

PANDEMICS AND THE CHANGING BUILT ENVIRONMENT

LEARNING FROM HISTORY,
PLANNING OUR FUTURE

Edited by Alessandro Camiz

Pandemics and the changing built environment. Learning from history,
planning our future
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Pandemics and the changing built environment. Learning from history, planning our
future, April 28th-30th 2022, Özyeğin University, Istanbul, Turkey.



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Alessandro Camiz ed.



Dynamic Research on Urban Morphology books - 7

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The conference

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PUF2022 CALL FOR PAPERS

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Alessandro Camiz

Özyeğin University (now D'Annunzio University of Chieti–Pescara)

Mohammed Alajmi

Kuwait University

Xiao Hu

University of Idaho

Mosè Ricci

"Sapienza" University of Rome

2020 was an extraordinary year for all countries in the world. The pandemic has spread and has not ended yet, confirming that the world is dramatically changing. The scholars in the field of the built environment are increasingly discussing the relationship between survival and urban form, two concepts once closely linked. Besides this, the pandemic has brought us other questions: how can people get along with nature, how should we regulate social behaviours, and should we use science and technologies to improve the built environment? We have experienced unprecedented changes in our social behaviours since the COVID-19 pandemic. These changes, permanent or temporary, have made our cities different from the cities we lived in one year ago. This new society includes a completely different retail pattern, a reduced use of public transportation, an increased and multipurpose use of residential spaces, the exploitation of online activities, a reduced use of public spaces such as offices, stadiums, museums, theatres, schools and universities, but also streets, parks and squares. Some scholars have recently been discussing such transformations, noticing that most of them were already ongoing but received an acceleration since the pandemic, while others consider them to be completely new. We believe that in the long or medium term the new social pattern will be followed by substantial changes in the built environment, and that we should understand these changes to plan and design for the future, to mitigate the diffusion of new airborne diseases and to meet new social demands. This conference will have three tracks: it will use history as a mirror to analyse the present condition and to re-examine urban form, it will provide a meeting point for researchers and ideas on urban environment and health and consider new design and planning solutions. The international conference on Pandemics and the changing built environment will take place in a blended form in April 2022. We intend it as the first of a yearly series of meetings for scholars interested in pandemics and the transformations of urban form. We welcome proposals for papers and posters related to the conference topics. Abstracts of papers will be double peer reviewed by an international scientific committee before acceptance. We encourage scholars, planners, architects and city managers to propose abstracts.

Conference track 1: Learning from history

Historical plagues and urban transformations

Pandemics, territorial cycles and morphological periods

The Justinian plague and the collapse of classical cities

The black plague and the Renaissance

The Spanish flu and the modernist manifesto

Conference track 2: Shedding light on the contemporary world

The impact of the pandemics on the physical space

Changes in social behaviours and in the built environment

Smart working and new office spaces

Public health policies and their effects on the built environment

Virtual spaces/communications and the effects on real spaces

Climate change, pollution and waste treatment

Online education

Conference track 3: The world is waiting for us to take action!

- The impact of the built environment on public health
- Design and future solutions for public health
- Technologies, design and smart cities
- Architectural responses to COVID-19
- Hospital design and COVID-19
- Pandemics and open spaces, roads and parks
- New housing and building types
- Planning for health in the built environment
- From global metropolis to sustainable small towns
- Public transportation: airports, subways, train and hyperloop stations and bus terminals

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Ozyegin University Faculty of Architecture and Design was established in April 2012 with the Department of Architecture which had first 60 students in 2012-2013 Academic year. The new building of Faculty of Architecture and Design opened its doors in the spring semester of 2019-2020 academic year with studio spaces for 1,400 students, 26 classrooms, 9 studios and research laboratories, and a model - digital model - design-do (wood-metal) and ceramic workshops.

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Pandemics & the changing built environment
Learning from history, planning for tomorrow

Call for papers

Tracks

- Learning from history
- Shedding light on the contemporary world
- The world is waiting for us to take action!

