the second half of the 20th century. In this regard, the object-oriented design approach of modern architecture in the first half of the century is commonly criticized by architects, namely postmodern architects, who promote the idea that architectural object should become a part of the existing texture (Koetter, Rowe, 1980). However, Schumacher replaces the concept of texture with the concept of network in the 21st century in which architectural objects are mainly created in the virtual environment. This environment enables objects to be created in the network of virtual relations between objects (Schumacher, 2018). According to Aureli, virtuality establishes a ground for objects to be discussed by their “contenthood” as well as their “objecthood” in architecture. For him, it leads architectural objects to be designed by programmatic complexities and contextual relations (Aureli, 2004).

Nevertheless, Ruy suggests that discussing and designing object as an outcome of these relations is a manic effort to be a part of the global network. This effort de-emphasizes the object in architecture. He sees it as the grand finale of architecture’s movement from object to field that means the collapse of the architectural object into a general ecological field of relations (Ruy, 2012).

On the other side, Allen promotes the shift from object to field in architecture. His concept of “field conditions” is based on a reciprocal relation between object and field. According to him, it is a new relation between object and field if they are interrelated to create a relational architecture (Allen, 1997). Yet it is suggested that when architecture becomes too relational, it begins to lose its own identity, and simply becomes a branch of environmental science or ecology (Hale, 2020).

In this context, Harman thinks that if an object is only composed of its relations, then it cannot change these relations. That’s why; object is always more than its relations. If we adapt this ontological thought to architecture, we realize that architectural object is always more than its internal and external relations (Harman, 2020).

These relations are still important to understand the object, but object-oriented ontology paves the way for us to focus on the object rather than its relations to be able to create a new object (Ruy, 2012). Object-oriented ontology is therefore challenged by relational ontology in architecture. So much so that buildings as architectural objects, are justified by their relations and participations to the context.

According to Gage, architects should focus on the context to deal with the environmental problems. Nevertheless, context, or engaging with context, is not sufficient to justify architectural objects. This is actually a way of overmining. Another way of overmining is justifying a discrete building by an idea, concept, diagram, metaphor, etc. These are all reductive approaches in architecture. Gage exemplifies reductionism with Denver Art Museum which Libeskind designs the form of the building by inspiring from the nearby mountains (Figure 4). Because he reduces the building into a relational object (Gage, 2015).



Figure 4. Denver Art Museum, Daniel Libeskind, 2006
(<https://www.museum.com/museum/denver-art-museum/>)

It is a fact that a building as a discrete object, is often overmined since it is justified by a metaphor. Harman emphasizes in his object-oriented ontology that buildings have various qualities, properties and even relations, and they cannot be reduced to the overmining metaphors or observations (Harman, 2022). So, we can suggest that most of Gehry's designs which seem as a crumpled piece of paper are not an example of the object-oriented architecture. Because they are also a kind of metaphorical representation of another object. Then, which buildings can be attributed as object-oriented designs in architecture?

That's why; Harman finds it challenging to define and discuss the object-oriented ontology especially within the context of architecture. He thinks that this is not an ontological thought that can literally be adapted to architecture (Gannon, Harman, Ruy, Wiscombe, 2015). However, it is still possible to discuss architectural objects by their ontological qualities and relations. When architectural objects are qualified by their relations, then this means that they are overmined according to the object-oriented ontology of Harman (Harman, 2020). Moreover, this is rather about relational ontology than object-oriented ontology. And it seems that architects focus on the relational ontology by reacting to the idea of autonomous architectural object in the first decade of the 21st century. They are rather interested in designing relations, correlations, forces, fields, networks and transformations than objects in architecture. According to Schumacher, this is an ontological investment, and he demonstrates it in his parametric architecture by designing relations

between material and immaterial parameters such as form, function, environment, daily life routines, social behaviors or structure (Schumacher, 2012).

