Scales of Design

Understanding of Architecture through Design

моей жемчужине у черного моря

Enoncé Théorique
EPFL Architecture
2022-23

Victoria Hatsenko

Under the supervision of

Alexandre Blanc, Professeur Enoncé Théorique
Marco Bakker, Directeur Pédagogique
Adrien Naruumi Grometto, Maître EPFL

Design

Industrial Revolution and its consequences. From many consequences, design is one of them. Though what is design?

Design is pervasive, the field of polarities, that has become a limitless field of creation of reflections of the society. History of design is relatively new, since separating from the field of architecture from the middle of 18th century under the circumstance of modernization and industrialization, rising as evidently independent and developing discipline. Manufacture, evolution, and development of design was defined by the people, industries, and the relationship between the two.[1]

To fully understand the terminology of design, is to specify the origins of the design practice which starts from defining the word — design (verb) describes an activity of preparing instructions for making an object or a building. Design (noun) shares two meanings: the final work achieved from instructions and the form of drawings, which comes from the Italian word disegno (drawing).[2] Recorded back in the Italian Renaissance (1568) design was a visualization of a concept or an artistic idea, which had a direct rendition to the modernist period. During modernism, architecture was defined as an entity of experience, while design was seen as a depiction of an intellectual concept that was expressed in a form of drawings and ideas.[3] The ambiguous term design occupies a range of fields and stands as an unseparated part of daily life. The familiar and apparent term has gone through a fair period of change and search for its position.

Design is also seen as a mode of non-material creation, that allowed intellectual ideas to stand on the same level as concepts of space and form. Fundamentally, design as a modernist term, created categories and sub-categories where it can relate to. Spanning across the fields, from business, to architecture, to the subcategories of creation: into three sides of graphic, interior, and industrial design. The statement focuses on fields of architecture and industrial design as a way to closely understand actions and movements that happened with the industry, society, politics, and spacial relationships.

Forty, Adrian. **Objects of Desire.** (New York, NY: Thames and Hudson, 1986), 8.

Forty, Adrian. 'Design' **Essay. In Words and Buildings**: A Vocabulary of Modern Architecture, (London, UK: Thames & Hudson, 2000), 136.

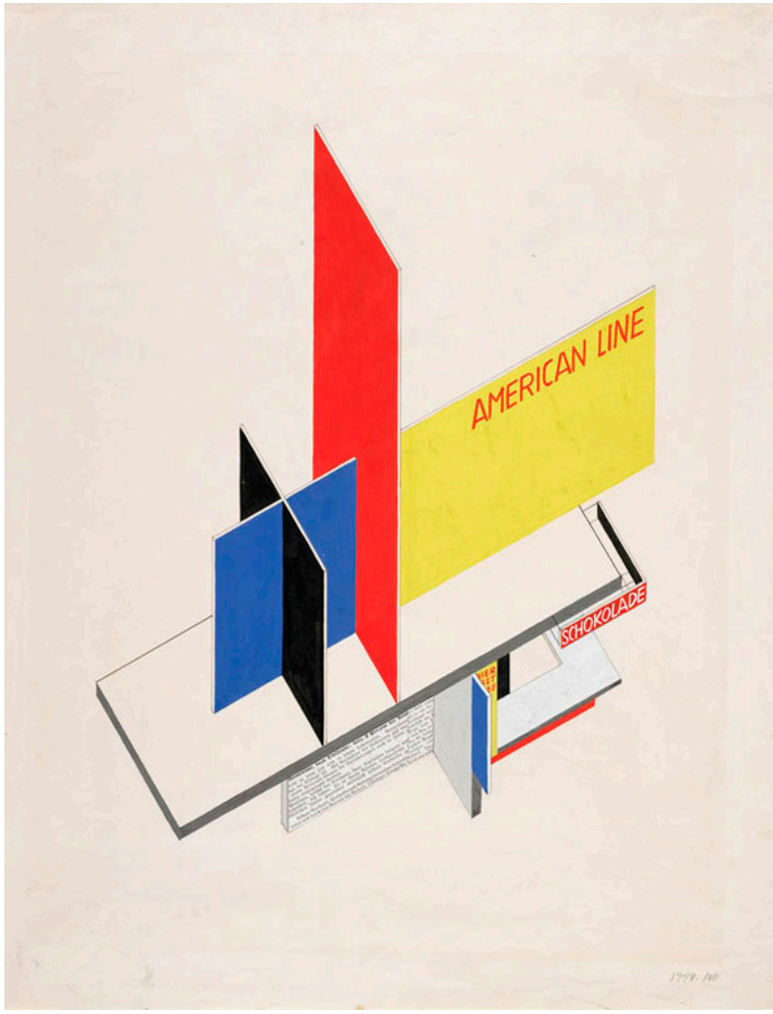
Ibid.

Designing as an essence — changed with the introduction of machines, the act of designing was not a new one but it was reestablished and accepted in a new system. Mass-production allowed design to spread everywhere and become an accessible part inherent part of the everyday. Design has become an economical tool that touches everything, but also a transmitter of ideas and social views and movements. Through history design has been a responder of politics, media, and consumer needs, — turning these movements into a physical form. Modernist design went through many changes and forces to gain recognition within the new society, the popularization of design happened through education and art.

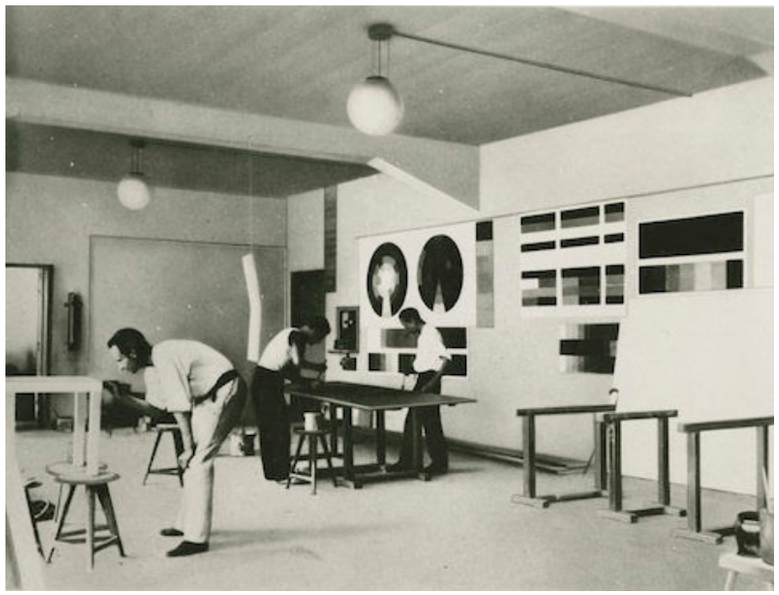
From the mid-twentieth century until today, design resubmerged with architecture, yet keeping a separate identity. Architects started to refer to themselves as ‘designers’ studying and teaching design in schools, designing spaces, and writing about design. This flow of change happened due to modifications in education systems in the early-twentieth century. Liberation of machine production was followed by discoveries and movements. Though, also, liberating the design field, birthing an industrial designer as a new profession, that had to be taught in schools. The first design school was Bauhaus established in 1919 in Germany led by Walter Gropius, making a school for creative works, that embraces architecture, sculpture, painting, and type, under the principles of the new order.[4]

Gropius, Walter 'The Theory and Organization of the Bauhaus,' in **Herbert Bayer, Walter Gropius, and Ise Gropius, eds., Bauhaus, 1919-1928**. (Exhibition catalog, Museum of Modern Art, New York, 1938), 15-22.

Herbert Bayer, **Design for kiosk and display boards**, Drawing on paper, 1924. © MoMA Catalog Bauhaus, 1919-1928, 1938, (book).



Mural workshop, Bauhaus Dessau, 1926. © Wallpaper, Bauhaus Archives, (photo).



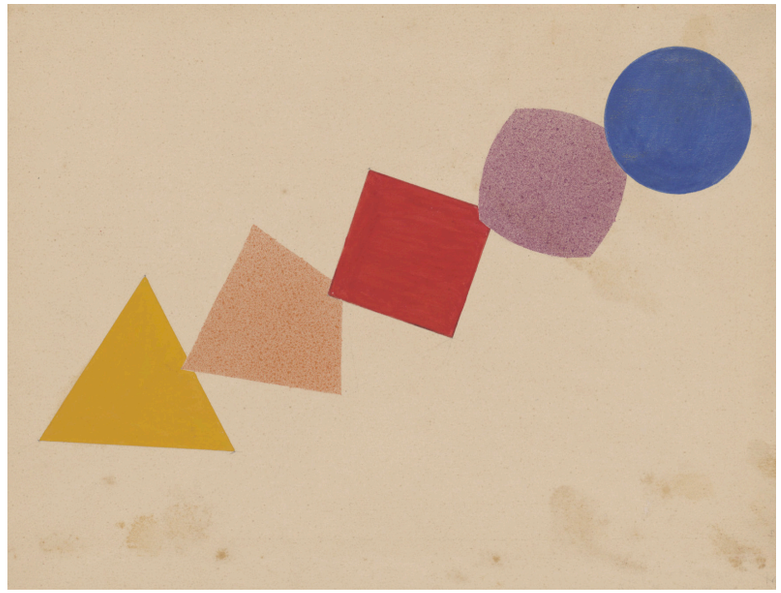
The curriculum of the school unified all crafts and movements into a single program to place equal emphasis on all skills. Even though the stress was on crafts, the school was in close contact with the industry, moving towards unity between the two perspectives: craft and machine production. The teaching meant to prepare designers to learn how to design for mass production; to master the skill, the machines were educators, as the technological advancements were used as a creative resource. The objective was to create a structured correlation on all stages of creation, to expand and study the abilities of materials, and forms, to promote harmony in the individual.[5] The school conducted studies in color, carpentry, pottery, stained glass, metal works, weaving, composition, architecture, type, and many more. Bauhaus strived to unify disciplines of practical art as inseparable components of a new architecture; the institution considered architecture as a larger category than other disciplines, yet complete when united. The school was not afraid of testing new materials and methods, or involving themselves in unconventional forms, as an abstract reflection of modern ideas.

Representation of the values was also reflected in the the building of the school was designed by Gropius himself. The building, interiors, and furniture expressed the modernist spirit, exploring abstract forms and testing materials and techniques, the practicality and truthfulness of spaces stood for the modern ideas.[6] Spaces were contained within simple,

[5] Ibid, 28-31.

[6] Woodham, Jonathan M., **A Dictionary of Modern Design,** (Oxford University Press, Oxford, UK, 2004), 39-41.

Arieh Sharon, **from Vasily Kandinsky's Drawing Bauhaus preliminary course,** Drawing on paper 1929. © MoMA Catalog Bauhaus, 1919-1928, 1938, (book).



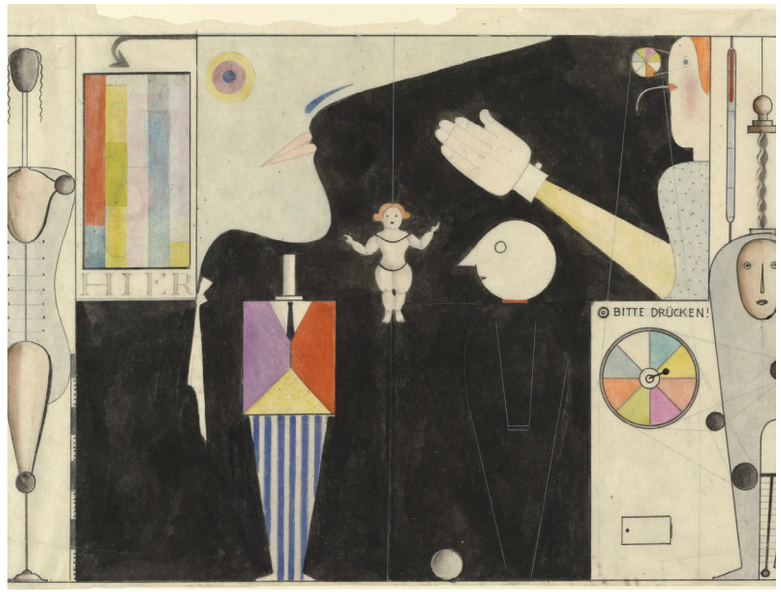
Marianne Brandt, **Metal designs**, 1926. © Lucia Moholy, (photo).

rational forms, to maximize the amounts of sunlight, rational circulation, and division of departments and spaces used for workshops, studios, and classrooms, the spaces were impersonal, without decor, expressing the values of the school. The classrooms served as laboratories for the improvement of standardized objects for mass production.[7] The standardization reflected on every scale, from type to objects to buildings, because Bauhaus was committed to the notion of social democratic visions of a well-designed environment. Bauhaus methods became to influence other art schools in Germany, spreading their methodologies as trained Bauhaus graduates started to get teaching positions. Later also finding positions outside of Germany, in countries like Estonia, Hungary, the Netherlands, Switzerland, Japan, and the United States, where later, the New Bauhaus Chicago was birthed.[8] The methodology and principles of Bauhaus started to grow and adapt worldwide, popularizing the teaching and aesthetic qualities.

Walter Gropius, 'Principles of Bauhaus production' (1926) **in Ulrich Conrads, Programs and manifestoes on 20th-century architecture,** trans. Michael Bullock (Cambridge: MIT Press, 1964), 95–97.

Walter,Gropius, 'The Theory and Organization of the Bauhaus,' in **Herbert Bayer, Walter Gropius, and Ise Gropius, eds., Bauhaus, 1919-1928**. (Exhibition catalogue, Museum of Modern Art, New York, 1938), 207.

Oskar Schlemmer, **The Figural Cabinet** (Das figurale Kabinett), 1922. © MoMA, New York. 2023 Artists Rights Society (ARS), New York / ADAGP, Paris, (painting).



Lucia Moholy, **Bauhaus Workshop Building**, 1925-1926. © Lucia Moholy, (photo).

Art was a moving authorizer, that supported a flow of changes and development that was moving forward with the education and the profession development. The growing number of opening museums in the 20th century has supported and celebrated the developing products of selected designers as a part of social education. The desired result would improve the tastes and cultural touch of the public.[9] A prominent example of a modern museum would be MoMA which aimed to invest in modern arts concerning public life, exhibiting everyday appliances as pieces of art. The promotion of modernism was through exhibitions, where the quality and functional and aesthetic values of objects would have been displayed. The diverse expositions of the elementary products of technological development played a significant part in establishing new senses of beauty and making design become a crucial element in the everyday.

Woodham, Jonathan M., **Twentieth Century Design**. (Oxford University Press, Oxford, UK, 1979), 154–155.

Taking a pivotal position in popularizing design and influencing the societal ideas of 'good' designs, museums placed a stamp of approval and validation onto the Bauhaus aesthetics, which were considered eccentric at the time. The new aesthetics and the technological advancements were achieved at an abnormal speed, yet the appreciation for them had not been popularized in the masses.[10] The new aesthetics aimed to make design pure and utilitarian. The acceptance, active participation, education, and development of the population was the next objective. Familiarizing the public with the rigid volumes, hard surfaces, unfamiliar materials, and a fresh outlook became a task of the arts.[11]

Peter Behrens,'Art and Technology' (1910) in **Industrielkulture: Peter Behrens and the AEG. 1907–1914**, (Cambridge: MIT Press, 1984), 212.

Lewis Mumford, 'The Assimilation of the Machine' in **Technics and Civilization**. (New York: Brace and Co., 1934), 334.

The interpretation of the design qualities listed previously was translated by painters and sculptors and was exhibited at museums. The Cubist school was the first to break the association of the 'ugly mechanical visuals', later followed by the constructivists.[12] The important pioneer figures in exploring the visions were Leger, Duchamp-Villon, Grabo, and Moholy-Nagy. Later, also followed by Braque, Brancusi, and Kandinsky. The visual exploration pushed the outlook on the machine as a sensitive instrument and a beautiful object. The process of abstraction in the arts showed that values of invention, rationalism, and organization take an important part in the liberation of art for all. The space where those art pieces were exhibited became a fraction of the flow. The flow of change for appreciation of temporarily curated projects. The opening of the museums to the general public, also, opened new movements within the museums. The space transformed and adapted with colors and designs, when a temporary installation enhancing a new identity and introducing the new aesthetic to the public, involving them in the space.[13]

Ibid, 335.

Boris Groys, **In the Flow**. (New York and London: 2016), 17–19.

László Moholy-Nagy, **Constructions,** 1923. © MoMA, New York. Eckart von Sydow, Hannover, Verlag des Buchhändlers Ludwig Ey, Hannover, Hannover, (print).

Vasily Kandinsky, **Compositions,** 1913. © MoMA Archives, New York, 1995, (painting).

Georges Braque, The **Table Still Life with Fan,** 1910. © MoMA, 2023 Artists Rights Society (ARS), New York / ADAGP, Paris, (painting).

Fernand Léger, **Propellers,** 1918. © MoMA, 2023 Artists Rights Society (ARS), New York / ADAGP, Paris, (painting).

Raymond Duchamp-Villon, The Horse, 1914 © MoMA, 2023 Artists Rights Society (ARS), New York / ADAGP, Paris, (sculpture).

Galerie de l'Atelier Brancusi, Centre Pompidou, 2015 © Adagp, Paris. © Manuel Braun, 2015

The text investigates the changes and possibilities in relationship of objects and architecture on different scales in the period after the the modernists design aesthetic took an independent role. The range goes from the largest scale of network to the scale of the space of inhabitance to the smallest scale of object. Each scale is also intersecting relationships between human within those spaces, ranging from the ideas to physical relation with the body. The forthcoming of scales divides into three chapters of: network, space, and object.