Timeline

- Call for papers announcement: May 21st, 2021
- Abstract submission deadline: October 21st, 2021
- Notification of acceptance: December 1st, 2021
- Registration deadline: January 1st, 2022
- Program publication: January 21st, 2022
- Conference: April 28th-30th, 2022
- Full paper submission deadline: June 1st, 2022
- Proceeding Publication: Winter 2022

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- Andrés Duany**, FAIA, CNU
- Peter Larkham**, Birmingham City University
- Vitor Oliveira**, University of Porto
- Bin Zhao**, Tsinghua University
- Nadia Charalambous**, University of Cyprus
- Maurizio Carta**, University of Palermo
- Tolga Ünlü**, Çukurova University

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Fig. 1 Keynote speakers' poster (Design: Luai Al Hussein, 2022).



Pandemics & the changing built environment

Learning from history, planning for tomorrow

Call for papers

Tracks

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Fig. 2 Conference poster (Design: Luai Al Hussein, 2022).



Fig. 3 Conference venue: Özyeğin University, Istanbul (Photo: A. Camiz, 2018)



Fig. 4 Conference venue: Özyeğin University, Faculty of Architecture and Design, Istanbul (Photo: A. Camiz, 2022)

06

Papers

CUM-DIVIDO. Design paradigms for variable distance living

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Keywords: design paradigms, co-habitation, architecture and city

Abstract

The sharing of collective places and moments and the instinctive distancing from the spectre of loneliness have always been living conditions pursued in both the public and private spheres. This aspect is common to different scales and contexts: starting from public spaces or public use, passing through collective housing systems and finally reaching the private dimension. The emergence of the Covid-19 pandemic prompted a reassessment of the semantic, perceptual and functional dimensions of these spaces. It forced a redefinition of the boundaries between the realms of Estia and Hermes (Augè, 2008), with implications for how spaces, practices and temporalities are conceived and lived. In this transformative landscape, it becomes crucial to explore the role of architecture in preserving the existential need for togetherness, the political imperative manifested in the direct interaction of bodies in urban contests, and the pandemic-driven impulse towards distance and hostility. The central question revolves around understanding how architecture can contribute to post-pandemic reconstruction without compromising the fundamental essence of shared space. The exploration of thematic and conceptual design strategies becomes crucial. Can these strategies positively influence living practices, improve conditions and project the benefits of unrestricted living beyond the pandemic? Questioning how architecture can contribute to post-pandemic reconstruction, the research identifies four project paradigms: *temporality*, *pulsation*, *reversibility* and *personalisation*. These paradigms, considered at various scales, serve as adaptive tools capable of responding to cyclical phases of contraction and relaxation, responding promptly to danger signals, and re-establishing conditions suitable for periods of calm. The ability to induce and prefigure - amidst figurative invariants, typological hybridisations and new settings and categorisations - adaptable and polyvalent forms and spaces, also proves to be an aspect capable of satisfying contemporary needs that go beyond the contingencies of the health crisis, confirming the need for a methodological approach that absorbs and conveys broader instances, in which relations with spaces return to play a leading role in the project according to a renewed sensitivity.

Introduction

Sharing collective places and moments, and distancing oneself from the spectre of loneliness, are intrinsic to the theme of housing, of which they cut across scales and project contexts, from public spaces or public use to collective housing systems and the individual units that make them up. However, the recent health emergency caused by the SARS-CoV-2 pandemic has redefined housing priorities and, by imposing an unusual imperative of distance and isolation, has transfigured social relations and their spatial reflection, leading to a re-evaluation of the semantic, perceptual and usage dimensions of spaces for collective and individual life.

In this context, the potential contribution of architecture, and project, has become fundamental in order not to betray the existential need to be together, the political need nourished and satisfied by the direct dialectic of bodies, and the need for self-preservation, which the fear of contagion has translated into distance and hostility. This short-circuit between desire and legitimacy seems, less than four years after the beginning of the pandemic event, to be a condition that has now been

overcome, but it should not be forgotten in view of the likelihood that health crises and the associated circumstances of vigilance will recur in the future.

The new projective scenarios opened by the force and pervasiveness of the health emergency therefore need to be balanced with the opposite polarities of our feelings, without denying the deeper significance of the shared space.

This study questions this balance, exploring themes and strategies in search of reflections applicable not only to a possible crisis phase, but to the more general practice of living.

To this end, the paper constructs an interpretive background by identifying 'oppositional dualisms' that are inherent in the phenomenology of housing and that gain new strength under the lens of the pandemic experience. Based on this critical framework, a hypothesis is then defined based on four project paradigms, operational criteria united by a predisposition to change.

