



The spatial configuration and publicness of the university campus: interaction, discovery, and display on De Uithof in Utrecht

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Abstract

This paper explores different degrees and forms of publicness and their relationship with the spatial configuration of a university campus. Based on a literature review, the concept of ‘publicness’ is developed to describe the dimensions of ‘interaction,’ ‘discovery,’ and ‘display’ on campus. The area selected for the case study is De Uithof campus of Utrecht University, located outside the urban fabric in a green environment. Spatial configuration analysis reveals that the two public spaces most-often used by students have high global and local integration scores as well as medium visibility scores. This promises much potential for the production of publicness in both spaces, whereas student surveys revealed some rather substantial differences in publicness between them. Acknowledging detailed differences in terms of physical design, functional facilities, and social composition enables an explanation for why the Academic Hospital Utrecht space lives up more the potential of publicness production than the Heidelberglaan space.

Keywords University campus · Publicness · Space syntax · Public space · Spatial configuration

Introduction

Universities have crucial role to play in the production and transfer of knowledge, and in the formation of an effective public life. The spatial configuration of universities in the city changes over time as new buildings are added and student numbers develop. As urban morphologist Peter Larkham states, universities, with their campuses, are extensive land-holders in the urban landscape, and should be considered as an ‘urban type’ in urban morphological studies (Larkham 2000, pp. 75–76). Despite the growing number of

studies analyzing the social dimension of public space, there is still a relative lack of studies focusing on how university campuses, as a place, contribute in particular to the formation of ‘publicness’ (Chapman 2006; Kumar 1997). This study aims to contribute to the still relatively marginal but growing body of literature through a case study conducted on De Uithof campus of Utrecht University in the Netherlands, as a European representation of the ‘autonomous campus model’ (Heijer 2008). It is through a socio-spatial analysis of the public practices and experiences of students that this paper explores the production of publicness on De Uithof campus.

Since the 12th century, when the first universities were founded, universities have been categorized based on distinct spatial models, including urban campuses and the American campus model (Turner 1987; Hashimhony and Haina 2006). Many of the oldest universities in Europe emerged in locations where scholars and students gathered over time, and two of the first such institutions, in Bologna and Paris, were firmly embedded within the urban context (Brockliss 2000, p. 165). In the United States, universities started to occupy specific locations, usually at the outskirts of cities, from the 19th century onwards, reflecting the changing understanding of universities as inward-focused learning communities, with

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a distinct spatial organization that would eventually come to be known as a campus (Turner 1987, p. 12).

The US campus model is in stark contrast with the many historical universities in Europe that still have faculties dispersed across the city center and integrated into the compact urban fabric. Integration within the city center provides opportunities for the intellectual community to interact with the general urban community, both contributing to each other's public realms. Academic activities can become an important part of the social life within a city, just as general public activities are important for life on the university campus. However, there are some examples of a European campus model as an autonomous and self-sufficient campus that exist as a 'separate city' within a city or even located 'outside the city' (Hebbert 2018). Models such as this are of vital importance in studies of publicness, in that they must generate their own social life, as when this is not achieved, "academic life devolves into disparate, meaningless episodes" (Yanni 2006, p. 21).

According to Heijer (2008), Utrecht University—host to more than 30,000 students (Utrecht University 2020a)—is one of the European universities that were designed partly as a separate enclave on the periphery of the city to concentrate on the production of research and knowledge. This university has roots dating back to the 7th century, and academic life still continues in the historical core of the city. However, its Uithof campus is a representative of an autonomous and self-sufficient campus model in the Dutch context. Located at a distance from city center of Utrecht, De Uithof campus supports student-focused social and academic life, and features many open spaces. Hosting such public service buildings as a library and a hospital, the campus serves not only the university community, but also the general public.

Universities have been gaining increasing attention in literature on public space in recent years. While the role of universities in the production of publicness has received wide coverage in literature, these debates tend to disregard the actual types of publicness that form in universities, how those forms occur on university campuses, and the role played by the spatial configuration of the campus in the production of that very public life. 'Publicness,' as a notion in the educational context, appears to remain as such, being marginalized from practices and experiences as well as the spatial character and organization of the campus.

This study brings together two bodies of literature: the role of the spatial configuration of campuses for producing publicness, as covered in space syntax literature; and literature on the publicness of university campuses. In order to understand the forms of publicness that are specific to public life on campus, previous literature is reviewed and the core dimensions of public practices in space are identified. Following an explanation of the research methods applied in this paper and an elaboration of the case study, how students

use and experience public space on De Uithof campus in Utrecht is discussed in detail. The garnered empirical data focus in particular on two public spaces on campus that are popular among students. Combining these data with a visual graph analysis and axial maps of campus public space enables the drawing of conclusions regarding the relationship between the spatial configuration of the Utrecht University campus on the outskirts of the city, on-site social life, and degrees and forms of publicness from a student perspective.