Designing is a shared activity, that is shared between a designer, engineer, technical expert, manufacturer, merchandiser, and distributor, these roles are places within buildings and connected through the largest scale of the invisible network of connections that travel through spaces of production. The production of designed objects happen within the walls of factories, offices, and other large scale buildings. The chapter investigates what is the process of making the design within those spaces, what role does the space make in production of design, and what transformations do spaces go through to reach the result of a produced object. The following scale of space looks at direct relationship between architecture and objects within the domestic scale. The domestic scale represents personalization of space, where program throughout the case studies stays similar, but architecturally occupied differently. The differentiation happens through different architectural expressions and the relationship to the placed objects. The last and the smallest scale is of an object, the chapter investigates an object separately from the context its in, looking at the dimension, materiality, and formal qualities of the object.

Network

Ideas and tools become the most abstract and ephemeral scale of relationship between industrial design and architecture. These concepts take place within walls but also travel through them, creating a network of visions and processes that happen in order to create objects of use. Evaluating relationships between the two is possible by looking through the prism of architecture in which the actions of creation are taking place. The architectural typology of such has gotten in a neutral form; where meaning of the space does not attach to the contents of what is within but rather become transmittable. This concept became possible when borders of production became blurred, gaining an ability to happen in any condition, but still being joined by processes that travel through a field of invisibly connected spaces. These spaces are adaptable and depend on the meaning placed on them, even if the formal language of the space stays the same. This typology is a rather recent program of neutral, generic, and anonymous background space, which developed with the industrial revolution, when the ever-changing technology needed to fit within a typical space. The network of processes includes designing, manufacturing, learning, distributing, exploring connections between the given space of action and the designed objects within them.

To establish and understand a network of spaces and their qualities, the starting point is to define the steps of creating a product. Changes in the design field were not only upon the machines that became available, gaining popularity within the developing economy, but also the social systems on which they had operated. From the early Industrial Revolution, the fluctuations within the society had taken over each sphere of life, including spaces of labor and home, characteristics of spaces changed when ideas of labor, oriented themselves towards the relationship between the capital and industries.[14] Before the Industrial Revolution, traditionally, workshops were joined within the homes of producers, every step of production was happening within the house; a woman and children would typically assist in the making of objects. Since these men were self-employed their income was dependent on each sale they made, and with the introduction of machine labor, it became more difficult to compete. The sellers interest did not concern with quality and singularity of each piece produced, but rather the quantity of the objects to maximize the profit.[15] The work at the developing sweatshops became more and more attractive because labor was partially machine operated, therefore, making it physically easier with a stable income. The machines were the engines and drivers of the production and the men were a part of it, later creating another separation between manual and mental labor.[16]

Forty, Adrian. **Objects of Desire.** (New York, NY: Thames and Hudson, 1986), 51.

Ibid, 55.

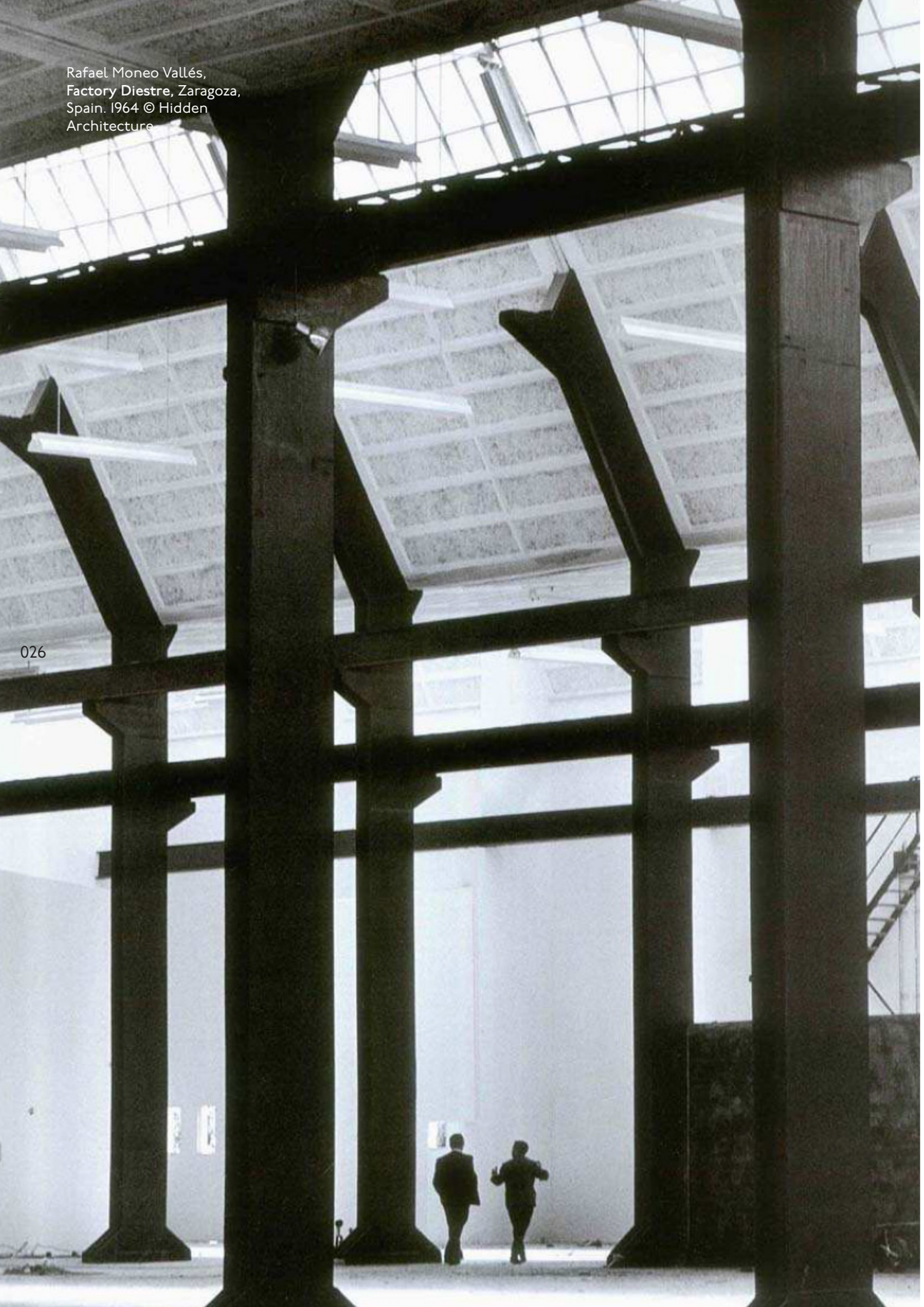
Marx, Karl, **Capital, vol. I,** (Harmondsworth: Penguin Books, 1976), 482-483.

Manual labor happened within the walls of factories, which was a result of the early industrial revolution creating a new architectural typology. The development of architecture of labor went hand in hand with the development of designed objects. The defining terminology of the 19th century factory was a space for many operations and orders where skilled working men operate within a system of powers leading towards a singular result.[17] The two main components of factories were men and machines, the symbiosis between the two had to be reestablished as most of the skilled workers had previously come from the small scale manufacturing. The balanced relationship is achieved with a systematic structure of the factory, where desired automatization is a result of a strict manual of actions, where each man and each machine is responding to a singular action. The quick pace of the machine development led to constant improvements of the equipment, causing replacements and changes within the factory buildings, meaning that an architectural program of a factory space had to be able to adapt towards these changes. Discovery of iron in building construction allowed for open plan building that would not have any architectural constraints to fit the tools.[18] The invention of the long-lasting structure that would fit accommodate technological advancements acquired for an open plan layout. The steel frame brought the necessary flexibility, which allowed for customization and modularity of spaces that served as a theatrical backdrop to the activities happening inside.

William Harvey Pierson, JR, 'Notes on Early Industrial Architecture in England', in **Journal of the Society of Architectural Historians**, vol. 8, no.1/2, June 1949, 1–2.

Ibid, 54–55.

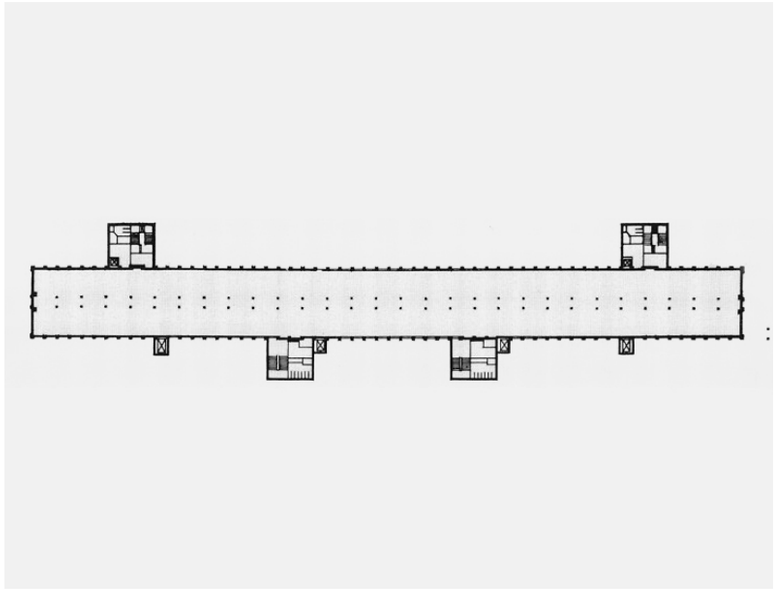
Albert Kahn, **Export Building, Half-Ton Truck Plant**, Chrysler Corporation Dodge division, Mound and Eight Mile Roads, 1937-1939, Detroit, Michigan. © Chicago History Museum, Canadian Centre for Architecture, Montréal, Hedrich-Blessing, (photo).



Rafael Moneo Vallés, **Factory Diestre,** Zaragoza, Spain. 1964 © Hidden Architecture

Hans Hertlein, **Schaltwerk Hochhaus,** Berlin, Germany, 1926. © Hidden Architecture, (photo).

Hans Hertlein, **Schaltwerk Hochhaus,** Berlin, Germany, 1926. © Hidden Architecture, (plan).



After the Second Industrial Revolution in the United States, a layout of a typical factory responded to the needs of the capitalist system, utilizing the latest building structures. That meant creating a type of structure that would accommodate past, present, and future requirements of the industry. The new program also birthed a new architect, — an industrial architect, whose job was to create balance between business and the industry.[19] The industrial architects developed a standard configuration that consisted of a single-story steel-framed space covered in glass curtain wall and supported by the long spanning trusses along the roof to create uninterrupted by columns space. Architecture of production developed into a recognizable formal language of the utilitarian and pure nature, that could be seen as a space without design. Lack of seemingly designed space created a critique of bigness and boringness of the spaces, arguably, the architecture of labor served as a backdrop to all and any program happening within, adjusting towards the need of a business that needed a boring and generic place to settle.[20] However, the architecture of a factory is ought to serve the business that is involved with the neutral space. Albert Kahn, who was one of the main creators of the industrial architecture claimed that business demands an all permitting space, motive of which is to be the practical. The building is finished when occupied with the objects and the men who induce the space with personality, without a business the architecture is empty, large, and incomplete. The bigness of the space is supported with the revolutionary inventions of elevator, electricity, air-conditioning, and steel, making the typology conceivable.[21] To break the factory down, the architecture consisted from two layers: a permanent and a temporary. A permanent layer included: technical cores, steel-frame, and standard envelope; on the other hand, the temporary layer meant any object or activity that was introduced to the space with men and business.

The patterns of capitalist manufacture are described by Marx and evaluate the development of labor and production; the third stage of capitalist manufacture is when the industry is machine-operated through the factory system.[22] Attaining harmony between the permanent and the temporary layers created a flexible and coherent system of production. The fabrication of objects happened within the harmonious system, which also changed the objectives of production. In the previous stages of capitalist manufacture, the independent producers could develop and complete numerous design options for sale, in case of the factory production, the aim was to maximize the quantity and efficiency in manufacturing, in other words, — rationalization of production. Since places of production generally had similar formal language of architecture, the main distinction was in the machines used for goods made. Machines were often seen as a negative value to bring to the design world, however, the machines are created and operated by men, which makes them an extension of the worker. Besides, the social values

Zimmerman, Claire, 'Albert Kahn in the Second Industrial Revolution', in **AA Files**, no. 75, 2017, 30-36.

Ibid.

Koolhaas, Rem, 'Bigness', in Rem Koolhaas, Bruce Mau, Jennifer Sigler (Ed.), **S, M, L, XL**. (New York: Monacelli Press, 1995), 498-499.

Marx, Karl, **Capital, vol. I**, (Harmondsworth: Penguin Books, 1976), 480-483.

had changed, the new type of production liberated new personalities and movements, challenging the previous systems, opening a new world.[23]

Machines gained an ability to produce a single object endless number of times, that became possible with the critical outlook on what products is needed. A consistent product is when the appearance of a product matches the catalog where it has been sold; the executed version must be indistinguishable.[24] Therefore, the process of making mass-produced objects had to be looked at from a new perspective to achieve a uniform result, where learning from the machines and their abilities became essential part of creation. Nudging towards the platonic and pure forms, experiments with materials and the new order and discipline.[25] The traditionalists who led to the theories of anti-machine ideas, refusing to adjust to the new order and accept the machine as an instrument of creative purpose. While spreading ideas of ruined beauty, yet tools did not dictate appearances. To blame the aesthetic changes on the equipment, — is to disregard the specific social and economic views of the late industrial revolution. Mumford (1934) said '…an art based like handicraft upon a certain stratification of the classes and the social differentiation of the arts could not survive in a world where men had seen the French Revolution and had been promised some rough share of equality".[26] The social construct of the past could not have continued to be realized in the same stylistic manners, the objects that used to belong to palaces and collectors, and produced by highly skilled handicraftsmen did not align with the utilitarian nature. The overproduced objects had reduced a merit of age or rarity, therefore, transforming to no longer valuable or collectable items. The main skill to be learned from the time period is to understand the machines and the qualities. The tool was also an educator, since large-scale manufacturing was a relatively new system and the skills obtained within were taught on-site, the visual side prevailed over the quality of the product. Within the large production, standards and discipline had to be rethought to improve quality and reduce factors of workers were culpable in scamping.[27] The steps that had to be taken towards change within the new system, which leads to the next point in the network — a space for mental labor, an office.

Lewis Mumford, 'The Assimilation of the Machine' in **Technics and Civilization** (New York: Harcourt, Brace and Co., 1934), 321-325.

Forty, Adrian. **Objects of Desire.** (New York, NY: Thames and Hudson, 1986), 30-32.

Lewis Mumford, 'The Assimilation of the Machine' in **Technics and Civilization** (New York: Brace and Co., 1934), 324.

Ibid, 347.

Forty, Adrian. **Objects of Desire.** (New York, NY: Thames and Hudson, 1986), 53-58.

Victor Contamin, **Exposition Universelle,** Paris, France. 1889 © Atlas of Places, Library of Congress (LOC), (photo).

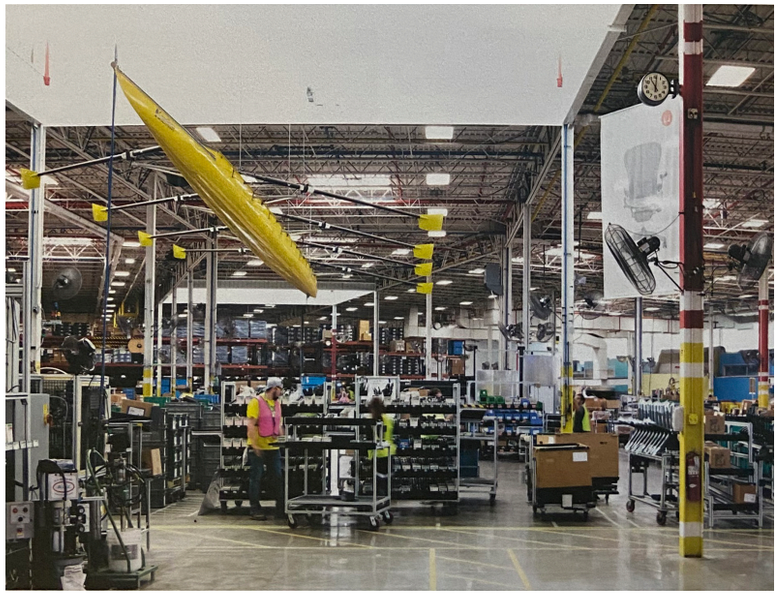
Engine assembly line at the Toyota Kamigo Plant, Toyota, Japan, 1970 © Herman Miller a Way of Living, (print).

Gerrit Rietveld, De Ploeg Textile Mill, 1958. © Het Nieuwe Instituut, Textiel Museum Collection, Photographer unknown, (photo).

Louis Kahn, **Olivetti-Underwood Corporation,** Harrisburg, Pennsylvania, 1966 – 1970 © ArchEyes, Louis Kahn Architects, (photo).

Pier Luigi Nervi, **Burgo Paper Mill**, 1962 © Atlante Architetture, M. Introini, (photo).

Herman Miller GreenHouse, production area with natural lighting, Holland, Michigan, 2017 © Herman Miller a Way of Living, (print).



