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RESEARCH ARTICLE

Exploration of spatial design issues at backpacker hostels in Budapest's historic center: Informality, density, and adaptability

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Abstract
This paper presents a practice-based research to achieve a deeper understanding of the spatial issues related to backpacker tourism, a booming industry in Budapest. The authors designed six backpacker hostels between 2013 and 2015, and of these, four are presently in operation. Hostels are the main infrastructures within the global network of backpacker tourism. Results from the design process revealed that the creation and operation of hostels are significantly influenced by three issues, namely, informality, density, and adaptability. These issues are negotiated on three interconnected levels: the city, the building, and the interior. The authors developed an experimental structure for dormitory spaces as a conscious reaction to these issues. This experimental structure is presented and evaluated, and further paths of development are formulated based on the results.
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1. Introduction

Budget tourism in Budapest, the Hungarian capital, has grown in popularity behind the walls of downtown historic buildings, gradually transforming the functional patterns of the existing built environment and urban infrastructure. This phenomenon refers to the spread of bottom-up, demand-based, tourist-oriented developments in the form of hostels that cater to backpackers.

Backpacker tourism has been covered widely in various fields of research. Tourism studies have amassed plenty of information on the behavior, motivations, social interactions, and sub-types of backpacker tourists (Murphy, 2001; Loker-Murphy and Pearce, 1995), as well as virtuality (Paris, 2012). In management science, scholars have emphasized the importance of hostels in sustaining the global network of backpacking (O'Regan, 2010). Others have revealed factors

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that increase the effectiveness of services and operations in hostels (Borovskaya and Dedova, 2014; Oliveira-Brochado and Gamiero, 2013; Musa and Thirumoorthi, 2011).

Some of these scholars mention the spatial aspects of the backpacker phenomena in their works. Borovskaya and Dedova's work about hostels in St. Petersburg (2014) dealt briefly with the role of interior design in a hostel, whereas O'Reagen's article (2010) mentioned hostels' impact on urban spaces. Paris (2012) also negotiated spatiality, focusing on the relationship between the physical and virtual space. Timothy and Teye's work, entitled "Tourism and the Lodging Sector" (2009), dedicates a chapter to hostels, in which they introduced their users as well as summarized their history and most important features within a global perspective. Recent studies have applied the servicescape model (Bitner, 1992) to the study of hostels and demonstrated the developing interest among academics about the physical environment of hostels and their impact on guests (Rashid-Radha et al., 2016; Musa and Thirumoorthi, 2011).

Nonetheless, studies that focused on how various social, economic, and urban factors determine the spatial design process of hostels are lacking. In response to this research gap, the present study aims to provide knowledge about hostels acquired through the design process. The authors were personally involved in several hostel design projects, thus providing readers an insider's view of the hostel's development. The aim is to explore the most relevant issues that affect design, while discovering experimental methods to deal them.

In this paper, an overview of the current hostel ecosystem in Budapest from a designer point of view is presented in three levels. First, hostels in the urban area are investigated. Their urban position is characterized with informality and instability due to economic and operational issues. Second, hostels are investigated in the architectural scale. According to data, the majority of Budapest hostels occupy downtown historic apartment buildings. These apartments show great flexibility in terms of spatial redundancy (Forty, 2000), and we discuss how these hostels can adapt to that environment. Third, the interior of the hostel dormitory room are investigated. The dormitory is an area in a hostel where enhanced privacy is highly evaluated by guests, though it is aimed at providing community experience (Rashid-Radha et al., 2016). Addressing this need is an important design challenge that is discussed in this paper. Architects can contribute to the shaping of hostels mainly on the interior level. In the final part of the paper, the Hostel Cube (HC), an experimental structure developed by the authors, is introduced. HC is an interior intervention that tries to answer the issues raised at the architectural and city levels. The HC aims to adapt to the specialties of the Budapest hostel ecosystem.

2. Research by design

With regards backpacker hostels and their guests, researches in management science, tourism, and sociology use methodologies that are adequate for their own discipline. The authors of this paper come from the architectural field and actively practice architectural design. The design process, including both planning and building phases, serves as a basis of knowledge and tool of research.

An academic discourse is ongoing, and increasing attention is paid to the possible roles of design in research, commonly referred to as Research by Design (RbD). A conference entitled "Research by Design," held at TU Delft in cooperation with the EAAE/AEEA in 2000, is regarded as an important step in the development of this discourse, because it opened discussions about notions of scientific research, design, and RbD in an international context (Dunin-Woiseth and Nilsson, 2011). Actually, RbD was first developed through Dutch practice (Hauberg, 2011).

The literature presents several approaches to RbD, which concludes that instead of employing merely traditional scientific methodologies, openness and implementation of diverse strategies are more advantageous for RbD development. The current paper follows the paradigm, whereby design and experience through design serve not only as a source of knowledge, but more importantly, as a tool and strategy for research (Verbeke, 2011).

