

Prospects for a 21st Century Architecture:
Architecture beyond the Building

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Indus Valley School of Art and Architecture

2019

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This thesis submitted is partial fulfilment of requirements for the degree of
BACHELOR OF ARCHITECTURE, from Indus Valley School of Art and
Architecture.

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Karachi, Pakistan
2019

Acknowledgements

*My thanks, forever and always, to Amna Ali, Zohaib Zubay, Sumaila Palla, Sobia Saeed Khan
and the force of the universe.*

ABSTRACT

As mankind has entered the 21st century, it has witnessed radical changes, both natural and man-made, which have significantly affected the society. Technologies such as the internet, have altered human lifestyles and how they communicate, travel and their consumption patterns. Issues such as climate change and dwindling natural resources are forcing humans to adopt a different outlook towards how they live their lives. In this context, this paper attempts to illustrate the potential characteristics that are required from architecture, as a discipline and practice, and the architect, in order exist in 21st century. This paper explores opportunities presented by these radical changes in the society and argues for a rethinking of architecture, not just as a practice, but even how we conceive architecture. It demarcates the avenues of investigations that have been presented by these dynamic challenges of the current century which could potentially lead to an understanding of architecture fit for the modern society. It attempts to present a case for a completely different evaluation of architecture, in which architecture acts as part of a network in the society and influences the ‘capital-flows’ inside the network. Thereby illustrating the need to conceptualize architecture and the job of the professional architect differently than is done by the contemporary frameworks.

Keywords: capital-flow, architecture, networks, sharing-economy, systems design, value, capital.

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1. INTRODUCTION

Architecture is an elusive word. It is used to describe buildings but not all buildings; it is used to describe structures but not all structures; it is studied as an art but is not considered a fine art. Multitudes of academics, theorists, critics and even architects themselves have tried to define architecture and have constructed a plethora of definitions of it.¹ This paper doesn't attempt to construct another definition of architecture. Instead, it seeks to understand, analyse and illustrate the characteristics of architecture that would be deemed critical to the practice and existence of architecture in the 21st century.

The 21st century has brought with itself rapid changes on a scale seen never before. Its major driver has been the internet, a revolutionary instrument which has connected the far reaches of the world at the speed of light. This has affected not only how we live but even how we think as a society.² Along with the convergence of revolutions in energy, mobility and telecommunications, the human society is to experience radical shifts in the near future.³

Such a possibility also demands that architecture is analysed and reimagined through tools of the current century, considering that it is still largely governed by outdated frameworks of the past century.⁴ It is not to suggest that all the knowledge of the past centuries in architecture be thrown out of the window and start anew. But it is also true that architecture is faced with challenges never before faced in its history; climate change, dwindling resources, urban

¹ Angela Sun, 'The Values of Architecture', *The Wellesley College Digital Scholarship and Archive, Honors Thesis Collection*, 1 January 2017, 11, <https://repository.wellesley.edu/thesiscollection/493>.

² Lydia Kallipoliti, 'It Is Our Obligation to Translate the Emerging Ecology of the Cloud', *Log*, no. 28 (2013): 56, <https://www.jstor.org/stable/43630867>.

³ Jeremy Rifkin, *The Zero Marginal Cost Society: The Internet of Things, the Collaborative Commons, and the Eclipse of Capitalism*, 1. ed (New York, NY: Palgrave Macmillan, 2014), 2.

⁴ Preston Scott Cohen, 'Successive Architecture', *Log*, no. 32 (2014): 153, <https://www.jstor.org/stable/43631059>.

migration, housing to name a few. In order to respond to these issues, architecture needs to incorporate the tools, theories and technology of the 21st century. Indeed, much has been made of architecture's unwillingness to change and adapt.⁵

The elusiveness of architecture as a discipline, combined with potentially radical changes in the society offer opportunity for architecture to reintroduce itself to the society as more than just an aesthetic commodity, a luxury.⁶ Architecture might no longer be tied to down just construction and building but instead, employ its principles and practices in areas which are responding to the problems of the contemporary society.

There is also a conundrum about the situation of the *professional* architect. Interestingly, the architect, who was considered the sole author of 'space' has seen his autonomy challenged, where other specialized individuals and teams of engineers, technicians, surveyors, manufacturers, project managers have a significant influence on the final finished building.⁷ Architecture and the architect are no longer inseparable. Therefore, forcing the architect to rethink his role in the discipline of architecture, which again offers new possibilities and pathways for future architects.

The possibilities, which are by no means exhaustive, for architecture and the architect of the 21st century, have been outlined and explored in the forthcoming chapters.