Mental labor of designing has one quality in common, depersonalized architecture, which adjusts to any mission happening within, changing with time, movements, or needs deriving from factory architecture is an open free plan — a typical plan.[28] As in factory architecture, neutral architecture is only complete when employed. Instead of growing horizontally, as a factory, the growth would go in the vertical direction to accommodate all affairs in close proximity. The term typical plan was introduced by Rem Koolhaas describing the repetitive homogeneity of 20th-century office buildings, where the composition of a plan is stripped down of all its qualities and reduced to calculated relations between structural elements.[29] The typology channels the world within itself, becoming a latticework organized by a collection of ideas and actions, which are planted within the typical plan. Typical plan is a composition of a frame, technical core, and an envelope, — the rest, is an outcome of speculation of rules, which form a collection of stacked activities and performances of its occupants, the typical plan exists only when the performance is ongoing.[30] The space establishes artificial nature within, the artificiality self-improves illumination levels, temperature, humidity, and communications. Neutral architecture as such is a backdrop, implying a space that can be occupied, manifesting a sense of creativity, flow, change, performance, and event. The primary invasion is done by action; the utmost space is within the emptiness, projecting limitless options for occupation. The space for limitless possibilities

Koolhaas, Rem, **Delirious New York : a Retroactive Manifesto for Manhattan.** (New York :Monacelli Press, 1994), 26-27.

Marullo, Francesco, **Typical Plan: The Architecture of Labor and the Space of Production**, 2014, 105.

Marullo, Francesco, **Pure Program and almost no form: Notes on Typical Plan and Ivan Leonidov.** (San Rocco Magazine, no.7, Summer 2013), 59.

hosted every need, including industrial designers' offices.

Mental labor separated from manual, therefore, those who worked and factories and offices had separate responsibilities for a uniform result. The typical plan allowed for freedom in the designer's office arrangements, which were typically organized in open space. The offices open for opportunities for idea exchange, so the spacial qualities of the design space are one of the crucial elements for a successful work process.[31] Neutral architecture in the context of design opens towards possibilities of hosting anything within itself, the space is indifferent towards men's activities, which offers a space for limitless imagination to intervene and engage with the new world.[32] The organization of the designer's space can also be a space for testing new products, where the space becomes a learning tool, that can advance ongoing projects. The space is an opportunity for mobility and flexibility as a creative and collaborative tool. To further explore the possibilities of occupying a workspace, post-occupied examples have to be looked at. In the Chicago Loop in 1958, SOM (Skidmore, Owings & Merrill) designed the Inland Steel building, which is 19 floors tall skyscraper. The plan is radically open, without any hierarchy in columns-less space leaving full flexibility to the incoming occupants. The column-free interior is inspired by the Miesian design concept of universal space, leaving an unobstructed, usable space.[33]

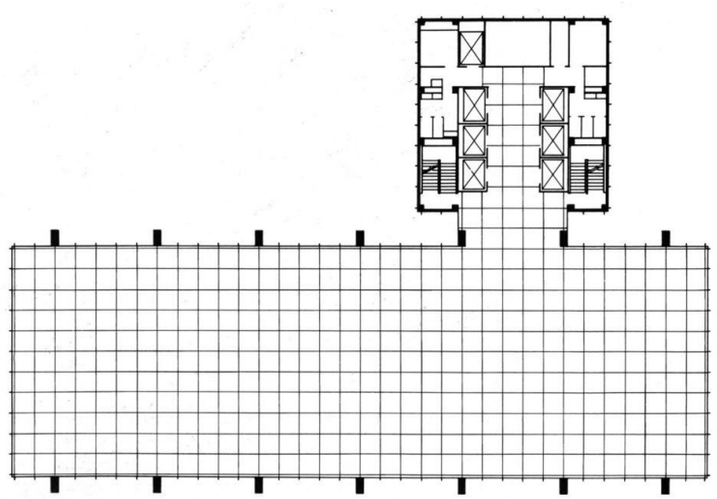
Caywood, Douglas B., **The Designer's Workspace: Ultimate Office Design**, (New York: Architectural Press, 2003), 154-155.

Lewis Mumford, 'The Assimilation of the Machine' in **Technics and Civilization** (New York: Harcourt, Brace and Co., 1934), 361.

Chicago Architecture Center, **Inland Steel, Buildings of Chicago**. Accessed January 10, 2022. https://www.architecture.org/learn/resources/buildings-of-chicago/building/inland-steel/.

SOM, **Inland Steel Building**, Chicago, Illinois, 1958 © Skidmore, Owings & Merrill, Ezra Stoller, (photo).

SOM, **Inland Steel Building**, Chicago, Illinois, 1958 © Skidmore, Owings & Merrill, (plan).



SOM, **Inland Steel Building**, Chicago, Illinois, 1958 © Skidmore, Owings & Merrill, Ezra Stoller, (photo).

One of the floors is composed of long-spanning tables occupying what seems to be the full width of the building, where the tasks and boundaries are blurred. The loose division of the program embraces inhabitants to adapt the space to accommodate their specific needs. Completed in the same year, 1958, the Seagram Building is a 38-story structure designed by Mies van der Rohe in New York City, other than a notable Miesian facade and proportions, the building was composed of typical components. Fitting into all categories to be considered a typical plan: a grid steel frame system with a core, and contained within a curtain wall.[34] The examples of occupied offices show a range of possible solutions, seemingly, the arrangements are compartmentalized with a designated space for each activity. The carefully organized desks and chairs are placed perpendicularly to each other in a linear arrangement with a calculated structure. On one floor, the distinction between each performance is strict and contained within the rooms, which are added on after the business has resided. The two previous settings explore different options for order, however, both have a strict regime. A radically different take on the organization of the typical plan was taken with the invention of Bürolandschaf, or office landscaping. The office environment has a free arrangement of objects to improve communications and the flow of information. Basing each activity on natural adaptation and lack of designated rules only positioning the actions within the reachable areas.[35] The workers were free to create an unrestricted universal space and decentralized control over space. The options for finishing a workspace are infinite, the designers who complete the space do it from the established ideas, of possibilities of the flexible and interchangeable mode of creation. Open spaces allow for alteration, possibilities of teamwork, and learning from the others.

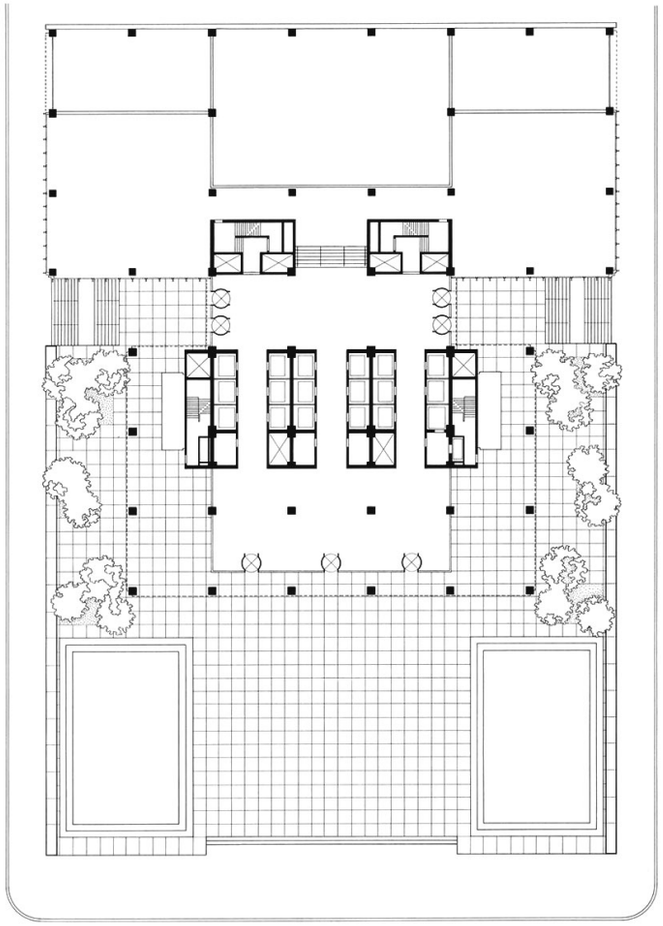
Architectuul, **Seagram Building**. Accessed November 27, 2022. https://architectuul.com/architecture/seagram-building/.

Branden Hookway, Bruce Mau, Sanford Kwinter (Ed.), **Pandemonium : the Rise of Predatory Locales in the Postwar World**. (New York, NY : Princeton Architectural Press, 1999), 61-65.

Ludwig Mies Van Der Rohe, **The Seagram Building**, New York City, New York, 1958. © ArchDaily, Ezra Stoller, Esto, (photo).

Ludwig Mies Van Der Rohe, **The Seagram Building**, New York City, New York, 1958. © Archaic Studio, Ezra Stoller, Esto, (photo).

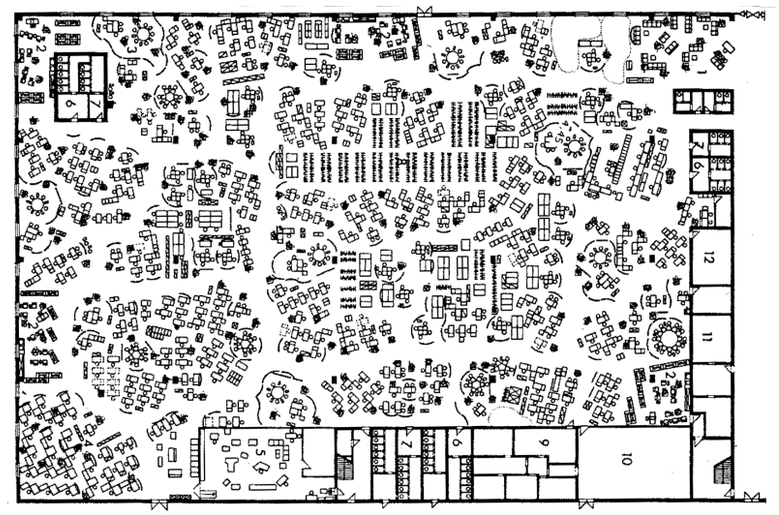
Ludwig Mies Van Der Rohe, **The Seagram Building**, New York City, New York, 1958. © ArchEyes, Mies Van Der Rohe, (plan).



Walter Henn, **Osram Headquarters**, Munich, Germany, 1965 © Henn Architecture, (photo).

The German planning office "Quickborner Team" **designed the offices of the Karlsruhe public utility company between 1975 and 1977,** © Stylepark Magazine, Quickborner Team, (photo).

Burolandschaf Concept, 1950s © Branden Hookway, Bruce Mau, Sanford Kwinter (Ed.), Pandemonium : the rise of predatory locales in the postwar world. New York, NY : Princeton Architectural Press, 1999. (plan).



Ludwig Mies Van Der Rohe, **Seagram Building Construction**, New York City, New York, 1956. © ArchEyes, House of Patria, (photo).

The process of a network is a mode of physical and intellectual production in correlation with the development of design in architectural spaces. Those architectural spaces take a specific role to enhance and emphasize the actions that are happening inside. The role of a background architecture is relying on quality of spaces created by two layers, permanent and temporary. The two take equally important positions, the structural spaces differ and can alter the occupation of space, just as much as the post-occupation with personalization of spaces. The commonality in the architectural value is to bring to the front the acts of making, designing, learning, and featuring. These actions are positioned within a larger network of connections, as many cogwheels, these components become a small part of a large group to fabricate design. The fabricated designs have a life outside of the network, the next application of the objects is within the walls of a domestic environment. The condition of background architecture can be seen on multitude of purposes and programs, the ever-changing rhythm of processes is intertwined with the network of change. The neutral spaces host and accept any terms and create connections on the grand international scale where borders do not exist anymore.

Space

What is space, how to understand sensation of space? Ways of forming spaces are directly correlated to processes of designing, the dimension of space is unobtainable since it is a representation of mental side of architecture. Space is perceived through the mind — a tool through which understanding of the world happens. Architecture has an ability to manipulate such perception, and alter the mental image of how to see the space.[36]

Spacial understanding happens through emanation of the human body within. The body relates to architectural elements like floors, walls, ceilings, openings, but also to objects placed within the architecture as elements of direct interaction, like tables, lamps, chairs, etc. The perception of the body is visual and physical, therefore, a critical outlook is applied on materials, colors, and textures of the spaces that modify the architectural elements and objects. A place for the closest interaction with architectural elements and obtained objects is at home. The chapter takes a look at elements of influence and friction between arrangements, colors, and proportions influence the perception of space.

The adaptation and acceptance of the machine aesthetics, — created a play on movements and experiments. Attitude towards aesthetics and beauty had been changing and developing throughout modernism and later reviving into post-modernism. Allowing limitless options of occupying interior space. The formal and visual experiments have been reflected on the domestic aesthetics. Design continued to go hand in hand with architecture, but in a new contextual meaning. Many architects followed the teachings of Bauhaus, succeeding the ideas of Walter Gropius of total architecture. The process of learning the principles of mass-produced designs, transformed into a process of reproducing designers as a product.[37] The formal education that transformed architecture into a new profession of collaborative experience between design, arts, and skill, allowed architects to claim control over countless scales of creation. Architecture is believed to influence everything it touches, from cities, to furniture, to coffee pots.[38] Everything is the matter of control, the matter of total architecture, depending on the level and language of totality. Implosive design is the expansion of design to touch everything, the expression of totality can be visually seen differently, presenting a range of options for control. Within the domestic environment, designed objects and architecture operate on multiple levels of control and differentiation. The conditions of interaction between objects and architecture within the scale of space is looking at a realm of situations of flexible versus contained, rich versus bare, and pale versus loud. A critical outlook on what role object take within a domestic environment, is taken through analyzing case studies and the role of objects within them.

Forty, Adrian. 'Space.' Essay. **In Words and Buildings: A Vocabulary of Modern Architecture,** (London, UK: Thames & Hudson, 2000), 256-258.

Wigley, Mark, 'Whatever Happened to Total Design?' **in Harvard Design Magazine, No. 5,** (Cambridge: MIT Press, Summer 1998), 19.

Ibid, 18.

House of the Future by Alison and Peter Smithson designed in 1956 for the Daily Mail Ideal Home Exhibition. The concept followed was to design a house that would operate like a car, where appliances and utility service would become adjustable to the user's needs but also integrated within the structure of the house.[39] The house was designed for an exhibition as a projection of what future homes would look like in 25 years, based on rethinking current suburban homes. The house was for a modern couple of two people, that would find a home in the modern home, which aims to become a new conventional typology within the developing society. The exterior envelope of the house is a rigid rectangle and when placed within the multiplicity, would have no openings to the exterior, becoming an isolated environment. The house creates its world on the inside, which is independent of what is happening in the outside world. The almost bunker-like house was designed shortly after World War II, which can be seen as a reflection of the social nature of the time. Instead, all openings face a central interior patio, providing a private outdoor area, visually connecting each space, and also making the exterior space the most intimate.[40]

The dwelling's unique character is in its duality and materiality. Where none of the architectural elements contain a single purpose, each carries built-in furniture pieces or mechanisms to serve the user. The material of the house is primarily plastic which strongly evokes notions of progress. The organization of spaces happens through actions of cooking, eating, sleeping, bathing, and resting, these actions are organically divided with rounded and organic shapes that create a seamless flow through space. The primary material of construction was plastic, which adapts and turns to any desired form, the qualities of material opened for possibilities of constructing odd and curved volumes. The absence of doors works with the composition of rooms that keep them private but still connected. Walls not only define the spacial division of the house, but also accommodate appliances, sanitary amenities, and storage space.[41] The functionality of the house equates to a car, where all amenities are built-in, and the appliances are integrated into a structure, making it both, a structural element and an objects of use. The objects are bounded to their specific functions, which are the reflection of what the imagined future is. Everything is almost seamless and integrated within the structure of the house, the bathtub is sunken in the ground, the shelving is integrated with the walls, and in the living room, the table is built-in, and rises to different heights to serve different purposes as a coffee table, dining table, or can sink completely under the floor, all done using a remote control. Other objects in the house are for mostly sitting purposes, such as a pogo chair with a high back, a tulip chair which is an armchair, and an egg chair, a low stool. Technologically, the dwelling is fully automated and becomes a controlled environment with the ideal lights and temperature inside. That applied to sleeping without any covers

Alison and Peter Smithson, 'The Smithsons,' **Changing the Art of Inhabitation: Mies' pieces, Eames' dreams, The Smithsons** (London: Artemis 1994), 110–116.

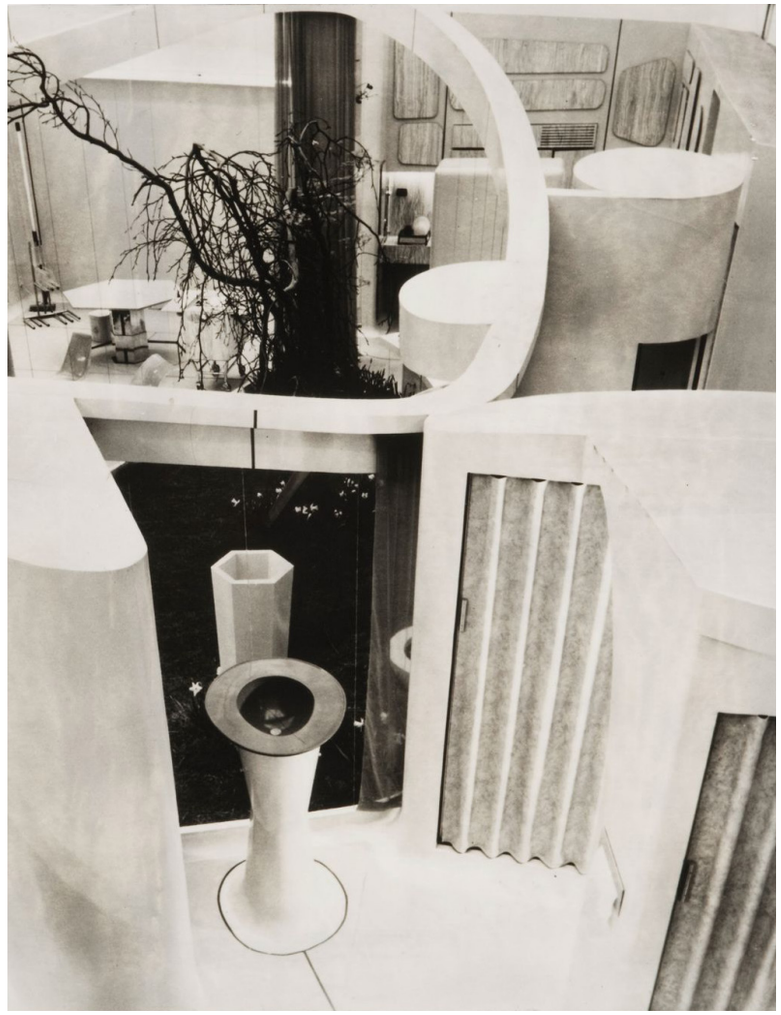
Owens, Gwendolyn. **Alison and Peter Smithson's 1956 "House of the Future"**. Gastronomica 1, no. 1 (2001): 18-21. doi:10.1525/gfc.2001.1.1.18.