In addition to the scientific literature, the authors' experience provides a basis of knowledge for this research. This knowledge was acquired through the design, implementation, and post-design investigation of six backpacker hostels in Budapest over a two-year period. The design process involved collecting information about backpacker hostels both in local and international contexts, consulting with several hostel managers, and learning from former projects. Integral parts of the design process included observing the operation of existing hostels through site visits, regular checking of online reviews by guests, and asking for hostel staff feedback. In this sense, the design process itself becomes a research. Conversely, the resulting design is a spatial structure, which provides limited opportunities for presenting shareable, explicit knowledge (Buchler et al., 2009). Textual work offers an opportunity to present in debatable and transferable findings during the design process. This paper aims to provide useful knowledge not only for practicing designers, but also for researchers from other disciplines dealing with backpacker tourism. Design as a research strategy is implemented to investigate the complex phenomenon of backpacker tourism and its effects on urban structures with a focus on spatial considerations. Participating in design projects is necessary to explore significant issues within the design field, particularly of hostels. Formulating the text should be regarded as a process of systematizing the knowledge obtained by design. As a result, three key urban and architectural factors that significantly characterize the backpacker phenomenon in Budapest and influence the design of hostels have emerged: informality, density, and adaptability. Throughout this paper, these factors are investigated on three interconnected levels, namely, city, building, and interior or furniture.

3. Ambiguity of defining a hostel

The hostel is a short-term accommodation focusing especially on tourists who are usually labeled as "backpackers." The hostel is an inevitable form of infrastructure and socio-spatial element of backpacking (O'Regan, 2010); however,

the clear definition of a hostel is a challenging debate even for hostel managers and other hostel professionals. Such a discussion can be found on a popular online forum for hostel managers (Hostel Management, 2004), while definitions can also be found in the academic literature (Oliveira and Brochado, 2013; Timothy and Teye, 2009). This difficulty is probably due to the global trend of an ever-widening range of tourists with heterogeneous demands. They choose this type of accommodation, and hostels attempt to satisfy their demands. Nonetheless, both hostel professionals and academics regard some features as inalienable characteristics of a hostel. For example, a hostel must be budget-oriented and must be able to provide shared dormitory rooms where individual travelers can book a single bed, although hostels nowadays also provide private rooms with bathrooms.

Hostels offer communal areas and communal facilities for guests, making it easy to socialize, which is another significant feature. Many people choose hostels because they can easily meet and interact with other travelers (Murphy, 2001). Hostels typically have more informal atmosphere than hotels, and their clientele is primarily young tourists (Oliveira and Brochado, 2013).

Backpacking is not a new form of traveling. The youth hostel network dates back decades ago. However, that system was more restrictive and inflexible than contemporary backpacking (Timothy and Teye, 2009). Nowadays, the global infrastructure of this area of tourism uses virtual and informal networks, and hostels have become one of the dominant types of accommodation among young travelers.

In recent years, a new type of hostel guest has appeared, that is, the flashpacker (Hannam and Diekmann, 2010; Paris, 2012; van Vaals, 2013). The flashpacker travels on a higher budget, frequently uses social media, and has higher requirement of comfort, quality, and privacy than the backpacker. Introducing flashpackers is relevant for the present study. Their growing number gradually increases quality demands towards the physical environment of hostels, which in turn, enhances the need for awareness of spatial design issues.

4. Spatial issues of hostels on three interconnected levels: city, building, and interior

4.1. Urbanity of hostels: types, informality, and the need for flexibility

4.1.1. Density and hostel types in Budapest

"What is the WIFI password, and where is the Szimpla?"[1] These are the first questions of many guests after they check in at the reception desk, according to the manager of Wombat's hostel in Budapest (Origo, 2014). The international fame of ruin pubs, low-cost airlines, and cheap prices are factors that have significantly contributed to making Budapest an attractive destination for young individual tourists mainly traveling on a tight budget. In 2013, Budapest was the year's best value city break destination according to an online survey (POTM, 2013). Thus, seeing how the lodging sector serves this increasing touristic interest in Budapest is necessary.

Data were collected from hostel profiles registered at hostelworld.com in February and March of 2015 to visualize the location of the currently active hostels in Budapest (Figure 1). The map clearly shows that almost all hostels are in Pest (located on the east side of the Danube), within the central districts, and inside the Grand Boulevard close to public transport hubs. Data revealed that Budapest has 108 hostels, approximately 4 square kilometers in area. However, this number can vary slightly with the season and some hostels are not registered on hostelworld.com. For comparison, the same database contained 23 hostels in Vienna and 83 in Prague.

With regards the capacities of Budapest hostels, 50 hostels have less than 30 beds, 36 have 30–80 beds, and 16 operate with more than 80 beds. Among the currently operating hostels, only 4 opened before 2005, 52 between 2005 and 2010, and another 52 after 2010. This information shows that transient, short-term operation is a relevant phenomenon to consider during the design process.

Based on data from booking websites and information from consultation with several hostel managers, at least, in the historic tourist center of Budapest, no buildings are purposely erected to host a hostel. This finding means that all of them are transformed from flats of various sizes located in downtown apartments. Some hostels, however, occupy a complete apartment building, but they are still developed by refurbishing the existing infrastructure (Table 1). However, as tourism in Budapest develops, the city is becoming an interesting target of investment for Western-European hostel chains. These companies have enough capital to build new buildings that are purposefully designed to function as a hostel. So far, the Berlin-based Meininger has started a construction in the city center, which is scheduled to open in 2018 (MEININGER Hotels, 2015). That is the first sign that the current partly informal ecosystem of hostels is about to change and become more professionalized.

The same analysis was conducted in February 2017, and the results showed only 82 hostels, 15 of which were opened after 2015. This finding means that only 62% of the hostels investigated in 2015 still operate in 2017. Furthermore, many hostels are not likely to use other booking sites as the analysis was repeated at booking.com and showed the same results. Most of the missing hostels were members of the small hostel category.