Literature

The University Campus and the public realm

Universities play complex roles in the public realm. For the achievement of their primary goal, they provide environments for teaching, learning, and research, while also serving as public spaces of interaction, both within the university community and with the larger population in society (Yaylali-Yildiz et al. 2014). A search for literature on how the public sphere is manifested in universities reveals a two-sided debate, with one side defining universities as "anchor institutions" in the production of a critical public sphere through the production of knowledge (Calhoun 2006; Delanty 2002), and the other side addressing the social, academic, cultural, and political practices developed within the internal geographies of the university campus (Kumar 1997; Düzenli et al. 2012; Özkan et al. 2017). The focus of this study, however, explores a specific type of publicness, being the publicness that is produced through social practices in open public spaces on a university campus. Be they cultural, academic, or political, all activities on a campus are based on social practices, which may take vastly different forms, from small-scale, 'fleeting' encounters (Lofland 1989), such as a wave of the hand or saying hello, to more deep serious and discussions as well as large gatherings and events. These social practices are considered to be an integral part of public life on campus.

A campus community comprises students, academics, and administrators, being collectively a group of people with dissimilar roles who share common goals and interests, regardless of how they interact on campus (Kenney et al. 2005). A person's involvement in this community can take many forms, including sharing classes, being involved in group activities, and using public spaces together. The literature discussed above focuses on the involvement of students in social life on campus, but largely overlooks the specific spaces used for such practices and the types of activities undertaken by students. That said, there is a growing body of literature and studies in the field of space syntax examining the role of the spatial configuration of university campuses in sustaining and enhancing social life, and a number of



scholars have identified differences in academic or social practices that can be attributed to differences in the spatial configuration of campuses. By making a spatial analysis of open spaces, scholars have sought to comprehend the potentials of these public spaces for fostering interdisciplinary communication and discussion (Greene and Penn 1997), social vitality (Kim 2009) and informal encounters (Schwander et al. 2012). These studies tend to take a broad look at how the spatial character and organization of a university campus influences the production of publicness, although far less has been said about the many ways in which university students—as a large and important user group of campuses—may produce, participate in, and experience public life on campus. To provide an understanding of the role of the spatial environment in the production of public life, this study explores the core dimensions of public life that are shaped mostly by student practices and experiences, with references to discussions in previous literature.

Conceptualizing campus publicness

Public space literature contains studies exploring the different dimensions of the publicness of spaces, considering the variability of publicness according to user characteristics, the social practices performed in the space, and the physical properties of the space. As De Magalhaes (2010) argues, assumptions related to the production of public space are based on normative definitions, and portray an ideal public space. For instance, Kohn (2004) defines public spaces as places owned by the government that are accessible for everyone for interaction. For Young (1990), publicness of space means accessibility for all, inclusion of and tolerance towards differences, while Varna and Tiesdell (2010) distinguish five dimensions of publicness: ownership, control, civility, physical configuration, and animation. For the analysis of the publicness of space, Nemeth and Schmidt (2011) propose an interrelated axis system that is based on three dimensions, namely ownership, management, and uses/users. Indeed, today many authors agree that the topic of public space is “multidimensional and clustered” (Kohn 2004, p. 11), and that its public character changes according to the social, functional, or physical contexts of space.

A close reading of the discussions of publicness on university campuses reveals a number of similarities with general studies of public space. Social practices are assumed to be an important aspect of public life in open public spaces in the city as well as on campus, and they can be grouped under three important headings related to publicness that can be found in the literature: *interaction*, *display*, and *discovery*. In this paper, we present a study of publicness through a reading of these three core dimensions and how they relate to the socio-spatial practices and experiences of students on campus.

Interaction

The ability of students to interact with academics, their peers or society is considered to be the main component of campus life. The role of social relations has attracted renewed academic interest after the unrest seen in universities in the late 1960s in reaction to increasing impersonalism of the university and lacking interaction between faculty and student (Pascarella 1980). Considering universities as institutions of socialization, this study pays particular attention to literature that is concerned with the different forms of interaction. First, interaction on campus for the production of social life is an important theme that has flourished in recent discussions (Chapman 2006, 1999; Halsband 2005; Cheng 2004), referring to interactions through communication either with friends, acquaintances, and academics on campus, or with society as a whole. Chapman (2006) defines the community of students on campus as intentional, bringing together people dedicated to a shared purpose or concern of mutual interest (p. 25). Involvement in either the same classes or activities/groups, working together towards a set of common goals in student clubs or gathering in public areas all provide an opportunity to become part of the community. Although the primary purpose of the collective practices on the university campus is research, learning, and the transfer of knowledge, the campus has the additional capacity to engage its users in a public life through participation in extracurricular activities (Kumar 1997).