⁵ Elizabeth Yarina, 'How Architecture Became Capitalism's Handmaiden: Architecture as Alibi for the High Line's Neoliberal Space of Capital Accumulation', *Architecture and Culture* 5, no. 2 (4 May 2017): 242, <https://doi.org/10.1080/20507828.2017.1325263>.

⁶ Ibid.

⁷ Kallipoliti, 'It Is Our Obligation to Translate the Emerging Ecology of the Cloud', 58.

2. ARCHITECTURE AS A SHARED ASSET

Architecture is supposed to be a shared asset. While people do tend to occupy it and ‘own’ it in the literal sense of the word, any work of architecture influences more than just its users or occupier. Architecture is inherently shared. Your house, while remaining your home, also acts on various other levels. For instance, it consumes resources from a shared ecosystem, like electricity from the national grid or water from the rivers while also contributing to the said ecosystem. Every building has a carbon footprint; it also influences the visual language of any certain area and effects the patterns, activities and characteristics of any context. A new commercial space in a residential area might disrupt the privacy and ‘peace’ for the neighbourhood by allowing more people to flow through but it may also add opportunities for commercial exchange and increasing the economic prosperity of that area. A new house with a unique look might encourage other users to modify their spaces accordingly. Architecture, of any kind, does not exist in isolation but acts as one of many actors in the complex web of our environment.

This ‘shared’ characteristic of architecture should also prompt us to look at architecture as, inherently, a shared asset instead of an activity responding to only the needs of its primary stakeholders or immediate environment. For this paper, architecture is referred to as all of our built environment, all our buildings and the space between them, regardless of whether they were a product of an “architect’s” influence or not. This blanket consideration of all buildings as architecture might be a perverse thought to many professional architects and theorists.⁸ In fact, reducing the scope of architecture to a select few buildings done under the guidance of a

⁸ Mehdi Ali Mirza, considered the father of architectural profession in Pakistan, has a quote: “Just as anything written or printed is not literature, any structure built is not architecture.” Zain Mankani, ed., *Mehdi Ali Mirza: Pioneer of Architecture in Pakistan, 1910-1962*, First edition (Karachi: Arch Press, 2012), 1.

few, with the sanction of institutions and professional bodies, would work counter to the intent of this paper. In fact, architects do not exert control over the majority of the built environment at all.⁹ It is quite common to come across the idea that architects are exceedingly becoming agents of luxury.¹⁰ Astoundingly in the United Kingdom, employment of architects in the public sector fell from 50% in 1970s to less than 9% in 2011, while public sector output for construction grew from 30% to 40% in the same duration.¹¹ Thus, any discussion on architecture which reduces it entirely to the hand of the professional architect will exclude the majority of the built and indeed serve contrary to the intent of this paper.

Architecture has always been a social act in its craft, conceiving and construction.¹² There is consensus on the idea that a building comes socially but while social underpinnings seem to be at the forefront of any architectural manifestation, there is no doubt that economic factors have an integral role in this well.¹³ Ever since the rise of neoliberalism and its proliferation in the form of globalism and its contemporary form of capitalism, the relationship of social and economic influences on architecture has also changed. Architecture is increasingly becoming a means of ‘accumulation of capital’.¹⁴ Furthermore, it is being employed as a financial

⁹ Building Futures, ‘The Future for Architects?’, Report (London: Royal Institute of British Architects, 2011), https://www.researchgate.net/publication/240916942_The_future_for_Architects.

¹⁰ Finn Williams, ‘Common Office, on the Profession - ’ We’re More Than Mere Elevation Designers’’, *Architect’s Journal* 233, no. 1 (13 January 2011): 33, <https://www.architectsjournal.co.uk/opinion/finn-williams-common-office-on-the-profession-were-more-than-mere-elevation-designers/8609930.article>.

¹¹ Building Futures, ‘The Future for Architects?’

¹² Spiro Kostof and Greg Castillo, *A History of Architecture: Settings and Rituals*, 2. ed (New York: Oxford University Press, 1995), 4.

¹³ Paul L. Knox, ‘The Social Production of the Built Environment’, *Ekistics* 49, no. 295 (1982): 291, <https://www.jstor.org/stable/43620251>.