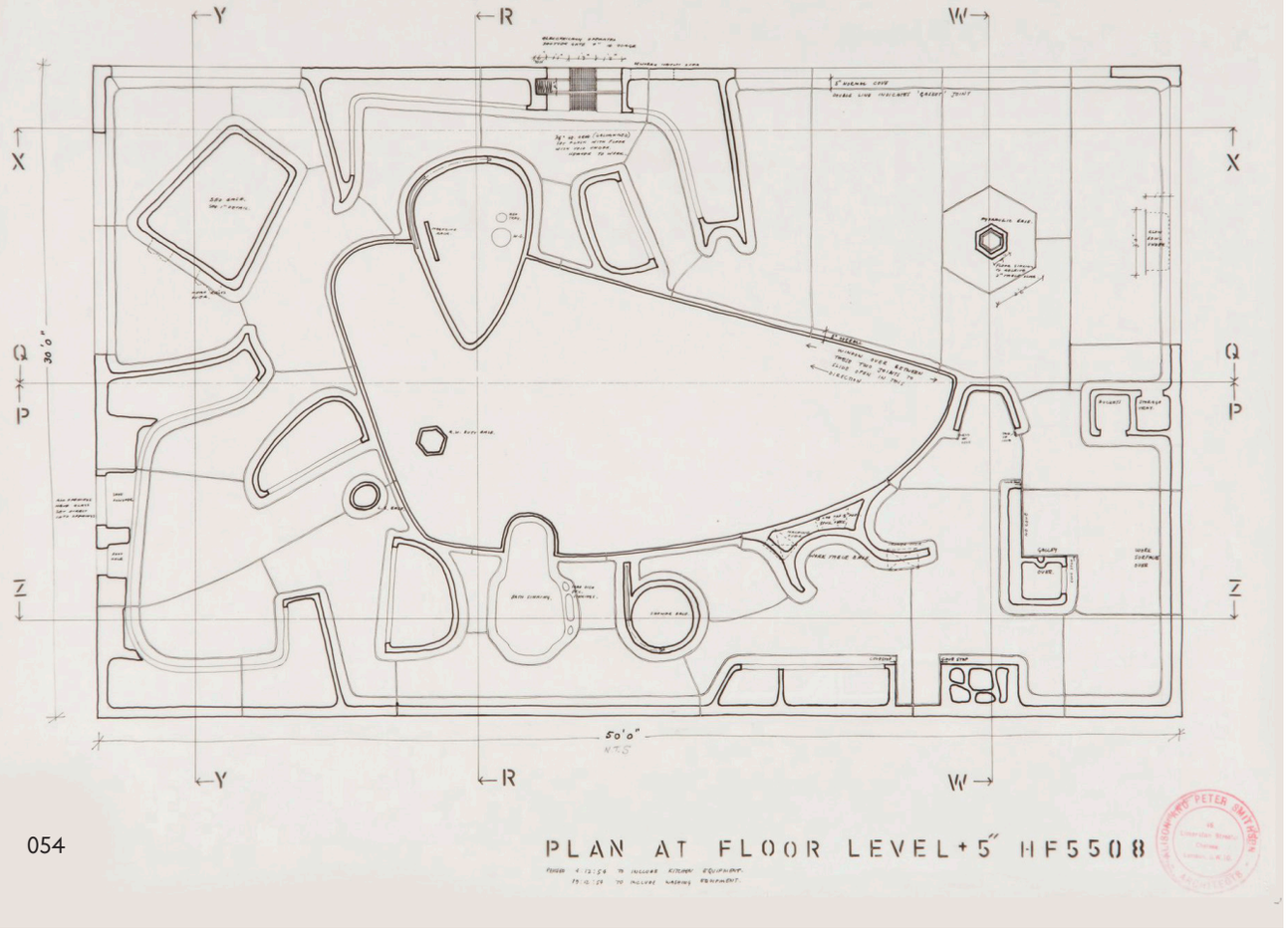
Jurjen Zeinstra, **Houses of the Future. 25 years of Critical Reflection on Architecture**, OASE, (75), 204–205, 2008. Retrieved from https://www.oasejournal.nl/en/Issues/75/HousesOfTheFuture

or blankets, and with a designated placement for the head, as that was the ultimately perfect position. The shapeless material merged rooms and objects into a spatial continuum, creating an illusion of flexibility and control over the space.[42] The house itself becomes a manufactured object, where the design curates each dimension of how the house is meant to live in; spanning from the clothes worn in the house to the technology used inside, to the materiality, and form of the house. This brings back the question of control in architecture and totality of design, radical theatrical openness, vis-à-vis the patio, and continuity of spaces, creates an illusion of openness and control of the user, but everything was previously predetermined by the architect. Though the project was a projection of the future within the setting of an exhibition, the idea of control and potentiality is still applicable to households in the 1950s.

Ibid, 211.

Alison and Peter Smithson, **Interior view of the House of the Future** looking down from the viewing platform, Daily Mail Ideal Home Exhibition, London, March 1956 © Canadian Centre for Architecture, Montréal, Unknown photographer, (photo).





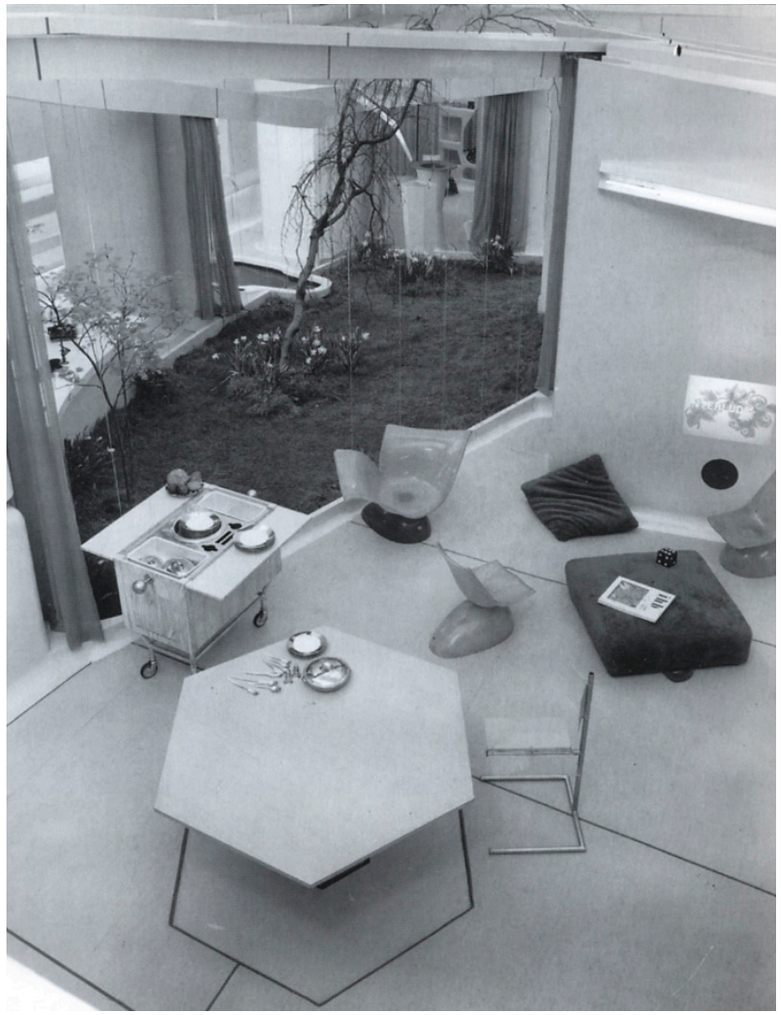
Alison and Peter Smithson, **House of the Future** Plan taken five inches above floor level, Daily Mail Ideal Home Exhibition, London, 19 December 1954. © Canadian Centre for Architecture, Montréal, (plan).

Alison and Peter Smithson, **House of the Future,** Daily Mail Ideal Home Exhibition, London, 1956. © Alison and Peter Smithson, Council of Industrial Design, (photo).

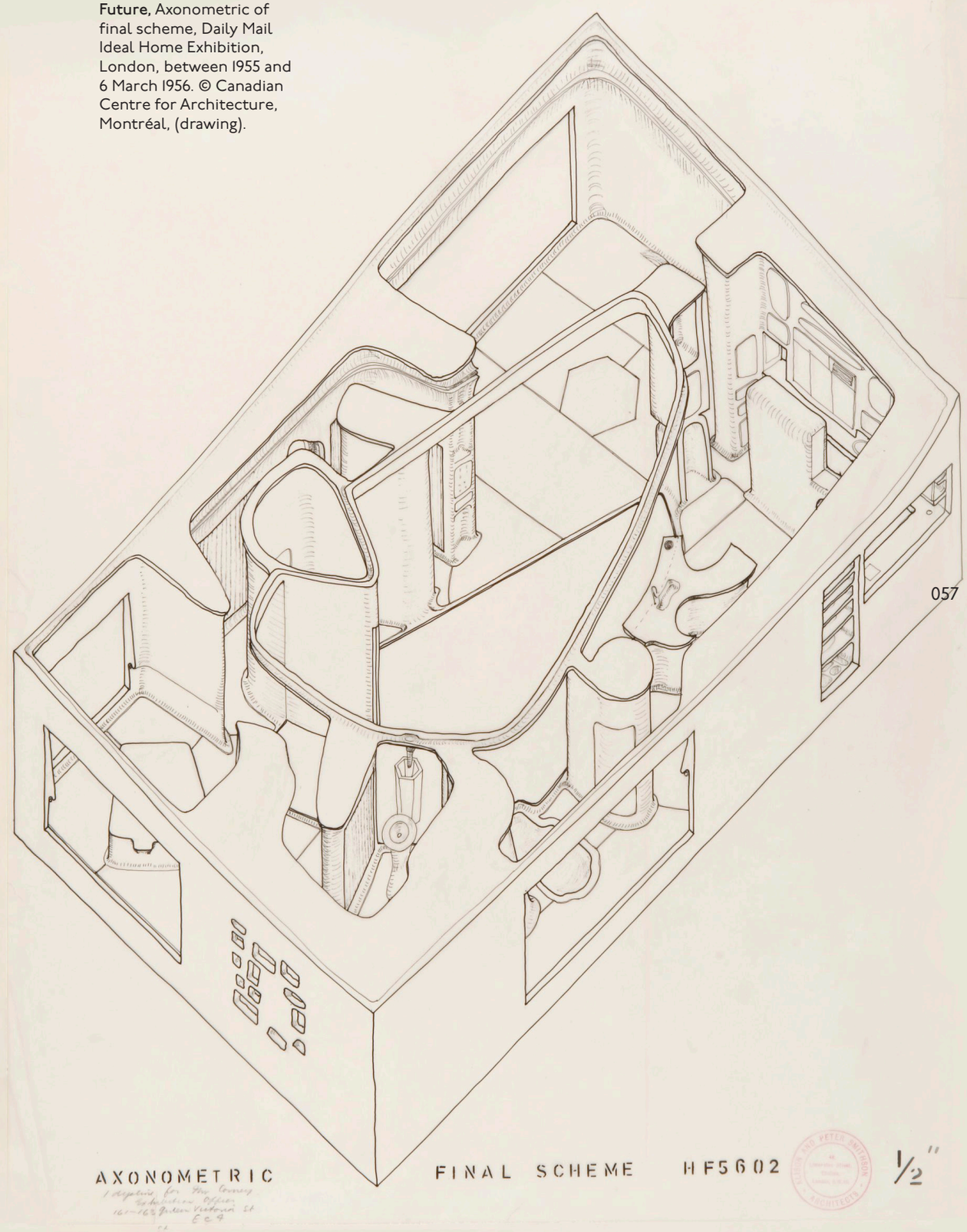
Alison and Peter Smithson, **House of the Future,** Daily Mail Ideal Home Exhibition, London, 1956. © Alison and Peter Smithson, Without Rhetoric: An Architectural Aesthetic, 1955-1972. Cambridge:The MIT Press, 1973, John McCann, (photo).

Alison and Peter Smithson, **House of the Future,** Daily Mail Ideal Home Exhibition, London, 1956. © Alison and Peter Smithson, Design Museum, Kunstinstituut Melly, (photo).

Alison and Peter Smithson, **House of the Future,** Daily Mail Ideal Home Exhibition, London, 1956. © Alison and Peter Smithson, Council of Industrial Design, (photo).



Alison and Peter Smithson, **House of the Future,** Axonometric of final scheme, Daily Mail Ideal Home Exhibition, London, between 1955 and 6 March 1956. © Canadian Centre for Architecture, Montréal, (drawing).



Louis Kahn famously started the designs with squares; the Fisher House was designed in 1964 in Hatboro, Pennsylvania, the house is distinguishable by its dual cubic volumes that activities. The plan stands out with its simple geometry, creating a separation of public and private space with a simple distinction of cubic volumes. The private volume is perfectly square and is aligned along the north-south axis and the public. The public cube is intersected and partially inserted with the private cube; the public volume is a rectangular plan that is rotated exactly 45 degrees, facing northeast and southwest directions. The public rectangular space holds the living, dining, and kitchen space in a double height-room.[43] Whereas the private volume carries a primary bedroom on the ground floor and three more bedrooms on the second floor.

The pure colors of the materials are well adapted to the natural green environment of the area. The house sits on a stone platform that elevates the house from the ground for structural purposes but also creates a raised plinth that plays with the traditional motifs versus the modern plan of the building. The facade of the entire house is made of warm cedar wood. The exterior has many large, frameless openings that fill the house with sunlight all year long, the windows take a dual purpose in the interior of the house. The public volume consists of living, dining, and kitchen areas; where the living space is separated by a central freestanding stone hearth. Though the dining and kitchen area is separated by the stone hearth, the flow of spaces stays uninterrupted.[44] The stone fireplace is shaped as a half circle and breaks the continuous system of right angles, becoming a central gathering space. The multi-colored stones on the hearth play with every color from the house and from the outside, since the grand windows pull the exterior colors inside. The stone is repeated as the one on the plinth, finishing the interior composition and making the fireplace almost sculptural, camouflaging the fireplace into a freestanding object standing in a double-height space. Every object placed inside carries the same language from materiality to sleek forms, clean lines, gentle curves, and soft shapes.

The open plan of the building does not restrict the positioning of each object, however, the positioning of each piece feels predetermined and calculated. This is shown through carefully positioned window openings that bring in light to the house, the position of the fireplace, and the built-in furniture pieces, that inherently become part of the house. Throughout the house, the windows are used as occupiable spaces or pieces of built-in furniture, such as benches, tables, or storage spaces. These built-in pieces can be found everywhere in the house, in both shared spaces and private bedrooms. The window pockets differ in form and are specifically wood crafted to accommodate each window to serve many needs. The house strives to carry ideas of modernism within a place of familiarity, a home. The modest range

Architectuul, **Fisher House**. Accessed December 27, 2022. architectuul.com/architecture/fisher-house.

Ibid.

of materials and forms represents a time frame but also endeavors monumentality and longevity of the building.[45] The simplicity of forms, decisions for object placement, window openings, materials, and colors, turn the house into a timeless work. The heterogeneous, strong outline of the house, which is elevated on the platform gives a monolithic character.

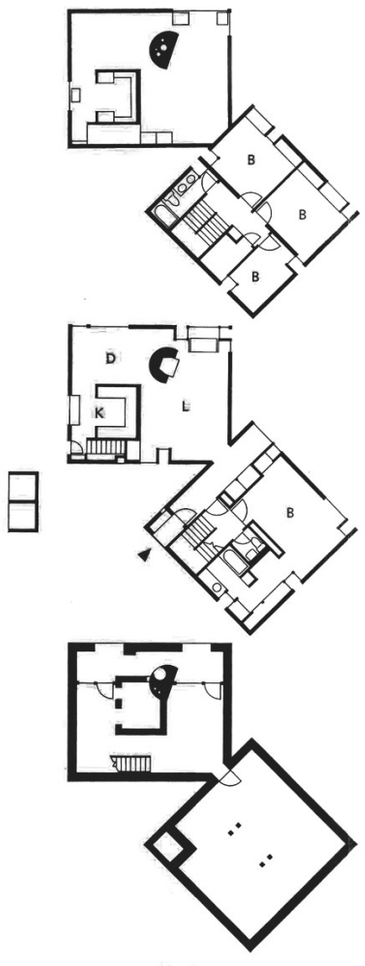
Team, ArchEyes, **Fisher House / Louis Kahn**. ArchEyes, June 18, 2022. archeyes.com/fisher-house-louis-kahn/.

Louis Kahn, **Fisher House**, Hatboro, Pennsylvania, 1967. © ArchEyes, (photo).

Louis Kahn, **Fisher House**, Hatboro, Pennsylvania, 1967. © ArchEyes, (photo).

Louis Kahn, **Fisher House**, Hatboro, Pennsylvania, 1967. © ArchEyes, (photo).

