# FUNCTIONALISM RENDERING

'Form follows function'
Function follows... society?

## GENERAL INTRODUCTION

In Europe, the beginning of the XXth century, especially after World War I, was a period in which a lot of organisations like Bauhaus or CIAM tried to respond to the problems that society was facing at the time. Those problems included the acceleration of the process of urbanisation, availability of materials, overpopulation of urban areas and conditions of housing (mostly focused on overcrowding, light, hygiene and access to water) (Urbanik, 2019). Technological advancements in the industry, which started the use of mass production, standardisation and efficiency, impacted also the construction and design industries. The derivative of that was the creation of standard handbooks for architects and designers, who then, in the thought of 'modern' beliefs were trying to create the most functional and efficient spaces for the new society (Cupers, 2013).

All of those societal struggles led to the creation of movements like Functionalism or the idea of Existenzminimum or minimum living (particularly in the Weimar Republic). Representation of those were the exhibitions organized in different European cities, which were supposed to showcase the ways of living for the new 'modern' society (Urbanik, 2019). The use of technology, allowing more commercialised use of goods, started influencing the structure of society, as more commodities were available for 'standard users' not only the richest part.

Commercialisation sustained in the past century and had an impact also on the process of urbanisation which will continue to grow in the near future. The constant urbanisation forces local authorities to reconsider the urban planning and construction industry. Governments create building regulations and guidelines for minimum standards of living. This influences the availability, affordability of the units and conditions of some of the properties in urban areas. The main limitation of the standards used to create those living spaces these days is that they are mostly based on handbooks created in the past century. Those were usually influenced by the commercial companies using the 'standard user' as the centre of the design, which did not accommodate a lot of variety within the possible consumers of products (Cupers, 2013). Those standards have been predominantly used until now.

## IDENTIFICATIONS

**Function**
The function in architecture is treated as the purpose that an object or building is fulfilling. Architects designing the buildings have their function in mind. Buildings and objects can change their function over time.
For the purpose of the research, the function of building will be narrowed down to the domestic spheres, excluding the public buildings functions.

**Functionalism or Functional Movement (historical)**
For the purpose of further research work the 'Functionalism movement' will be focused on the architecture designed in Central Europe, mostly in Weimar Republic, after World War I. This specification is due to the case study chosen of the exemplary development built in this location - Wohnungs- und Werkraumausstellung (WUWA) in Breslau (currently Wroclaw, Poland).

**Functionalism and functional design**
Functional spaces and functional design will focus on the practical side of the matter, not the symbolic functionality.
The word 'functional' will describe a subject which is **efficient** (in broad meaning of the word – physical, psychological, sociological) in fulfilling its purpose to **its current user**.

**Standard 'user'**
In the past century the persona of a 'standard user' was predominantly based on societal roles, influenced by standardisation and mass production – the standard user of a kitchen was a woman, staying at home and taking care of the household.
The understanding of the 'standard user' as a twentieth-century phenomenon should be reconsidered. Previously known, mostly specified, societal roles have evolved, making it much harder to define who the 'standard user' is these days. The user now will be treated in its pure understanding as a person who is using space or building. The role within the society should be omitted, if it's possible.

## PROBLEM STATEMENT

Although the contemporary societal struggles seem similar to the issues in the first half of the XXth century, they have different origins. The standards created in the past century do not respond to the changing and more commercially and technologically focused, contemporary society.

Today, due to technological advancements, people are looking for constant stimulus from the environment. In the past century, the structure of families and households changed, from multigenerational families living together, through so-called nuclear families to hard to define contemporary structures of families which do not fit into previously known categories (for example are made out of single parents with children). The changes include not only the number of family members but also roles within the household itself. The needs of 'contemporary users' are not only focused on biological processes but also on technological uses. Furthermore, within a domestic sphere, the relationship between living, leisure and working changed. Governments put attention on the controlled reuse or use of materials, keeping in mind their scarcity and influence on climate. Under those pressures buildings designed in the 'historical functional movement' are not functional for the 'new users'.

The paradigmatic shift of society, especially connected to the use of technology in everyday life, seems to influence the basic needs of users. Those changes impact present-day functions of buildings and the way we use them, demanding a shift in the design.

