Fabrication > Exterior > Interior

Analysing the underlying link between boundaries of space and space itself.

History and Theory Studies

Term 2 Essay

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Preface

I would like to start by stating that I honestly don't know how this essay will read once I finish writing it. The aim is to write about a topic which I am deeply interested in and - year after year - sometimes consciously, sometimes not, I end up always discussing in my essays:

domestic space.

Just as critical as the role of architecture in the general global history - the idea of shelter for the mass population - domestic space is that one branch of architecture which stands the most close to the individual because of its scale and relation of intimacy with the user(s).

Since the beginning of my architectural studies, I came across many iconic examples which defined and shaped the Idea of domestic space throughout time, with a keen interest in the development of such space in the last decades, leading to the void we nowadays live in and call 'Home'.

It has to be noted that, in these past years, I was mainly dealing with understanding the concept of domestic space as that *abstract perception* when entering inside an unknown exterior shell; often placed on a second plane, or even completely disregarded. On one hand, it is a perfectly understandable and reasonable act: as this 'container' could limit and restrict the flexibility and potential of such *new interpretations* of domestic spaces, it is thus placed aside, giving the spotlight to the interior space, the (domestic) space.

Nevertheless, separating the two, individualising each one as a singular - independent - entity, will cause a loss of connection and reliability these two entities share with each other. The object of 'home' can be described as a back-and-forth dialogue between the container and the domestic space within it. They relate to each other by influencing their state through one another: the Domestic space, as it is physically shaped and restricted by its boundary container and, the Container, as it is defined by the type of (domestic) space found within.

I would like to call to the attention Meyer's Co-Op Zimmer project. Hannes' project from 1926, famously known for the composed photograph of the interior space, represented *Der Standard* of 'home' in that period of time - with a heavy focus on industrialised and serialised architecture. In this project for example, as well as others like it, the exterior container is non-existent, undefined.

The initial idea for this essay was to understand the changes and developments which can be noticed when analysing today's emerging domestic spaces through the some of the most iconic examples from the past century. However, it has come to my attention that actually these two, even though the strongly relate to one another, they should (and have to) be treated as separate organisms - analysed and discussed through different 'lenses' as, even though they are part of the same 'bigger picture', their complexity required to do so.

Origin

1926, Hannes Meyer first presents his Co-op Zimmer project[1] to the world in the journal *Das Werk,* under the title "Der Standard". This was an insight regarding the aesthetics of industrialised and serialised architecture, a strongly debated topics during that period. With the emergence of post-war architectural ideologies, Meyer wanted to portray his analytical and critical vision on the current (as in the *20s current*) times, attempting to convey his take on the perception of *home.* The words 'industrialisation' and 'serialisation' here are key to the understanding of Meyer's actions. His project was exploring the consequences of how this *adaptation to the norm* would have alter the relation between the domestic interior space and the users' perception of it.

Der Standard becoming the new norm will certainly spark new thoughts and understandings regarding what type of domestic space Meyer was implying when arranging the different objects which compose the iconic photograph. An inquiry into the form of the new world (and its living cells). Starting from the name, 'Co-op', he is already suggesting a 'bigger picture' of the project, a scenario where there is *cooperation* and interaction with others. It is then easy to understand that the room everyone sees in the famous Co-Op Zimmer photograph is just a single cell of a much bigger organism.

What makes everything even more intriguing is the fact that there are two different versions of that one iconic image: a cropped one, showing just the bed, one chair, and a table with a gramophone on top of it; and an un-cropped version of that same space, showing a bit more of the room, revealing a second chair, placed right below a couple of shelves occupied by a series of containers. As this is a carefully staged photograph, every single element present inside the image has a crucial role and it is highly relevant in order to better understand the idea behind Meyer's project.

