ANALYZING THE TRANSFORMATION OF THE CONCEPT OF "MOBILITY" DEPENDING ON REFUGEE PROBLEMS VIA DESIGN COMPETITIONS

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ABSTRACT

Interaction with the environment occurs in the perception of movement. Movement is the basic concept of mobility. Development and diversification (i.e., faster transportations, new technological access, etc.) of movement concepts may contribute modern people to become independent of any place. Nomadic cultures constitute the basic principles of mobile architecture with light, portable materials and flexible constructions. In the industrial age, futurist manifesto announced machine-housing concepts. The mechanized perception of the spaces prepared ground for mobilization. Mobility, as a source of independence from places, is sometimes a preference but sometimes the result of urgency. "Individual preference", "cultural movement" and "forced movement" are key reasons for movements which may differentiate modes of mobile space. The objective of this study to examine distinctive features of mobile spaces of forced movements (i.e., for refugees) by comparing with other types of mobility (individual preference and cultural movement). Various design competitions were held for mobile spaces. The cases were selected for this study, considering the role of the user's profile (unspecific users; nomads/immigrants; refugees) who live in mobile spaces. We analyzed awarded/selected projects for each type of mobility. As a result of examining the awarded outcomes of the competition the following parameters were detected: quantity of users; designer's choice for location; reaction to the environment; contextual attention; scope of modularity; mode of portability; type of portability; cost of materials and construction; proposal for belonging; sensitivity for sustainability. It seems that current events in the world have transformed the concept of mobility and led to the development of new definitions of mobility. This paper presents one of the new definitions of mobility, specifically for refugees. Many aspects of mobile architecture for refugees, as a new definition of mobility, has shown in this study.

Key Words: Transformation of Mobile Space; Mobility in Architecture; Portable Architecture; Refugee Problems; Design Competitions.

INTRODUCTION

Mobility can be defined as the "movement" from one situation (location, social relation, etc.) to another situation. The environmental factors that cause movement and the form of the movement are the components for describing the mobility, both in physical or non-physical. In physical movements, the way of filling in space and time and the interaction with the environment are varied. "Interaction with the environment" is a significant keyword for the perception of movement. Interaction with the place where people are located and observed enables them to perceive the movement [1]. Observer's point of view and velocity affect the perception of movement. For instance, the distance between objects that the observer looks out of a vehicle is perceived differently depending on the speed of the vehicle (they appear closer if the vehicle is faster).

The seeking of space and the need for shelter are some of the basic necessities for human. The structure of these necessities may change depending on the alternation of movement's definition. Because the activity of seeking of space takes place through a movement. The search for space is associated with belonging. However, development and diversification (i.e., faster transportations, new technological access, etc.) of movement concepts may cause modern people to become independent of any place. Mobility, as a source of independence from places, is sometimes a preference but sometimes the result of urgency. Although the first case is favorable due to the possibility of making this choice, the latter case indicates a negative dimension because the necessity of mobility results from homelessness and refugee situations.

On the other hand, mobility brought along immobility as its dichotomous concept. Mobility, which is characteristic of the age, gives people a sense of freedom in both social and physical dimensions. Increasing mobility in urban life has led to an increase in the population and commercial activities of cities. This situation caused congestion due to intensification in the demand for movement [2]. For instance, transportation is faster by subway, but when everyone uses the subway, a citizen should line up, so that the time to reach somewhere will be longer. In terms of informatics, users can reduce their physical activities as a result of many internet facilities and it causes immobility again (i.e., ordering pizza). This dichotomy demonstrates the need to scrutinize the results of mobility in a rigorous manner.

Mobile Architecture

Nomadic cultures constitute the basic principles of mobile architecture with light, portable materials and flexible constructions, applications and usage patterns. Modularity is a key element in portable architecture products. Settlement of nomadic cultures provides a model for today's building systems (i.e., prefabricated, tensile and pneumatic systems).