These paradigms are then verified by means of a review of case studies, selected only from the residential sector, to argue with the right degree of synthesis and coherence the reasoning carried out, and to show, through pre-pandemic architectures, the pre-existence of reflections on similar principles and the endurance of their validity.

Dualisms of crisis. Requirements for life during a pandemic

The Covid-19 pandemic has highlighted certain aspects inherent to the human dimension and linked to the parallel needs for security and protection, for relationships and sociality. These aspects have multiple manifestations, ranging from the use of the body as a signifying structure to the mediation of architectural elements and spatial devices; this diversity can be captured and described through antithetical dualisms highlighted by the hallucinated situation created since March 2020.

The first and most representative pair is formed by the binomial *desire/hostility*, within which the first term describes the individual and collective need for a system of spaces of appearance, representation and sharing, while the second term suggests the anxious resistance to contact stemming from the fear of contagion. In fact, in the spaces of shared life, both public and private, the idea that this relationship might prove risky has become the main ally of separation and isolation, insinuating the germ of hostility, equal and opposite to the desire to meet and interact.

Linked to this condition is the second pair, *proximity/distancing*, the result of two circumstances with strong spatial implications that arose during the hottest phases of the health crisis: on the one hand, the necessary distancing in public places, on the other, the enforced isolation in one's own home, which led to the hypothesis of a proxemics at the time of the pandemic, redefining what was originally theorised by Hall (Hall, 1968). As is well known, he identifies four main spheres of distance that mark relations between people, according to a decreasing degree of proximity, which can be translated in architectural terms into a passage of scale: in order, the home, private spaces of interaction, spaces of public use - such as workplaces and schools - and, finally, public open spaces. Pandemic questions the respective distances, searching for the right spatial distance without compromising interaction.

An implication of this question is the third oppositional dialectic, *open/closed*, which shifts the discourse to the need to unite or separate spaces and to establish a spatial and vital autonomy of the parts in order to satisfy a series of contingent needs; At the same time, the further binomial *interior/exterior* is confirmed as central, involving the mediating elements in the physical relationship between outside and inside, such as windows, balconies, patios, courtyards, in a gradient that leads, with modulations, from private to public space; but also the 'filter' areas and thresholds, such as terraces and staircases in apartment buildings: semi-public spaces that allow the occasional extension of the private and domestic dimension into a more open and convivial one, while respecting the measures of distance. In recent years, these spaces have been crucial in defining the quality of housing, an invaluable capital in the economy of the built environment, especially in large cities, also because of their capacity to reveal themselves as precious spheres of flexibility, unexpected protagonists of project visions.

Two other dialectical pairs also concern the urban scale alone. The first, *invasion/reconquest*, concerns the inequality between the material values of the built environment and the immaterial social and environmental values, which, despite the renewed attention paid in recent decades to the project of open spaces and the parallel awareness of the ecological dimension, remains critical due to the devastating effects on anthropic and environmental systems of decades of uncontrolled urbanisation. The temporary suspension of these processes has allowed us to witness the gradual

reconquest of urban spaces by the natural component, which is the measure of the cost paid by bad settlement and production choices.

Finally, the second dialectical pair at the urban level concerns the relationship between *figure/background*. The containment measures during the pandemic emergency have interrupted the dialectical relationship that exists between the city and the community: it is only using space that a community defines itself and, conversely, it is only through the presence of actors and actions that the system of values that determines the essence of space is constituted, modified and renewed. In this sense, the pandemic revives the meaning of Aldo Rossi's words that "architecture is the fixed scene of human events" (Rossi, 1966), recalling the responsibility of urban project to guarantee the integrity of the human dimension and that of man to preserve and update the potential contribution of the city.

Four paradigms. Space-time oscillations and project

Based on these critical ideas, it is possible to identify four project paradigms that coincide with as many strategies applicable at different scales. Although they are not new, they appear to be renewed in terms of relevance and validity, rising to the level of essential design criteria for expressing the lesson of the pandemic event.