¹⁴ Reinier De Graaf, ‘Building Capital - “Architecture Is Now a Tool of Capital, Complicit in a Purpose Antithetical to Its Social Mission”’, *The Architectural Review*, May 2015, <https://www.architectural-review.com/essays/viewpoints/architecture-is-now-a-tool-of-capital-complicit-in-a-purpose-antithetical-to-its-social-mission/8681564.article>.

instrument.¹⁵ This accumulation of capital refers to the phenomenon of using architecture to generate financial returns or increase capital gains, through acts of renting, buying or selling, thus architecture in itself starts to be conceived much like any other tradeable commodity such as textiles, crude oil, agricultural products. The rise in real-estate is a direct result of this overtly financial approach towards architecture, where any piece of architecture has lost its ‘use-value’ in order to gain an ‘asset-value’.¹⁶ De Graaf uses asset-value to differentiate the society’s use of architecture, where it is seen as an asset to increase financial worth as opposed to the use-value which appreciates the utility of an object. While architecture inherently is supposed to provide a utility, i.e. of a shelter, the contemporary society has relegated that aspect of architecture and is instead conceiving architecture as an asset.¹⁷ Whether this outlook towards understanding architecture was a result of the neoliberal model of economics since the latter half of the 20th century or actually drove the neoliberal machine is a different inquiry altogether. Instead, taking this understanding of architecture ahead, we must look at architecture as a means of financial returns. In other words, architecture, primarily, *as* capital. This is, without a doubt, a unique phenomenon in the history of architecture where, primarily, architecture does not function as a social tool but as a financial instrument in the overall appreciation and development of the modern global cities. This transformation also opens up unforeseen possibilities for architecture when it becomes involved in a complex financial system of credit and debt. The concepts of mortgages, high-end real-estate development and the fact that the United States housing market was the trigger

¹⁵ Yarina, ‘How Architecture Became Capitalism’s Handmaiden’, 242.

¹⁶ De Graaf, ‘Building Capital’.

¹⁷ Ibid.

for the 2008 economic crash that wreaked havoc on the West are evidence of architecture's involvement in economic flows of our times.¹⁸

Once architecture becomes involved in this contemporary economic flux, it can be safely understood that it will be influenced by any changes that might affect the neoliberal economic model itself. For instance, the 2008 global financial collapse effectively brought about the end of the 'starchitecture' model.¹⁹ According to Rifkin, the global economic framework is heading towards an evolution, or revolution, whereby a 'shared-economy' will become the dominant economic model.²⁰ This idea of shared-economy is already in existence in various pockets around the world, practised by services such as Uber, Lyft, WeWork amongst others. While this is not a truly shared-economy model, due to the fact that it tries to extract latent values from our environment instead of promoting cooperative ownership; a thought which in itself seems strictly neoliberal in essence.

The shared-economy, on the heels of the digital revolution, can truly disrupt current architectural frameworks. It is useful to understand the difference that might result in architecture through Agamben's work on categories of ownership. His four categories of ownership are: use, usufruct, possession and dominion.²¹ 'Use' refers to act ownership in which the act of owning an object destroys it, such as the use of food. 'Usufruct' which explains ownership as a 'right to access' which is common to all, such as the footpath on the

¹⁸ Charles H Ferguson et al., *Inside job* (Sony Pictures Home Entertainment, 2011).

¹⁹ Jay Dolmag, 'From Steep Steps to Retrofit to Universal Design, From Collapse to Austerity: Neo-Liberal Spaces of Disability', in *Disability, Space, Architecture: A Reader*, ed. Jos Boys (London New York: Routledge, Taylor & Francis Group, 2017), 112.

²⁰ Rifkin, *The Zero Marginal Cost Society*, 10.

²¹ Jack Self, 'Common Luxury: Less Private Space, More Common Space' (International Building Exhibition - IBA Basel 2016, Swiss Architecture Museum, 26 September 2016), <https://www.youtube.com/watch?v=FlqEifJfybg>.

street. The third category of ownership is 'Possession' in which the owner holds the property for a certain time, real estate being a clear example, where such property passes from one owner to another. 'Dominion' on the other hand is defined as the subjugation of an object, as a right to destroy an object. Under the current economic model, dominion acts as the de facto mode of ownership of any architectural work, whereas under the shared-economy all architecture will start to exist between the lines of 'possession' and 'usufruct'.

This shift in the ownership of architecture will surely disrupt the metrics of architectural property exchange in the capitalist system. If the architecture is no longer the dominion of a single individual, it removes the power of the individual to employ it as an asset thus reducing, or even eliminating, its asset-value. It is not to say that private property will be completely abolished but instead it will become an unsustainable mode of ownership, superseded by ideas of usufruct and possession. While this may be a radical thought, bordering on the inconceivable, for many, but the drivers of this shift in ownership already exist around us today. Factors such as 'debt' and soaring property 'value' will play a central role in this shift. The unaffordability of spaces of accommodation, the rising disparity between rich and poor, dwindling natural resources will all force people around the world to adopt a sustainable way of acquiring access to architecture that contains spaces of habitation, work, leisure, administration, etc. A primitive application of this can also be seen in 'Airbnb' which was created with the idea to 'share spaces', unfortunately it has only worked to commodify the 'house'.²²

²² Brigitte Borm, 'Welcome Home: An Ethnography on the Experiences of Airbnb Hosts in Commodifying Their Homes', in *Digital Environments*, ed. Urte Undine Frömmling et al., *Ethnographic Perspectives Across Global Online and Offline Spaces* (Transcript Verlag, 2017), 40, <https://www.jstor.org/stable/j.ctv1xxrxw.6>.