Starting from the scale, it is clearly noticeable that the room is quite small, suggesting a dwelling space thought for one single individual. This implication is further strengthen through the presence of a single (curiously short) bed and the one folded chair next to the bed. The 'foldability' of the chair suggests a certain ideology of compact, dynamic, spaces which can change depending on the user's needs. Lastly, the final item which is included in the cropped version of the photograph is a gramophone, placed on top of a small table in the corner of the room. The presence of this object in this specific type of space is particularly intriguing: one would think that, because of the size of the room, social activity and any form of entertainment would exclusively occur outside of such space - contributing to the idea of *collective cooperative* the first part of the project's name suggests. However, the inclusion of a mean of entertainment makes one wonder if actually some time of the day is for solitary time, away from the rest of the system - individualising oneself within it. This *individualisation* is then brought into question in the un-cropped image, where a second chair suggests a presence of company inside what (was thought to be) a cell for one single individual.

[1] Refer to Image 1 in the appendix.

Technology

An aspect which is not dealt with too much in Meyer's project is the upcoming implementation of technology within the domestic space. While the Co-op project can be mostly perceived and understood as a critical representation of what the standard for 'the new world' would (or could) be, the presence of technological devices was still inexistent; a scenario which, in 1956 with the *House of the Future*, the Smithsons where highly invested it. Rather than critical analysis of the new and emerging dwellings, the Smithsons chose to embrace such ideology and designed an actual proposal for a new typology of 'standardised domestic space'.

Unlike Meyer, who portrayed the 'new standard' as a very essential and neutral space, the House of the Future reflects upon the integration of a series of technological devices to improve the quality of living within these new typology. Rather than *impersonality* and *nomadism* - which can be clearly perceived when looking at Meyer's Co-op project, the Smithsons House suggests a more intimate relation between the interior domestic space and its user(s).[2] With its futuristic style, conveyed through the furniture and use of materials, this project was a representation of more bespoke space, tailored for everyday domestic activities and routines. Pieces of furniture such as the dining table which rises from the floor, the heated flooring and the glass-fibre reinforced chairs not only indicate a strong change in the aesthetics and functionality of the future domestic space but, to a deeper level, it suggests a new relationship between the space and the dweller who inhabits it. It is no more a just a space where the dweller satisfies the fundamental needs for subsistence, to eat and sleep, most probably on their own.[3] In the House of the Future, domestic space becomes the centre of an individual's routine, a space for interaction with and through the interior.

Domestic components, such as furniture and walls, are not simple and essential anymore, solely shaped and crafted to pursue their basic function (eg. A wooden chair to be sat on). Objects such as the *body-outline-shaped bathtub* become parts of a bigger dialogue: one of aesthetic pleasure and comfort, implying a constant human presence within the domestic space - unlike, for example, in Meyer's project, where the presence (or not) of the occupier is secondary to the understanding of the cell's reality.

Yet once again, when looking at the proposed plans for the project, the container (the exterior boundary) is arbitrary, set to restrict the interior and confine it within these borders. This 'shoebox' then suggests a relation between the house itself and the exterior, where multiple of these blocks can be arranged and stacked both vertically and horizontally, relating back to the ideas of repetition and serialisation, becoming a module of a bigger agglomeration of cells, individualising itself within the mass production of personalised domestic spaces.

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[2] Refer to Image 2 in the appendix.

[3] Vougia, *Estranging devices : architectural modernism and strategies of de-alienation*, pg. 147

Limit

Modernist architects, like Meyer and the Smithsons, were dealing with the interior, setting it as their primary priority, not concerning about how to break through the limit the Container establishes. Limits which, because of their physical properties, are set by the fabrication of such objects. Modes of production which set out a very specific architectural language for the *new standardised house*. The repetition of these serialised, modular units leads one to start questioning the exterior shell which would contain these upcoming domestic realities and how are these generated: the fabrication of the container.

It is, with a doubt, possible to say that the exterior 'box' of a space is what contains and restricts it from getting mixed with the outer surroundings. The container is the entity which sets the boundary between the unknown outside exterior and the domestic, elaborately refined, interior. This container is inevitable, since without a boundary to set the limits, there would not be any 'interior'. Hence it becomes apparent the link between the shell and the interior which exists inside of it; how this cannot exist unilaterally, as an 'interior' has to be contained within *something* and an 'exterior', either directly or indirectly, produces a 'contained *something*'.