## RESEARCH QUESTION:

**What is the relation between social changes and functionalism within the domestic environment?**

SQ1: How does change in society (i.e.use of technology in almost all aspects of life) influence t understanding of 'functionalism?
SQ2: How did the introduction of technology enhanced the change and influenced our needs?
SQ3: What is the understanding of function in time? Why and how do we redefine?
SQ4: How do we create spaces which would be functional not just for the 'standard users'?
SQ5: What is the cycle of the function and what conditions influence that?
SQ6: How did Wroclaw's society changed and how did it influence the functionality of WUWA development?

## THEORIES

### History & Historiography

The term of 'functionalism' as mostly used today has been developed in the XXth century. The analysis of the history should be used in order to understand the origin of 'functionalism movement'. The 'Genealogy' of Foucault will be crucial to recognize the origins of the term 'functionalism'. Foucault highlights also that the origin of concepts have usually multiple influences (Foucault, 1977). In this case thus, 'Functionality' cannot be analysed without the connection to the 'user'. To analyse the origin of those two and their connection, there will be a need to not only look at the architectural influence, but also other fields, with the focus on the sociology.

According to Foucault the 'past actively exists in the present' (Foucault, 1977, p.146) and is influencing it. Genealogy will not only help to look at the foundation but also at its development or evolution, trying to understand the conditions and patterns which allowed 'functionalism' to happen and help to understand their current meaning (Foucault, 1977). The historical figures from different fields, which were a bit more critical about the 'functionalist' movement, may help to understand those origins. Those figures include Karol Teige, Henri Lefevbre, Josef Frank, Otto Neurath (Cupers, 2013).

### Temporality

The change is usually initiated by a struggle. The origins of the change of society are in the societal struggles. The struggles are also reflected in the solutions (like creation of functionalism when the housing was in poor conditions).

In the past, the changes in society influenced the use of buildings and their functionality. New designs were supposed to help to shape the 'modern society'. As observed those two are influencing each other. The relationship is constant, however, as time passes it's changing. Before the period of "historical functionalism" societal changes started shaping it and within the high peak of 'Functionalism' period the architecture was supposed to shape the 'modern' society. This connects also to the theories of Henri Lefebre which suggests that space (in his case in the urban scale) is a social product (Hassan, 2010). Seems like the relation between the changing society and functionalism is cyclical. Historiography can probably help also to find certain dependencies and patterns in time.

The question appears- what stage are we in right now? How does the change in society, due to technology, will influence functionality of buildings or is that change part of functionality which will influence possible societal change?

### Behaviour setting

All of the buildings accommodate certain behaviours.

The sociological concept of behavioural setting helps to analyze the relationship between the certain standing pattern of behaviours and the millieu (environment were those behaviours appear) (Barker, 1968).

Milieus are composed of places and links between them. Behaviours within environments can be different for each individual, and are influenced by cultural norms and background of each individual. Behaviours change over time. This change is not only on the level of society, like changing cultural norms, etc. Those adaptations happen also on the individual level like mobility skills while aging.

The milieus can remain the same, but their functionality may be changing depending on the behaviour and thus influencing the behavioural setting. Behavioural setting change should also observed spatially in the research- trying to see if the changes of behaviours happened also in the urban and domestic scale (Lang and Moleski, 2010)

### Perception

The perception, or the way in which the world is perceived, is important also in the case of functionalism for two reasons- the individualism of needs and certain paradigmatic changes of society due to technology.

In order to analyse the change of needs, the sociological concept of hierarchy of needs by Maslow (1954) will be used, as it represents architectural values too (Lang and Moleski, 2010). For the research purpose, the needs will focus on domestic typology. The basic needs are addressed by different functions of house. Those are usually connected to the specific places (or milieus using the behaviour setting concept). The more advanced needs can be addressed by the aesthetic of the design (Lang and Moleski, 2010).

The relativity of experience and the functionality of the house will be influenced by the personal needs of each individual and can change in time (i.e. aging person). This aspect, however very important, will try to be incorporated into the design, however, with certain limitations as the spectrum of changes can be very broad.