At the beginning of the industrial age, mechanization approach and the machine-housing concepts got attention. These approaches have become

widespread with futurist manifestos. The mechanized perception of the spaces prepared ground for mobilization. Friedman [3], who studied on mobile architecture, claimed that buildings in mobile cities should have the following characteristics: (1) minimum touch to ground; (2) disassembling and transportation; (3) flexibility to meet user needs. The Archigram team has designed "plug-in city" and "walking city". Walking City has a programmable body, detachable units and telescopic feet [4]. Plug-in City is a city proposal consisting of the merger of prefabricated houses that are displaced in the urban fabric [4]. Many suggestions were developed and interest in mobile spaces increased. Afterward, many suggestions were developed and interest in mobile spaces increased (i.e., Cuschicle by Mike Webb; Habitat 67 by Moshe Safdie, etc.). The Archigram team in the 1970s and the subsequent proposals of flexible and portable projects inspired many designers. For instance, Nakagin Capsule Tower is influenced by the Plug-in City proposal [4]. Manifestos, proposals by drawing and architectural practices which are based on the mobile architecture built an alternative to permanent architecture. Then, what kind of alternative spatialization can be?

Types of Mobility: Shapes of Mobility Depending on Specific Situations

Mobile communities belong to a certain social and cultural group, and they are groups that live without being dependent on a particular place. Communities become mobile due to their individual preferences and sometimes due to cultural and economic reasons depending on the traditions of the society they are in. In addition, they sometimes have to forcibly leave their places due to natural disasters and wars.

Families who choose to live in caravan culture are examples for individual preferences, while nomads and families living in the highlands during certain seasons of the year are examples of cultural and economic reasons to move. Further, refugees can be given as an example of forcible mobility. Since individual preferences are based on the individual's or the community's choice of how they want to live, it is a freely decided mobile life.

Nomadism is a culturally adopted lifestyle based on past histories. It is also a pioneer of immigration. As mentioned before, nomadic cultures have been an inspiration for reflecting on the mobilization of spaces. With this feature, it is the source of many mobile architecture proposals. In the mobile structure view, portable structure, people's emotions, history and culture make the place more important than the permanence of the structure. Culture has a role in redefining the structure. According to Rapoport [5], culture is defined under three main headings: (1) typical lifestyles of a group; (2) a system of symbols, a system of meanings and a system that translates conceptual schemes into symbolic codes; (3) adaptation process to ecological resources. Cultural identity determines the way people communicate with each other and with others in society. People from different geographies camped in the same place define the place in different ways, depending on their culture [6]. Although mobile spaces of different cultures are portable and temporary, they have their own persistence.

What makes the nomadic culture special is that the community does it with its own cultural codes. Thus, it does not have losses from the feeling of belonging when compared to permanent places. It has been observed that accommodation rituals and hierarchical orders are the same in different places in nomadic societies [7]. This suggests that the sense of belonging in nomadism is somehow established. In other words, with migration, people take their values, culture and identity to their new environment. However, in the case of long-term stays, nomads initiate cultural interaction with their new environment. This interaction starts the process of redefining belonging. Thus, the exchange of the identities and cultural codes carries out between nomadic people and the environment. A reconciliation ground is formed in which both cultures are affected.

There is a similar situation for migrant people as well as for nomadic communities. People who migrate carry their culture with them to other places. They have attempts to recreate their own practices in a new destination. Businesses, such as restaurants and grocery stores, are the formations that producing people's own culture. Moreover, it is possible for them to spread their culture on a neighborhood scale. For instance, Chinatowns are formed by mutual interaction between immigrants and indigenous people [8]. Is it possible to say that the cultures of Chinatown in New York and Beijing are exactly the same? Although there are transformations in culture, migrants are aware of the situation they are in knowing that they are part of the transformation. But this is not the case for refugees.

A New Challenge for Mobility: The Refugee

Refugees are defined as people who live in danger and therefore leave their country and cannot return. After World War II, refugees became a problem all over the world. In the 1960s, the refugee crisis was globalized by spreading in Africa, Asia and Europe. Organizations that helped refugees increased in the 90s. Towards the 2000s, the various design attempts to address the housing problem of refugees and homeless people began to become widespread (i.e., Shigeru Ban's temporary shelters for homeless people in Rwanda; Kosovo KIT for or the homeless people in the Kosovo War).