The first paradigm that emerges in response to the couples outlined is linked to the theme of *temporality* (Fig. 1-5), which considers the changes in the times of use of spaces and the complementary changes in the forms of use over time, circumstances that are always detectable but even more evident in the pandemic phase. These variations require the space to adapt, to present itself as the same at different times or to make itself available for changing configurations in the same period, requiring a project capable of defining comfortable solutions for the same uses at different times or adaptable to different contemporary needs.

The second paradigm is that of *pulsation* (Fig. 2-6), where space is required to have the ability to alternately expand and contract, in order to meet the needs of distance and the consequent modification of presences and spaces. This paradigm suggests a project that occupies and then frees spaces intended for other functions, infiltrating and conquering the outside if necessary. The operational strategies can, for example, go beyond the limited scope of the project, looking at the wider network of spaces, especially the public ones in which it is inserted, to plan the infiltration of uses into adjacent areas not normally intended to host the usual functions. To the same end, the project can work by considering areas whose use is normally reduced or at least diverted by the presence of certain activities, such as those related to vehicular traffic.

The third paradigm is that of *reversibility* (Fig. 3-7), according to which any process of adaptation requires the possibility of being reversed to offer itself again to ordinary forms of housing. The transformable, temporary, pulsating solutions in dimensional terms have in common the possibility of returning to the previous state of the places without permanent effects. In this sense, the space can be understood as a proscenium that can be set up freely, repeatedly, infinitely, according to the needs of the moment, and then return to a 'zero' structure, equipped with a defined identity but available for different configurations.

The last paradigm is *personalisation* (Fig. 4-8): the need to define a secure environment and reduce contact with objects of collective use favours the initiative of the individual in creating his or her own space, according to different possible combinations. The mobile elements recall the theme of the subjective and detailed adaptation of the shared space to individual needs, forms of spontaneous and extemporaneous appropriation of space that are of particular interest.

Four houses. Adaptable projects in unsuspecting times

The hypothesis that these paradigms describe effective strategies can be verified on four case studies that illustrate the solutions chosen for synthesis and coherence, among examples of residences that sometimes represent aggregated housing units in a context of serial repetition - Diagoon Housing and Moriyama House - sometimes, to the size of the entire building - SzpakowiczHouse and Unité(s) +. Although heterogeneous in terms of date of implementation, all the selected projects predate the start of the pandemic crisis, highlighting the foresight of those who created them, but above all the resilience of the principles on which they are based.

Diagoon Housing. Hermann Hertzberger, Delft (NL), 1970 - This prototype of a house, made up of eight examples, shows, through its partial incompleteness, the desire of the designer not to define specific conditions of use. In fact, it is configured by a spatial articulation - vertical and horizontal - developed around the full-height central space, which is overlooked by two blocks staggered by half a floor, the fixed core of each unit. The blocks are therefore the sub-units of the dwelling and can accommodate a variety of environments that can be interpreted for different uses according to the personal needs of each resident. In turn, each unit can be subdivided to obtain a space and a part directly overlooking the central void, a spatial continuum of relationships shared by the inhabitants. In this way, a gradient of privacy is created in which each resident has his or her own room, while there are four smaller independent units with a shared kitchen and bathroom centre, easily adaptable over time.

Unité(s) +. Sophie Delhay, Dijon (FR), 2019 - The entire building interprets the theme of collective and private spaces through a modulated scale, from the large communal areas of the terraces to the reserved area of each residential unit. The apartments are conceived as clusters of identical 13 square metre rooms, without hierarchy or predetermined allocation, completed by a terrace or loggia of the same size. This characterisation of the spaces suggests an autonomously interpretable, adaptable and flexible accommodation, according to the way of life and the different temporalities of the inhabitants; this determines a free and emancipated vision of living and human relations. Depending on the position of the living room and the external loggia, each residential unit can satisfy three different layouts: crossed, diagonal or grouped, which introduce the possibility of expanding or narrowing the continuity of the spaces, the latter also favoured by the oversizing of the internal openings.