Second, some scholars believe that a strong correlation exists between the social contacts of students with their friends/acquaintances and academic progress (Salovey 2005; Kuh 1995). In an extensive study based on interviews with students and scholars, Kuh suggests that the interactions of students lead to a maturation of the ideas and skills that students develop in class (Kuh 1995), in that the informal environments outside the classroom help them to express themselves openly. It may even be said that the users of a university campus produce deeper forms of interaction in the shared spaces on campus, such as the cafeteria, botanical gardens, and other public areas (Halsband 2005). The interactions of people may arise out of a set of interests and goals, and it is the aim in this study to explore the dynamics of social practices and experiences of students and the public spaces that posit potentials both for spontaneous and planned gatherings on campus.

Discovery

The social environment on campus not only contributes to the students' academic success, but also provides the potential to meet others in a creative world. According to Salovey (2005), the physical and social nature of a university inspires students to discover new domains and to overcome familiar



thinking. Not only the university's physical environments, including libraries, galleries, and museums—facilities that are free or cheap for students—, but also the chance to encounter students from different backgrounds can help spur creativity, as Salovey (2005) describes. Even a spontaneous meeting with a classmate may lead to an exchange of information about what is happening on campus, and about one's peers' interests, perspectives and practices. Indeed, interactions with others in public spaces can lead to opportunities beyond the daily practices and routines of students, as those who use public spaces on campus can become more aware of the academic opportunities that the campus has to offer.

Kumar (1997) typifies university campuses as special places for students that allow them to explore the larger world of the unfamiliar and new. Indeed, referring to university life as a transition period for students in their journey from adolescence to adulthood, Kumar claims that the change to which young people are exposed to is a result of their spending of more time to experience the campus environment. From this it can be argued that discovery is an important part of student's publicness and their participation in public life, given the potential for the discovery of knowledge and ideas, supported by the spatial environment of the campus.

Display

Display is a critical aspect in the self-realization of students in university life, in the sense of being seen and heard—not only in a university's educational environments but also in its open public spaces. Previous literature has discussed the role of a university in defining how students experience display on campus in different ways. Turner and Manderson (2007) looked at social relations in the “coffee hall” of the Faculty of Law at McGill University in Canada, uncovering how the café becomes a space of representation where students shape their student identities during social engagements. Scholars analyzing the socio-political presence of young people on campus have paid particular attention to how minority groups (Hopkins 2010; Gundimeda 2009) and female students (Giesecking 2007) have become visible on campus.

A second group of scholars has analyzed how student identities are represented in cities and towns, and how these localities influence the shaping of urban practices (Chatterton 1999; Wattis 2013). At the core of these discussions are analyses of how the encounters of different groups are affected by dominating norms and values of the more privileged student groups—being those who are white, middle-class and secular—in leisure and social spaces.

In *Human Condition*, Arendt defines public spaces as ‘spaces of appearance’ (Arendt 1958, p. 41). She claims that self-realization in a public space requires the “surrounding

presence of others” (p. 188), and in this sense, public space is a physical entity in which people are on display through actions and words while developing face-to-face relations and experiencing self-realization in the presence of a community. Following Arendt's argument, the physical presence of a campus may offer the spatial potential for students to participate in a larger and more diverse campus community, and thereby experience self-realization, both as individuals and as part of a student community.

Research method

This study is undertaken by combining three methods: spatial configuration analysis; student surveys; and field observations of the most commonly used public spaces. In the first phase of the study, the spatial configuration of the campus was analyzed by means of a space syntax analysis and a visual graph analysis. Space syntax analysis is a method developed by Hillier and colleagues for understanding spatial formations at different scales: buildings, open spaces, and cities (Hillier and Hanson 1984; Hillier 2007). According to Hillier (2007), the morphological structure of the space defines social structures and relations. Integration is a key concept in space syntax analysis, measuring the accessibility of an urban axis in the whole system. Integrated spaces are defined as well connected to and accessible from other spaces, attracting human movement. Both global (Rn) and local (R3) levels of analysis were applied in our study. Global integration analysis measures the relation of each axis on campus to the ones in the city. It considers the distance from the starting point to all points in the system (Hillier and Hanson 1984). Local integration analysis measures the relation of each urban axis on campus to other ones on campus. Its calculation takes into account three lines away from each axial line in every direction. According to Greene and Penn (1997), an axis with a high local integration value gives high potential, even despite when globally segregated, for the generation of social interaction among students and thereby public life in a campus environment.

Visual graph analysis is used to analyze the position of each space in a spatial network focusing on their visibility in relation to other spaces. Visibility graphs enable an understanding of the depth of the visual field of public spaces on campus. According to De Arruda Campos (1999), public spaces with a low degree of visual connections with its surroundings have a higher potential of stationary activities and related public life being performed there. Both the visual graph analysis (VGA) and the axial line analysis mentioned above were carried out using Depthmap, developed by Alasdair Turner at UCL. Axial maps were drawn up showing two types of circulation: pedestrian and vehicular. Due to the scope of this article, only the pedestrian map was subjected to analysis.