Louis Kahn, **Fisher House**, Hatboro, Pennsylvania, 1967. © Louis Kahn Architects, ArchEyes, (plan).



second floor

first floor

basement floor

Louis Kahn, **Fisher House**, Hatboro, Pennsylvania, 1967. © ArchEyes, (photo).

Louis Kahn, **Fisher House**,
Hatboro, Pennsylvania,
1967. © ArchEyes, (photo).

Louis Kahn, **Fisher House**,
Hatboro, Pennsylvania,
1967. © ArchEyes, (photo).

Nomadic Inflatables by Ant Farm started in 1970 as a series of experiments in a form of inflatable structures; that are documented and observed through film, photographs, illustrations, and writings. From a traditional stance, these structures are not houses, however, they take a special meaning and challenge the approach of occupying space and land and challenge the habitual lifestyle. The pneumatic objects were positioned everywhere and nowhere; leaving the users to take full control of their environment.[46] These performance pillows were an experiment to create new anatomy of dwelling, becoming a radical response to a critical issue of the living standard of the period. The inflatable structures varied in size, on average being 50 by 50 feet, made from tape, hot air, and micro-thick plastic film.[47] Flexible, easy to assemble, and versatile objects, made from low-cost materials, enabling transport and re-assembly in a short time.

Challenging the tradition resulted in revolutionary engineering principles of self-supporting, wall-less constructions, where the fundamental load-bearing wall was reinvented in a form firm, air-inflated, tension-based connected by ropes system.[48] An inflated pillow was a response to the strict, massive, and fixed nature of brutalism, where the essence of a transparent, soft, inexpensive, and portable, rethought the standard to suggest new ways of being in the space. The flexibility of spaces fits perfectly into a nomadic, communal lifestyle.[49] Promote the art of confronting and occupying the space, many formal experiments of the air-inflated pillow suggest endless types of behaviors and acts happening on the finished object. The softness of architecture challenges the question of consumerist needs and what objects are truly needed for living. The pillows serve as places for laying, sitting, and resting, the soft matter changes postures and creates a new level of comfort and connection with the environment. The bubble is divided into two principal types of space: inside or outside of the bubble. Depending on the air pressure streaming inside the bubble, the two communities experience different tension within or differently influence each. The bubble aims to civilize the inhabitants along the surrounding wilderness by grounding in on the alien soil.[50] The exterior layer is open and the public to the outsider's eye, it's visually and indirectly exposed to the site. The second type of space is inside the polyethylene film, depending on the type of built structure, the experience of entering the inflated structure differs, by the principle of entering a tight narrow space with a quick transition towards a high ceiling, unobstructed space. The inhabitants are physically guarded from the exterior world, yet are directly getting affected by the exterior events, the ceiling height differs and depends on the height experience of the space changes. From the inside of the bubble, the user is directly confronted with the site where the pneumatic structure is placed, feeling the texture, topographic differences, and weather changes. Visual access to the outside is either seen through a blurred-out film or not seen at all, the user is

Lewallen, Constance M., Steve Seid, Chip Lord, Caroline Maniaque, and Michael Sorkin. **Ant Farm, 1968-1978.** (University of California Press, 2004).

Lord, Chip, Doug Michels, and Curtis Schreier. **Inflatocookbook**. (Ant Corps, 1973).

Sloterdijk, Peter. **Foams: Spheres III.** (South Pasadena: Semiotext(e), 2016).

Lewallen, Constance M., Steve Seid, Chip Lord, Caroline Maniaque, and Michael Sorkin. **Ant Farm, 1968-1978.** (University of California Press, 2004).

Carter, Jimmy, "Bubble Matter", **Fresh Meat Journal.** (Chicago:University of Illinois at Chicago, 2019).

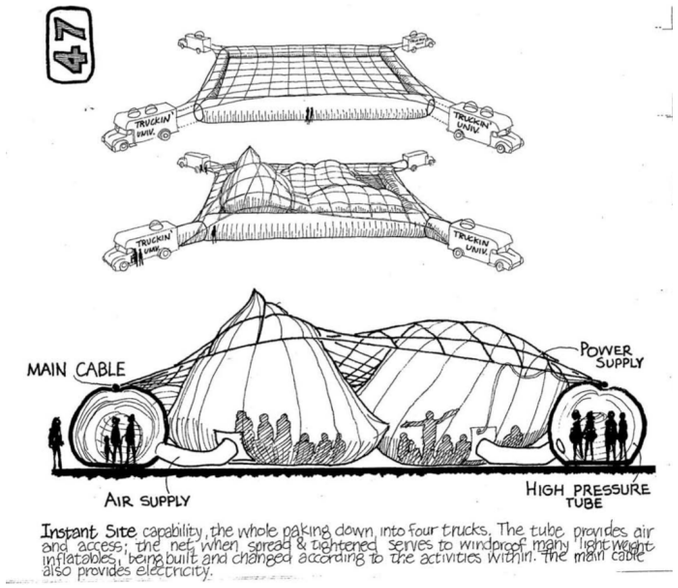
directly influenced by the choice of materials, levels of transparency, and the overall composition. The two individual types produce different emotions and perceptions of the surroundings, people taking part in, and the scheme of the inflated object.

The inflated pillow was governed by the notion of play by containing freedom and instability of an environment, it produces a countless number of encounters and activities inside and outside. Ant Farm's Inflatable played with the limits of an object by blurring the boundaries between the internal and external atmosphere. The rethought topics of individual and collective, societal and professional norms, provoked radical re-imagination of ways of living through the methodology of art and architecture.[51] These impermanent structures contradicted a typical building, becoming non-describable in a typical architectural term of a section or a plan; the bubbles directly responded to the human body(ies) inside and outside, shifting, moving, and reshaping accordingly. The pneumatic structures provoked unpredictable acts, freeing creative imagination by occupying the structure from all surfaces, making it performative and collective art. These new structures rethink our existing routine and suggest new modes of occupation.

Banham, Reyner, and François Dallegret.'A Home Is Not a House' in Art in America #2. 1965.

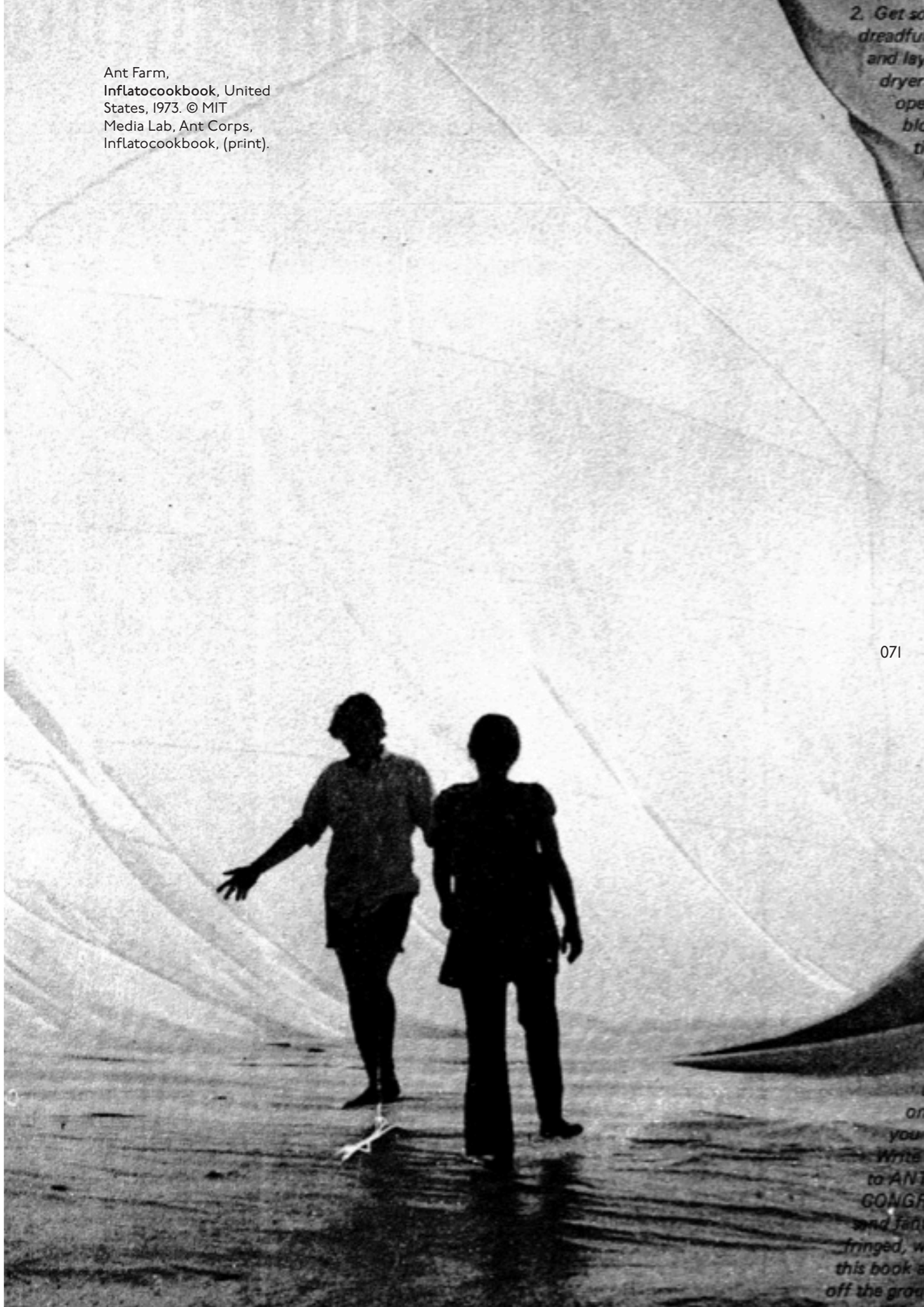
Ant Farm, **Inflatables**, United States, 1973. © Houston Chronicle, Cinema Arts Festival Hou, Ant Farm, (video still).

Ant Farm,
Inflatocookbook,
United States, 1973.
© MIT Media Lab, Ant Corps, Inflatocookbook, (illustration).



Ant Farm,
Inflatocookbook,
United States, 1973.
© MIT Media Lab, Ant Corps, Inflatocookbook, (illustration).

Ant Farm,
Inflatocookbook, United States, 1973. © MIT Media Lab, Ant Corps, Inflatocookbook, (print).



Ant Farm, **Freestone Conference,** United States, 1970. © Chip Lord, Curtis Schreier, Ant Farm, UC Berkeley, Berkeley Art Museum and Pacific Film Archive, (photo).

Ant Farm, **Dream Cloud Inflation Atop Mount Vision,** Point Reyes, California, 1970-1971 © Chip Lord, Curtis Schreier, Ant Corps, UC Berkeley, Berkeley Art Museum and Pacific Film Archive, (photo).

Ant Farm, **Dream Cloud Inflation Atop Mount Vision,** Point Reyes, California, 1970-1971 © Chip Lord, Curtis Schreier, Ant Farm, UC Berkeley, Berkeley Art Museum and Pacific Film Archive, (photo).

The first independent project of Kazuyo Sejima was a weekend house, Platform I, and then shortly after following with Platform II, in Japan in 1988. The houses are distinct with their geometric, object-like architectural qualities, the openness of space, and schematic approach. The openness and simplicity of spaces do not restrict their playfulness and dynamicity of spaces. Platform I and Platform II are both radically open, where the differentiation of spaces happens through changes in materials and textures or elevational differences and shapes in floors and ceilings. The experience of the space breaks conventional ideas of family and arrangements with the multitude of actions within a singular space. The space feels like a collection of objects that are positioned, clearly articulated, and arranged within a system, where beauty and completeness are understood when the building is wrapped, making the system of scattered objects into a homogenous and total design.[52]

Marquez Cecilia, Fernando and Richard Levene, ed. El Croquis, no. 77, **Sejima, Kazuyo.** (Madrid: El Croquis Editorial, 1996), 12-16.

The project communicates through simple diagram drawings, where the definition is open and left to the imagination. The expression of spaces is pure, geometric, and simple, the daily activities are displayed through the structure. The method of schematic design reemerges the methodology of an open stage that facilitates freedom of movement. The building is equal to a diagram, the fixed objects are the ones represented in the drawing, and the rest is left to the occupants to fill in. The experiment lies in the process itself. Once the scheme is converted into reality, the methodology shows a clear intent, where the building is pure and equal to the diagram, just as imagined with a simple tool.[53] In the example of Platform II, the finished space is highly articulated with formal architectural language. The homogenous triangular roof creates differentiation in ceiling heights which engages with the play of other elements but takes the primary role as the connector between scattered objects. The three secondary rooms are composed of being placed under the main connector. The kitchen, dining, and bathing areas are placed under a curved profile secondary ceiling.[54] Creating a more intimate and close space, the space can be a part of a large platform or isolated with a movable wall. The kitchen area adapts to the curvature of the structure and the dining space is a free-standing wooden round table with plywood and metal ant chairs by Arne Jacobsen; the objects mimic the materiality and the forms of the architecture. The bathing area is placed along the line of cooking and eating, and even the private activity as such is placed within the platform, where the program negotiates for privacy. The triangular roof continues to the exterior, joining the two exterior bubble-like objects with the rest of the house. The differentiation of space happens by adding two lower circular ceilings for the designated exterior sitting spaces. The two bubbles can also be isolated as there is a movable wall that creates privacy. The last added space within the composition is an exterior deck that repeats a curved language that is repeated throughout the building.

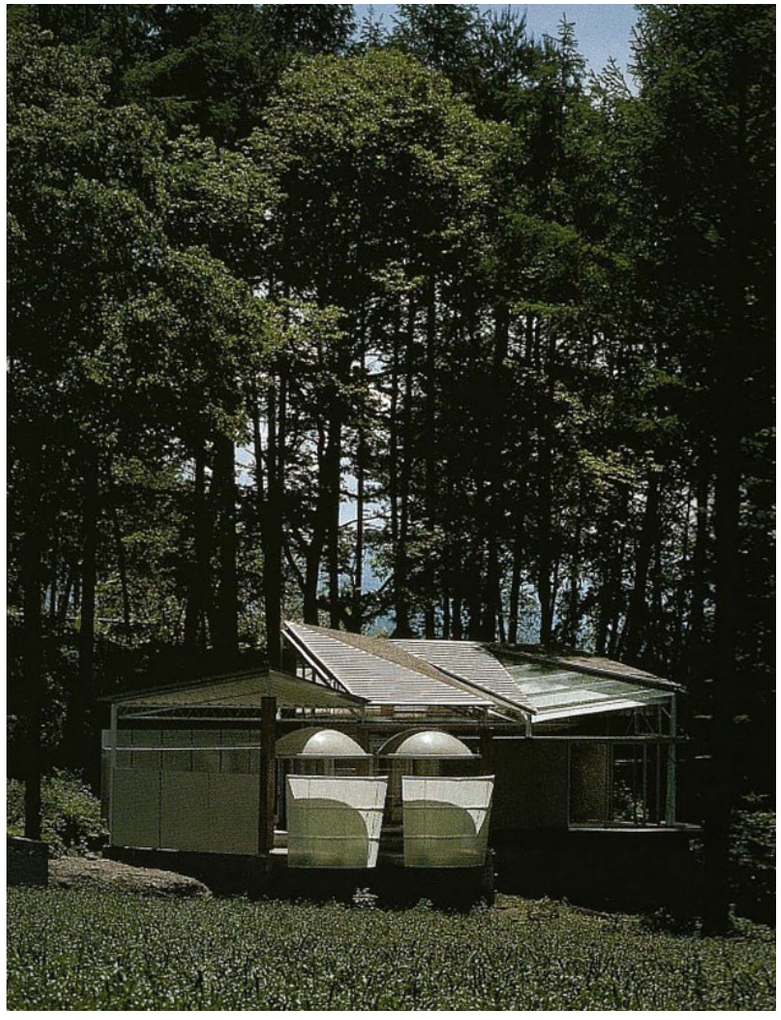
Ibid, 19-20.

Sejima, Kazuyo. "Platform I, Platform II." **Living Space,** The Japan Architect, no. 99, (2015), 4-18.

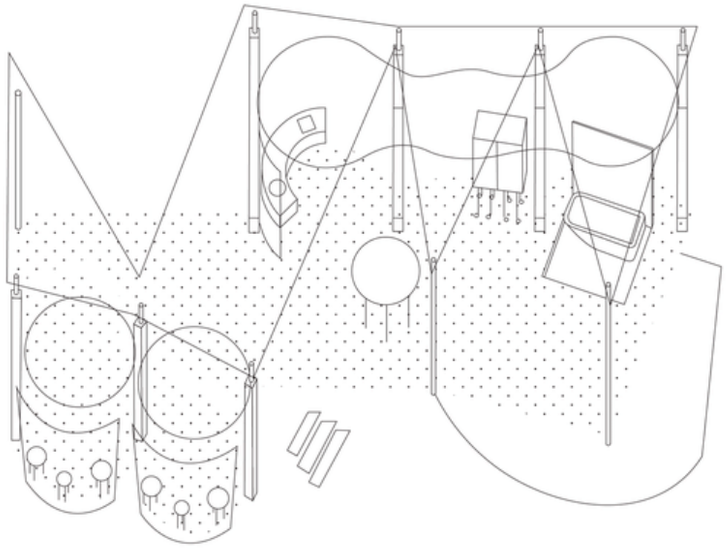
The spaces for the designated human actives are placed on the periphery of the irregular platform and have individual elements of the enclosure. The relationship between the position of objects and structure is examined, based on human behaviors that were theatrically curated. Where the distribution of furniture leaves the central space open to occupancy and changes if desired. The highly articulated architecture becomes the principal object in space, becoming a critical mass in space where the objects placed inside follow the desired pattern. Leaving the principal interactions to happen between the inhabitants and the architectural elements that create moods with differences in heights, materials, views, and even objects placed inside. Leaving the building as a place without any fixed orientation or hierarchy. The method of schematic design prioritizes the structure and architecture itself, as the main space constructor and communication. The scheme shows approximations of feeling the space, removing itself from any contextual relationship.