The idea of individual consumption, on which the contemporary society bases its socio-economic frameworks would evolve into the idea of ‘collaboration’ or ‘sharing’. Thus, by no longer conceiving architecture as one’s dominion, but instead existing under a shared ecosystem, this architecture although losing some of its asset-value might gain a new value, one, that of a truly social nature. As architecture exists under a different economic framework i.e. the sharing economy, the architects will have to reevaluate their position in that context as they have done so often throughout the ages.²³

²³ Spiro Kostof, ed., *The Architect: Chapters in the History of the Profession* (New York: Oxford University Press, 1986), 3.

3. ARCHITECTURE AS INTRINSICALLY VALUABLE

As soon as architecture becomes part of a network in a shared-economy it will acquire an aspect of ‘capital’. This aspect of ‘capital’ would not be based on financial frameworks such as that of an asset value, which would be highly diminished, but instead shift the asset-value of architecture to an ‘intrinsic-value’ of architecture. This intrinsic-value of architecture will be free from the forces of ‘markets’ and ‘speculations within the market’ but instead be based on its effectiveness inside the shared-economy.

The idea of ‘intrinsic value’ already exists in Value Theory, used in philosophy and economics, which posits that intrinsic value of an object exists from its inherent properties, as opposed to instrumental value, in which an object is valuable because of its effectiveness to lead to other valuable things.²⁴ Money, for instance, is said to have instrumental value because it enables access to other things of value while friendship is said to possess intrinsic value as it is valuable because of what it is in itself.

Value theory has also been applied to the field of arts, and through it to architecture, in order to assess and understand the value, referred to as artistic value, of artworks and architecture. In Western traditions, ‘intrinsic value’ of any artwork is the primary method used to assess the artistic value of a piece.²⁵ This evaluation, based on intrinsic value’ can be clearly stated in Malcom Budd’s theory of artistic value, which states that:

²⁴ Mark Schroeder, ‘Value Theory’, in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Fall 2016 (Metaphysics Research Lab, Stanford University, 2016), <https://plato.stanford.edu/archives/fall2016/entries/value-theory/>.

²⁵ Sun, ‘The Values of Architecture’, 8.

*Artwork x possesses artistic value if, and to the extent that, x offers an experience that is intrinsically valuable.*²⁶

By putting the intrinsic value right at the heart of artwork, the artistic value of an artwork strives to free itself from the various other ‘values’ that can be placed on it, such as the economic value of the artwork. By excluding the non-intrinsic value, the theory aims to evaluate and understand any artwork based on purely its artistic qualities and as art.

Surprisingly, architecture has only been studied from the perspective of theories of artistic value developed for the fine arts which tend to ignore the characteristics of architecture that are beyond the fine arts.²⁷ Although architecture shares a relationship with fine arts, it is also distinct from the fine arts in various ways, architecture’s influence on human life and society, its complex relationship with the environment, the enormous undertaking that is required for it to come about and its existence on the plane of time, all greatly exceed the limits of fine arts.²⁸ Moreover, there is also a dearth of discourse on architecture in this regard. According to Sun, there exists only one framework which attempts to analyse intrinsic architectural value i.e. Pevsner’s aesthetic theory of architecture; and it also fails at it, as the theory limits the value to only *aesthetic appeal* of a building.²⁹ Therefore, any attempt to understand the ‘intrinsic value’ in architecture through ideas of existing frameworks of artistic value will prove to be problematic and as such clearly illustrate a need for a framework for value in architecture.

²⁶ Malcolm Budd, *Values of Art: Pictures, Poetry, and Music* (London, England; New York, N.Y: Penguin Books, 1996), 4.

²⁷ Sun, ‘The Values of Architecture’, 12, 21–23.

²⁸ *Ibid.*, 12.

²⁹ *Ibid.*, 14.

Furthermore, the shared economy will probably shift the appreciation of ‘value’ of architecture as an asset to its intrinsic properties, where the architectural value will be derived not from its instrumental value i.e. its ‘asset-value’ but from its intrinsic value. While the exact nature of the intrinsic value in architecture is beyond the scope of this document, and an avenue of further research, one can deduce that this intrinsic value would be based on properties that architecture possesses, such as utility, comfort, aesthetic and others.