8 rooms in the forest (Szpakowicz House). Jan Szpakowicz, ZalesiuDolnym, (PL), 1971 - The house that Jan Szpakowicz designed for himself and his wife is a highly interesting example of spatial articulation controlled by a rigorous geometry, in which the dialectic between private and collective spaces is highly flexible. The plan is made up of nine square rooms arranged on a 2.4 metre grid, which establishes a strong hierarchy between the closed volumes, which represent the structural elements, and the internal relational spaces, which are conceived in continuity with the environment, covered by a thin roof and illuminated by large windows. The dialectic of private and closed elements scattered in an open space creates three square-plan living areas, connected but also separable, with large windows that connect the interior with the surrounding forest. The building, which was recently demolished, shows its contemporary character both in its ability to interpret the relationship between man and the environment and in the possibility of deconstructing the theme of the public-private boundary in the sequence of forest-common spaces-individual spaces.

Moriyama House. Ryūe Nishizawa | SANAA- Tokyo (JP), 2002/05

Interpreting the morphological characteristics of the urban context in which the building stands, the authors conceive a settlement microsystem of independent volumes; seven minimal housing units of different plan dimensions and heights, inserted into a structured and shared open space, to which each volume relates in different ways in a gradual sequence that connects the house system to the city.

Each volume can accommodate different uses depending on its size, just as adjacent units can be merged if necessary and used by the same inhabitant. The exterior space is configured as a unifying matrix, both on the physical level of the settlement system and on the abstract level of social relations and sense of community. Despite the density of the system, independence is guaranteed by the form of the enclosures, the position of the buildings on the site, the distances between them and the position of the openings in the façade.

Conclusions

The argumentation starts from the recognition of the global health crisis of 2020 as an extraordinary detonator of conflictual dualisms inherent to the theme of living: desire-hostility, openness-closure, closeness-distance, interior-exterior are in fact dialectical pairs that cross our experience in space and the project on the theme of life.

The recognition of two other pairs particularly relevant to the urban scale - invasion/reconquest and figure/background - establishes the more general capacity of the pandemic to expose the drifts of the settlement strategies with which the city has long developed, which, even if it sometimes seems

inattentive to the social and environmental components, remains an essential context for defining our individual and collective dimension.

In these interpretative cornerstones, the four theoretical-operational paradigms invoked by the pandemic diminish what seems to be the main theme of collective life and design after the health emergency, namely the desired capacity of spaces to respond to sudden changes and adapt to needs. Accepting these suggestions means giving life to a flexible, adaptable and multipurpose space (Hertzberger, 1996), which has meaning and value according to different, not always predictable configurations; a changing and unexpected space, which takes on contradiction as a synergy of differences, and which also turns to collective participation in order to reconstruct a system of relationships in crisis, combining the conscious design of the architect with what is sometimes proposed by the community of residents.

This is not a new direction for design reflection and, in fact, the examination of the four case studies reveals an intrinsic correlation between the paradigms identified.

In fact, in the selected architectures, the possibility of adapting the space on the basis of the temporality of its use is inevitably linked to the possibility of adapting it to the needs of those who occupy it at any given moment, who can not only personalise it, using the different environments at will, but can also give it a pulsation, expanding or contracting its size as needed. This is a process that never modifies the architecture in a definitive form but takes on a more or less prolonged transitory nature, but always reversible.

The selected case studies, despite their limited overview, therefore demonstrate the existence of design experiments that question the same principles hypothesised in response to pandemic needs, demonstrating the quality and variety of possible applications. The selected episodes, which preceded the health crisis, illustrate how architecture's responses to exceptional circumstances are subtly present in more general design considerations, showing how the distributional and morphological characteristics of built elements and the spatio-temporal dynamics determined by their use can prove decisive in the face of the complexities revealed by the global health crisis.

This paper should be considered in the context of the research carried out by A. Manca, C. Pintor and F. Musanti in the field of Architectural and Urban project studies on the theme of modification of public and private space. Therefore, the paper was conceived by the authors with unity of purpose. For practical reasons, the Introduction and Conclusions have been written jointly; "Dualisms of crisis. Requirements for life during a pandemic" is to be ascribed to F. Musanti; "Four paradigms. Space-time oscillations and project" to C. Pintor and "Four houses. Adaptable projects in unsuspecting times" to A. Manca. The iconographic apparatus was conceived by A. Manca, F. Musanti and C. Pintor and realised by the latter.