The paradigmatic change of society, which started already once technologies (in a very broad meaning of the word) started to take over the industries (i.e. in Industrial Revolution) and later on our lives with the use of computers and phones. The technology being now part of our lives influenced most of our needs (Lang and Moleski, 2010). The rapid technological progress happened also in XXth century- maybe the contemporary advancements will create similar pattern to the past.



Fig. 1. Historical figures
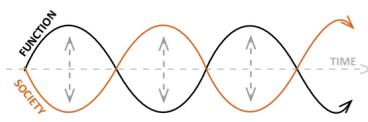


Fig. 2. Diagram of influences
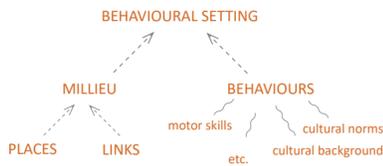


Fig. 3. Influences in time
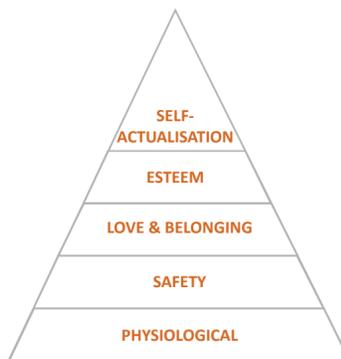


Fig. 4. Behavioural setting diagram



Fig. 5. Hierarchy of needs, based on Maslow

## METHODS

The methods chosen are supposed to help analyse and draw certain conclusions about the origin and use of functionalism in the past. Following the chronological order, firstly the history will be looked at through variety of methods, keeping in mind the approach of Foucault. Later one the case studies, observations, interviews and multidisciplinary literature review will help to understand the shift and contemporary users needs.

### Delimitation (Anthony Miles, 2019)

The use of 'functionalism' as well as its spatial and timeframes are very broad. The first step in approaching of the problematique should be narrowing down of the area and group of people involved in the analysis in order to pin point the evolution of concept.

For the purpose of the project, the area of WUWA (one of the developments of Weimar Republic) will be watched in more detail in order observe analogies and differences between the past and present and changes happening (genealogy of functionalism in this particular case)

**Who?** population of Wroclaw (with bigger focus on Dąbie district)
**Where?** Wroclaw, Poland (previously Breslau, Weimar Republic)
**When?** 1929 (XXth century) and 2024 (XXIst century)

### Case study analysis (Floor plans, photographs, history)

According to professors from TU Delft floor plans are a reflection of activities performed by users (Van der Voordt, Theo, et al. 1997). The floor plans will be used as an architectural tool to observe the changing patterns in society (i.e changing roles of women in the household). The additional information gained from architectural drawings and images may help to understand better the adjustments and spatial adaptations that 'users' introduce to spaces to make their living environment more fitted to them.

The purity of the form of modernist architecture allowed to communicate the ideas more clearly, allowing the function to be 'speaking for itself'.

### Mapping

The analysis of the location of buildings can help to understand the meanings of places within a broader system of urban network. Mapping can take place on different scales, i.e. routes taken inside of the houses. The mapping of the bigger scale may potentially help to uncover changes in the functions of the city and the surrounding area.

### Literature review

The literature allows to understand previously known approaches to the matter. Focus shouldn't be only on the architectural discourses, but also touching on some of the sociology to understand in more depth the needs of contemporary people.

### Interviews

Conversation with people living inside one of the housing estate developments designed in the 'Functional movement' in the Weimar Republic in the year 1929. Some of the houses underwent renovations, as the functionality of the buildings was questioned. The interviews would help to understand changes made inside and their possible reasons. The interviews in this case act almost in the role of Post Occupancy Evaluation.