Among the hostels that opened after 2015, at least three operate with more than 80 beds and one has more than 300 beds. The owners of some existing hostels have plans to extend their capacity. For instance, a hostel at Oktogon with approximately 100 beds, which opened in 2014, has almost doubled its capacity by transforming neighboring apartments to hostels under the same brand. The reduction in the number of hostels in Budapest does not inevitably mean that the demand for hostels decreased: Data rather show that hostels with big capacities have started to dominate the sector. This shift can be seen in more developed form in some Western-European cities such as Vienna or Berlin.

4.1.2. Hostels in the city: informality and instability

In some countries like Canada and Australia, the local and regional governments financially support the opening of

[1] Szimpla Kert is one of the first and most popular ruin pubs in Budapest. It opened in 2004 at its current location in Kazinczy Street.

backpacker hostels in run-down areas as part of formal development strategies, because hostels have the potential to increase gentrification (Hannam and Diekmann, 2010). However, that is not the case in Budapest. According to the owners of two market-leading, middle-sized hostels, this sector is completely privately funded in the Hungarian capital. Therefore, Budapest hostels are "*businesses that exist solely through individual effort with no help from the government*" (Neuwirth, 2011). This factor has prompted hostel developers to constantly seek private investors. Nonetheless, hostel projects (especially small and even middle size) are incapable of attracting investors with substantial capital. In addition, hostels function as budget accommodations; as a result, guests have relatively low comfort requirements. Given these circumstances, designers must adapt to a very low investment budget that determines design conditions in small and middle-size hostels. As a result of the lack of investment, hostels now operate in rented apartments. This circumstance makes their existence unstable, and owners need to be prepared to move at any time.

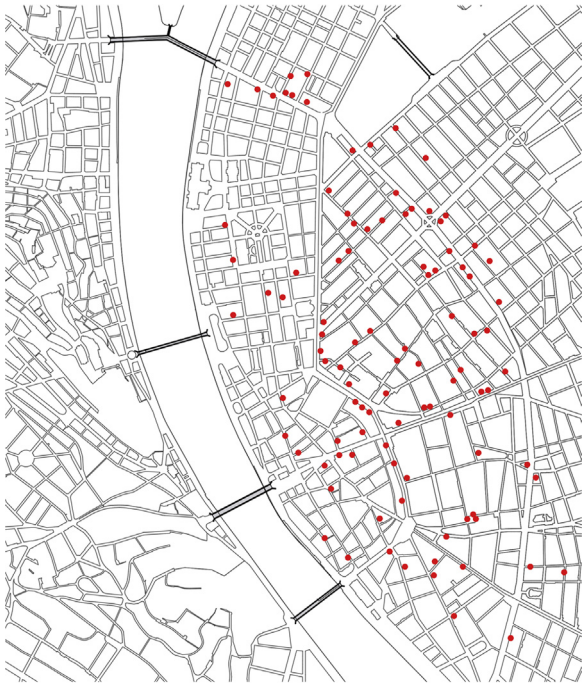


Figure 1 Location of hostels in Budapest (source: authors).

Hostels operate in a global shadow economy that is invisible to local authorities. Their services are available for individual foreign tourists, and maintaining an official register of their actual numbers and the duration of their visits is difficult. Hostel owners exploit this benefit, and are able to avoid some taxes and other formal expenses. This is the reason why they are interested in keeping their hidden presence locally. Hotels usually have a public lobby or cafe located at street level. In contrary, hostel's existence is only identified by a very small label at the building's entrance, indicating which doorbell to ring. In many cases, they simply do not open the door if they hear Hungarian words. Hostels are isolated international transit spaces nestled within a physically hidden global network. Hence, hostels' informal economic operation influences their physical arrangement in urban space. This promotes locations that are hidden or isolated from the general public. However, informal elements in a hostel's operation increase instability, and an unexpected inspection of the authorities can result in suspension.

Hostels transform the spatial behavior of their direct and wider environment although they lack characteristic visual influence on the urban fabric. The transformation of downtown apartments into hostels is part of the complex socio-economic process, whereby services targeting locals are replaced by tourist-oriented functions: groceries become souvenir shops, local pubs become elegant restaurants, and apartments are converted into temporary accommodations (Kadar, 2013). As a result, the city becomes a mono-functional urban landscape (Cooper and Morpeth, 1998).

Hostels alter the daily rhythm of its environment. Prior to refurbishment, the majority of the locations operated as offices or workplaces. Offices are mostly used during the day, but are abandoned in the evening. Conversely, a hostel is more populated in the morning and evening. During the

Table 1 Classification of hostels in Budapest.

	Small hostel	Medium hostel	Big hostel
Location	Small apartment, 2–3 rooms	Big apartment, 5–10 rooms	Entire building or a whole floor of a building
Previous function	Residential	Office, other services	Not relevant because complete refurbishment is possible; floor plan can be customized for various hostel functions
Legal conditions	Capacity does not exceed legal regulations	Capacity usually exceeds legal regulations	Capacity does not exceed legal regulations
Operation	One person does everything: owner, receptionist, manager	Staff employed, complemented by volunteers	Professional management
Role of architects	None needed	Up to the owners if they employ architects or not	Inclusion of architects inevitable
Financial expectations	Low budget, low income expectation	Low budget, high income expectations	High budget, high income expectations
Urban appearance	None	None, deliberately hidden	Substantial visibility

day, guests spend their time in the city, so hostels are almost empty by then.