Table 1 Dimensions for the assessment of campus publicness

Dimensions of publicness	
Interaction	<ol style="list-style-type: none"> 1. I have spontaneous contact with strangers 2. I meet with friends by chance 3. I meet with acquaintances by chance 4. I chat with known others on an informal basis 5. I have serious discussions with acquaintances 6. I participate in organized events
Discovery	<ol style="list-style-type: none"> 1. I learn about daily national news 2. I learn about extracurricular socializing activities 3. I learn about different student cultures 4. I learn about different political opinions of students 5. I learn about job opportunities 6. I learn about study opportunities
Display	<ol style="list-style-type: none"> 1. I am seen by most of the students 2. I am heard by most of the students 3. I express my ideas 4. I feel like a university student 5. I feel part of the intellectual community 6. I feel part of youth culture

The second phase of the research involved a survey of 165 Utrecht University students. Questionnaires were distributed during lunch time in the university's most crowded public spaces, including the dining halls and the main hall of the library.

In the first part of the survey, after having obtained their personal details, the students were asked which public spaces they used most often on the campus, and how often, for what purpose, when, and with whom. In the second part of the survey, we asked the students how they experience aspects of interaction, discovery, and display in the open spaces that they use most often on campus. Students were asked to specify their answers using a four-point Likert scale. As listed in Table 1, six statements were formulated for each dimension of publicness. To examine the degrees and forms of interaction, discovery, and display in the public spaces of De Uithof campus, the students were asked to respond to each statement using one of the following answers: never (=0), occasionally (=1), often (=2), and very often (=3).

For interaction, we addressed the concept in two ways: the interactions of students with familiar and unfamiliar others; and the interactions of students in planned or unplanned activities. For discovery, we asked to what level a space provides opportunities to access either campus-related news or news of the world at large. For display, we asked about the potential of being visible in public spaces, and where the individual can represent him- or herself both as free individual and as part of the university community.

In the third phase, after having identified the most-used public spaces on the campus, their physical and functional

properties were cataloged through observations, and the garnered data were used to compile detailed maps of the two most-used public spaces, being AZU public space and Heidelberglaan.

Utrecht University Campus De Uithof

De Uithof campus of Utrecht University is located on the outskirts of the city in a green environment, around 5 km from the city center—with a highway segregating the campus from the adjacent residential neighborhood. Access from the city center is provided by frequent public busses which depart from the central station and arrive at the campus around 20 min later, although many students choose to cycle to the campus. Recently, a tram line was constructed to increase transportation capacity. De Uithof campus is spread across around 300 hectares, and hosts five of the seven faculties of Utrecht University—Science, Veterinary Medicine, Medicine, Geosciences, and Social and Behavioral Sciences—which account for some 60% of all students. The other two faculties—Humanities; and Law, Economics, and Governance—are mainly located in the historical core of the city. De Uithof campus is also home to the University Medical Center Utrecht, several research companies, University of applied sciences Utrecht, student accommodation and the main library, as well as sporting facilities, food outlets, and shops (Utrecht University 2020b; see also Fig. 1). The university faculty buildings are arranged along three main traffic arteries that run through the campus: Leuvenlaan, Heidelberglaan, and Universiteitsweg (see Fig. 1). Heidelberglaan, on which the main bus stops are located, is the main public transport route, and is also home to the library and two student accommodation buildings (Fig. 10). There is a separate cycle path running through the campus, while pedestrians make use of the sidewalks that run alongside the vehicular roads.

The campus has no special facilities for public events or university ceremonies, as these are held in the city center of Utrecht when required, although the Botanical Gardens on De Uithof campus are used for activities like festivals. There is also no specific venue for cultural practices, including student theater or exhibitions or academic seminars. In addition, rather than locating the dining facilities in a central cafeteria building, as is common on some university campuses, cafeterias can be found in faculty buildings.