### Observations & Surveying (Sepe, 2024)

Possible in one of the exemplary developments, designed and inspired by the Functionalism movement in the 20th century. The public space adjustments through time and maybe patterns created by the new users will help also to understand the needs of users in the given context on a slightly bigger scale than household.
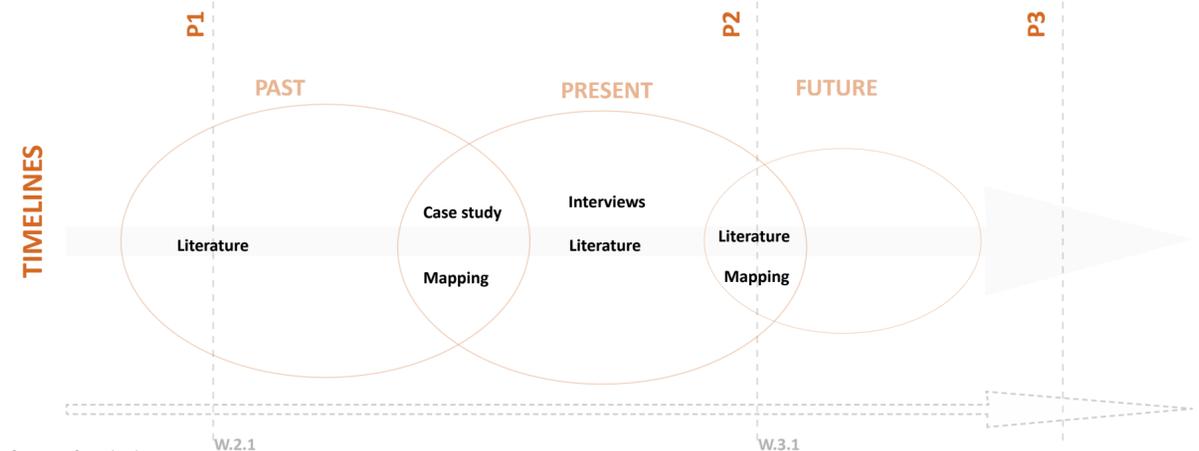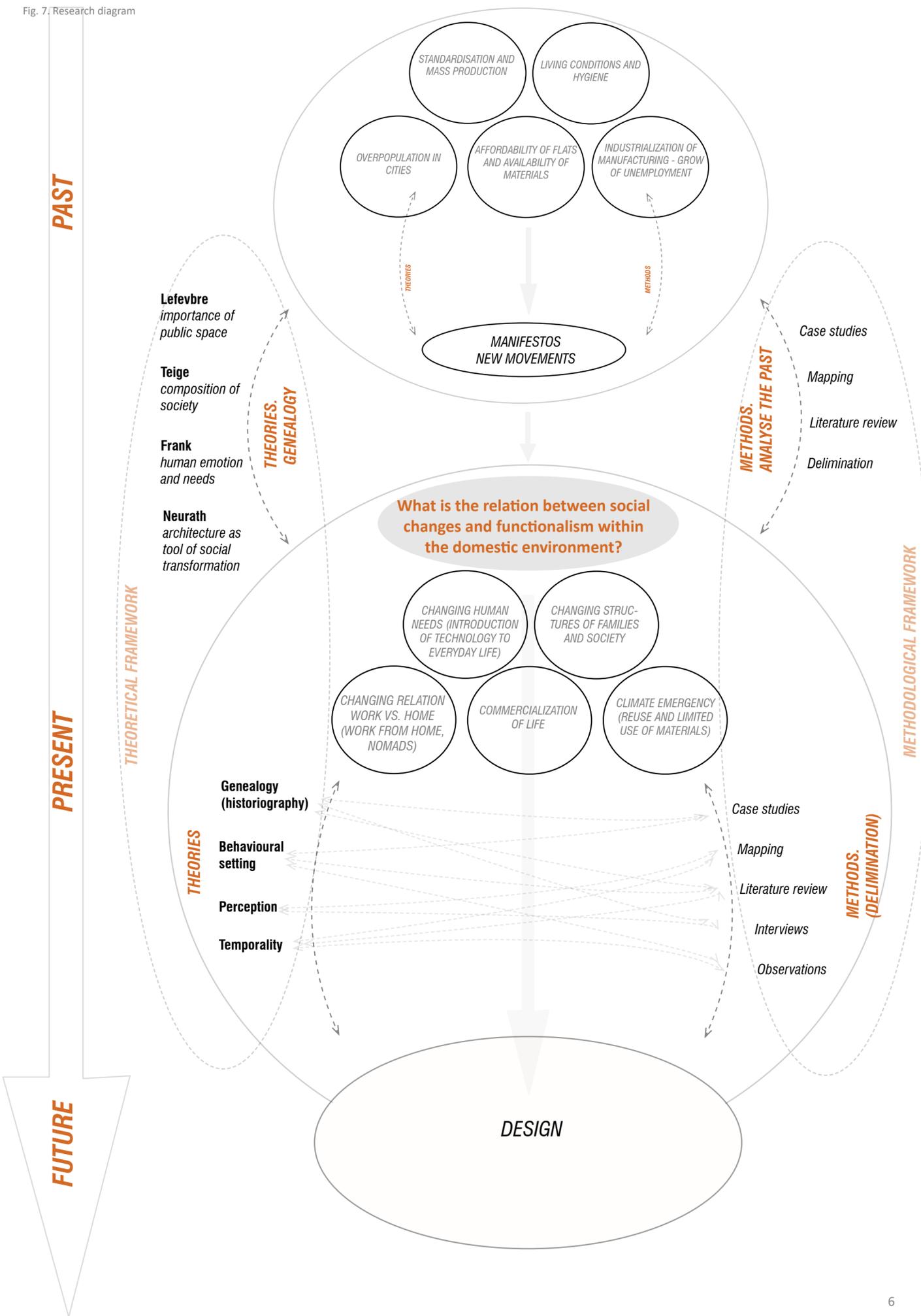