In terms of mobility, there is also a "movement" for refugees. However, this movement is very different from the mobility in which futurists' predictions and sketches about the development of cities. The discourse of the futurists is based on developments in the city and housing. They make predictions of how mobility can emerge in the future. However, there is an emergency in refugees, it is necessary to develop mobile solutions that can be implemented as soon as possible. There is no time for the adaption of the concept of mobile space. Therefore, a new mode of mobile space emerges and it should be analyzed in detail.

The mobility of the refugee is not based on an individual preference; it is entirely dependent on external factors. The way of life is not chosen but

dictated. Although they have similar features to nomadic communities, "the threat" distinguishes refugees from nomads. Compared to nomadic communities that can carry their culture, refugees are forced to leave their cultures with their habitats or they can bring only some fragments from their culture. The refugee's life is a confrontation rather than adaptation to a new environment. For all these reasons, it has new mobility that differs from conventional mobility and mobile spaces. However, it is not easy to describe the mobility and mobile spaces of refugees, it includes many questions. For instance, the duration of the temporary process is uncertain for refugees, the concept of transience is a controversial issue. Similarly, there are uncertainties about many aspects of mobile architecture for refugee. These uncertainties and questions have led to the need to understand refugee mobility as a new form of mobility. Increased interest in this situation can also be seen on the frequency of the competitions held.

Aim of the Study

How would refugees react to mobile structures and establish relations with the new and foreign environment as an immigrant? What are the distinctive features of mobility specifically for refugees? What are the aspects of mobile architecture for refugees?

The aim of the study is to review the predictions on how to transform the concept of mobility for refugees who reluctantly move to an unfamiliar environment. In response to this problem, there are competitions for refugees seeking temporary shelter and mobile accommodation. Proposals of competition demonstrate how the refugee problem is perceived by designers.

METHOD

As a method, the case study has selected to analyze mobility in this research. We looked for design competitions for mobile structures. Many competitions have found, then some of them are elected to minimize the variables among competitions. For this, we checked briefs of competitions. They help us to allocate only mobile living spaces which have housing function (not a marketplace, school, library, etc.) in the earth (not in the moon, mars, etc.).

To understand how the concept of mobility transformed via different situations, the cases have selected among three types of profile: for (1) unspecific users; (2) nomads/immigrants; (3) refugees. Unspecific users refer to people who choose to live in mobile structure with their own consent, while nomads and refugees have some issues to maintain a mobile life. Nomads/ immigrant are people who live in a country that is not their own. Nonetheless, refugees are forced to leave their country or home. "Individual preference", "cultural movement" and "forced movement" are key reasons for movements which may differentiate modes of mobile space. Thus, the awarded projects were compared and the differences in the interpretation of mobility were examined.

RESULTS

Names of competitions are as follows: (1) *Tiny House Design Competition* (as an example of individual preference) [9]; (2) *House in Forest* (as an example of cultural movement) [10]; (3) *A Place for Placelessness* (as an example of forced movement) [11]. First and second competition has sequential awards, while the third one has many equivalent prizes. Therefore, first, second and third places of competitions have selected for the first two contests. Three random awarded projects have selected for the last competition.