A hostel is more intensely used due to the high number of daily users compared with an office or dwelling. This number leads to increased density, which is discussed in further chapters. As a result, hostel developers usually seek flats located on the first floor of buildings to minimize guests' use of the building's common spaces as well as to avoid conflicts with other residents.

4.1.3. Findings based on urban behavior of hostels: need for flexibility

What are the consequences of all this information to the spatial design of hostels? The hostel industry in Budapest is changing dynamically: some close or move, while others expand their capacity in a short period of time. Based on all these findings, an approach highly focusing on the physical flexibility, demountability, transformability, and movability of spatial interventions is relevant for hostel design. The instability of hostels' urban position, either because of informal operation or the need for expansion, is a challenge for spatial design because temporality becomes an important factor.

4.2. Architecture of hostels: occupying historic apartment buildings

Hostels must be able to adapt to the architectural characteristics of historic buildings built in the late 19th and early 20th century since these make up the majority of the built environment in central districts. Thus, a summary of some features of this urban and architectural landscape is needed.

In the second half of the 19th century, the use of the "capital style" with a closed urban block system became compulsory in the inner city of Pest. This includes the closed street line, the use of a maximum of 85% building coverage, height restrictions, etc. Blocks were generally divided into regular plots, with each plot fully or partially built in along its street line (Figure 2).

The typical Budapest residential buildings, termed "enclosed courtyard developments," are organized around an inner court. The street wing contains large, distinguished flats, whereas the court wings—with windows open only to the access gallery—contain small, poor living spaces. Such a housing typology gives rise to a standard, relatively homogeneous urban fabric with maximum building density and a closed effect towards the street front. Aside from this urban quality, architectural characteristics of houses can vary according to their position in the city and their time of construction (Benkő, 2011).

4.2.1. A theoretical, functional scheme of a hostel

Let us first investigate the most important requirements and network of functions for a backpacker hostel. Functions can be divided into three, namely, public, service, and private (Figure 3).

Public functions include the reception area and the community space as well as the kitchen and dining area. Observation of hostels showed that it is advantageous if these three areas are in close spatial relationship, since they are the scenes of social life. The informal, word-of-mouth flow of information among guests is an essential part of a hostel's social life (Murphy, 2001). Thus, producing space that promotes social interactions is a fundamental design issue.

In addition to administrative and operational tasks, hostel receptionists are also responsible for the improvement of social atmosphere. Receptionists are often young travelers who work as volunteers at the hostel reception. Consequently, if the community area is directly connected to the reception, receptionists can improve social life in the hostel (Figure 4).

Hostels operate with a self-service kitchen, which means that it is often shared spaces used by every guest. As a result, the kitchen is the most frequented meeting point in the hostel. The kitchen functions as a community area, and

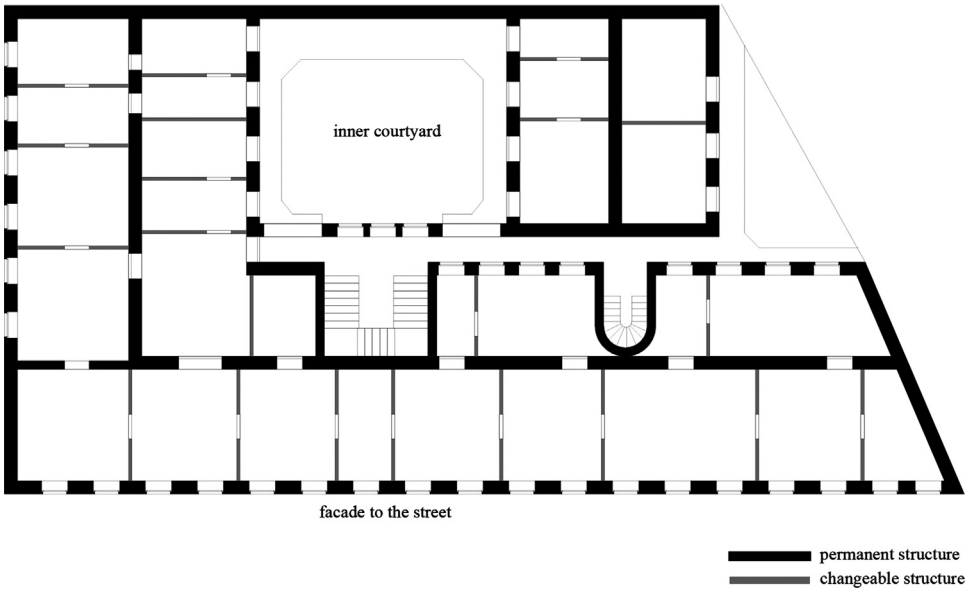


Figure 2 Typical layout of historic apartment buildings in Budapest (Kotsis, 1942).