Fig. 6. Timeframes of methods

Fig. 7. Research diagram



**PAST**

STANDARDISATION AND MASS PRODUCTION

LIVING CONDITIONS AND HYGIENE

OVERPOPULATION IN CITIES

AFFORDABILITY OF FLATS AND AVAILABILITY OF MATERIALS

INDUSTRIALIZATION OF MANUFACTURING - GROW OF UNEMPLOYMENT

THEORIES

METHODS

MANIFESTOS NEW MOVEMENTS

**Lefevbre**
*importance of public space*

**Teige**
*composition of society*

**Frank**
*human emotion and needs*

**Neurath**
*architecture as tool of social transformation*

THEORIES. GENEALOGY

METHODS. ANALYSE THE PAST

Case studies

Mapping

Literature review

Delimination

THEORETICAL FRAMEWORK

METHODOLOGICAL FRAMEWORK

**What is the relation between social changes and functionalism within the domestic environment?**

CHANGING HUMAN NEEDS (INTRODUCTION OF TECHNOLOGY TO EVERYDAY LIFE)

CHANGING STRUCTURES OF FAMILIES AND SOCIETY

CHANGING RELATION WORK VS. HOME (WORK FROM HOME, NOMADS)

COMMERCIALIZATION OF LIFE

CLIMATE EMERGENCY (REUSE AND LIMITED USE OF MATERIALS)

**PRESENT**

THEORIES

**Genealogy (historiography)**

**Behavioural setting**

**Perception**

**Temporality**

METHODS: (DELIMINATION)

Case studies

Mapping

Literature review

Interviews

Observations

DESIGN

**FUTURE**

**BIBLIOGRAPHY**

**Cover page:**

*'form follows function'* - Sullivan, L.H. (1896). *The Tall Office Building Artistically Considered*. In Wiebe, R. (1966) The Search for Order 1877-1920.

**Literature:**

1. Alvado Bañón, J.; Devereux, M.; Latka, J.; Morales-Beltran, M.; Nobile, M.L.; Stevens, S. (2023). *Temporality* UOU scientific journal #06
2. Awamleh, Z. (2024). *Behaviour setting transformation methodology, filling in the gaps of the conventional architectural design process*. Philosophical Transactions of the Royal Society B: Biological Sciences
3. Barker, R. G. (1968). *Ecological Psychology: Concepts and methods for studying the environment of human behavior.* Palo Alto, CA: Stanford University Press.
4. Cupers, K. (2013). *Use matters: an alternative history of architecture*. Routledge
5. Foucault, M. (1977). *Nietzsche, Genealogy, History* In Language, counter-memory, practice: selected essays and interviews. Ithaca, Ny Cornell Univ. Press.
6. Hassan, R. (2010). Globalization and the 'Temporal Turn': Recent Trends and Issues in Time Studies. The Korean Journal of Policy Studies, Vol.25, No.2
7. Jerram, L. (2006). *Kitchen sink dramas: women, modernity and space in Weimar Germany*. Cultural Geographies
8. Lang, J. and Moleski, W. (2010). *Functionalism revisited*. Ashgate Publishing
9. Lefebvre, H. (2014). *Towards an Architecture of Enjoyment*. University of Minnesota Press
10. Marguin, S. (2021). *Architecture and sociology: A sociogenesis of interdisciplinary*. Referencing. Forum: Qualitative Social Research Sozialforschung
11. Rapoport, A. (1969). *House form and culture.* Englewood Cliffs, N.J.
12. Teige, K. (1932). *The minimum dwelling*. Prague, Czech Republic: 2002 Massachusetts Institute of Technology
13. Urbanik, J. (2019). *1929 WUWA 2019 Wroclawska Wystawa Werkbundu*. Wroclaw, Poland: Muzeum Architektury we Wroclawiu