Tiny House Design Competition 2017

The titles of the projects are as follows: (1st prize) *home.rar*; (2nd prize) *autonomous*; (3rd prize) *golpo baksho* (Figure 1). All selected designs are suitable for individuals or families. First project is in the coastline, second one in the forest and city center, third one is in the city center and outskirts. Project are not designed for specific environment. Hence, they acontextual projects which rejects to relate to their location. Their modularity results from internal units. First and third project have assemble-disassemble logic. However, tire and rim of second project provide movable structure, we don't need to disassemble the structure. First and third project need a truck to move somewhere else, second one can be pushed thanks to its rim and tire. Level of cost for materials and construction was detected by comparing nine selected projects with each other. First and third one were determined as mid-cost, second one as high-cost. In the second project, there is no clue for enhancing the feeling of belonging. Configurable spaces of the first and third project may be seen as features of belonging. In addition, there is opportunity for intervention to surface of space in the third project as a belonging. While the first and third project have self-sufficient sustainable proposals, the second one doesn't have it.
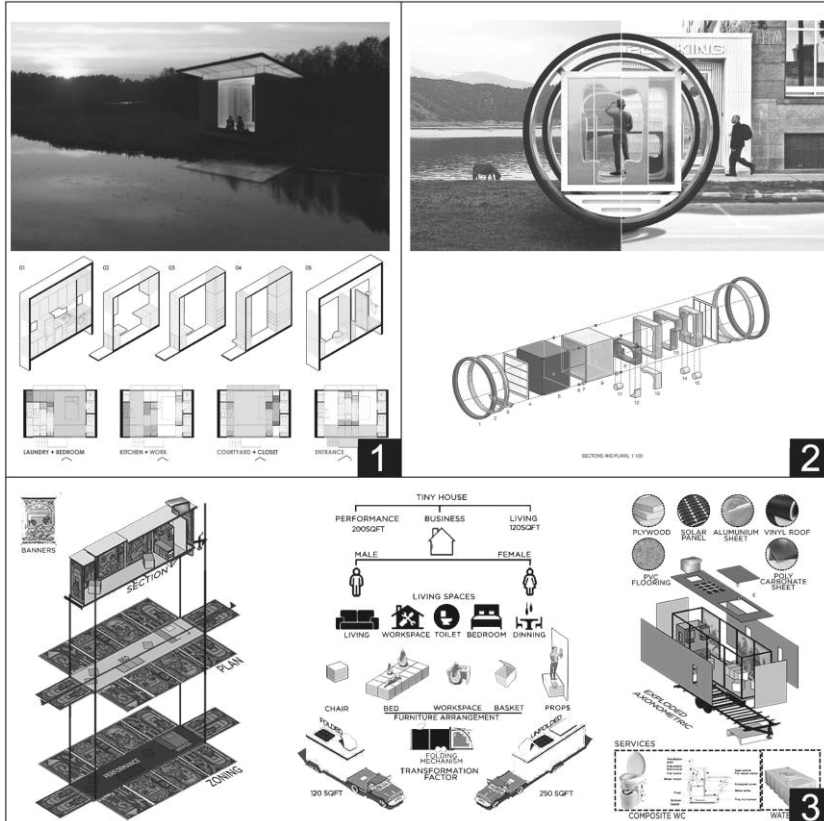
Figure 1. Awarded Projects of Tiny House Design Competition [9].

House in Forest Competition 2019

The titles of the projects are as follows: (1st prize) *nomad*; (2nd prize) *nomade's loft*; (3rd prize) *perched* (Figure 2). All selected designs are suitable for individuals or families. Further, second one also proposed integration of buildings for crowd/community. All selected designs are in the forest because of the competition's brief. First project is not designed for specific environment. Nevertheless, second and third project reacts its environment. First and second project create its own context, while third one depends on its context (such as trees). Modularity of first project results from internal units, while second and third one can create different modules by re-forming the structure. All selected designs have assemble-disassemble logic Likewise, all of them need a truck to move somewhere else. First and third project were