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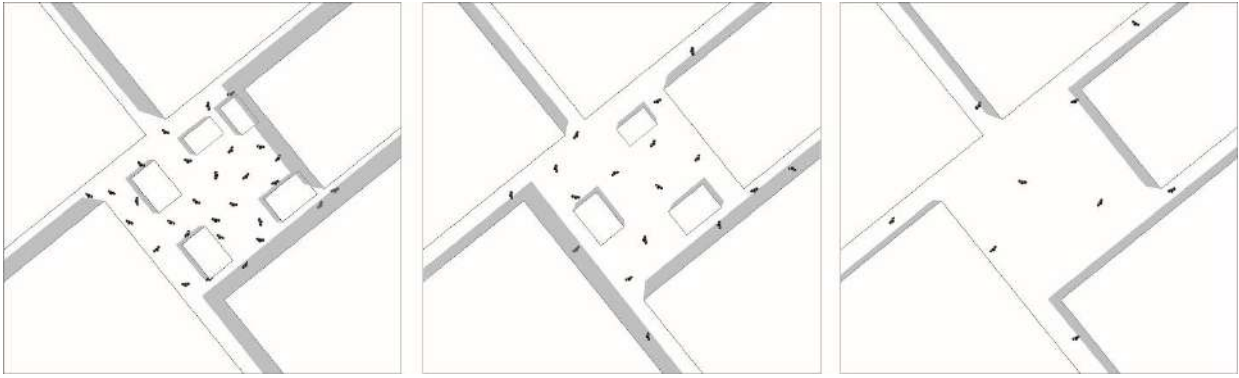


Fig. 1. Temporality, public space.

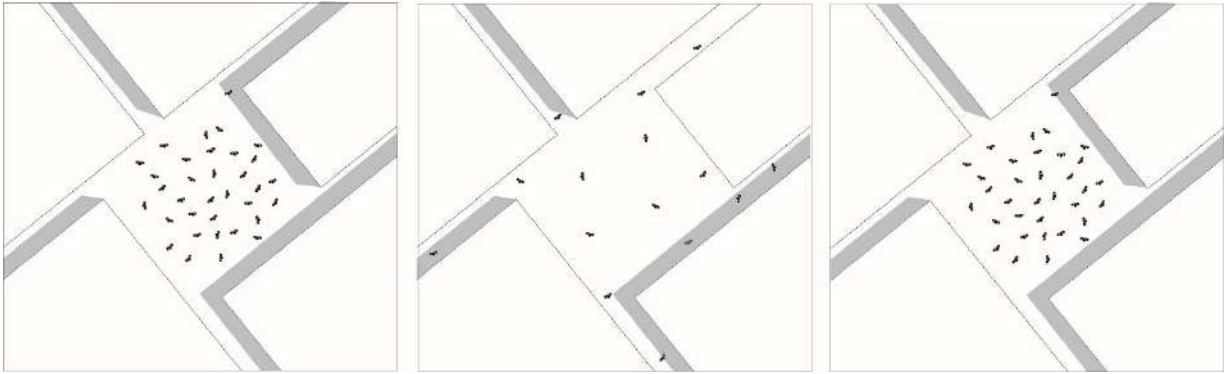


Fig. 2. Pulsation, public space.

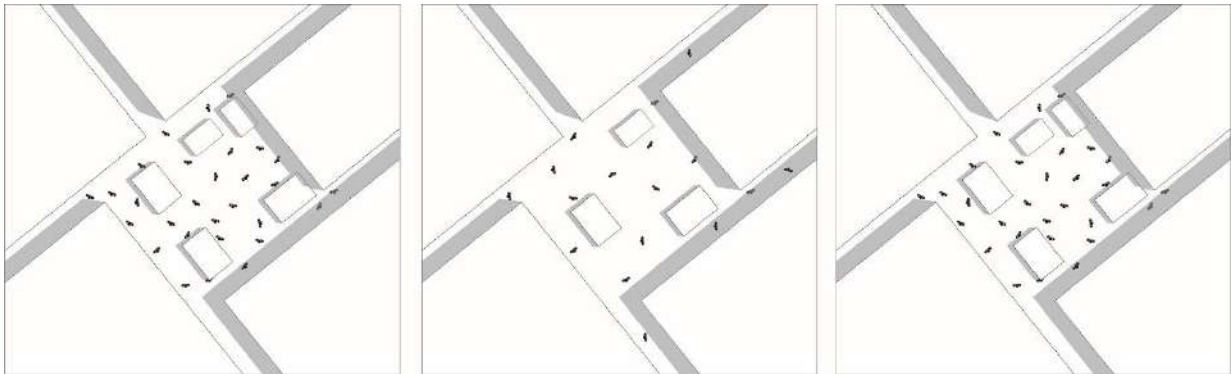


Fig. 3. Reversibility, public space.