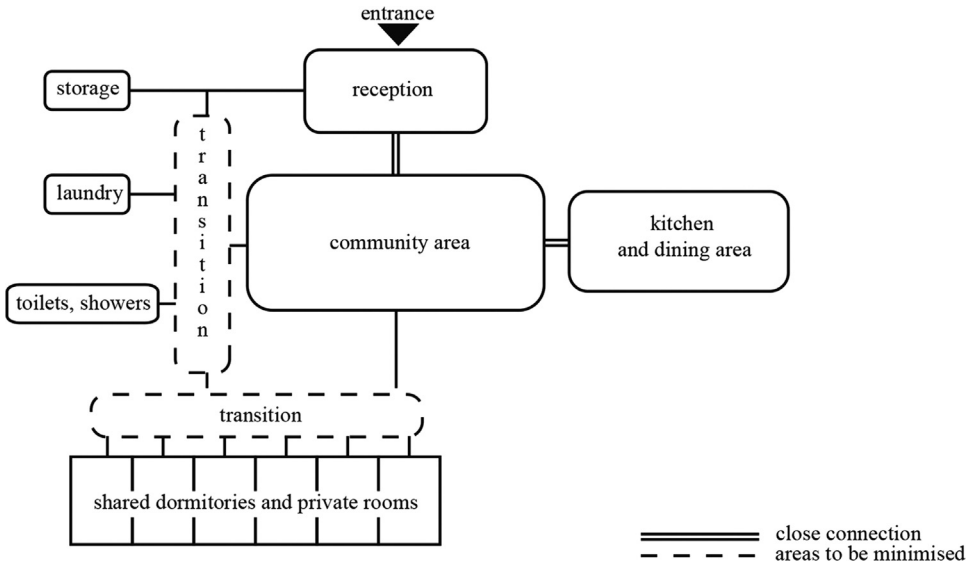


Figure 3 Theoretical function scheme of a backpacker hostel (source: authors).



Figure 4 Community area connected to the reception and the kitchen (photo: Balázs Danyi).

it makes sense to enable spatial connections with other areas dedicated to social activities.

Basically, bedrooms are indicated under private functions. However, in shared dormitories, private function is not limited to the bedroom's four walls (Figure 5). The importance of the bed as a private unit increases. As previously mentioned, most hostels nowadays also offer private rooms equipped with bathrooms. This phenomenon indicates a tendency in hostels toward improving better quality while still providing budget-oriented accommodation.

4.2.2. Reality: hostels in practice

During a concrete design project, a theoretical scheme has to be adapted to characterize downtown historic apartment buildings. Representation and elegance are the most important principles that shaped the spatial organization of luxurious civil apartments in 20th century Budapest (Kotsis, 1942). Meanwhile, functionality in the contemporary sense was not relevant at that time. Consequently, spacious rooms at 3.5–4 m high were built. Actually, their functional neutrality and waste of space make these buildings amenable to numerous transformations.

The longitudinal organization of spaces on the street side is functionally adequate to host rooms in a communal accommodation, whereas the generous heights enable the use of bunk beds without overcrowding. During a century-long period of operation, these spaces were possibly divided in various ways, because the structural setting makes it possible. The location of windows on the facade is the only factor that influences the positioning of separation walls. Public and service functions are necessarily located on the courtyard, which usually lacks sufficient natural light (Figure 6). Given such features, the historic apartment buildings in Budapest show a high extent of flexibility by spatial redundancy. This category is set by Adrian Forty (2000). Referring to Koolhaas, Forty argues that historic buildings can be inhabited in various ways because their dimensions surpass the functionally optimal. Hill further develops these thoughts by introducing the term open plan (2003), by which he means that it is not only the amount of space but it's the generic organization in historic buildings that contributes to the flexibility of their use. Although Hill analyzed Villa Madama and Palazzo Antonini, his findings can also be applied to the historic apartment buildings of Budapest.

Hostels in Budapest do not last long. Hostel developers regard these as projects of 5- to 10-year duration, because of the constant changes in rental conditions and business interests. This thought is supported by the fact that more than 30% of presently active hostels have been operating for less than three years.

In addition, the interior design process is influenced by the hostel's unclear and mercurial legal background for operation, informal economic conditions, and the relatively short life span. Structural modifications require long administrative processes and should thus be avoided. Flexibility must be introduced into the design of the interior installations because of the temporal nature of these projects. Designed objects need to be cheap enough, without causing

financial loss when disposed of. Another approach is to develop structures that can operate independently from the existing spatial circumstances and can be rapidly and easily reassembled at a new location. Mobile spatial interventions have the capacity to adapt to the special (temporary, dynamically changeable) informal nature of the hostel industry.

Meanwhile, the physical setting should be generic enough to enable appropriation, because the hostel has a very specific functional order. This process of appropriation can be recognized as an intentional misuse that Tschumi characterizes using the term "disjunction" (1990). However, successful appropriation does not depend solely on the hosting environment but the inhabiting structure as well that directly facilitates the new use. Defining the particularities of such interventions is a design challenge at the interior level.



Figure 5 Interior of a typical dormitory space in a hostel (photo: Balázs Danyi).

4.3. Interior level of hostels: the shared dormitory

Almost all its functions are shared; thus, creating spaces for privacy in a hostel is a challenging design task. Sleeping—one of the most intimate human activities—must be performed in a room full of strangers. Thus, a dormitory room cannot be regarded as a private unit. In many hostels, guests of a dormitory do not even have keys for the room's entrance door. When searching for the basic private element in a hostel, one must investigate the furniture. The bed is the only "place" that is both formally and informally regarded as one's own property. The bed cannot be dealt with simply as a piece of furniture in a private room, but as a minimal private room in a shared space. It functions as a *place of habitation* (Flusser, 1993). According to contemporary Greek architect Aristide Antonas, the notion of minimal space needs to be revised. He claims that the minimum requirement for a living space today is to enable its user to watch and use a screen (Wachtmeister, 2013).