determined as mid-cost, second one as low-cost. Configurable spaces of all designs may be seen as features of belonging. Further, second and third design has a commonplace to interact other people, it can be seen as a belonging tool. While the first and second project have self-sufficient sustainable proposals, the third one doesn't have it.
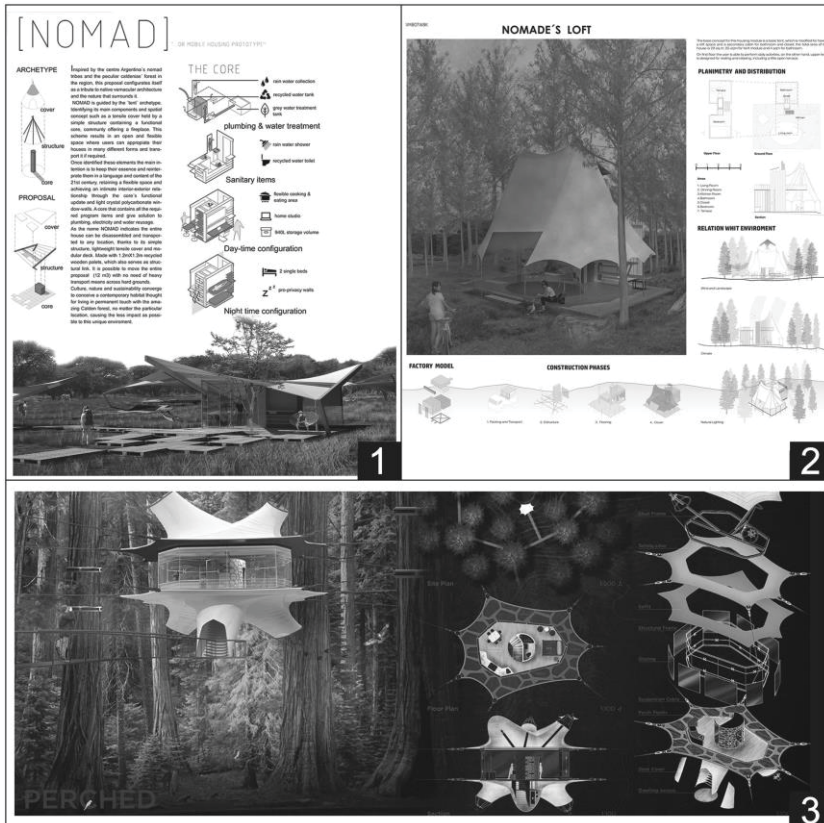

Figure 2. Awarded Projects of House in Forest Competition [10].

A Place for Placelessness 2016

The titles of the projects are as follows: (1st selection) *migrapolis*; (2nd selection) *yokulke*; (3rd selection) *yokyer* (Figure 3). All selected designs are suitable for crowd/community. First and second project are in the out of the city, third one is in the outskirts. All of them are designed for specific environment. Designers care environment as a significant factor for mobile space. All designs are self-contextual buildings. Their modularity results from relations between structures. Because designers focus on social ties. First

project has assemble-disassemble logic, while second and third one have assemble-leave logic. Third project needs a truck to move, while first and second project need great effort. All selected designs were determined as low-cost as possible. All of them have integrated common places to interact with each other so that strengthen their belonging. None of them has priority for sustainability.
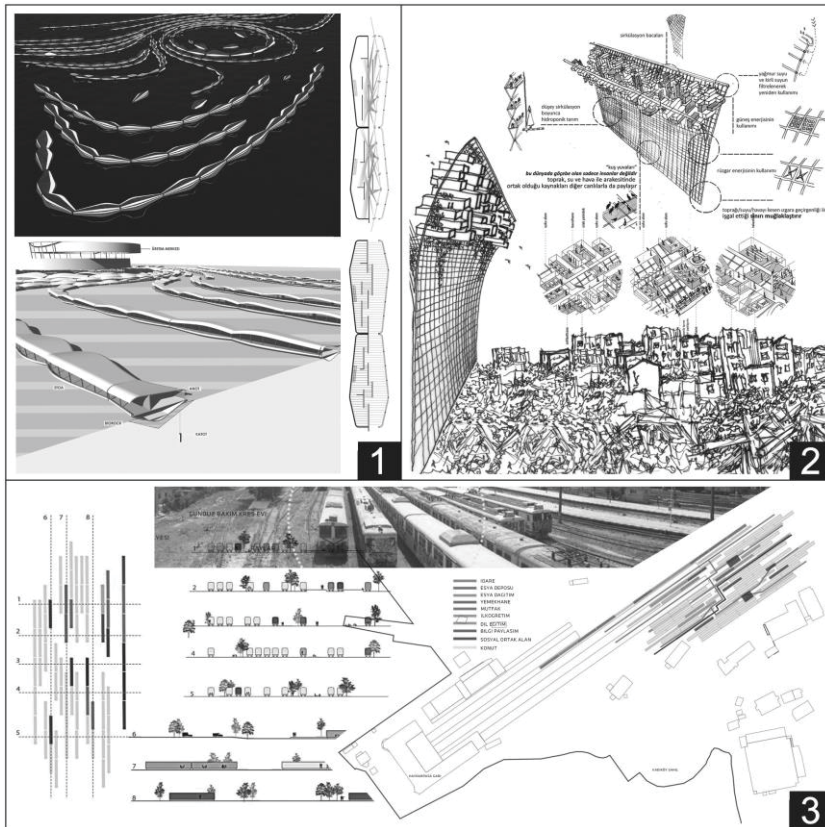

Figure 3. Selected Projects of A Place for Placelessness Competition [11].