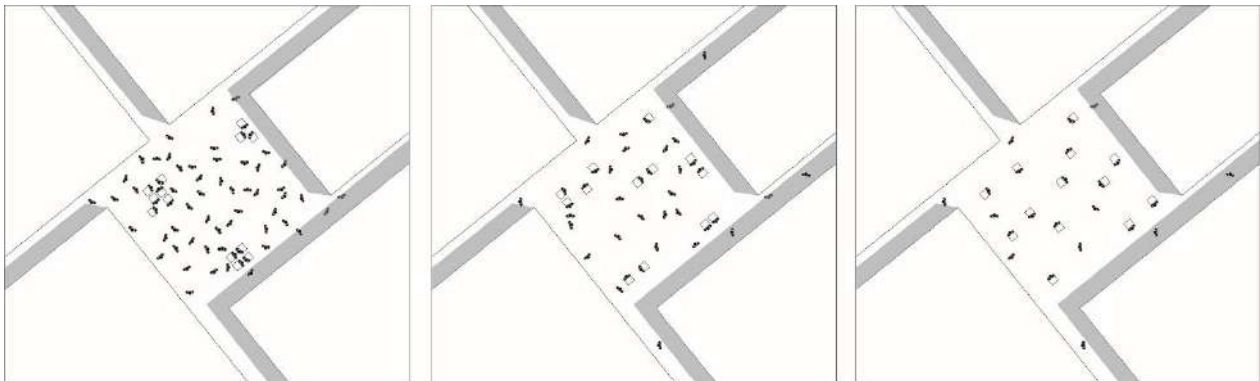


Fig. 4. Personalization, public space.

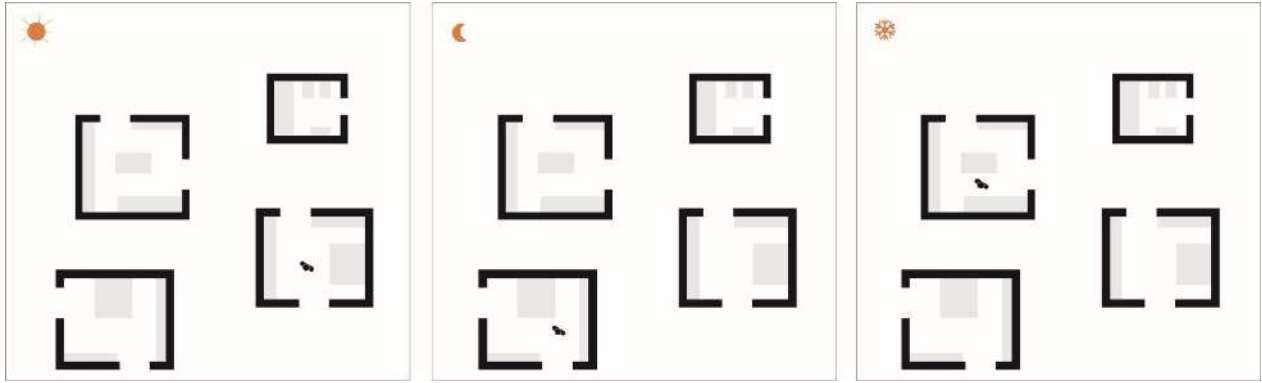


Fig. 5. Temporality, domestic space.