The exterior (container), in turn, is dictated by the fabrication of such barrier. No matter if it is an implied series of walls - as it is in Meyer's project - or an arbitrary rectangular box like the one the Smithsons draw on their plans for the House of the Future, this container is what sets the exterior perimeter for the interior (domestic) space. This realisation then draws a line which connects the three objects together as part of a whole: fabrication, exterior, interior.

Present

Fast-forwarding to current times, it is inevitable to not take into consideration rising fabrication technologies such as 3D printing and open source DIY projects such as WikiHouse. Both of these solutions offer alternative fabrication techniques which differ from the commonly known and used ones, opening up new possibilities and new *standards* for tomorrow's domestic spaces. Even though these technological advancement may change the physical appearance of the 'containing box', as the technological approach became more technisised when compared to the past century, the relation between the boundary of the produced space and the interior generated inside is still very relevant.

The 3D printing technology only recently started to move up to such a scale which allows us to exploit such fabrication methods in order to produce a whole, 1:1 scale, domestic structure. 3D printing has been used for many years (if not decades) to produce cheap and fast prototypes for small-scale objects. Through time, it has then been challenged to scale up the limits of such fabrication techniques to bigger scales, up to a point where

an entire 400 sq. ft house can be 'printed' in less that 24 hours, with a cost of only $10 000.[4] All the technology needed in order to produce such structure would be a single robot which can spin 360º and has a built-in automatic mixing and pump system[5] in order function as an mobile 3D printing unit which almost almost eliminates the human intervention. This greatly contributes to the idea of having a future domestic space which allows individuals to live a more nomadic life, with a particular focus on methods of mass fabrication - linking back to the serialisation of the interior through the industrialisation of the exterior.

Similarly to this, open source projects such as WikiHouse allow individuals to access a substantial database of files and models which can be downloaded and CNC-milled out of plywood sheets to then assemble them together to make a house.[6] Doing so, will them enable a series of modular principles, empowering the user giving him more control over that arbitrary - set - boundary which contains the domestic space to which he is subjected to.

Acknowledgement

When discussing particular case studies, such as the ones previously described and discussed, a clear connection cannot be made without a thin veil of confusion. A layer of tension which is underlined within and between the way in which many individuals (such as Meyer and the Smithsons) were questioning, analysing, and treating the concept of domestic space in relation to a 'standard' for the architecture of tomorrow *and* nowadays modern technological advancements which allow for a more accessible, flexible, and individualised domestic cells.

As these two distinct parts should be taken care of separately, only remotely discussing them together - because of their weak relation to one another - they should be seen through two different 'lenses'. However, the more one realises how strong and present is the connection between the fabrication of the boundary, the container it self, and the space generated with in, the more these two distinct lenses start to overlap and blend the vision into one single image.

The aspects of serialisation and mechanised production modes explored by Meyer can be rediscovered in contemporary fabrication technologies, a reduction to the *minimum*, where the domestic interior reduces to smallest possible space to satisfy basic needs such as sleeping. The Smithsons approach to technological advancements in the domestic realm is redefined by todays incorporation of technology in order to create the boundaries where the 'new standard' of the 'house of tomorrow' will be contained in.

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[4] Moon, *A San Francisco startup 3D printed a whole house in 24 hours.*

[5] Refer to Image 3 in the appendix.

[6] WikiHouse website

Several modernist architects from the 1900s have worked with the interior, how to shape it and organised it in such a way to adapt it to a industry-oriented view of domestic space, one where the domestic cell is just a single component of a much bigger agglomeration of architectural entities which relate to each other. Nonetheless, these individuals have been mainly concerned with the interior space which is contained inside the box, not breaking through its limit as this is not controlled by them - nor they have the power to change it - but rather it is determined by the fabrication technology used to create the box itself.

By understanding the three - fabrication, exterior, and interior - as separate components of a unified process, it is therefore possible to place the different case studies onto the same place, where each one is an alternative conclusion of different approaches created through the same means and principles: starting with the physical existence of the boundary, its role of the box - in separating the inside from the outside - and the interior domestic space which is consequently generated within it.