CONCLUSION

As a result of examining the awarded outcomes of the competition the following parameters were detected: quantity of users; designer's choice for location; reaction to the environment; contextual attention; scope of

modularity; mode of portability; type of portability; cost of materials and construction; proposal for belonging; sensitivity for sustainability (Table 1).

		Tiny House Design 2017 (individual preference)			House in Forest 2019 (cultural movement)			A Place for Placelessness 2016 (forced movement)		
		1st Awarded	2nd Awarded	3rd Awarded	1st Awarded	2nd Awarded	3rd Awarded	Selection 1	Selection 2	Selection 3
Quantity of Users	individual	X	X	X						
	family	X	X	X	X	X	X			
	crowd / community					X		X	X	X
Designer's Choice for Location	city center		X	X						
	outskirts			X						X
	forest / coastline	X	X		X	X	X			
	out of the city							X	X	
Reaction to the Environment	yes					X	X	X	X	X
	none	X	X	X	X					
Contextual Attention	acontextual	X	X	X						
	contextual						X			
	self-contextual				X	X		X	X	X
Scope of Modularity	internal units	X	X	X	X					
	form of structure	X				X	X			
	between structures							X	X	X
Mode of Portability	assemble-disassemble	X		X	X	X	X	X		
	assemble-leave movable structure		X						X	X
Type of Portability	without vehicle		X							
	by vehicle / great effort	X		X	X	X	X			X
	great effort							X	X	
Cost of Materials and Construction	high-cost		X							
	mid-cost	X		X	X		X			
	low-cost					X		X	X	X
Proposal for Belonging	none		X							
	configurable space	X			X	X	X			
	intervention to surface			X				X		
	Interaction with others					X	X	X	X	X
Sensitivity for Sustainability	none		X				X	X	X	X
	self-sufficient	X		X	X	X				

Table 1. Parameters of Mobile Architecture Proposals of Competitions.

Quantity of Users - Mobile spaces of individual preference (**MSIP**), from first competition, focus on the individual and the family as they are based on an individual demand. However, mobile spaces of cultural movement (**MSCM**), from the second competition, and mobile spaces of forced movement (**MSFM**), from the third competition, aim to develop family and community-oriented solutions. The number of people for MSFM is dramatically higher than for MSCM.

Designer's Choice for Location – MSIP can be located in the forests, depending on the preference to move away from city life. It does not apply to the other two types of mobile space because of the large number of users. The more users, the more difficulties for mobile spaces that grow in the center of the city. On the other hand, because the MSFM is forced to migrate to a different and unknown location, they cannot have a claim for the city center compared with the natives of the city.

This situation may cause tension among people due to the fact that people who are separated from each other in the same geographies. It may be good for some groups, who have communication with other refugees, to live in mobile spaces scattered throughout the city to avoid any future social conflict.

Reaction to the environment – MSIP does not seem to have to develop a flexible solution to its environment. Because the location of the mobile space may easily differ as a personal preference. However, in MSCM and MSFM projects, designers pay attention to the environment in which they will be found and predict the place to assemble or move at first. For instance, locations of the MSFM projects was identified as an initial design decision at the beginning of the design (first one on the sea; the second one on the border wall of the country; the third one in abandoned railway station).

Contextual Attention – Mobility that begins with a personal preference can be moved or terminated at any time with personal preference. The mobile space can be easily dismantled from its location and may appear to have never been there. Therefore, MSIP can be an acontextual project. However, MSCM and MSFM are generally composed of crowded communities. Even if they do not fit into the existing context, the interaction and spatialization of these groups of people establish their own contexts.