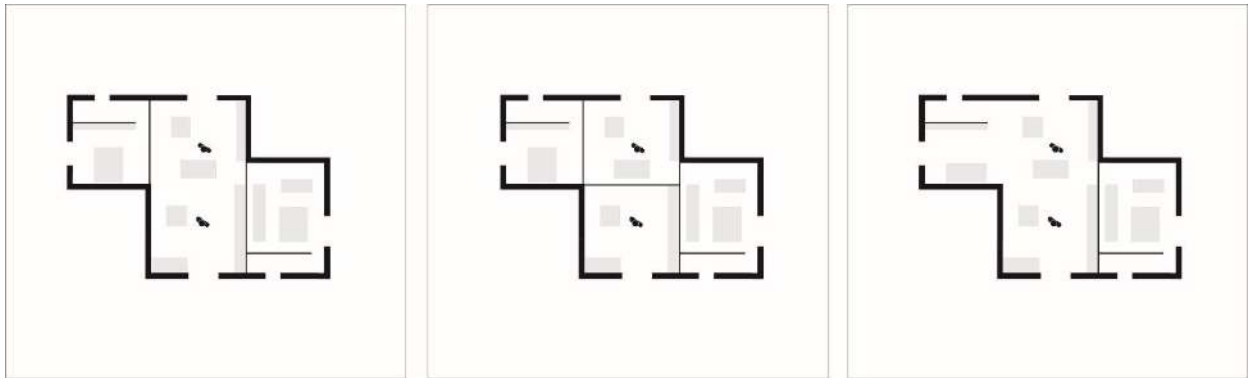


Fig. 6. Pulsation, domestic space.

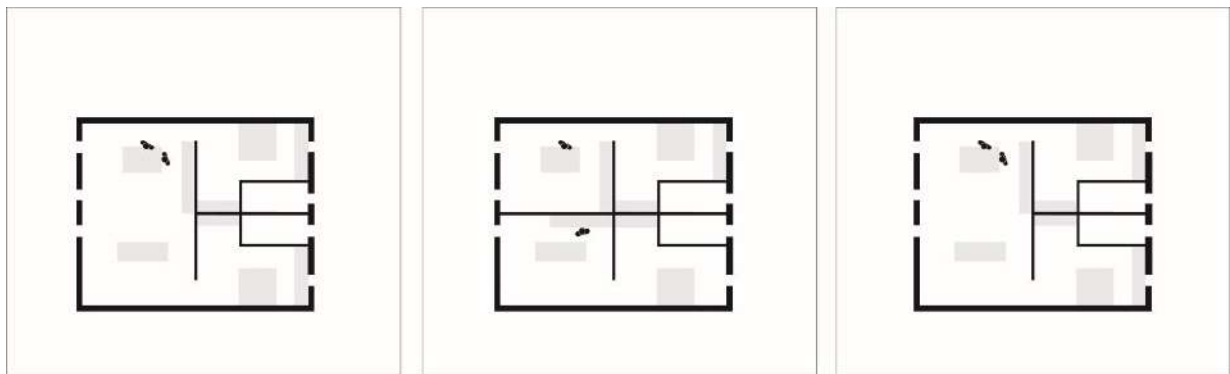


Fig. 7. Reversibility, domestic space.

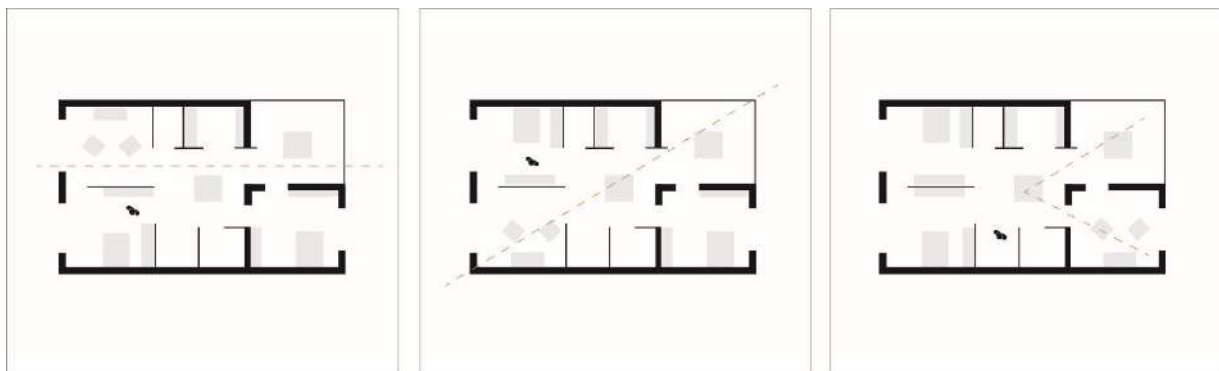


Fig. 8. Personalization, domestic space.



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