One manifestation of this ‘intrinsic-value’ can be observed in the idea of ‘green leases’; a form of leasing which aims to encourage the parties, both the tenants and the landlords to meet sustainability goals and create energy-efficient buildings. By codifying how a building is to be occupied, operated and managed in a sustainable way, green leases aim to ensure that buildings do not act detrimental to the environment. For instance, recycling waste, reduction in energy consumption or water efficiency protocols, amongst others. These green leases have been used by the Australian government since 2006 and have also spread to the Australian private sector.³⁰ By placing sustainable and environmentally conscious concerns at the centre of an inherently financial relationship, i.e. the lease, the value of the architecture becomes tied to more factors than purely profit and loss.³¹ In future, the green lease could evolve to even become a primary factor in determining the value or rent of a building.³² A building which acts sustainably and is efficient in its energy usage, ensured by the green lease, would be more lucrative for users and therefore be more valuable than a non-

³⁰ Kathryn B. Janda et al., ‘The Evolution of Green Leases: Towards Inter-Organizational Environmental Governance’, *Building Research & Information* 44, no. 5–6 (17 August 2016): 661, <https://doi.org/10.1080/09613218.2016.1142811>.

³¹ Spenser Robinson et al., ‘Demand for Green Buildings: Office Tenants’ Stated Willingness-To-Pay for Green Features’, *The Journal of Real Estate Research* 38, no. 3 (2016): 449, <https://www.jstor.org/stable/24888622>.

³² Jonathon Porritt, *The World We Made: Alex Mckay’s Story from 2050* (London: Phaidon Press, 2013), 128–29.

sustainable building. By deriving its value intrinsically from how the building is designed and constructed, the architecture can now be evaluated through a new means i.e. through the inherent-value of architecture instead of redundant asset-value which relied on forces alien to architecture.

4. ARCHITECTURE AS ENGAGED IN CAPITAL FLOW

When Constantinos Doxiadis developed the science of Ekistics in 1940s, he understood the need to study human settlements as whole, a synergetic network of multitudinous nodes.³³

From the room to the entire metropolis, everything was connected, forming causal relationships. He, foresaw, the highly networked contemporary society long before the internet, the primary driver of the networking revolution, became a reality in 1990s.³⁴

Doxiadis' Ekistics provide us with a framework, albeit a rudimentary one, to develop an understanding of architecture existing as networks and inside networks. Architecture does not exist outside the influence of the society, and as networks in our contemporary society, specially information and resource networks, grow ever more sophisticated and interconnected, evidenced by the emergence of the Internet of Things (IOT), architecture will also have to be understood in that context.³⁵

By conceiving architecture as a *shared asset* and respecting its *intrinsic value*, as discussed in the previous chapters, architects, builders and designers can create mechanisms which realize architecture's role inside a networked society. For instance, an environmentally conscious mechanism such as a green-leases forces the parties, i.e. the tenant and the landlord, in this case, either directly or indirectly, to act as a part of a network instead of an isolated entity.

Every building, while improving its own condition also contributes towards the betterment of

³³ Constantinos A. Doxiadis, 'Ekistics, the Science of Human Settlements', *Science* 170, no. 3956 (1970): 393, <https://www.jstor.org/stable/1729412>.

³⁴ Rifkin, *The Zero Marginal Cost Society*, chap. 5.

³⁵ The Internet of Things (IOT) will connect everything with everyone in an integrated global network. People, machines, natural resources, production lines, logistics networks, consumption habits, recycling flows, and virtually every other aspect of economic and social life will be linked via sensors and software to the IoT platform, continually feeding Big Data to every node—businesses, homes, vehicles—moment to moment, in real time. IOT is increasingly becoming a reality with major corporations such as Samsung and institutions such as European Union becoming involved in design and implementing it, see: *Ibid.*, 4.

the environment around it. This is contrary to a neoliberal production of space where buildings and spaces function in isolation and tend to feed off their context instead of contributing to it. Instead, these ‘neo-liberalized’ buildings promote highly concentrated models of growth and influence. Thus, contributing to the neglect of the other spaces. An example is the High Line in New York, where the successful transformation of a derelict elevated rail tracks in to an urban park skyrocketed the financial value of property around it, thus pushing middle- and lower-income groups out of the area. Its popularity lured sponsors, advertisers and investors away from more underfunded public parks in the city.³⁶

As mentioned earlier, architecture as an entity already acts as capital, albeit in a purely financial manner, in our current economic model. But due to its existence inside shared-economy and its networks, it will also acquire qualities of other kinds of capital. Such as social capital or political capital.³⁷ For instance, when Robert Putnam theorizes about Social Capital, the fundamental idea is of networks and the ‘reciprocity of value’ for entities inside the network.³⁸ Putnam uses social capital to quantitatively assess the value people get from being part of various networks. By using these frameworks, which analyse various socio-political and cultural forces, in architectural discourse, one can begin to understand the influence of architecture inside the networked society of the 21st century. Architecture can then be *consciously* employed to influence these various ‘capitals’ that exist in the networks

³⁶ Yarina, ‘How Architecture Became Capitalism’s Handmaiden’, 253.