Scope of Modularity – Since MSIP neglect to relate with the environment, it builds its modularity on its internal units. For MSCM, there is flexibility in form. In MSFM, the interaction between the structures becomes important due to the large groups. In this way, the designers are trying to protect the internal cultural structures of the refugees.

Mode of Portability – While the mode of portability in most mobile spaces is the logic of assemble-disassemble, MSFM foresees that users can leave the area without disassembling.

There may be four reasons for this: (1) the refugees are not the owner of the mobile space, so they will not take the structures with them when their life-

threatening end. (2) These spaces may be left there as installed in order to re-use if such problem reoccurs. (3) Another possibility is that if other solutions are developed for the first users of the place while the refugee problem continues, other refugees may move to that place. (4) Governments may prefer to preserve the spaces of refugees and exhibit them, instead of erasing the traces of a certain period.

Type of Portability – Most mobile spaces are manufactured for transport by vehicles. MSFM may also be suitable for such transport. However, large masses and their interrelations may require greater efforts to make them portable. From the very beginning of the process, the designers seem to be inclined to develop a project that is difficult to move which is only the first move will be a radical movement.

Cost of Materials and Construction – MSIP can have very expensive materials and production systems depending on the individual's budget. Nevertheless, MSFM has to be very quick solutions with cheap materials as possible because of the sudden movement and the owners of the material are not the users themselves.

Proposal for Belonging – Belonging and identity may not be very important for MSIP. They may have chosen these spaces to escape from their existing identities and exhausting urban life. Nonetheless, it would be better for MSCMs to acquire belonging to maintain their own culture. In MSFM, the idea of design, which interacts with each other is a priority. Because the communities, who do not already know where they are going, have just each other as a source of belonging.

Sensitivity for Sustainability – Energy consumption is an important issue for designing of MSIP and MSCM. Because the users of these places, who know they will move, will pay attention to solve the problems on the basis of energy. However, users of MSFM are primarily concerned with surviving and feeling safe. Ecology comes after these concerns.

General Conclusions - All these distinctions also differentiate the process of design and design outputs of mobile spaces. It seems that current events in the world have transformed the concept of mobility and led to the development of new definitions of mobility.

Future Studies - More proposals of competitions, such as honorable mentions and top 20, can be examined and compared so that more clear results may be achieved. In this study, the dimensions of mobile spaces were evaluated via ten metrics. Mobile spaces can be analyzed more extensively than in this paper. As the scope of the study and evaluation metrics increase, the distinctions of these different mobile spaces will be clearer.

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REFERENCES

[1] Adrichem J. V., From Limes to Hot-Air Balloons: Nineteen Centuries of Mobility. Mobility: A Room with a View, eds. Houben, F. and Calabrese L., Nai Publishers, Rotterdam, pp 367, 2003.

[2] Hoete A., Reader on the Aesthetics of Mobility, Black Dog Publishing, London and Newyork, 2003.

[3] Friedman Y., L' Architecture Mobile, Vers Une Cite Conçue Par Ses Habitants, Editions Casterman, 1970.

[4] Siegal J., Kronenburg R., Cordescu A., Mobile: the art of portable architecture. Princeton Architectural Press; 2002.

[5] Rapoport A., The meaning of the built environment: A nonverbal communication approach. University of Arizona Press; 1990.

[6] Langer SK. Feeling and form. London: Routledge and Kegan Paul; 1953.

[7] Waterson R. Mobility in traditional Architecture. Detail. 1998 (8).

[8] Anderson KJ. Vancouver's Chinatown: Racial Discourse in Canada, 1875-1980. McGill-Queen's Press, 1991.

[9] Tiny house design competition 2017. Volume Zero Competitions. [Online]. Available from: https://competition.volzero.com/competitions/result/1 [Accessed 20 July 2019].

[10] Winners. House in Forest 2019 Tiny House - Results. [Online]. Available from: https://houseinforest.com/ [Accessed 20 July 2019]

[11] Ytong Mimari Fikir Yarışması 2016 - Ödüllü projeler. Ytong Akademi. [Online]. Available from: http://www.ytongakademi.com/mimari-fikir-yarismasi/onceki-yarismalar-odullu-projeler [Accessed 20 July 2019].