**Methods:**

1. Anthony Miles, D. (2019). *Let's Stop the Madness 2: Understanding the Difference Between Limitations vs. Delimitations*. Doctoral Student Workshop: Limitations vs. Delimintations
2. Sepe, M. (2024) *Surveying with the PlaceMaker Method* In Machado e Moura, C.; Milián Bernal, D.; Restrepo, E.; Havik, K.; Niculae, L. 49 Methods and Assignments for Writing Urban Places, Sapienza Universita di Roma
3. Van der Voordt, Theo J.M., Vrielink, Dick, & Van Wegen, Herman (1997), *Comparative floorplan-analysis in programming and architectural design*. Design Studies 18(1)

**Images:**

## AIM

While keeping in mind the changes in the society, maybe the meaning of XXth century words like 'functional', 'efficient' should be reconsidered through the lens of those variations and rendered to the current conditions of societies. If designers re able to recognize the shifts of the society, they can better address them in their projects.

The aim is, through observations of the housing as a typology, with a more specific focus on architectural drawings of houses from different periods, to understand the changes happening in society. The next step would be to try to find a correlation between the understanding of functionalism, as a certain group of principles that enable to design of efficient units which fulfil all of the 'new human' needs (both biological and psychological). The problematique of the design process will not only focus on efficiency but also on certain 'luxury' of spaces – focusing not only on the 'Existenzminimum' of the XXIst century but also creating comfort and possibly flexibility for the future users. Those will also need to address their new needs, as a society will continue to change. The discussion over functionalism will cyclically continue. Today's globalization speeds the process, as information travels much faster than previously, but also, as XXth century designers dreamed, unifies or standardizes designs around the world.
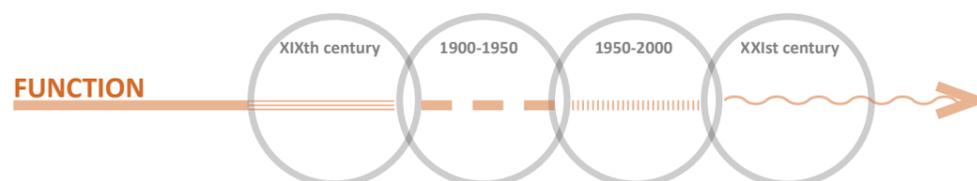


Fig. 8. Changing of functionalism

This puts forward another question of who is the 'standard user' these days and if the uniform design should be at all implemented due to the global disparities. As the users' needs are evolving, which ones do we, as designers focus on? Do we as designers want all solutions to be standardized and 'functionalised' or should we accommodate for personalization? To what extent can we design for the future?

## DESIGN:

The research and design will try to, at least partially, answer the questions of what we, as a contemporary society, understand as functional spaces within a domestic environment. The small housing development in the place of one of the Exhibition locations in Wroclaw, Poland. Architects in 1929 designed a series of houses to respond to the different users and their needs in light of the social changes that were starting to happen at the time. After so many years, people are still using those buildings for housing purposes. The question of the functionality of the spaces for contemporary users is brought forward.

The idea is to design a 21st-century conceptual version of the Exemplary development, trying to accommodate the 'new users' of today and trying to understand their needs. The initial step would be to identify the changes from the previous design and address them. The final product should try to find a 'functionalism' of today, keeping in mind that society evolves constantly and that the end design may be not a final answer to the issue.