³⁷ Using Capital, a term of economics, to denote other kinds of intangible forces which are not considered ‘financial’ has caused major debates amongst academics. To better understand various kinds of capital that can exist and why it is sound to refer to them as capital, see: Lindon J. Robison, A. Allan Schmid, and Marcelo E. Siles, ‘Is Social Capital Really Capital?’, *Review of Social Economy* 60, no. 1 (2002): 1–21, <https://www.jstor.org/stable/29770138>.

³⁸ The idea of social capital is fairly recent but the term has seen been used for over a century, for more information on Social Capital, see: Robert D. Putnam, ‘Social Capital and Public Affairs’, *Bulletin of the American Academy of Arts and Sciences* 47, no. 8 (1994): 2, <https://doi.org/10.2307/3824796>; Robert Putnam, ‘Social Capital: Measurement and Consequences’, *Canadian Journal of Policy Research* 2, no. 1 (2001): 41–51.

of the modern society. Thus, architecture and the architect would then be, intentionally, engaged in designing and effecting the capitals that flow in our society; which can be referred to as ‘capital-flows’.³⁹

Referring to Highline in New York, the effect of neo-liberalized spaces is such, that the building creates an adverse effect on its context and essentially concentrates on itself. The buildings behave as nodes of consumption, where they consume the resources and capitals that flow inside the networks such as energy, social capital, financial capital etc. This phenomenon can be referred to as ‘reverse capital-flow’ where the building, instead of enhancing capital-flows, only consumes them.

Even when such spaces have ‘positive’ effects, such as economic prosperity or more commercial activity, their effect is greatly concentrated to their immediate surroundings and at the expense of the wider context. This can be attributed to the fact that architecture is usually not conceived as part of a network but in isolation. It can also be argued that these ‘reverse capital-flows’ emerge out of the evaluation of architecture by a society which appreciates the instrumental value of architecture over its intrinsic value. On the other hand, the spaces governed by a mechanism such as ‘green-leases’ are grounded in the appreciation of the intrinsic value that architecture possesses and thus enables the building to function in a manner which is beneficial for a wider context than just the immediate surroundings. Such buildings, instead of only consuming the resources and capital also ‘contribute’ to the entire network. Thus, in this case the building contributes and help the flow of capital along. This

³⁹ ‘Capital-Flow’ is an economic term which is used to denote the international flow of financial capital, primarily money. As, it has been argued above, the term capital can be employed to refer to various kinds of *capitals*, thus ‘capital-flow’ can also be employed to refer to how various capitals tend to move inside our societies, and how they respond to other capitals.

phenomenon can be referred to as ‘positive capital-flow’ and sits in contrast to the ‘reverse capital-flow’.

As architecture under shared economy will have to function inside a complex societal network, a unique characteristic of the shared-economy, it will have to act for the benefit of the entire network, much like every other node in a network.⁴⁰ Therefore ‘positive capital-flows’ would become vital to architecture’s presence in the near future. The ‘positive capital-flow’ can be of social, political or ecological nature, generated out of the ‘intrinsic value’ of architecture.

As the relationship between architecture and the shared resources such as energy, environment, social well-being, becomes more conspicuous, these positive-flows will become fundamental in the process of building any architecture. Furthermore, as polycentric governance will grow in influence, especially in regards to shared resources, architecture will increasingly need to play a contextually sensitive role and as such, the architect will be called upon to deliver on these needs.

There is no doubt that the architects themselves have to question, what exactly their job will be when architecture is born out of a shared economy. Whilst architecture is the product of conception of the specialized individual, i.e. the architect, this individual is not the only one involved in this process but indeed drives the process. He is a mediator between the patron/client, process and the building.⁴¹ Industrialization in the 20th century led to a change in the process of construction of architecture with the advent of new materials, machines,

⁴⁰ For more on sharing economy and the network in the society, see: Rifkin, *The Zero Marginal Cost Society*; Jeremy Rifkin, *The Third Industrial Revolution: How Lateral Power Is Transforming Energy, the Economy, and the World*, 1st Palgrav Macmillan paperback ed (Basingstoke: Palgrave Macmillan, 2013).

