What is the role of praxeological approach and quantitative & numeric research method on exploring future vision?

Course: Lecture Series on Research Method | AR3A160
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1. Introduction

Architectural design process can be specifically explained as the process of how buildings are planned and built. This industry is clearly not one-man field industry. There are multiple players and variants that are imposing tremendous influences on the practice including developer, urban planner, and construction company and architect and so on. Additionally, it is undisputable that the industry is one of the biggest industries that is leading the global economy. This sophisticating and pressuring environment usually locate architects on a critical position that has also various elements that need to be analysed. Therefore, these landscape of the industry and social duties of architectural profession requires clear ways of execution of research and establishing business model and design. Like already mentioned above, since the field has multiple players in its game. So, individuals or groups of architectural profession should be able to deliver logical and well-refined visions to other players. Properly selected research methodologies and methods become determining points for successful projects which manage to achieve success in terms of economically or socially.

Lecture Series Research Method has clearly given me various visions and awareness of what most of students and professions in architecture have been doing for their projects. The importance of providing opportunities to diagnose and reflect intellectual means which we are using in the field was shown vividly by this course and honestly, it was intriguing to see how studied on research methods has been conducted through history and how it would be in the future. Actually, one of the topics dealt in the lecture series relieved my suspicions about conducting research, *Praxeology*.

Praxeology rests on a primordial fact that human engages in actions consciously that is about simply human actions and conduct[1]. This methodology is standing on one of the most influential points in architectural projects or even bigger than those projects. Praxeology can be expanded to broader concepts from habits to culture of certain society instead of only in individual's moving lines in kitchen. With this methodology, we become able to discern several dominant patterns in human action because although every individual is different but also more or less similar in the bottom parts and if those parts are centralized or industrialized, it would become evident to realize praxis such as field like food which is significantly common.

The studio thesis topic is food production in the future which can be seen only with numeric value. The thesis is exploring the impact of closing the gap between food production and consumption. We simply don't know about what we put into our mouth every day and how deadly it is to our body and how unsustainable it is and how superficial it is. Some argue that is an industry not human actions but in broad sense, industrialized food system is clearly the realm of human which is caused and driven by the need of human praxis. Investigating on future food landscape which is the mostly can be shown in quantitative value as human praxis and the food industry is quite fixated. Therefore, praxeological approaches are also needed to understand its ecology for 2100.

2. Research-Methodological Discussion

Like mentioned above, in a praxeological perspective, human engages purposeful actions to fill scarcity of unsatisfied desired. People act having goals and choose methods to acquire their goals. All of this action should take place on definite time and in definite space. It is on this

[1] Murray N. Rothbard, *Praxeology: The Methodology of Austrian Economics* (Cheltenham,1997),58-77

basic and evident axiom of human action[2]. This way of approaching makes us enable to see implications of certain action because basically praxeology is everywhere such as human's habit which is the fixation of certain praxis and when it occurs in societal or national class, it comes to become representations as culture or system which are being executed by human. When it comes to the thesis topic, food production, it is one of the biggest praxeological system because we can clearly see human is moving to solve the demand on food and it is being seen as food chain. Especially in the future, the demand will be extreme because of tremendous increase of population and it is evident human will impose new force into the system.

In Ludwig von Mises' literature (1949), it explains the role of praxeology and history. Although praxeology is studying human in terms of action axiom so accidental actions are not concerned and those are in the realm of history[3]. While history is a representation of certain action or event, praxeology is concerning what happens in acting. Therefore, history is one of the biggest data pool for praxeology. History can tell us what happened in definite time and it can offer a room to think about possible results in definite time and even for the future. But intrinsically, praxeology has a problem that axiom or general actions of typical person are impossible to be measured and tested. Those are unpredictable and simply too many variables even in one problem.[4]

Currently, every human execution leaves traces with numbers and those are indicating effects of human intervention. History can be explained in numeric value as natural science like how economic work and is used. In terms of human actions, we can notice how many people have been a place and how much they produce or purchase like economics can work with numeric value and predict future trend. Furthermore, with computation power, the amount of data is not a huge problem anymore and it can produce tons of possible scenarios. However, the focal point of this method should be designing proper models for the data and finding the meaning of numeric data and out of the data, it will be enable to establish a new typology for food demands for future.

3. Research-Methodological Reflection

Praxeology started from human action, how individual acts and what outcomes can happen out of those. How should we live and why? How should we (not) study? These questions can be leading questions in the area[5]. Therefore, it has been influential to economy and also architecture. In terms of economy, Austrian economist is a representative example that relies on praxeology. On the other hand, Le modular system (1945)[6] by Le Corbusier and The CIAM grid system in 1953[7] are some of the most known examples. The systems have brought adequate environments for prefabrication and trading from country to country by generalization and universalism and it can be seen that this tendency was also affected by Fordism and Taylorism that suit for mass production with high efficiency.

Generally the methodology is conducted in architecture by followings

- Studying the needs, planning the task and design conditions,
- Formulating ideas of the solution that is being accepted in anticipation or a priori
- Considering multidimensional approaches regarding the complex and intertwined problems of architecture and urbanism fields

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[2] Murray N. Rothbard, *Economic Controversies*(Ludwig von Mises Institute, 2011)p997

[3] Ludwig von Mises, *Human Action*(Ludwig von Mises Institute, 1984)p47

[4] Leland B. Yeager,*"Measurement as Scientific Method in Economics,"* (American Journal of Economics and Sociology,1957)

[5] David Rousseau, *On the Architecture of Systemology and the Typology of Its Principles*(System,2018) p.16

[6] Le Corbusier, Oeuvre complète,1938

[7] CIAM, The CIAM Grid(1953)

- Analysing the spatial solution that can be divided into partial solutions, connected with generating and selecting variant solutions arising according to will and need of the architect,
- Searching through a formal modification for satisfaction for solutions that can lead to modified earlier accepted solution idea,
- Producing planning of the designed area.