His relational ontology is mainly based on the Luhmann's philosophical thought by which he describes everything as a system of communication. For Luhmann, communication exists as a relational node in an endless network of communication (Luhmann, 1995). Being inspired by Luhmann's relational ontology, Schumacher focuses on autopoietic, or self-evident, or self-referential communication systems in architecture, namely the autopoiesis of architecture. His claim is that all architectural designs consist of nothing, but communications (Schumacher, 2012).

Harman thus suggests that Schumacher is closer to the communication theory of Luhmann than his object-oriented ontology, or Deleuze's conception of virtuality (Harman, 2022). By the way, virtuality promotes object-oriented ontology in architecture. As Goldberger discusses, architectural objects from Gehry's extraordinary sculptural forms as Guggenheim Museum in Bilbao to the super-tall skyscrapers as Burj Dubai are designed in the virtual reality (Figure 5, 6). Nonetheless, they also have a physical, social and political reality that we generally ignore those other dimensions of architecture. Goldberger emphasizes that we should think of the social and political qualities of buildings to be able to understand architecture. Because no one can judge a public housing purely as an aesthetic object apart from the lives of the people within it. Architectural objects are not only objects. They are structures embedded in their socio-political contexts (Goldberger, 2009).



Figure 5. Guggenheim Museum, Frank Gehry, Bilbao, 1997
(<https://www.britannica.com/topic/Guggenheim-Museum-Bilbao>)



Figure 6. Burj Khalifa, Dubai, Skidmore, Owings & Merrill, 2008
(<https://www.britannica.com/topic/Burj-Khalifa>)

So, it becomes challenging again to discuss architecture from the perspective of the object-oriented ontology of Harman, since buildings are seen as the structures of social, cultural and political contexts. On the other side, buildings are still seen as objects that reject their contexts. It is accordingly discussed that buildings are not objects when they are embedded into their contexts. Yet Schumacher discusses object-oriented ontology through the embedded building projects. He even suggests that the intensely embedded architectural objects that parametricism tries to create are better object-oriented ontology objects, because they have more surplus capacities to engage in new assemblages (Schumacher, 2018). Parametricism is a design approach that leads new and strange architectural objects to be designed in the virtual environment. Virtuality enhances the strangeness of architectural objects in such a way that they withdraw from being familiar geometric and static forms. Of course, strangeness, or the strange richness of forms is not sufficient to discuss buildings as objects, but it paves the way for the new discussions on the changing status of object in the digital age of architecture.

THE CHANGING STATUS OF OBJECT IN THE DIGITAL AGE OF ARCHITECTURE

Digital technologies lead architectural objects to be discussed with new qualities. Due to these technologies, architects and philosophers re-interpret the object-oriented ontology, and reveal that the qualities of unfamiliarity, or strangeness, complexity and autonomy do not necessarily lead a building to be defined as an object in architecture. Then, what does an object-oriented architecture look like? This is the question that they ask to understand the changing status of object in the 21st century (Gannon, Harman, Ruy, Wiscombe, 2015).

As a theoretician and an architect, Schumacher suggests that object orientation is particularly involved in the parametric architecture of this century. He even interprets “object-oriented architecture” as “parametric architecture” by which objects are emerged within a network of contextual relations. For him, most of the building projects designed by Zaha Hadid Architects

(ZHA) are the formal outcomes of these relations. The buildings are formed as the relational objects such as in the projects of MAXXI and Dongdaemun Design Plaza, in which the building forms are emerged based on the social, spatial, functional and environmental relations in the design process (Figure 7, 8).



Figure 7. MAXXI, Zaha Hadid Architects, Rome, 2009
(<https://www.theguardian.com/artanddesign/gallery/2009/nov/16/rome-zaha-hadid-museum-art>)



Figure 8. Dongdaemun Design Plaza, Zaha Hadid Architects, Seoul, 2014
(<https://edition.cnn.com/travel/article/seoul-ddp/index.html>)

These relations can be real, hypothetical, or totally imaginal. According to Schumacher, they lead the form to be emerged in parametric architecture. He discusses emergent form also by the urban projects of ZHA such as the project of Kartal Pendik Masterplan (Figure 9, 10). In this masterplan project, the new buildings in Kartal and Pendik districts are designed as the embedded forms which seem as they are parametrically emerged within the existing contextual relations and patterns. However, Schumacher defines the emergent form as the self-evident, self-contained and self-organized object, despite it is designed by the real or parametrical relations (Schumacher, 2018). So, it is challenging to understand how it is possible to define the architectural object as the self-evident object even if it is determined by a sequence of contextual relations.