In many cases, hostel owners buy the cheapest beds available at IKEA or other furniture stores because of shallow

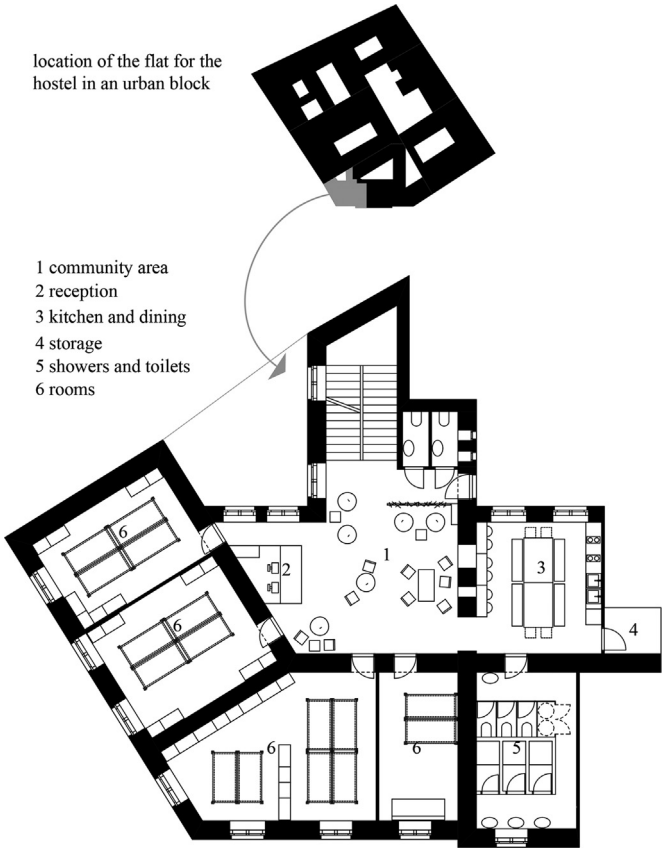


Figure 6 Second floor of an actual hostel in Budapest (source: authors).

economic considerations (Figure 5). However, these beds are designed for conventional residential use. The role of the bed is different in a hostel. Sleeping units— or more explicitly "living" units —are needed to fulfill special requirements.

This paper argues that interventions on the interior level of Budapest hostels can be potentially settled on the architectural and urban level. The project presented in the next chapter aims to serve as a practical experiment to confirm this argument.

5. Experimental design as reaction to issues on all scales: the Hostel Cube

The authors have been developing an experimental structure for a hostel dormitory that aims to provide accommodation for guests while recognizing the characteristics of the historic Budapest apartment building and urban location of hostels. This chapter investigates how the HC (Partizan Architecture, 2015) adapts to the spatial challenges on the three scales described in the previous chapter.

5.1. Reacting to spatial interior issues

The main design challenge in a shared dormitory is to develop a sense of privacy for the individual traveler. The HC solution increases privacy, and it includes four living units that are intended to provide a little private room rather than a bunkbed in a shared room (Figure 7). The HC provides users with increased control over their environment, thus enabling them to perform various activities (Figure 8). Users have control over lighting and visibility. Every unit is equipped with a curtain and a light. They can store personal belongings safely in their direct environment because lockers are placed in the living unit. The dimensions of the unit permit different body positions; users can sit inside their unit comfortably; they can perform daily activities such as working on a computer. They can connect to wired or wireless networks as plugs are installed for every unit.

HCs were first installed in a 110-bed hostel at Oktogon Square in 2014. The following are several guest reviews from Tripadvisor.co.uk:



Figure 7 The Hostel Cube (photo: Balázs Danyi).

- *"Every bed is like your own little room."* (Paul B, 2015)
- *"The dorm beds are very comfortable, and the curtain around each bed gives you a bit of extra privacy."* (kmansbro, 2015)
- *"The curtains truly make a difference - once closed, I felt like I was in my own little tree house."* (ana B, 2014)

Expanding the usability of the hostel bed is an issue with increasing interest for designers. In recent years, several projects have attempted to enclose the space around the bed and equip it with various facilities. The PodShare project in Hollywood (abc7, 2016), for example, offers a spacious living unit that is equipped even with television. The Bunka Hostel in Tokyo provides beds that are surrounded with walls on every side (Nuijsink, 2016). Oddsson Ho(s)tel in Reykjavík, designed by Dodlur (Dödlur, 2016), provides bunk beds with built-in shelves serving as both storage space and wall for enhanced privacy. Despite the growing number of design hostels, where the usability of beds are expanded with custom-made design, even the most popular multinational hostel chains, such as Generator or Meininger, still implement standard bunk beds without any specification for hostel use.