Kazuyo Sejima, **Platform II**, Kitakoma-gun, Yamanashi, Japan,1988. © Shinkenchiku-sha; Tomio Ohashi. Source: El Croquis no. 077 [I] 'Kazuyo Sejima 1988-1996', pp.16-19, (photo).

Kazuyo Sejima, **Platform II**, Kitakoma-gun, Yamanashi, Japan,1988. © Shinkenchiku-sha; Tomio Ohashi. Source: El Croquis no. 077 [1] 'Kazuyo Sejima 1988-1996', pp.16-19, (photo).



Kazuyo Sejima, **Platform II**, Kitakoma-gun, Yamanashi, Japan,1988. © Shinkenchiku-sha; Tomio Ohashi. Source: El Croquis no. 077 [1] 'Kazuyo Sejima 1988-1996', pp.16-19, (diagram).



Kazuyo Sejima, **Platform II**, Kitakoma-gun, Yamanashi, Japan,1988. © Shinkenchiku-sha; Tomio Ohashi. Source: El Croquis no. 077 [1] 'Kazuyo Sejima 1988-1996', pp.16-19, (photo).

Kazuyo Sejima, **Platform II**, Kitakoma-gun, Yamanashi, Japan,1988. © Shinkenchiku-sha; Tomio Ohashi. Source: El Croquis no. 077 [I] 'Kazuyo Sejima 1988-1996', pp.16-19, (photo).

Kazuyo Sejima, **Platform II**, Kitakoma-gun, Yamanashi, Japan,1988. © Shinkenchiku-sha; Tomio Ohashi. Source: El Croquis no. 077 [I] 'Kazuyo Sejima 1988-1996', pp.16-19, (photo).

Kazuyo Sejima, **Platform II**, Kitakoma-gun, Yamanashi, Japan,1988. © Shinkenchiku-sha; Tomio Ohashi. Source: El Croquis no. 077 [I] 'Kazuyo Sejima 1988-1996', pp.16-19, (photo).

A proposal of a house that is in fact three houses stacked on top of each other was done by OMA in Villa à Bordeaux in France in 1994. The house at the top is a house for a couple and children, the house at the bottom is common affairs, and sandwiched in between the two is a shared living space, that is half inside, half outside. One of the many special features of the house is a movable personal room sized 3 by 3.5 meters, which is practically an elevator. The elevator was placed in the house out of necessity, as the owner of the house was in a wheelchair.[55] The mechanical tool allowed to freely explore the house, the views, the changing atmosphere, and the performance of spaces. The site is on the hill, overlooking the city and the river, as the house is merged into the hill, the atmosphere changes as the sequence of spaces progresses.

Each level is treated as a separate house, with separate amenities, activities, and atmosphere. Walk through each level is a sequence of spaces that follows a continuous change of environments, illumination, or experiencing closure of spacial perception. The device of a vertical moving platform and a single continuous wall are the constant elements constantly repeating throughout the three houses. Creating a story of the house through a synergy between a wall and a floor, where on each level, the wall serves a different purpose; becoming a wine cellar, a collecting device for goods and books, and a backdrop for art. As the platform reaches the bottom level, it punctures to the entry level which is a semi-basement with a glass wall overlooking the garden. The level carries the main entrance, the kitchen, the laundry, a cellar, a TV room, and a utility area. The ground level is united through a singular, continuous wall that runs around the perimeter of the space and wraps the excavated odd shapes and two separated guest units across the garden. The collision of the moving infrastructure and the constant spaces causes an intrusion and disturbance with its presence. On the bottom level, the platform, which is equipped with a chair and a desk, as an office, collides with the kitchen area, clashing the programs together. Moving upwards to the middle layer which is open on all sides and bounded only by glass walls. The middle level is where the moving platform unites with its true essence. The puzzle rationalizes and the match is found; the materiality in the living room and the platform is the same. The whole floor is dedicated to resting and passing the day while enjoying the views of Bordeaux and the river; from the elevator point, the view is interrupted by some furniture, a huge chromium cylinder that reflects the surroundings, and a thin structural rod, that connects the big box floating above.[56] The immaterial qualities of the central level, give an impression of the upper heavy, concrete layer, — levitating in the air. The last change of the house happens when the elevator moves upstairs, arriving directly at the owner's bedroom. The final destination of the moving platform creates a private workspace in the middle of the bedroom. The top-level plays with openings that differ in sizes and

Office for Metropolitan Architecture, Rem Koolhaas, **Maison à Bordeaux**, OMA, Rotterdam, 1997.

Vanstiphout, Wouter. "Rockbottom: Villa by OMA." in **Harvard Design Magazine 5**, n.d.

locations at specific heights, which are positioned at certain points in the rooms, providing different experiences from the bed, the bathroom, or the desk, and through small portholes, tapered and oblique.[57] Programmatic hybridizations, friction, overlap, and super-position happen through a simple singular element interfering in the regular programs, creating a patchwork of spaces.[58] The house is a montage that creates a story of positions of an element, which changes the relationship between the individual architectural elements. The elevator is intrusive, the floor as a deformable programmatic support gives way to a device that transforms the function, and creates a mismatch in the environment by inserting individual parts forcing a new kind of unity. The platform creates a new relationship between the objects, programs, or users, but also, the platform leaves a vertiginous void behind. The void, that cannot be utilized or avoided; even if the platform creates a mismatch between the programs, each level without it is incomplete.

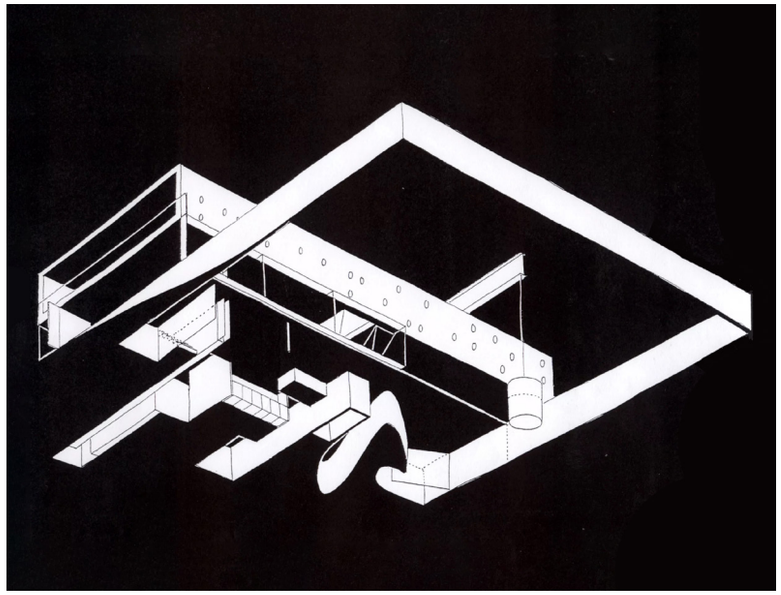
Marquez Cecilia, Fernando and Richard Levene, ed. El Croquis, no. 79, **Koolhaas, Rem**. (Madrid: El Croquis Editorial, 1996), 164–174.

Böck, Ingrid, **Six Canonical Projects by Rem Koolhaas Essays on the History of Ideas**. (Berlin: Jovis, 2015), 139-144.

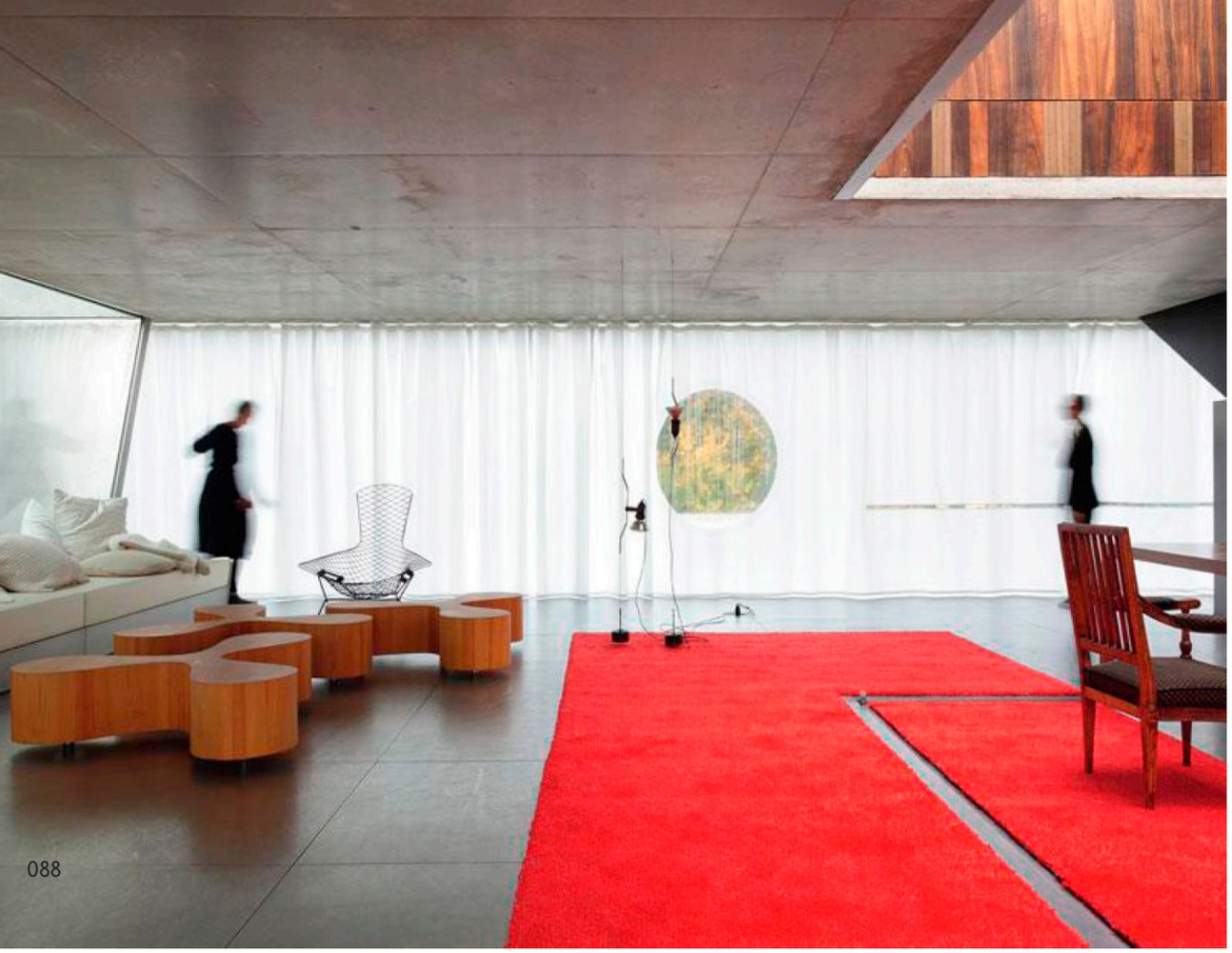
OMA, Rem Koolhaas, **Maison à Bordeaux**, Bordeaux, France, 1994. © Hans Werlemann, OMA, (photo).

OMA, Rem Koolhaas,
Maison à Bordeaux,
Bordeaux, France, 1994. ©
Hans Werlemann, OMA,
(photo).

OMA, Rem Koolhaas,
Maison à Bordeaux,
Bordeaux, France, 1994.
© OMA, Rem Koolhaas,
(rendering).



OMA, Rem Koolhaas,
Maison à Bordeaux,
Bordeaux, France, 1994. ©
Harvard Design Magazine,
Wouter Vanstiphout,
(photo).



OMA, Rem Koolhaas,
Maison à Bordeaux,
Bordeaux, France, 1994. ©
Petra Blaisse, (photo).

OMA, Rem Koolhaas,
Maison à Bordeaux,
Bordeaux, France, 1994. ©
Marco Cappelletti, OMA,
(photo).

OMA, Rem Koolhaas,
Maison à Bordeaux,
Bordeaux, France, 1994. ©
Hans Werlemann, OMA,
(photo).

A composition of separate volumes also makes it a singular house. The reinvention of a traditional dwelling was tested by Ryue Nishizawa with Moriyama House in Tokyo, Japan, in 2005. The home represents a community that instead of concentrating in a single volume, is split into 10 different blocks and scattered around a site; each volume is different from another in dimension, height, and floor plan. The layout doesn't resemble a typical house as the functions are distributed around the site where some volumes serve as single separate functions and some are multipurpose. The use of each function is undetermined, leaving the options on how to occupy the space — open. The only built-in and pre-determined spaces are bathrooms and kitchens, which are like other programs sprinkled around the site and differ in size, from kitchenettes to full-scale kitchens. Navigation between the volumes happens through exterior pathways and small gardens surrounding the buildings, blurring boundaries between public and private.[59] The house lacks any formal border with the surrounding streets or connecting the volumes, opening up to wander through the labyrinth of natural pathways.

The house is a series of 10 scattered volumes in the pattern of white perpendicularly placed volumes with large oversized windows. The whiteness and blankness of rooms aim to connect with nature rather than become a part of it. The materiality removes any idea of luxury or loudness, the house is a utilitarian minimal tool that does not distract from its main purpose by wrapping it in extravagant materials.[60] The house acts as an intentionally planned backdrop for actions and objects, that facilitates a unique way of living. Ila Beka and Louise Lemoine have shown behind the doors of how the playful house is occupied with their film Moriyama-San released in 2017. The film shows the routine of the inhabitants and the role of the house in that routine. The house transforms into a physical playground where the distinction between the inside and the outside is blurred. The gardens that are threaded in between the established non-hierarchical composition become extensions of rooms and host actions. The film shows how the house adapts to the personality of its occupant, the neutrality gives space for opportunity. The objects placed inside fully reflect the character of the user. The items become a foreground, and the maximized interior space becomes filled with bookshelves, chairs, fabrics, plants, etc. The main series of houses that belong to Moriyama-San are occupied minimally, the owner sleeps, reads, and eats on the floor, and the tight small volumes allow them to take different positions and experience the full potential of the house. The oversized windows expose the life of the residents or fully open and disappear to become an area for sitting and observing. The other volumes are occupied more traditionally, where each volume or each level separates the purposes. The exterior space facilitates mingling between every user, and the separation of the volumes extends the exterior to become an extension of the interior. The daily

Kotsioris, Evangelos. "The Life in between: Ryue Nishizawa's Moriyama House, Tokyo, 2002-2005." post, September 16, 2020. https://post.moma.org/the-life-in-between-ryue-nishizawas-moriyama-house-tokyo-2002-2005/.

Beka, Ila, and Louise Lemoine. "Moriyama House." **What Is A House For**, October 10, 2021. https://whatisahousefor.com/house/moriyama-house/.

actions mingle in between the volumes, where the involvement of the exterior becomes natural. The pathways become filled with objects of daily use, chairs, tables, buckets, plant pots, cups, and more. The space is activated through the routine actions of planting vegetables, hanging laundry, brushing teeth, studying, or working out in the open, — melting into the immediate environment and joining the 10 volumes as one.

The harmony between natural exterior environment and the interior spaces is seamless, the abstraction of volumes does not prevent from connecting with nature, vice versa, the connection happens through the constant interactions between the garden, interior, and the exterior envelope of the city.[61] The house shows that to construct a meaningful space, the objects do not to have a defined relationship to architecture, instead, the house questions. Instead, the house explores how the bodies relate to architecture and objects, the order of actions, natural pathways, and physical interactions. In case of Moriyama House, the body does not exclusively occupy only interior spaces, but also, exteriors, gardens, pathways, window openings, windows, and everything in between. Nishizawa designed a way of living, without any instructions on occupying the space, the architect is there to give a device without a wrong way of using it. The usage changes according to the season or other circumstances, positioning the resident in control.

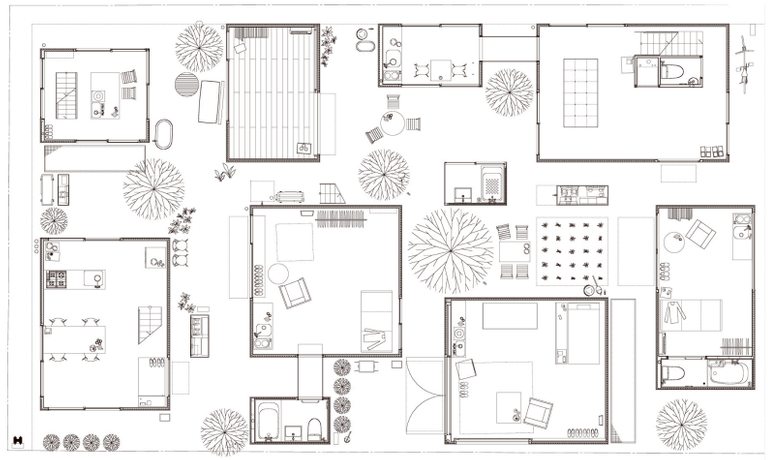
[61] Ibid.

Ryue Nishizawa, **Moriyama House**, Tokyo, Japan,2005. © Dean Kaufman, Ryue Nishizawa, SANAA, (photo).

Ryue Nishizawa, **Moriyama House**, Tokyo, Japan,2005. © Ryue Nishizawa, Ila Beka and Louise Lemoine, Moriyama-San Film, (film still).

Ryue Nishizawa, **Moriyama House**, Tokyo, Japan,2005. © Ryue Nishizawa, Ila Beka and Louise Lemoine, Moriyama-San Film, (film still).