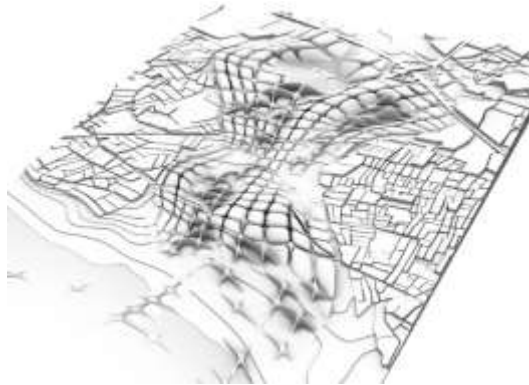


Figure 9. Kartal Pendik Masterplan, Zaha Hadid Architects, Istanbul, 2010
(<https://www.archilovers.com/projects/3408/kartal-pendik-masterplan.html>)

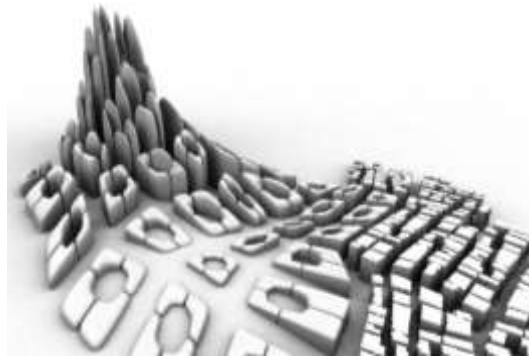


Figure 10. Kartal Pendik Masterplan, Zaha Hadid Architects, Istanbul, 2010
(<https://www.archilovers.com/projects/3408/kartal-pendik-masterplan.html>)

Nevertheless, object-oriented ontology is mainly replaced with relational ontology in the parametric architecture of the 21st century. In the relational theory, everything communicates with everything. We are connected with each other in the network society. It results in an overall intensification of relations. In this regard, the built environment turns into a complex system, and its spaces and territories become communications. This is the communication theory that creates parametricism (Schumacher, 2012).

It is not the theory of Harman that he describes in his object-oriented ontology. He does not theorize buildings as objects if they are dissolved in the network of relations and communications (Hale, 2020). On the other side, digital technologies lead buildings to be created as the new objects called as folds, blobs, flows and fluids. As Picon reveals, the computer presents us new perceptual objects and entities (Picon, 2004). In that, objects rather become emergence or genesis; they are emerged or generated in the form of flow by using computer technologies. It is actually the flow of information obtained from the relations between objects, their movements, displacements, deformations and contextual relations that creates the flowy objects in the virtual environment. It refers to the changing status of object from being “object” to “information”, or “data” in architecture.

This conceptual change brings the digital ontology of Hui to the agenda of architecture. He discusses that the new object of the 21st century is the “digital object”, and this object is composed

of “data”. According to him, digital objects are the objects on the Web such as YouTube videos, Facebook profiles, Flickr images, and so on. These are all formalized by schemes, or ontologies that we can generalize as data. Digital objects are not simply bits and bytes in the digital ontology of Hui. As he suggests, we interact with digital objects that we drag, delete and modify. The Web is acting as an interface between users and digital objects. Digital objects are visible in various forms, but they remain invisible without data. He thus discusses digital objects through two processes which he calls “the datafication of objects” and “the objectification of data” (Hui, 2012).