5.2. Reacting to spatial issues of the occupied historic building

In Budapest, hostels have to adapt to an existing spatial setting because they are not located in purpose-built buildings, which is a challenge for the design. In addition to the features of the sole living unit, the distribution of a group of units in a dormitory space is another issue affecting privacy. Generally, beds in dormitories are positioned next to the walls, thus creating space in the middle of the room. As a result of this arrangement, residents see each other all the time. HCs can be positioned in the middle of the room, creating corridor spaces on the sides (Figure 9). Usage frequency along these corridors becomes heterogeneous: areas close to the door are used by all of the room's residents, and those at the other side become the semi-private domain of occupants who are the sole users. This arrangement minimizes unintended personal interactions in the dormitory room. In most historic apartment buildings in Budapest, the distance between the façade and the load-bearing wall in the middle is 6 m, which provides enough space to position two HCs next to each other in the middle of the room while still leaving enough space for movement. This arrangement leads to a more optimized exploitation of existing space and provides privately used areas for guests as well.

Historic buildings were built with 3.5–4 m high floors, which make it possible to design living units of the HC that are more than 1 m high. This enables users to comfortably sit inside their unit in contrast to standard bunk beds. Therefore, the HC can organize and diversify space wasting areas of historic Budapest apartment buildings.

The transformation of existing apartments or other real estates to hostels is not a Budapest-specific phenomenon. Small- and middle-sized hostels operating with the same strategy exist worldwide. However, especially in Western-European cities, there are not as many of them as in

Budapest. For instance, in Berlin, Vienna, or London, this segment of tourism is dominated mostly by big international hostel chains that usually operate in purpose-built buildings.

5.3. Reacting to spatial issues of the urban position of hostels

The urban position of small- and middle-sized hostels in Budapest can be characterized with instability: they usually use rented apartments, and their unclear legal conditions make hostel owners prepared for a sudden need to move. Tourist demands change very dynamically, which can result to expansion of capacity or changes in the whole hostel profile. All these factors suppose that temporality and the ability to change must be considered in the design process.



Figure 8 Inhabiting the HC (photo: authors).

The HC is intended to solve these urban-economic issues in design. For instance, HCs are consciously designed with screwed joints for fast and convenient demountability and transportation. This structural principle enables transformability as well, making HCs adaptable to market changes.

Hostel owners know that market demands can change quickly and seasonal differences occur. At Oktogon Square, the owner predicted increased demand for private rooms with double beds in the winter season and denser usage during the summer. The experimental structure is intended to be easily transformable from a four-person bunk bed for dormitory usage to a twin bed for private rooms (Figure 10).

Many hostels run with a higher number of actual beds than officially permitted. Often, haphazard and unreasonable legal regulations encourage hostel managers to find loopholes to operate effectively. Before the opening and during operations, authorities conduct on-site inspections to check the number of beds. Hostel owners say that they usually prepare for these inspections in advance by temporarily removing and hiding some of the beds. In fact, during the design process, HCs' fast and easy transformability was meant to facilitate this as well. In this manner, a "guileful ruse" (De Certeau, 1984) is built into the designed structure, which accommodates owners' informal behavior to survive in the Budapest hostel ecosystem.

Indeed, hostels in Budapest not only accommodate nomads, but they themselves have nomadic behavior. To adapt to this property, the elements of spatial design should have nomadic characteristics.

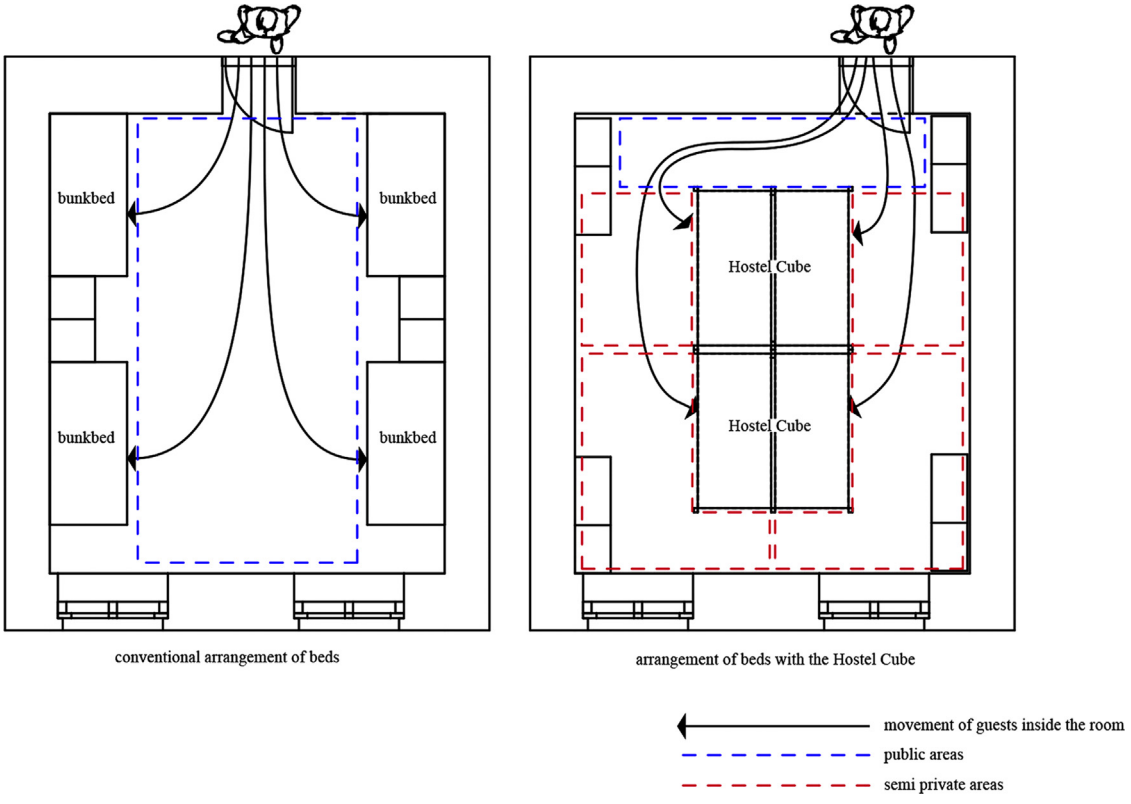


Figure 9 Guests' routes in dormitory rooms in the conventional and the HC solution (source: authors).