Ryue Nishizawa, **Moriyama House**, Tokyo, Japan,2005. © Ryue Nishizawa, SANAA, (plan).



Ryue Nishizawa, **Moriyama House**, Tokyo, Japan,2005. © Dean Kaufman, Ryue Nishizawa, SANAA, (photo).

Ryue Nishizawa, **Moriyama House**, Tokyo, Japan,2005. © Dean Kaufman, Ryue Nishizawa, SANAA, (photo).

Ryue Nishizawa, **Moriyama House**, Tokyo, Japan,2005. © Ryue Nishizawa, Ila Beka and Louise Lemoine, Moriyama-San Film, (film still).

Ryue Nishizawa, **Moriyama House**, Tokyo, Japan,2005. © Dean Kaufman, Ryue Nishizawa, SANAA, (photo).

Options for inhabiting architecture are endless. The goal is to create a fitting environment for the user which would correspond to their needs and wishes. A design that lasts and develops with its user is the goal of aesthetic perennity.[62] The case studies not only show examples of development through time periods, but also different methodologies used to create interactions between objects and architecture. The methods included, fully controlled environment filled with objects in House of the Future; soft and flexible, a timeless, defined dwelling, which obliges to its own rules in Fisher House; object-less space in Nomadic Inflatables; diagrammatic and highly articulated open space in Platform I and II; a changing collaged environment, where objects and programs clash in Villa à Bordeaux; and a complete freedom of expression between an arrangement of volumes and exterior garden spaces, in Moriyama House. Each of the examples is a unique and extreme expression of different levels of control in the environment. The spaces range from constant to temporary, from blank to expressive, from confrontational to accepting.

In the example of House of the Future, the built in features become a part of the structural systems of the house, bringing structure and objects together as a single unit. The built in objects create another level of control mediated by an architect. The controlled environment is a trying its limits, as full control is placed over the users. Where as the homogenous choice of colors and materials gives objects and architectural elements — a special quality. The

62 Reyner Banham, "Space for Decoration, A Rejoinder," **Design 79** (July 1955): 24–25.

quality of uniformity carries idea of a character given to a specific configuration. The simple floor plan that is explored in the Fisher House gives an idea of freedom of configuration, object placement, and arrangement, however, the configuration of spaces is determined by the envelope. The singular palette and a given ideology for the positioned objects, creates a different sense of control. A plastic pillow-like structure is far from a typical dwelling, but it teaches another method of design, which challenges the necessity of objects. With Ant Farm's project, normativity is redefined, as well as, challenged inter-societal relationships. The experiment played with lightweight, mobile, "make-it-yourself" structural innovation that would house unorchestrated experiences. Contradicting and questioning the traditional by making architecture and the need of objects inside to create experiences, play with differences, and adapt to user. In case of diagram architecture in the example of Sejima's Platform I and II, objects are incorporated in the diagram representation, treating them equally as structural elements. The diagrammatic approach leaves space for freedom but also partially curates the actions with the aid of additional architectural elements, as double ceilings, ground, and changes in materials and textures. The house plays on balance between openness and freedom, and control created by the pre-determined objects. The highly articulated architectural design takes a role of an object, that defines zones which change atmosphere in a singular space. Objects do not always belong together and

programs create contradictions and paradox, which is dealt with in Villa à Bordeaux. The clashing spaces adapt and adopt to the change of environments and moods, creating a collaged environment. As areas change identities and uses, the surroundings adapt or reject the change. In an open plan, the objects placed in the spaces define the programmatic significance, and in some cases create a collaged entity. The same objects can take different meanings and uses, when inserted into settled environments, and when the roles of spaces intersect, it acquires a meaning of collaged architecture. When architecture does not define of how to live in a space, the control falls over to the user. The minimal space that is given in Moriyama House, occupies each level, volume, and path garden, as a program, that works in a network of connections. The house is in a position of giving control to the user to create a desired environment, creating blank spaces for open interpretation, as an architect takes a role of a guide with tools for living. The interior and exterior of the house get involved in the daily routines of the users, the objects belong everywhere, there are no rules to oblige, except for being in a lifestyle where the house is dedicated to enjoying the space and present moment. Each example follows a created narrative of relationship between object and architecture in the domestic environment. The narrative could be exaggerated, theatrical, or one of a kind, but a typology exists, as these methods can be repeated on a number of examples.

Object

Objects are sensorial functional gadgets that are constantly present in every occupiable space and interact with the body acting as aiding devices. Objects are exhibited in homes, offices, streets, schools, galleries, etc, but the unbiased outlook on the objects happens as they are isolated from the context. When looking at the scale of an object, secluding from the other distractions, what does the object communicate, and how does a surplus of variety in shape, material, scale, and color reflects on our preferences? What is the role of a designer in decisions and choices made to create an object? The chapter is looking at the role of an object as an integral part of everyday life and its close relationship to the body.

Design of products and process of production stands in a direct relationship to the ideas of the society in which they are made. The activity of design is a product of the capitalist system, where capitalism has had negative effects on a decrease in crafts, trades, erosion of skills, showcasing the status, or owning rare or singular pieces, but capitalism is the reason the design field flourished.[63] The capitalist modes of production, which allow for a limitless number of products to be made, liberated the field of design and opened it to a large audience. Adrian Forty argues that there is not one clear reason for differentiations in design that covers all cases for distinctions in design; some theoreticians argue that it happened as an evolution of new needs and desires, and others claim that designers had a

Forty, Adrian. **Objects of Desire**. (New York, NY: Thames and Hudson, 1986), 91.

need to express their ingenuity and artistic talent.[64] Nevertheless, the development of the design field left us with countless types of objects that fit many different categories of use and user. The activity of designing appeals to imagination, invention, and skill, as the industrial design is concerned with quality, performance, and style.[65] By constantly producing new designs, manufacturers were able to promote fashion, which also led to a diversification of goods.

Ibid, 92.

Le Corbusier, "Type-Needs Type-Furniture," **in The Decorative Art of Today**, James I. Dunnett trans. (London: Architectural Press, 1987): 72.

By going through a fair share of change, experiments, cultures, and uses, the simple vessels of everyday use, had been discovered and rediscovered over and over. In the modernist period, design diverged from the classical modes of production and extensively relied on factorial mass production. During the period, platonic forms and engineered profiles wrapped in machine-made materials prevailed in the design field. The designs distinguish by the pragmatic, utilitarian nature, that promoted the honesty of materials and production. As the aesthetics and movements were developing, in the post war-period, the designers collaborated on a rediscovery of craft traditions in collaboration with the machines, unleashing the creative potential of form in furniture, ceramics, glass, metal, and plastics.[66] Birthing a new period of consumerism, characterized by the attributes of designers and manufacturers turning their attention to the opportunities afforded by batch production, flexible manufacturing systems, or computer-aided manufacture. Which enabled a greater diversity of product types, that satisfied

Woodham, Jonathan M., **Twentieth Century Design,** (Oxford University Press, Oxford, UK, 1979), 126.

different consumer groups, values, and varied cultural inclinations.[67] The period is characterized by the title of Post-Modernism or Post-Fordism, which provided an experimental ground for new possibilities in crafts, production, ornamentation, colors, and symbolism, which was absent in modernist designs.[68] The great diversity and variety of objects of possession, now respond to the personal preferences, cultures, and styles, with options of patterns, colors, materials, forms, and functions.

Ibid, 196.

Ibid, 202.

Objects are made to be occupied by bodies, objects take on a human scale and aim to fulfill aiding function, therefore, defining human needs. Le Corbusier describes the need for furniture in space as human-limb objects that correspond to type needs, as chairs to sit on, tables to work at, devices to give light machines to write with, racks to file things in, etc. Object work in accord with our bodies as docile servants.[69] Consumers of everyday objects play an important role in the design process. Designers look to consumers to evaluate and respond to the appearance and functionality of things created. From choosing a new shape or color designers rely heavily on market research and consumer input. The role of the body in object design is crucial, the body is the locus of perception, though, and consciousness. Through skin, limbs, eyes, and senses, the body creates an imagery of reference, memory, imagination, and integration of spaces and commodities. And architects and industrial designers are communicators from their

Le Corbusier, "Type-Needs Type-Furniture," in **The Decorative Art of Today**, James I. Dunnett trans. (London: Architectural Press, 1987): 69–79.

body to the user, as their job is to create details crafted for the human body.[70] When designs are created through a diligent act of production through drawing by hand or model making, it involves the designer in haptic contact with the object, which will be passed on for further use. Objects are the most tactile elements of space, and the skin reads by understanding the texture, weight, density, and temperature of the matter. A catalog can show a large diversity of produced goods that have the same typology, but a different character. The character could be defined through forms, but also through materials. The category of materials splits into two sides: natural and machine-made. Natural materials of stone, leather, and wood, express their age, history, origins, and history of human use. Typically, objects made with natural materials reveal their character through small differences in materiality, which cannot be artificially recreated. Contrary, artificial materials, like scaleless sheets of glass, enameled metals, and synthetic plastics, are characterized by adamant, unyielding, and relentless qualities, that can be easily replicated, reproduced, and cloaked to the desired perspective. Machine-made materials do not convey essence or age, metamorphosing into ageless, pure, manmade perfection that does not incorporate a dimension of time.[71] The choice of materiality is peculiarly susceptible to the changing experience, atmosphere, or haptic feel of an object. Our bodies desire to touch sensuous materials, skillfully crafted details, and sensuous colors, and it is possible when the

Pallasmaa, Juhani. **The Eyes of the Skin: Architecture and the Senses**. (Chichester: Wiley, 2005), 67.

Ibid, 26.

occupied objects or spaces interact through a human scale, entailing the construction of spatial representations and artifacts that create a flow to support the human experience. To illustrate and experience the differences of qualities in two categories of materials: natural and artificial; wood and plastic materials are taken as examples of study.

A material that historically prevailed, and was a representation of skill and artistic expression in the commodities was — wood. The traditionally-made objects were either made from solid wood or covered veneers with ornamental layers. In the 20th century, production concentrated on a layer cake of lumber and glue, creating a hard wooden board that is ultimately stronger and more flexible than solid wood. The result was plywood, which progressed with the improved technologies, which enabled mass production on a larger scale. Plywood is an important modern material that has given 20th-century designers of everyday objects, furniture, and even architecture greater flexibility in shaping modern forms at an industrial scale. The designers took advantage of the formal and aesthetic possibilities offered by plywood, from around 1930 through the 1950s.[72] In the object design, Alvar Aalto and Charles and Ray Eames were the leaders in using the material. The designs contained simple forms, achieved with slightly curved elements that contour the human body. The moldable qualities of the material that were formulated through experiments and techniques, were able to solve ergonomic and

[72] Liv Buur, Stine. "Plywood." **Vitra**, December 11, 2020. https://www.vitra.com/en-ch/magazine/details/plywood.

structural design problems. Plywood is also a very strong material that has equal strength in every direction, which allows plywood pieces to be shaped into complex ergonomic forms. Qualities of standard wood modeling furniture, are not as flexible or moldable, restricting the form of a desired object. The traditional material plays with the joinery and beauty of natural material, which is one of a kind and unique. The traditional woodwork is showcased in the works of Donald Judd, George Nakashima, and many others. Their works show appreciation of working with the true nature for the material and creating moods, styles, and atmospheres through the restricted essence. In both cases of, solid wood and plywood, the colors are soft and raw, as they correspond to the natural pigments, providing a range of woods well finished. Each of the techniques of using natural material has a variety of methods and approaches to be applied, each represents a different character.

The development of plastics in the early 20th century made it possible to create lighter, more durable, and more affordable consumer products. Plastics are made of polymers, giant molecules that consist of much smaller, repeating chemical building blocks.[73] Different patterns of molecules create different kinds of plastic, each of which has its unique properties and applications. Plastic is a moldable, artificial material, that can take many forms, adapt to different techniques, take on thicknesses, cover in any color, and last many lifetimes. Many forms

[73] "Moma Learning." **MoMA**. Accessed January 11, 2023. https://www.moma.org/learn/moma_learning/themes/design/plastic/.

of plastics were a part of modernization during the development of machine production, the material itself carries ideas of innovative design.[74] As early as the 1930s cameras, hair dryers, and other small devices were produced, however, the exploration of the material to its full capacity did not start entering the market until the post-war period. Pioneers like Charles and Ray Eames began molding the flexible materials into seats, opening the doors for plastic to enter homes, and making the material ready for mass production. Solid, stackable, and colorful, this chair reflects a late-1960s enthusiasm for modern plastic furniture, which was advertised as an adaptable and durable material. Plastics are permeable to pigments and allow for previously unimaginable colors. The endless abilities to explore the materials turned the same formula into polyester resin, plexiglass, and thin film. The experiments with plastics also birthed notions of flexibility expendability and the possibilities inherent in new materials, for example, inflatable furniture.[75] The Blow Inflatable Armchair, designed by Jonathan De Pas, Donato D'Urbino, and Paolo Lomazzi, is the first mass-produced inflatable chair. The object is an ephemeral, playful expression of the free, casual lifestyle, which also was an expression of the 1960s. The cheap and light production of a soft candy-colored plastic object was very affordable and easy to distribute.[76] As the main constituent is air, the light and witty approach to design aimed to reach new audiences to dispense affordable furnishings. As the chair could be inflated or deflated as a ballon, and disappear in an instant,

74 Ibid.

75 Woodham, Jonathan M., **Twentieth Century Design**, (Oxford University Press, Oxford, UK, 1979), 192.

76 **Gallery label from Shaping Modernity: Design 1880-1980**, The Museum of Modern Art. December 23, 2009–July 25, 2010 .

it does not share the same qualities as a solid plastic chair, making plastic a varied material. Birthing a line of entirely new products was inspired by the possibilities offered by this new material. A material that is not stained by wear and tear, scratches, or easily breakable, is an attractive asset to homes, offices, exteriors, etc. Moldability, rigidity, pleasant tactile qualities, and suitability for industrial manufacturing methods are all characteristics that make a new furniture typology widespread. The plastic material challenged the spirit of traditional furniture making and critiqued the spirit of objects that have to be solid, bulky, and bourgeois. Instead, the objects did not have a designated space, they could have been placed inside or outside, handling weather conditions and time.

Furniture responds to program, function, and comfort, corresponding to a body as the dimension. Balance of the realms of senses happens through interaction between material and function. The experience of objects develops through verbs, objects define postures and actions, manners, and customs. The experience of actions is structured by distinct activities - sitting, laying, socializing, reading, storing, sleeping, resting, and concentrating, and not by visual elements.[77] Individual pieces can define either sequence of movements or positions and postures that objects allow us to occupy. Design has been often used to represent ideas the nature of work and about the behavior expected of people doing it. The postures occupying one or another chair

77 Pallasmaa, Juhani. **The Eyes of the Skin: Architecture and the Senses**. (Chichester: Wiley, 2005), 63.

can create associations with particular behavioral expectations.[78] Nevertheless, depending on the style, and atmosphere a space tries to deliver, there could be difficulties in defining the difference between executive and dining chairs or distinguishing a contemporary domestic dining table from a desk. The objects have become programmatically ambiguous, demonstrating that they do not necessarily always belong to architecture, but rather to a body that occupies them. The sensorial and tactile senses define our experience and understanding of spaces. Though form and function interact very closely in design, human beings become the unit of measure. Our body is both an object among objects, which sees and touches them, including itself as a factor for designing. Design of objects becomes a play between standardization and personalization.

[78] Forty, Adrian. **Objects of Desire.** (New York, NY: Thames and Hudson, 1986), 152.

Design went from an unknown profession to a major source of contamination, the beauty of objects is encouraged by glossy magazines, marketing strategies, and compelling options that are stimulated by employing color, shape, and surprise.[79] There is no singular correct way of practicing design. Designers are carriers of current events, and needs; objects produced and movements, go in parallel with political and social events. Reinterpreting those societal questions into objects of desire, which then reflects on our perception, memory, and imagination. The proliferation of objects becomes the result of material innovation, manufacturing processes, and the interpretation of a designer. Each object has its own set of criteria or constraints that govern the process of its design.

[79] Ryan, Zoë, **As Seen: Exhibitions That Made Architecture and Design History.** (Chicago: The Art Institute, 2017), 82-84.

Marianne Brandt, **Table Clock**, 1932 © MoMA, New York, Gift of Jo Carole and Ronald S. Lauder, (photo).

Marcel Breuer, **Tea Cart (model B54)**, 1928. © MoMA, New York, Estée and Joseph Lauder Design Fund, (photo).

Gerrit Rietveld, **Hanging Lamp**, 1920 © MoMA, New York, 2023 Artists Rights Society (ARS), New York / Beeldrecht, Amsterdam, (photo).

Alvar Aalto, **Paimio Lounge Chair** (model 41), 1931-1932. © MoMA, New York, Edgar Kaufmann, Jr. Fund, (photo).

Charlotte Perriand, **Tunisia library**, made in the Jean Prouvé workshops, 1952 © Barnebys Magazine, PHILLIPS, (photo).

Sori Yanagi, **Butterfly Stool**, 1954. © Domus, (photo).

Tapio Wirkkala, **Platter**, 1951 © MoMA, New York, Gift of Greta Daniel, (photo).

Harry Bertoia, **Armchair**, 1952 © MoMA, New York, 2023 Estate of Harry Bertoia / Artists Rights Society (ARS), New York, (photo).

Anna Castelli Ferrieri, **Stack Chair**, 1967. © Sedia sovrapponibile 4870 in polipropilene, 1986. Premio Compasso d'Oro 1986, (photo).

Achille Castiglioni, Pier Giacomo Castiglioni, **Mezzadro Seat**, 1957 © MoMA, New York, Gift of the manufacturer, (photo).