Appendix

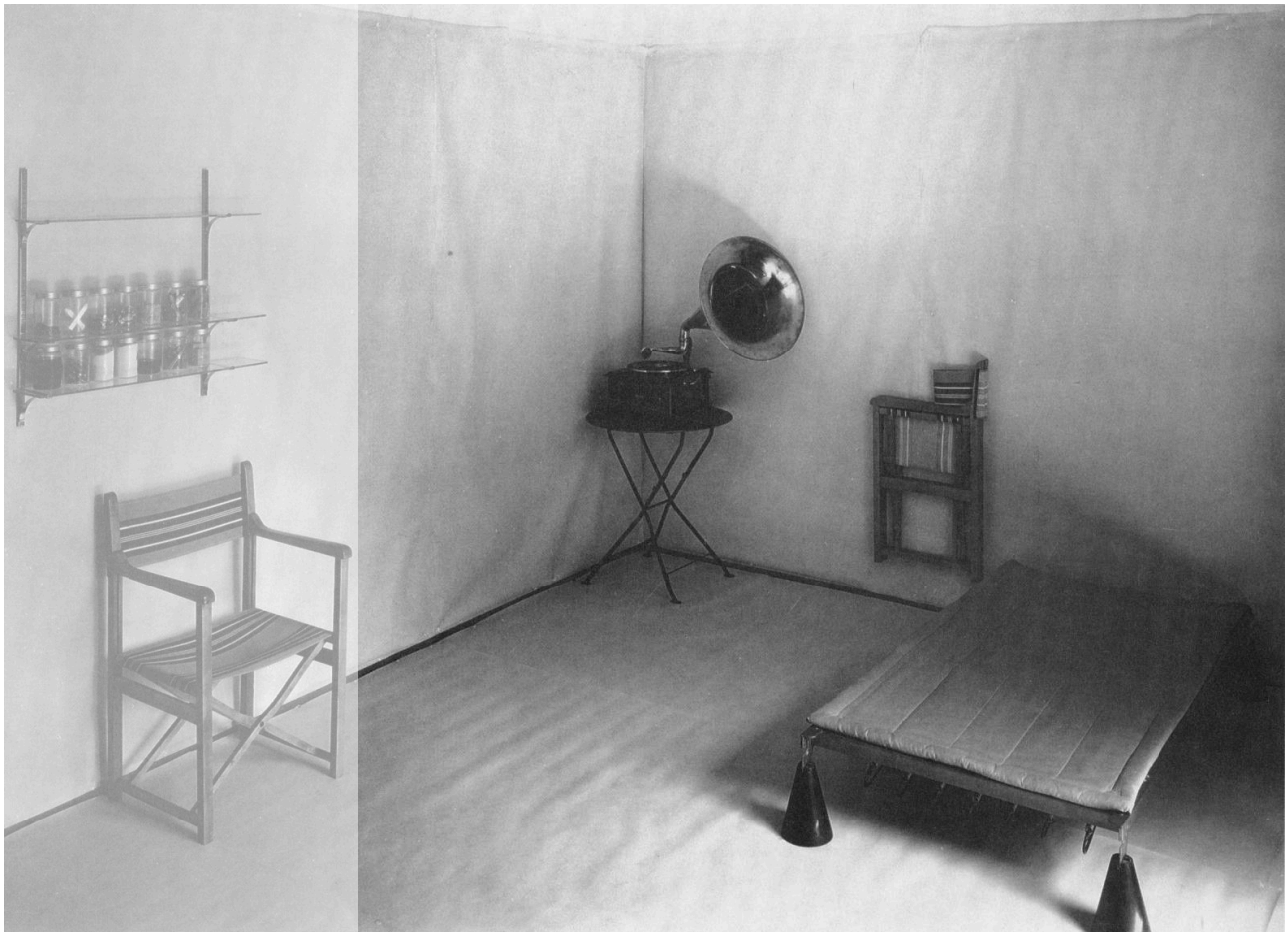

Image 1

Hannes Meyer's Co-op Zimmer project (1926)
Cropped and un-cropped images overlapped.