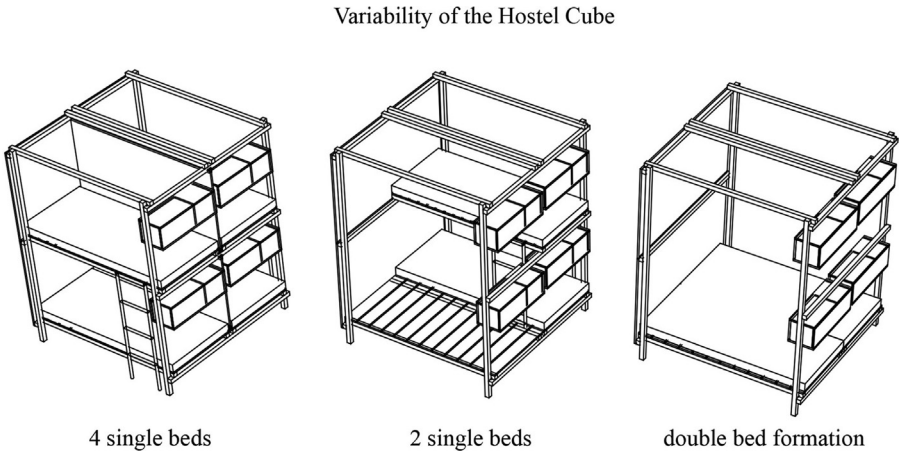


Figure 10 Proposed variability of the HC (source: authors).

Table 2 Design challenges on three levels and the reactions provided by the HCs.

	Design challenge	Reaction of HC	Effect
The city	Instability of physical and legal circumstances, rapid changes of market demands	Screwed joints	Easier demountability, transportability, and transformability
The building	Need for adaptation to existing setting	Raised heights of living units, positioning on the middle of the room	More comfortable living units, enhanced privacy inside a dense dormitory
The interior	Lack of privacy in the dormitory	Living units equipped with curtains, lights, and lockers	Usability of a bed extended into a private room without claustrophobic isolation

6. Conclusion

Knowledge acquired during the design processes concerned three interconnected levels: city, building, and interior. Throughout our analyses, we identified challenges that are relevant for spatial design (Table 2). After defining the challenges, an experimental design project called the HC was introduced, and we investigated how it reacted to the identified challenges. We argued that an intervention on the smallest scale can also affect factors on other higher scales.

To summarize our findings on the Budapest hostel scene and a possible design approach, we present three significant factors in relation to the spatial arrangement and physical structure of hostels at all these levels: informality, density, and adaptability.

6.1. Informality

The informal legal and economic conditions foster the furtive behavior of backpacker hostels in the context of the physical urban fabric. The same informal circumstances motivate the proprietors' preference for occupying parts of existing buildings instead of purpose-built new ones. Due to informality on the level of interior spaces and furniture, avoiding permanent and complicated interventions and using flexible structures and spatial solutions which are easy to dismantle and transform to suit unexpected changes is advantageous. Word-of-mouth transfer of information among guests is another important aspect of informality in the formation of the "hostel experience." Hence, facilitating this social activity is an issue that the spatial design must address.

6.2. Density

A demonstrable increase is observed in the density of backpacker hostels within Central Budapest in recent years. Their number is higher than in Prague or Vienna. Hostel operation brings about increased usage inside the building where it is located. Thus, the flat's location and the building's capacity to serve the increased burden are relevant considerations when seeking a location. However, density is probably the most apparent issue when designing the interior of shared dormitory spaces. An experimental intervention called HC was presented and investigated. This design was developed with the aim of redefining the conventional relationship of public and private spaces inside dormitories. Observations and guest reviews proved that the structure and spatial organization of the HC increased the level of privacy even in a densely inhabited dormitory.

6.3. Adaptability

The increased number of hostels in Budapest is part of the city's process of adapting to the growing demand in tourism. We found that the spatial organization and dimensions of the typical historic apartment building in Budapest provide advantageous setting for effective hostel operations. The

interior environment must be able to rapidly react to changes based on the prevalent online guest review system and dynamic nature of the market. HCs have been implemented as a solution to this requirement.

6.4. Further research

Not all of HCs' proposed adaptive capabilities have been put into practice. Its performance can be evaluated effectively after some changes in season. In addition, the tendency of middle-sized hostels towards professionalization may have a possible effect on other spatial issues. The future of the hostel market is unknown, but judging from its intense and dynamic character, changes are expected in a few years' time. In this sense, the design aspects of budget tourism seem to provide a fertile ground for further research. Finally, design activities can provide relevant knowledge in various fields. However, only numerous occasions of implementation in different areas can reveal the actual effectiveness of using design as a research strategy.

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