With these methods, Le Corbusier was facing immense needs for re-establishing the world that was tore apart because of the war.[8] So, he was interested on developing fast producing construction system which can be done by new technology. In order to achieve that various differences of different individuals are needed to be simplify meeting space requirements but not as same as minimum. It was enough to make buildings more and cheap in that times in terms of the procurement of spaces having general requirements. It is evident that this discipline helped architects and designers to understand more about actual users. It also let them think and design environments which are rather more favourable to user than arbitrary spaces that doesn't consider any human aspects.

For modern days, we might need praxeology as many as the number of users but we need to do it differently, more efficiently and wisely with good science. Empirical approaches are essential to study human action and spaces but we should be able to translate the data to quantitative because numbers are clearly showing what the problems are in current food system. To speculating the future of 2100, we cannot predicting but we should extrapolate data from the past and be able to make simulated situations out of it. Everything can be explained with number now and we need to notice the number is the result of human actions base on that there are many developed visualized model or diagram.

While, the Le modular system is using archetypal human dimensions to calculate general dimension for living environments of industrialization, for delivering models for future, praxeology should be divided with two approaches, a core praxis which hardly changes such as eating, walking and breathing and an auxiliary praxis is action that is likely to be changed by technologies or surrounding environment of individuals. For example, you can see changes of action when you come to live in different country or because of the procurement of new technology such as the internet and smartphone. Still, these transitions of auxiliary praxis need to be observed by empirical approaches because we simply cannot imagine any impacts of it before it actually comes out to our reality. The reason we can simply answer to those changes of auxiliary praxeology is that we have experienced and the problem is that how we can know the impact of future technology hasn't emerged yet or commercialized yet. In terms of food production, with upcoming technology, quantitative traces will be different with current numbers. Therefore, praxeological development is no longer subjective or relying on individual's experiences but rather it can be accurate and can distil to results which can raise general consensus. Balancing between observation and accumulation knowledge and quantitative data analysing is important for praxeology for the future. Therefore, establishing a vision for the future environment requires balanced approaches with core praxis and quantitative approaches to extrapolate future auxiliary praxis and its consequences.

4. Positioning

Praxeology studies action axiom and it can be found everywhere including architecture, economy, and marketing because it is about our daily life. All data we can find on the internet or literature are results of human actions. Studying what we did and why we did it leads designs to more humane way. Especially, architecture is to construct space that will be used by human.

[8] Jolanta Dzwierzynska, *Urban Planning by Le Corbusier According to Praxeological Knowledge*, 2017

However, we need to expand it to bigger from individual's actions to the system of landscape that human has organized so far.

Praxeology is discipline of logical deduction. We observe and discern implication and consequences induced by several actions. Those axioms becomes guidelines in verbal way. It only is able to explain itself in linguistic or graphical ways while natural science and mathematization become a main science and methodology of in other disciplinary. However, Mise accused this mathematical approach because he thought mathematical models that economists use are mythical and do not fit into reality.[9]

However, in this essay, the position I assert is that we need to think praxeology in bigger context such as systems or chains and in quantitative way. In near future, it is clearly being shown by innumerable quantitative data that humanity will face tremendous consequences for praxis that has been done so far. Praxeology is to understand how we act and why and it affects to kitchen's layout or housing project in another cultural contexts. However, it is time to think bigger than internal space. Especially, when he or she has to make solution for future needs, this means that the introduction of praxeological framework is essential if we are trying to do some quantitative predictions or researches what we call social science today. In addition, if there is no such an elaborate framework, mathematical justification is needed to present a concrete range of such lucky situations as physics, even if there are areas where prediction and practice fit well because when you see what happens around the world, more or less, architecture seems to give up to think about people's action deeply anymore. Big and international companies are now simply stacking programs to each other and inside of programs don't have any special architectural intervention to human action or seem to stop telling something to people. Nominally, they mention eventful, flexible spaces. If this is the best option, probably we could say that we stopped developing praxeology in architectural practice. So, we couldn't find many praxeological analytical projects like what Le Corbusier did.

When it comes to food production, it is definitely the realm of human action as same as economy and it is taking huge energy consumption, Co2 emission and so on. It can be explained by our experience that what we eat and what we choose and what certain population prefer to which food or crop types and also can be recorded in quantitative way with tons of charts or diagrams. By critically looking back what we have done to the earth to produce enough food and how we are dealing the food, it is so clear that the business as usual would not work anymore in near future. Therefore, we need to reframe our action and praxeological ways of thinking will provide immense support to find alternative auxiliary praxis such as what we can keep doing or not. Architecture is to materialize ideas or concepts in real world. However, only considering about actions happening in internal space cannot change anything for future. Sustainability, healthy life and livable city can be achieved with profound understandings of human's axiom actions. We need to bring huge transitions to architecture and spaces for the future. In order to do that it is crucial to approach with praxeological ways and it is also important to come up with numeric data to gain a firm standing position in construction industry that has multiple variables and players.

In this perspective, praxeology can have a strong position in architectural practice and it is definitely required to prepare to computation power that will have immense influence to simulate and study human's actions further than just observation. How we can translate our praxis to digital language that computer can understands? To answer this question, it will be required to acquire quantitative approaches to human actions in terms of architecture and this trend will empower architectural fields to gain logical powers comparing to other sciences while it is grasping profound understandings of human actions.

[9] Ludwig von Mises, *Human Action*(Ludwig von Mises Institute, 1984)

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