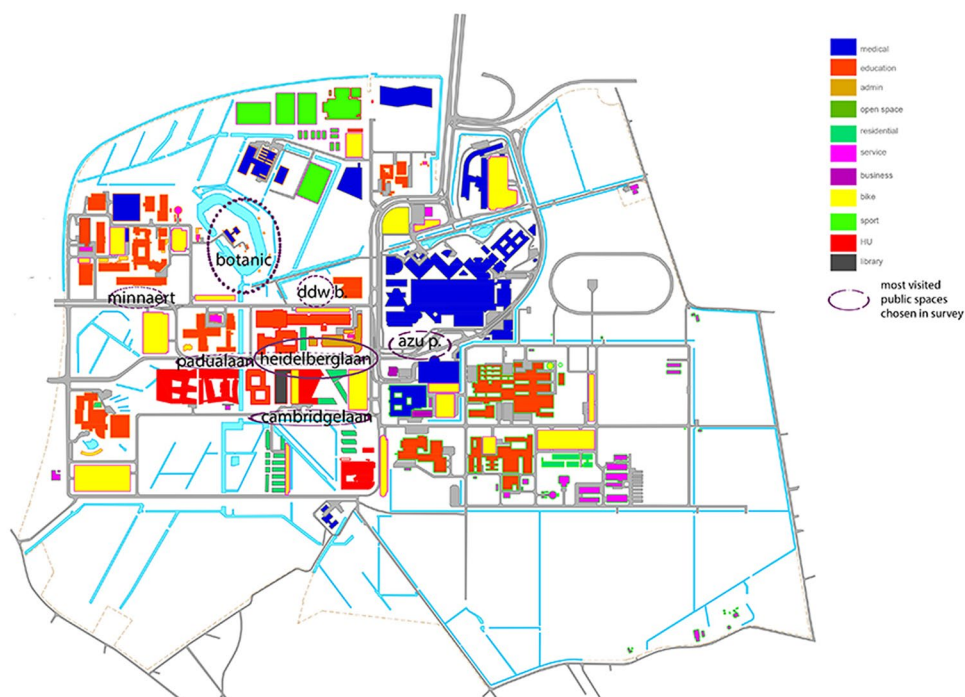
Results

Use and experience of public spaces on De Uithof Campus

In total, 165 questionnaires were distributed to university students on De Uithof campus, of which 127 were returned,



Fig. 1 Functional map of De Uithof campus



meaning a response rate of 77.0%, divided among 70 females (55.1%) and 57 males (44.9%). Most were of Dutch nationality (81.0%), and the average age was 22.3 years. Most of the respondents also lived off campus (85.0%).

When on campus, they use public spaces mostly for ‘practical’ purposes, such as eating and drinking (35.1%) and studying (19.0%), which they do either in groups or individually, while social practices like talking with friends (16.5%) and hanging out (14.6%) are deemed relatively less important. Surprisingly, only a small number of students said that they used public spaces for passing through (13.0%). Public spaces are mostly visited in the company of classmates and friends (74.3%), and usually directly before and/or after courses (77.3%).

The main motivation for visiting a particular public space on De Uithof campus is proximity to the study environment (36.1%), followed by the desire to experience a nice physical environment (25.0%), which the students described as somewhere with benches and a natural environment—using such adjectives to describe the environmental qualities as ‘large,’ ‘light,’ and ‘accessible.’ Other reasons mentioned were good weather and the need for fresh air and sunshine (11.8%), and seeking a relaxing atmosphere (9.0%)—expressed by respondents using such terms as ‘calm,’ ‘quiet,’ ‘informal,’ and ‘comfortable’—reflecting the felt need to escape study pressure and the busier parts of the campus. Students also argued that the availability of good food and coffee facilities (8.3%), the presence of others (7.6%), and the desire to find alternative spaces in which to hang out (2.1%) were reasons for choosing and visiting a public space on the campus.

Thus, students do not make a random selection of the public spaces in which to spend their extracurricular time. Instead, they choose high-quality public spaces that offer good and easy access from/to their classes, and where they can encounter nature and comfort with options for seating and shelter. In other words, the physical qualities of a public space are a decisive factor for students in their use of public spaces on campus.

To assess the publicness of De Uithof campus, the students were asked to rate the dimensions of the three concepts, as listed in Table 1, for the public spaces they visit the most during the year (see Fig. 2).¹ The average score for all statements related to campus publicness was calculated at 1.15. Generally speaking, students are most outspoken about opportunities for *display* (average 1.51), with 5 out of 6 scores being above the campus average. Nearly all of the statements about display were above the average evaluation, while the students are least outspoken about opportunities for *discovery* (average 0.84)—all of which scored below average. The questions that were given the highest rating indicated that students generally chat with others on an informal basis (1.80) and feel like a university student (2.05). On the other hand, the lowest overall scores were about participation in organized events (0.41), which may well reflect the lack of such organized events on De Uithof campus. The *interaction* dimension contains the second

¹ Based on a four-point Likert scaling technique (ranging from 0 to 3), the average scores were calculated for each statement.