⁴¹ Kostof, *The Architect*, V.

knowledge, the profession responded by breaking architecture itself into specialities which gave birth to the notion of the ‘team’ with its engineers, surveyors, contractors, project managers, site supervisors and, draftsmen; and the architect amongst them.⁴² This has been a reductive exercise where the *professional* architects have given up critical roles in creating architecture. For instance, architects do not design structures anymore, an aspect in which they were historically involved in.⁴³ While historically the architects have shifted between the roles of designers and builders under various titles, it is perhaps the first time in the history of the profession that the architects might lose unprecedented autonomy in the implementation of architecture. As it will increasingly be found under a shared ecosystem, the design responsibility for the architects inevitably will also shift. With the concept of ‘architecture without architects’ becoming more mainstream driven by networking revolution around the globe, the exclusivity of design to the architect will come under threat.⁴⁴ Movements such as the Wiki-House, a platform which enables users to build their own homes without any specialized training or tools, or Popup House which allow users to put together their house with just an electric screw-driver, are a clear result of this revolution.⁴⁵ However, this loss, which will be brought about by the architecture of the shared-economy, will also result in an addition to the architect’s purview; i.e. the flow of capital through and in architecture.

The architects will no longer be limited to the sphere of just designing a building, essentially considered a surplus to the act of building, where they have been relegated by the neoliberal

⁴² Ibid., 338.

⁴³ Ibid., 340.

⁴⁴ Kallipoliti, ‘It Is Our Obligation to Translate the Emerging Ecology of the Cloud’, 57.

⁴⁵ For more on Wiki-House, see: <https://wikihouse.cc/>
For more on PopUp house, see: <https://www.popup-house.com/>

capitalistic world.⁴⁶ The architect, or any new term that may be conceived for this professional, will play a critical role in creating, consciously, an architecture where he will be as much occupied with ‘capital-flows’ of his architecture as materials, aesthetics and space. In the 21st century, the consequential parameters to the act of building has to become fundamental to evaluating architecture and its architect. These consequential parameters, in the form of ‘capital-flows’, are what is *valuable* in architecture that exists inside the sharing-economy and the modern-day networked society. And it is the architects that will have to consciously understand and respond to these various ‘capital-flows’ so as to create an architecture fit for their day, age and context.

⁴⁶ Yarina, ‘How Architecture Became Capitalism’s Handmaiden’, 256.

5. ARCHITECTURE AS SYSTEMS DESIGN

Cohen uses the term ‘successive architecture’ to define the most important principle of architecture in contemporary times.⁴⁷ What he describes is the modern way of constructing a building through ‘slabs of space’ as a ‘vertical succession’. This principle of stacking vertically, no doubt governed by multiple factors of our age, has essentially left the average professional architect without much to do. Cohen also levels criticism at the idea of vertical succession due to its tendency to disconnect the inside of the building from the outside. Le Corbusier’s famous proclamation in the early 20th century that plan is the generator of the form, of architecture only served to reinforce the idea of ‘vertical succession’, where all architecture was conceived to exist as an ‘extrusion’ of the plane drawing.⁴⁸ This extrusion, used as a building, would then naturally serve to contain the space within its plan thus severing any connections which might exist outside the bounds of its containment. This disconnect between environment and its architecture was perhaps a result of viewing architecture existing in an inane environment where the only object is the building itself, and the manufacturing of the ‘work’ of the *professional* architect.

Kallipoliti credits Reyner Banham as the first to orient the ‘environment’ as worthy of being the object of design.⁴⁹ This shift in the conception of the environment should have ushered a more symbiotic production of architecture, where architecture and the environment existed seamlessly *within* each other but instead it only served to put the environment in direct contention with architecture. It became a confrontation of two entities: the environment and the architecture. Terms such as ‘sustainability’ and ‘efficiency’ gave importance to the

⁴⁷ Cohen, ‘Successive Architecture’, 153.

⁴⁸ Ibid., 155.

⁴⁹ Kallipoliti, ‘It Is Our Obligation to Translate the Emerging Ecology of the Cloud’, 55.

environment while relegating architecture to secondary, while the mainstream architecture continued on its principle of ‘vertical succession’ and disregard for environment as evidenced by the jungles of concrete around the globe.