For Hui, we have a tendency to call everything as an object. This is a problematic, because individual objects have the risk of losing their singularities. It is also a problematic when object-oriented philosophers give the general name of objects to all entities including human beings (Hui, 2016).

Is it relevant to discuss the singularity of objects in the digital age in which objects resemble each other in such a way that we sometimes cannot distinguish them even if their content and context are very different? However, the singular objects are still discussed both in the disciplines of philosophy and architecture. As such, Baudrillard discusses them as not-globalized objects, that means they cannot be seen everywhere in the global world of the 21st century. According to him, the singular objects are specific to their contexts, and they cannot be reproduced even by their architects (Baudrillard, Nouvel, 2002). Nonetheless, it becomes challenging for architects to design “singular objects”, since they more deal with “digital objects” which look like the similar, or even the same products of internet, namely the world wide web. The world wide web (www) is a network of globally produced information. Today’s information-oriented objects are a part of this global network. So, it is not surprising to see that they become the similar, or the same objects in the digital age of architecture.

CONCLUSION (AND A QUESTION)

As mentioned before, architecture and philosophy have had close relationships throughout history. In that, the object-oriented ontology leads the ways of defining and designing objects to be interrogated in architecture, especially when Harman discusses objects rather by their internal qualities than external relations and realities in the 1990s (Harman, 2013). Object has always been an important debate in architecture, yet it is rarely associated with the object-oriented ontology before the 1990s. Because architectural objects exist as discrete or non-discrete objects in their surroundings, and there is no need to discuss their ontological facts. However, architects have begun to question what really an object is, depending on the object-oriented ontology that is more deeply discussed by Harman after the 1990s. The computer technologies promote these discussions due to the fact that architects commonly design objects within the virtual environment of computers towards the end of the 1990s. So, the tension between reality and virtuality is again at the forefront of architecture. This tension becomes even more visible in the first decade of 2000s, since architects generally design autonomous objects stripped of the environmental relations and realities by using computers. They are accordingly defined as the self-referential objects in architecture. Yet the object-oriented ontology is re-interpreted in architecture in the second decade of the 2000s, and architectural object begins to refer to the environment. Whether real or virtual, the environmental relations lead object to be defined and designed as relational object in

architecture (Weir, Harman, 2021). Today, it is rather informational object than relational object; moreover, object becomes data in the digital environment (Table 1). This is the main argument of the paper that the object-oriented ontology of Harman establishes an ambiguous ontological ground for object to be defined in many ways, as such it emerges as a new object that dissolves into the environmental relations, and even disappears by being digital information, or data in recent architecture.

Table 1. From object to relation, information and data in architecture

OBJECT	≠	RELATION
OBJECT	=	INFORMATION = DATA

The object-oriented ontology leads architects to think deeply on the measurable and immeasurable qualities of objects. It leads them to think and understand architectural object as an entity that cannot be reduced to its internal or external relations. According to the object-oriented ontology of Harman, object exists independent from its relations. It is an object, which does not rely on formal, functional, social and environmental relations, despite its diverse interpretations that turn object into a network of relations and communications in architecture (Harman, 2020). On the other side, the object-oriented ontology refers to a real autonomy by designing object as an entity composed of information, not relation in architecture. Architecture has always been in search of autonomy even if it is eventually bound up with environmental relations, communications and patterns. However, the paper reveals that there has been a recent shift from object to relation and information in architecture. That means, architectural objects are now created by digital information. So, the role of architects is changed in such a way that they are rather managers than designers, as they control and manage digital information to create an object in the digital age of architecture. It seems as if this object is not created by any kind of relation neither real nor virtual. This is an autonomous object that creates itself not by relation but information due to the management of the architect within the digital environment (Table 2). The autonomous object does not relate to anything except information. It is the information-oriented object that defines a new ontological framework in architecture (Table 3). This framework enables us to discuss object as an entity that consists of data in the architecture of the 21st century. Architects today control, manage and change data to create objects by using computers.