Fig. 2 Publicness of De Uithof campus

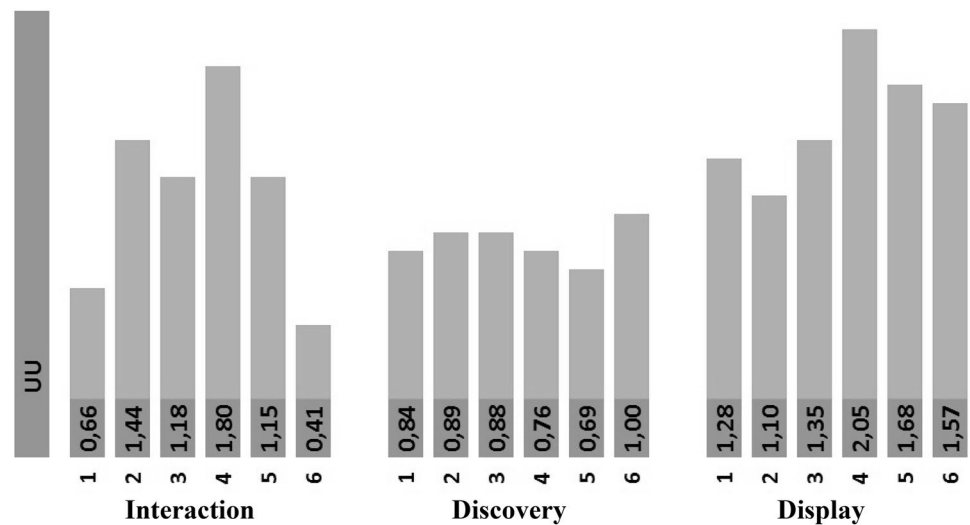


Table 2 Most-used public spaces on the campus

Most Used Open Spaces	No. of Times	
	Mentioned	%
Heidelberglaan	37	27,8
Around AZU building	31	23,3
Around Minnaert building	19	14,3
Around DDW building	7	5,3
Cambridgelaan	4	3,0
Padualaan	4	3,0
Botanical Garden	3	2,3
Sport areas	2	1,5
Buildings	26	19,5

lowest score, referring to relatively limited spontaneous contact with strangers (0.66)—which could imply both unfamiliar others from the university community and the general public. On average (1.11), interaction on the campus takes an intermediate position, meaning that meetings with others for chats or serious discussions occur quite often. Considering the above, it is highly likely that these chats and discussion involve encounters with familiar others most of the time.











In general, according to the students’ evaluations, opportunities for display on campus offered the greatest potential for publicness. The respondent students rated all aspects of display significantly higher than those of interaction and discovery. For the display questions, students gave the highest score to “feeling like a university student” (2.05), as feeling like a student and experiencing self-realization in the student community constitutes the main aspect of publicness for them. It can thus be said that public spaces on campus

enhance the visibility of students (Brooks et al. 2016), and “assign them a specific identity” (Charlesworth 2009) in this “intentional community” (Chapman 2006). The chances to share similar interests and goals with others in a specific environment seem to support the idea of recognition and visibility in front of others.

For a more detailed discussion of campus publicness, we will now focus on the public spaces that were visited most often by our respondents during the year, as listed in Table 2. Although we asked the students specifically about outdoor spaces, they also mentioned several of the indoor spaces in the public buildings quite frequently. Given the scope of the paper, these internal areas will be disregarded here. A total of eight open, outdoor areas were listed as the most-visited public spaces, with a section of the Heidelberglaan and its environs (27.8%) and the area adjacent to the Academic Hospital Utrecht (AZU) building (23.3%) standing out as the most popular (Table 3).



Table 3 User characteristics of Heidelberglaan

Heidelberglaan		Number of		
User Characteristics	Respondents	%		
Nationality	• Dutch	21	56,8	
	• Other	16	43,2	
Faculty	• Medicine	2	5,4	
	• Sciences	7	18,9	
	• Geoscience	13	35,1	
	• Social Science	5	13,5	
	• Law, Economics	5	13,5	
	• Humanities	5	13,5	
	Type of Visit	• Only Alone	8	21,6
• Only With Others		17	45,9	
• Both		12	32,4	

The Heidelberglaan is one of the main vehicular arteries on De Uithof campus (see Fig. 10), with busses coming from the city center passing along the street and stopping at the bus stops. The Heidelberglaan public space provides access to, on one side, a library building that contains a stationery shop, a supermarket, and a fast-food restaurant at street level, while on the other side of the street there is the Basket building, which contains a café and bistro but also a basketball court on top and a skating ring next to it. Nearby faculty buildings, often at close walking distance, contain lecture halls for students in Social and Behavioral Sciences, Geosciences, and Sciences. The public space provides a variety of sitting facilities, including several fixed wooden benches throughout the area as well movable café tables with chairs (in case of good weather conditions). The stone edges bordering the green areas along the Heidelberglaan as well as the green areas themselves are also used for sitting and lying (Fig. 3).

The AZU public space is located close to the junction of the Universiteitsweg and the Heidelberglaan (see Fig. 4), with busses passing by on the latter towards the hospital bus stops. It contains a large open lawn with two wooden platforms, next to the cafeteria inside the Hijmans van den Bergh building—housing both the faculty of Medicine and the Academic Hospital Utrecht (AZU)—as well as a small pond adjacent to a terrace in front of the main hospital restaurant (see Fig. 10). Nearby faculty buildings, often at close walking distance, contain lecture halls for students in Medicine, including Veterinary Medicine, and Sciences. The earlier-mentioned wooden platforms already provide many places to sit and additional seating facilities can be found next to the pond and on the terrace, i.e., fixed wooden benches and movable restaurant tables with

chairs (in case of good weather conditions), respectively (Table 4).