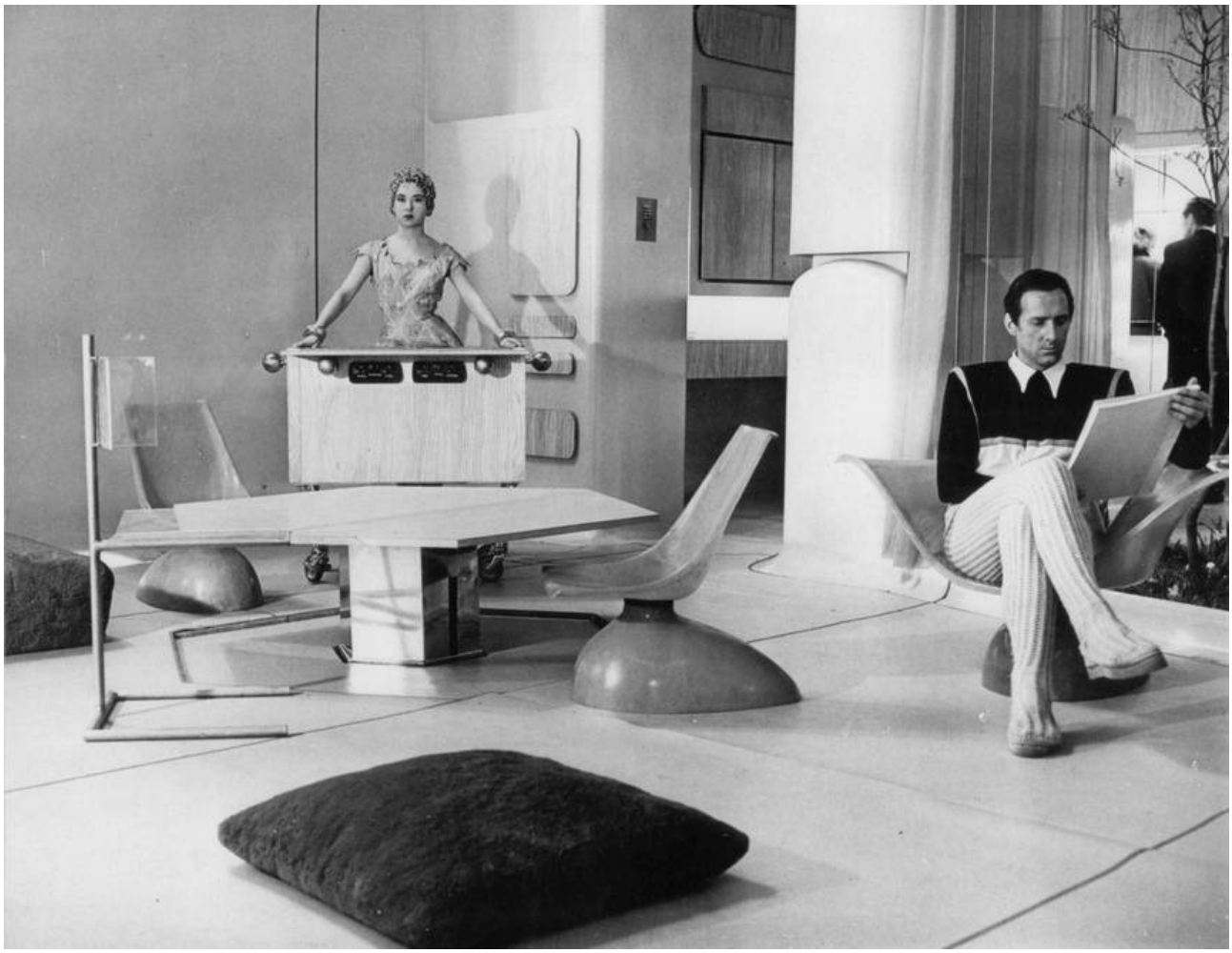

Image 2

House of the Future
Alison and Peter Smithson (1956)

Image 3

Apis Cor's 3D printed house
Printed on-site in Russia

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Images

Image 1 - Hannes Meyer's Co-op Zimmer project
https://bilkentarch321.wordpress.com/
Image 2 -The Smithson's House of the Future
https://media.treehugger.com/
Image 3 - Apis Cor's 3D printed house
https://www.apis-cor.com