The call for architecture to act as part of the synergetic network in the environment goes as far back as 1940s starting from Doxiadis. In 1970s architects like Justus Dahinden were already conceiving architecture based on ‘operational links’ instead of acting as ‘containers.’⁵⁰ These operational links which emerge out of a ‘unity’ between different spheres of architecture, economics, communications and social contact can finally be realized through the digital revolution that has come full bloom in the 21st century. The computer, the internet and the data have bestowed on us now the ability to perhaps finally create a truly ‘synergetic network’. In these networks, architecture must learn to exist as part of a system and on a micro level as a system itself.

It is perhaps no doubt that architecture is influenced by ideological forces of its time, and this is most apparent in the shift from Modernism to Neoliberalism in architecture. In the words of architect Arif Hasan, this change meant ‘replacing planning with projects.’⁵¹ While, architects, in some capacity, have always been concerned with the physical building, historically they have also been reliant on a patron in order for the said building to come about.⁵² Indeed, this is one of the major criticism levelled at the present day architect, that

⁵⁰ Justus Dahinden, *Urban Structures for the Future* (London: Pall Mall Press, 1972), 27.

⁵¹ Arif Hasan, ‘Arif Hasan on the Role of Architects in the Society’, *Archi Times*, November 2016, 18, <http://arifhasan.org/wp-content/uploads/2017/03/InterviewArchiTimesNov16.pdf>.

⁵² Kostof, *The Architect*, 126.

their reliance on the patron, or the client, has led them and their buildings to serve the individual as opposed to the people.⁵³

The birth of networks, specifically decentralization, pose threat to ‘identity of the architect as the sole author of space’ but not the profession.⁵⁴ But by then the building will no longer be just a sole container of space as has been the case until now. Instead, the building will be a system, a microsystem in a macrosystem composed of our environment. As illustrated before, the building would part of multitudinous networks, actively seeking to create positive capital-flows. Such an approach towards architecture would fundamentally restructure how we as a society would conceive and evaluate architecture. While this may seem job beyond the architect, it may not be so. Even if the architect would not be involved with the physical design of the building, his skill set would be required in conceiving the building in the system.⁵⁵ Indeed, architects might be more concerned with the system that produces the architecture than the physical manifestation of architecture itself. This, itself, is unprecedented, in the professional, as there is no framework as to how a *design* professional might occupy himself with conceptualizing ‘systems’ and dealing with them as an integral entity of architectural design.

While the pathways, through which such a radical understanding of architecture would be realized, can be near impossible to predict right now but they would also have to include the

⁵³ Yarina, ‘How Architecture Became Capitalism’s Handmaiden’, 243.

⁵⁴ Kallipoliti, ‘It Is Our Obligation to Translate the Emerging Ecology of the Cloud’, 58.

⁵⁵ Rhys Goldstein and Azam Khan, ‘Simulation-Based Architectural Design’, in *Guide to Simulation-Based Disciplines*, ed. Saurabh Mittal, Umut Durak, and Tuncer Ören (Cham: Springer International Publishing, 2017), 181, https://doi.org/10.1007/978-3-319-61264-5_8.

rethinking of architectural education and architectural theory relative to the realm of design thinking.⁵⁶

Such an approach towards architecture would also enable architecture itself to wholly realize its autonomy, in the form of intrinsic-value, where instead of becoming an object bound by external and alien forces such as economics, laws and codes, it would influence these forces as well. Such an approach would open the way for unforeseen possibilities for the architecture and those who practice, use and produce it. This could even pave the way for the transformation of architectural property, land ownership and how we consume the public space.⁵⁷

⁵⁶ Jilly Traganou, 'Architectural and Spatial Design Studies: Inscribing Architecture in Design Studies', *Journal of Design History* 22, no. 2 (2009): 176, <https://www.jstor.org/stable/40301436>.

⁵⁷ Dahinden, *Urban Structures for the Future*, 17.

6. CONCLUSION

The existence of architecture under a shared economy would develop an understanding of architecture which regards it as a shared asset, thereby freeing architecture from the clutches of the neoliberal capitalistic model which has reduced architecture to its financial value and the profession to a luxury. Such an understanding would also develop a need to assess architecture through its intrinsic value, for if architecture is not valued for its instrumental value i.e. financial worth then what really is intrinsically valuable in architecture. This should also allow the architects to manipulate and respond to these intrinsic qualities in architecture thereby creating architecture that generates 'positive capital-flows' in their respective networks. Architecture in a highly networked society would have to function as a part of the network in order to maintain the harmony of the network. This could even mean that the architect is no longer exclusively concerned with the physical building but also the systems that govern, generate and influence architecture or the environment at large.

While this research is by no means complete, it has tried to illustrate the features that architecture might need to respond to in order to effectively function in the 21st century. It also opens areas for further investigation, specifically, the development and application of value theory which is unique to architecture and how that could create architecture that truly benefit its space and time.

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