The student population at the Heidelberglaan public space appears to be more diverse—particularly in terms of faculty background and nationality than at the AZU public space. Students using the Heidelberglaan space mostly have the Dutch nationality (56.8%) but for the AZU space the percentage goes up to 93.5%. Students who most often visit the Heidelberglaan space study in the Faculty of Geosciences (35.1%), the Faculty of Science (18.9%), the Faculty of Social and Behavioral Sciences (13.5%), and the Faculty of Medicine (5.4%), as well in faculties not located on the De Uithof campus—i.e., the Faculty of Law, Economics, and Governance (13.5%); and the Faculty of Humanities (13.5%). The AZU public space seems to be a popular destination for students from the Medicine faculty only. This striking difference in the composition and diversity of the student population between both public spaces can at least partly be explained by the faculty buildings located nearby as well as the larger range of services, including shops and fast-food outlets but also the library (offering a large number of study spots), in the Heidelberglaan space as compared to the AZU space. At the same time, part of the explanation could probably be found in three large student apartment complexes located in close vicinity of the Heidelberglaan public space—although most of our respondents reside off campus.

Looking at Figs. 2, 5, and 6, the overall pattern of the scores for the statements on the publicness of De Uithof campus in general and for the Heidelberglaan and AZU spaces in particular seem rather similar. Overall, students gave the highest scores for “chatting with others on an informal basis” and “feeling like a university student” and





Fig. 3 Map of the Heidelberglaan street and its surroundings



Fig. 4 Map of the AZU-building surroundings

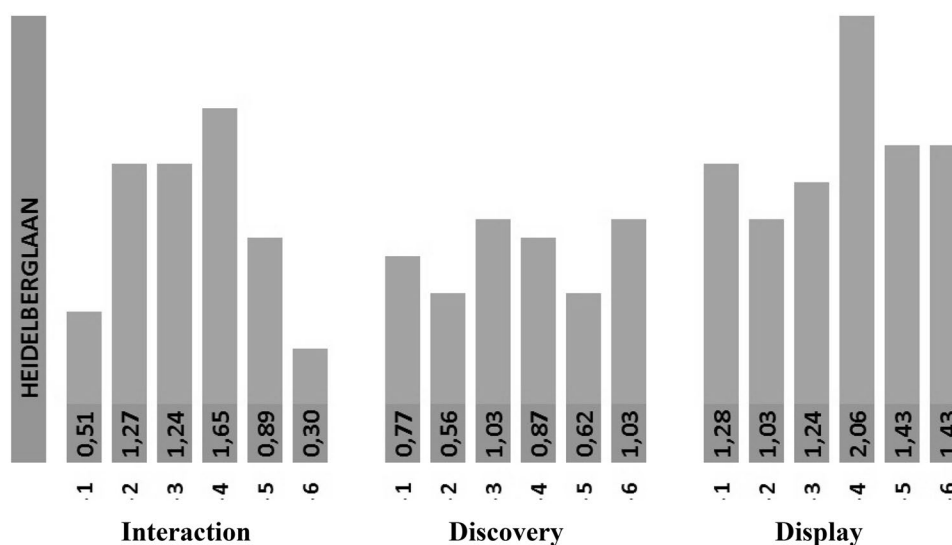
the lowest score for “participating into organized events.” However, most scores for the statements for interaction, discovery, and display for the Heidelberglaan public space are below the campus average and nearly all scores for the AZU public space are above the campus average. When

comparing the AZU and Heidelberglaan spaces in more detail, it shows that students gave particular higher lower scores for the AZU space to “chatting with others on an informal basis” (+ 0.58), “having serious discussions with others” (+ 0.72), “learning about extracurricular



Table 4 User characteristics of AZU space

AZU User Characteristics	Number of Respondents	%	
Nationality	• Dutch	29	93,5
	• Other	2	6,5
Faculty	• Medicine	31	100,0
	• Sciences	0	0,0
	• Geoscience	0	0,0
	• Social Science	0	0,0
	• Law, Economics	0	0,0
	• Humanities	0	0,0
	Type of Visit	• Only Alone	1
• Only With Others		26	83,9
• Both		4	12,9

Fig. 5 Publicness of the Heidelberglaan street and its surroundings

activities” (+ 0.76), “learning about job opportunities” (+ 0.57), “feeling part of the intellectual community” (+ 0.76), and “feeling part of youth culture” (+ 0.63). As such, the AZU space seems to be a space with more social interaction, and related processes of discovery and display,—i.e., having a higher degree of publicness—than the Heidelberglaan space. This is also reflected in the students’ argument that they predominantly use the AZU space together with others (83.9%). Only 3.2% of the respondents used this public space alone and 12.9% alone and together with others on occasion. Most students also visit the Heidelberglaan space together with others (45.9%) but less so than in the case of the AZU space, with 21.6% of the students using the public space alone and 32.4% both alone and together on occasion.

Spatial configuration of De Uithof campus

To examine the level of integration of different parts of the campus, and the selected public spaces, this study makes use of a space syntax analysis. The axial analysis global integration value of the campus was calculated at 2.40, while the local integration value was 1.42.