Superstudio, **Greppe**, 1968. © Poltronova, (photo).

Vico Magistretti, **Atollo Table Lamp (model 233),** 1977 © MoMA, New York, Gift of the manufacturer, (photo).

Anna Castelli Ferrieri, **Kartell Cabinet**, 1967. © Unknown author, (photo).

Paolo Lomazzi, Donato D'Urbino, Jonathan De Pas, **Blow Inflatable Armchair**, 1967 © MoMA, New York, Gift of the manufacturer, (photo).

Mario Bellini, **Divisumma 18 Electronic Printing Calculator**, 1972 © MoMA, New York, Gift of Kenneth Walker, 2023 Mario Bellini (photo).

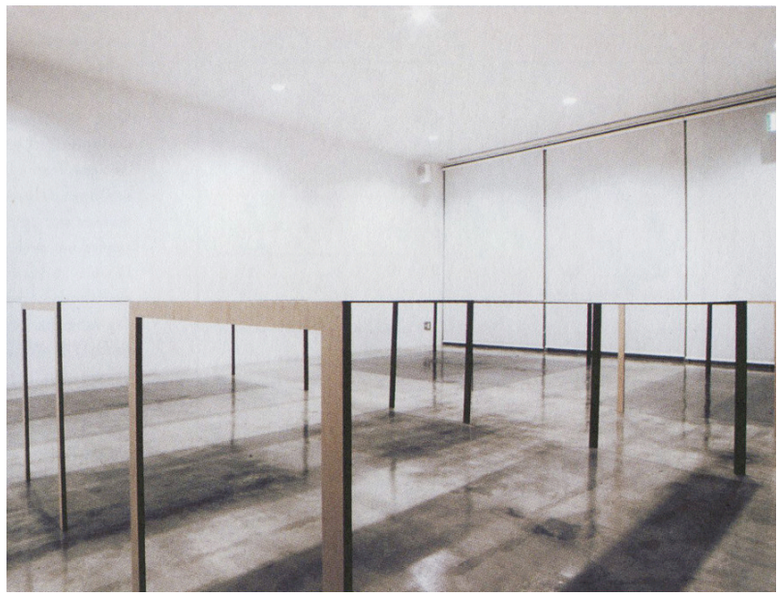
Enzo Mari, **Sof-Sof Chair**, 1971 © MoMA, New York, Gift of the manufacturer, 2023 Driade S.p.A. (photo).

Shiro Kuramata, **The Laputa bed for Ephemera**, 1989 © Design Files, Core77, (photo).

Masanori Umeda, **Tawaraya Ring**, 1981. © Memphis Milano, (photo).

Donald Judd,
Low Shelf Plywood Chair,
Architecture Desk, 1992,
1990 © Design Files,
Core77, (photo).

Junya Ishigami,
Impossibly Thin Table, 2006 © Junya Ishigami+Associates,
(photo).



Tejo Remy, Droog, **Rag Chair**, 1993 © Domus,
(photo).

Tools

Banham claimed that the main design objective is to design thinking.[80] Design does not only refer to objects and spaces; it is the process of planning, evaluating, and implementing a plan or answer to a problem.

Reyner Banham, "Design by Choice," **The Architectural Review 130** (July 1961): 43–48

The ambiguous term of design occurs everywhere and can be found in any imaginable sphere; just as the field of industrial design, as everything is designed, one way or another.[81] Design reflects on intellectual ideas in a physical way. Design makes ideas tangible, translating them into physical form. What is understood and accepted as design today is an effort of changes in education, liberation of the arts, and widespread of commerce. Looking through the lens of different architectural scales, opens up a perspective of grasping the meaning of objects within each context. Architecture initiates, directs, and organizes behavior, and movement; and design of objects help us experience architecture of the interior. From the time of waking up to the time of going to sleep, design plays a role in everyday life. The research conducted looked at the multiple scales of inhabited architecture, asking the question of how does design shifts our perception of space?

Paola Antonelli, **Humble Masterpieces: Everyday Marvels of Design** (New York: Harper Collins Publishers, 2005) 1.

The large scale architecture of offices and factories, that serves as a background space, places forward the importance of intellectual and physical activities. The network hosts actions of designing, manufacturing, learning, and distributing. Office spaces and factories became a purest manifestation of rationality, where the value of space lies in its anonymity.[82] The two typologies are connected through the industrial cycle that goes from a blueprint to a machine to a market. The space carries notions of repetition, genericness, and neutrality, spaces of such scales are inconceivable for a human perception. One gets lots in a vast open abstract space, that does not have an aim, until a relationship between architectural form and performance is established or calibrated. The character of typical plan is abstract and determined by inviting the occupants to invade, therefore, obtaining a unique character.[83] The quality of neutrality aims to benefit each and every action performed within, the space does not acquire meaning, until the occupied, providing the true value to the open space. The presence of objects, machines, furniture, — structure and give a programmatic meaning to the neutral space. Design creates a sense of order for mental and physical production, that was not there before. Typical plan works through integrative design thinking, producing a creative solution that is union of temporary and permanent qualities. Without the union of the two, the vast space is imperceivable, is a space where one gets lost, and the architectural meaning of space is not complete.

Kuo, Jeannette. **Space of Production: Projects and Essays on Rationality, Atmosphere, and Expression in the Industrial Building. Atelier Kuo at École Polytechnique Fédérale De Lausanne, 2012.** (Zurich: Park Books, 2015), 6-7.

Koolhaas, Rem, "Typical Plan", in **Rem Koolhaas/ Bruce Mau/Jennifer Sigler (Ed.), S, M, L, XL.** (New York: Monacelli Press, 1995), 334-350.

A building does not end in itself, it frames articulates, structures, gives significance, relates, separates, unites, facilitates, and prohibits. Options of occupying space are limitless, where as style is more synonymous with approach and method, rather

than aesthetic.[84] A degree of freedom and flexibility is given when occupying domestic spaces, where architecture reflects, materializes, and eternalizes ideas and images of ideal life. Just as in the scale of network, where factory and office gives, there is not a correct solution for occupying space. However, the domestic scale is smaller, it operates on a scale of everyday actions. The boundary between architecture, furniture, and an occupant is blurred, the interactions are more dynamic on every scale. As per many ways of occupying domestic space, the focus is on the projects that can be described through a distinct relationship between the object and the architectural elements. The case studies explore concepts of: built-in, homogeneous, temporary, schematic, collaged, and blank spaces. Each one the case studies represents a different way of inhabiting small domestic spaces. The example of domestic architectural scale, communicates a prominent role of changes in arrangement of architectural element. The architectural elements, guide and supervise the positioned objects, employing a sense of control over the whole environment.

The object is what is a common denominator within the boundaries of any scale. Object has the closest relationship with the body. Objects assist with creating architectural experiences, that take a meaning of a verb form rather than noun. Objects represent actions, aid in bringing every scale down to the scale of a body, and become architecture

Ryan, Zoë, **As Seen: Exhibitions That Made Architecture and Design History**. (Chicago: The Art Institute, 2017), 82-88.

of the senses.[85] Design activities are aimed towards meeting primary needs as a means of enhancing the quality of life, which allows individual to rediscover their own innate creative potential.[86] Today, we have an ability to pick and chose from any given period of time, aesthetic, or movement to fit personal desires, goals, or preferences. Furniture and objects, not only define space, but also a lifestyle. Design grounds the space, brings back the attention to the user, when architecture has the ability to go as high or as wide as possible. Buildings frame spaces, enable structures, permit to perceive the dialectics of permanence, where as objects frame a shapeless flow of reality and settle ourselves within a vast space. The synergy of the two, creates a balance of movement, experiences, and scale.

Pallasmaa, Juhani. **The Eyes of the Skin: Architecture and the Senses**. (Chichester: Wiley, 2005), 67.

Woodham, Jonathan M., **Twentieth Century Design,** (Oxford University Press, Oxford, UK, 1979), 154-155.

References

Alison and Peter Smithson, "The Smithsons," **Changing the Art of Inhabitation: Mies' pieces, Eames' dreams, The Smithsons** (London: Artemis 1994): 110–116.

Alison Smithson and Peter Smithson, **Without Rhetoric: An Architectural Aesthetic, 1955-1972**. Cambridge:The MIT Press, 1973.

Auscherman, Amy, Sam Grawe, and Leon Ransmeier, eds. **Herman Miller a Way of Living**. Berlin: Phaidon, 2018.

Banham, Reyner, and François Dallegret.'A Home Is Not a House' in **Art in America #2**. 1965.

Beka, Ila, and Louise Lemoine. "Moriyama House." **What Is A House For**, October 10, 2021. https://whatisahousefor.com/housemoriyama-house/.

Branden Hookway, Bruce Mau, Sanford Kwinter (Ed.), **Pandemonium: The Rise Of Predatory Locales In The Postwar World.** New York, NY : Princeton Architectural Press, 1999.

Böck, Ingrid. **Six Canonical Projects by Rem Koolhaas Essays on the History of Ideas**. Berlin: Jovis, 2015.

Carter, Jimmy, "Bubble Matter", **Fresh Meat Journal**. Chicago:University of Illinois at Chicago, 2019.

Claire Zimmerman, "Albert Kahn in the Second Industrial Revolution", in **AA Files, no. 75**. London: Architectural Association School of Architecture, 2017, 28-44.

Didero, Maria Cristina, Evan Snyderman, Catharine Rossi, and Deyan Sudjic. **SuperDesign: Italian Radical Design 1965-75**. New York: Monacelli Press, 2017.

Dietz, Matthias, **Japan Design**. Köln : B. Taschen, 1992.

Forty, Adrian. **Objects of Desire.** New York, NY: Thames and Hudson, 1986.

Forty, Adrian. **Words and Buildings: A Vocabulary of Modern Architecture**. London: Thames & Hudson, 2000.

Jurjen Zeinstra, **Houses of the Future. 25 years of Critical Reflection on Architecture**, OASE, (75), 203–214., 2008. Retrieved from https://www.oasejournal.nl/en/Issues/75/HousesOfTheFuture

Koolhaas, Rem, "Bigness", in Rem Koolhaas/Bruce Mau/Jennifer Sigler (Ed.), **S, M, L, XL**. New York: Monacelli Press, 1995. 498-499.

Koolhaas, Rem, "Delirious New York", in **A Retroactive Manifesto for Manhattan**. New York: The Monacelli Press, 1994.

Koolhaas, Rem, "Typical Plan", in Rem Koolhaas/Bruce Mau/Jennifer Sigler (Ed.), **S, M, L, XL**. New York: Monacelli Press, 1995. 334-350.

Kotsioris, Evangelos. "The Life in between: Ryue Nishizawa's Moriyama House, Tokyo, 2002-2005." **post MoMA**, September 16, 2020. https://post.moma.org/the-life-in-between-ryue-nishizawas-moriyama-house-tokyo-2002-2005/.

Kuo, Jeannette, and Antoine Picon. **A-Typical Plan Projects and Essays on Identity, Flexibility and Atmosphere in the Office Building: Atelier Kuo at École Polytechnique Fédérale De Lausanne, 2012**. Zurich: Park Books, 2013.

Kuo, Jeannette. **Space of Production: Projects and Essays on Rationality, Atmosphere, and Expression in the Industrial Building. Atelier Kuo at École Polytechnique Fédérale De Lausanne, 2012.** Zurich: Park Books, 2015.

Le Corbusier, "Type-Needs Type-Furniture," in **The Decorative Art of Today**, James I. Dunnett trans. (London: Architectural Press, 1987): 69–79. First published as L'Art decorative d'aujourd'hui in 1925.

Lewallen, Constance M., Steve Seid, Chip Lord, Caroline Maniaque, and Michael Sorkin. **Ant Farm, 1968-1978**. Berkeley: University of California Press, 2004.

Lewis Mumford, "The Assimilation of the Machine" in **Technics and Civilization** (New York: Harcourt, Brace and Co., 1934): 321–356

Liv Buur, Stine. "Plywood." **Vitra**, December 11, 2020. https://www.vitra.com/en-ch/magazine/details/plywood.

Lord, Chip, Doug Michels, and Curtis Schreier. **Inflatocookbook. Ant Corps**. Cambridge: MIT Media Lab, 1973.

Marquez Cecilia, Fernando and Richard Levene, ed. **El Croquis, no. 77, Sejima, Kazuyo.** Madrid: El Croquis Editorial, 1996.

Marquez Cecilia, Fernando and Richard Levene, ed. **El Croquis, no. 79, Koolhaas, Rem**. Madrid: El Croquis Editorial, 1996.

Marullo, Francesco, **Pure Program and almost no form: Notes on Typical Plan and Ivan Leonidov.** San Rocco Magazine, no.7, Summer 2013.

Marullo, Francesco, **Typical Plan: The Architecture of Labor and the Space of Production**. TU Delft, 2014. doi.org/10.4233/uuid:5b7faalf-a2a7-46e2-974d-7b77c13836f3

Marx, Karl, **Capital, vol. I**. Harmondsworth: Penguin Books, 1976.

Munari, Bruno, and Fumio Shimizu. **Descendants of Leonardo Da Vinci: The Italian Design**. Tokyo: Graphic sha, 1987.

Office for Metropolitan Architecture/Rem Koolhaas, **Maison à Bordeaux**, OMA, Rotterdam, 1997.

Owens, Gwendolyn. "Alison and Peter Smithson's 1956 "House of the Future"." **Gastronomica 1, no. 1** (2001): 18-21. doi:10.1525/gfc.2001.1.1.18.

Pallasmaa, Juhani. **The Eyes of the Skin: Architecture and the Senses.** Chichester: Wiley, 2005.

Paola Antonelli, **Objects of design from the Museum of Modern Art**. New York: The Museum of Modern Art, 2003.

Paola Antonelli, **Humble Masterpieces: Everyday Marvels of Design**. New York: Harper Collins Publishers, 2005.

Peter Behrens, "Art in Technology" (1907) and "Art and Technology" (1910) **in Industrielkulture: Peter Behrens and the AEG, 1907–1914**, Tilmann Buddensieg ed., Iain Boyd Whyte trans. (Cambridge: MIT Press, 1984): 207–208, 212–219.

Reyner Banham, "Design by Choice," **The Architectural Review 130** (July 1961): 43–48.

Reyner Banham, "Space for Decoration, A Rejoinder," **Design 79** (July 1955): 24–25.

Rubini, Constance. **Memphis: Plastic Field. Bordeaux: Musée des arts décoratifs et du design**, 2019.

Ryan, Zoë, Paola Antonelli, Sylvia Lavin, Debbie Millman, Jonathan Olivares, Alice Rawsthorn, Mirko Zardini, et al. As Seen: **Exhibitions That Made Architecture and Design History.** Chicago: The Art Institute, 2017.

Sejima, Kazuyo. "Platform I, Platform II." **The Japan Architect**, no. 99, 2015.

Sloterdijk, Peter. **Foams: Spheres III**. South Pasadena: Semiotext(e), 2016.

Smithson, Peter, Catherine Spellman, and Karl Unglaub. **Peter Smithson: Conversations With Students : A Space for Our Generation.** New York: Princeton Architectural Press, 2005.

Strauss, Cindi, Germano Celant, Marissa S. Hershon, Sarah Horne, and J.Taylor Kubala. **Radical: Italian Design 1965-1985: The Dennis Freedman Collection.** Houston: the Museum of Fine Arts Houston, 2020.

Team, ArchEyes. "Fisher House / Louis Kahn." **ArchEyes**, June 18, 2022. archeyes.com/fisher-house-louis-kahn/.

Vanstiphout, Wouter. "Rockbottom: Villa by OMA." **Harvard Design Magazine 5**, Cambridge: MIT Press, Summer 1998.

Walter Gropius, "Programme of the Staatliches Bauhaus in Weimar," (1919), and "Principles of Bauhaus production" (1926) in **Ulrich Conrads, Programs and manifestoes on 20th-century architecture,** trans. Michael Bullock (Cambridge: MIT Press, 1964): 49–53; 95–97

Walter Gropius, "The Theory and Organization of the Bauhaus," in **Herbert Bayer, Walter Gropius, and Ise Gropius**, eds., Bauhaus, 1919-1928. Exhibition catalogue, Museum of Modern Art, New York, 1938, 15-22.

Wigley, Mark, "Whatever Happened to Total Design?" in **Harvard Design Magazine, No. 5**. Cambridge: MIT Press, Summer 1998.

William Harvey Pierson, JR, "Notes on Early Industrial Architecture in England", in **Journal of the Society of Architectural Historians, vol. 8, no. 1/2.**, June 1949: 1-32.

Woodham, Jonathan M., **A Dictionary of Modern Design**, Oxford University Press, Oxford, UK, 2004.

Woodham, Jonathan M., **Twentieth Century Design**, Oxford University Press, Oxford, UK, 1979.

———, **Gallery label from Shaping Modernity: Design 1880-1980**, The Museum of Modern Art. December 23, 2009–July 25, 2010.

———, "Fisher House." **Architectuul**. Accessed December 27, 2022. architectuul.com/architecture/fisher-house.

———, "Moma Learning." **MoMA**. Accessed January 11, 2023. moma.org/learn/moma_learning/themes/design/plastic/.

A special thanks to Alexandre Blanc for following this project and guiding me towards such an intriguing result.
Many thanks to Adrien Grometto for engaging conversations that helped develop this project.

None of this would have been possible without the most fascinating discussions I have had with Sahar, Sho, and Margaux. I am thankful for the immense support the three of you have given and for all the ideas that we have discussed.

Спасибо моим родителям за всё что вы для меня делаете в эти сложные времена. Без вас ничего бы не вышло. Спасибо моей сестре за то что она мой лучик света. Копка.

Thank you, reader, for taking the time to read the text.