Table 2. The changing ontological status of architectural object from the 19th to the 21st century (As Allen suggests, object-oriented architecture dates to the 19th century (See Allen, 2018). Many other concepts used to define architectural object can be inserted into the table, however these are the commonly discussed concepts in the references of the paper. For example, the concept of singular object is used by Baudrillard to define its singular qualities that cannot be reproduced by architects at the end of the 20th century (See Baudrillard, Nouvel, 2002). The concept of decompositional object is used by Eisenman to replace compositional object towards the end of the century (See Eisenman, 1984). The concept of embedded object is used by Schumacher for the projects of ZHA that are embedded in their contexts in the first decade of the 21st century (See Schumacher, 2018). And the concept of digital object is used by Hui to define the object that is composed of data both in architecture and philosophy (See Hui, 2012).)

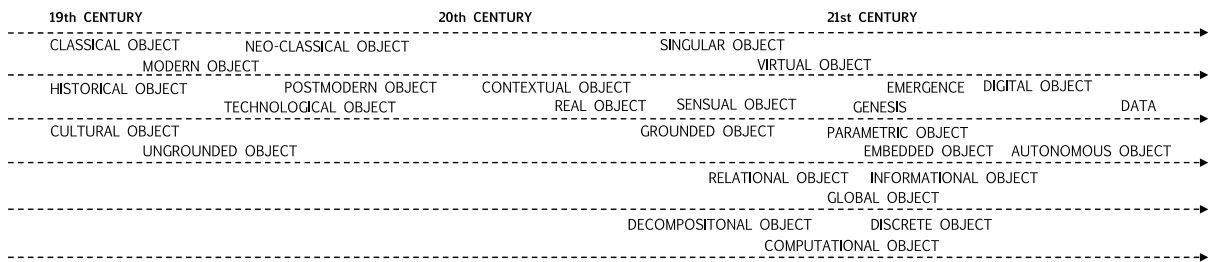
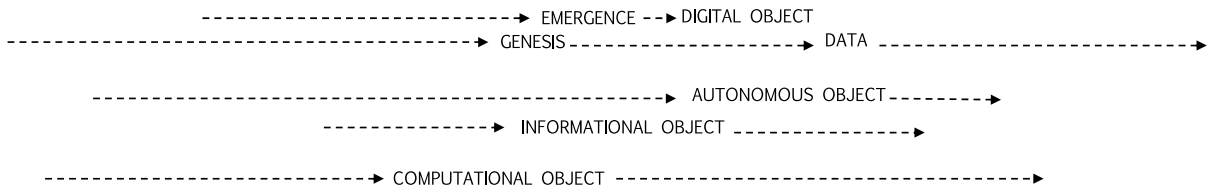


Table 3. The new ontological status of architectural object in the 21st century (Many other concepts used to define architectural object in this century can be inserted into the table, however these are the highlighted concepts in the references of the paper. The arrows in the table imply that there can be many others before and after these concepts within centuries in architecture.)



In this regard, architectural object is discussed not a relational but an informational entity in the paper. This entity is more than being an object, since it refers to an emergence or a genesis in architecture. As such, architectural object emerges from a flow of information created in the computational environment. It obtains its physical and non-physical qualities, namely its genetic characteristics, from this environment. Because it is genetically created in the computational environment. The computer technology enables objects to be designed as the new genetic entities, in other terms genesis, created and characterized by digital information, or data, in recent architecture. However, digital information also consists of real or hypothetical relations which are created by architects within the computational environment. So, a question still remains: How do we define an architectural object as an autonomous object despite the fact that it relies on informational relations?

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BIOGRAPHY OF THE AUTHOR

Gülşah Güleç, Assoc. Prof.

She is currently a full-time academic member of the Department of Architecture at Gazi University, Ankara, Türkiye. She graduated from the Department of Architecture at Eskisehir Osmangazi University, Türkiye. She received her MA and PhD degree from the Department of Architecture at Gazi University. She has national and international publications on contemporary architecture, architectural theory and design, and architectural education.