In our global integration analysis of the Uithof campus (R – n) (Fig. 7), the area containing the most integrated lines (2.62) follows the main car route (Universiteitsweg and Bolognalaan) that connects the campus to the northern and eastern parts of the city, while the second most integrated axis (2.60) is the vehicular road (Yalelaan) flanking the Faculty of Veterinary buildings on the eastern part of the campus, which is connected directly to the first axis. These



Fig. 6 Publicness of the AZU-building surroundings

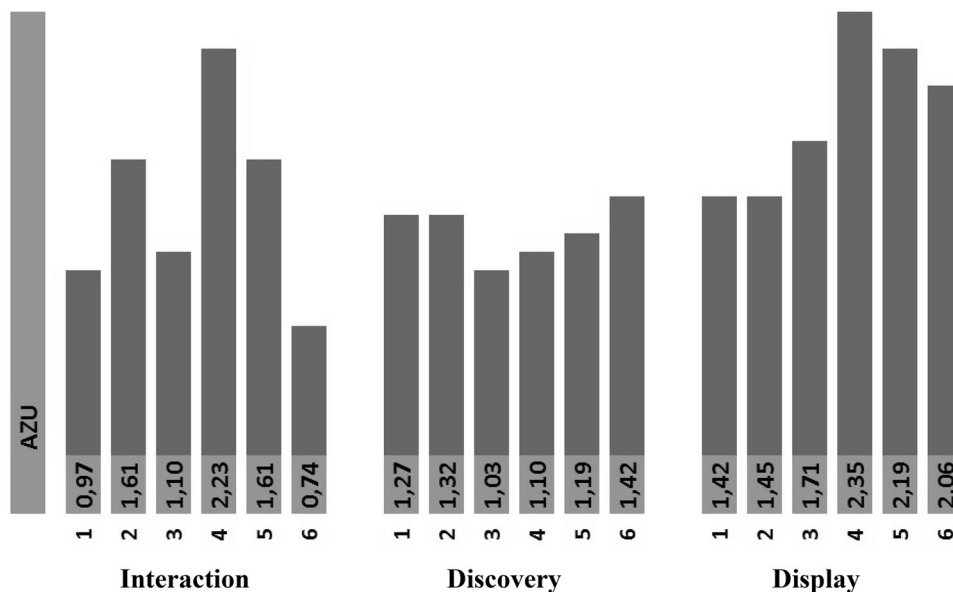
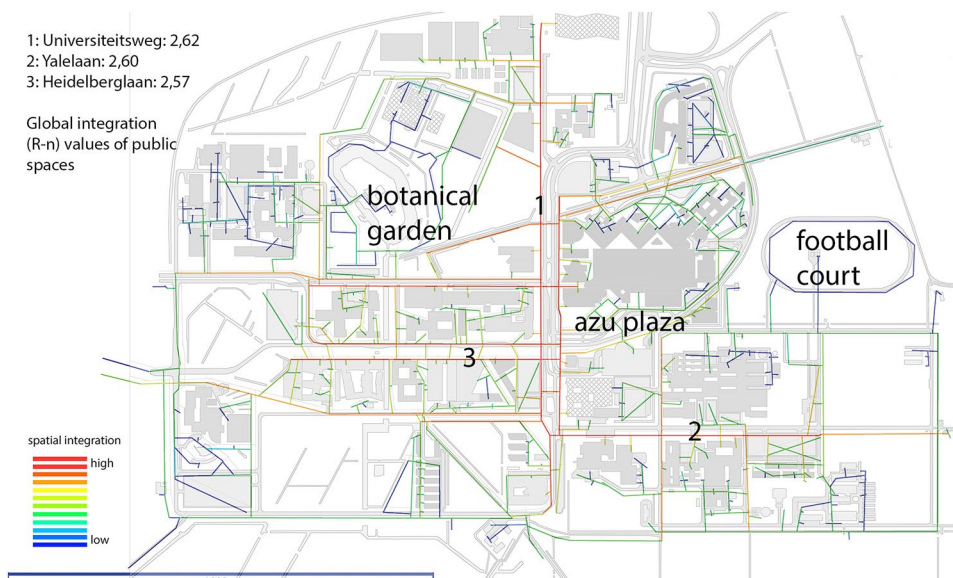


Fig. 7 Global axial map of the campus showing overlapped circulation. Globally integrated axes are identified as 1, 2, and 3



integrated axes run alongside the hospital buildings, but do not serve the public spaces mentioned in the surveys, aside from the AZU public space. The open space adjacent to the hospital has a direct connection to the most integrated axis, while Heidelberglaan—also serving the surrounding area as presented in Fig. 7 has the third highest value (2.57). The most segregated axes are grouped around the Botanical Gardens to the north and the open-air football court to the east. In other words, these green spaces provide no easy access to the most integrated axis.

In our local integration analysis of the Uithof campus (Fig. 8), the most integrated axis (1.91) is around the north entrance to the hospital building, while Heidelberglaan (1.82) can be considered a second most integrated axis.

The most segregated axes at a local level are the same as those identified in the global integration analysis, but with the inclusion of the long axis around the David de Wied (DDW) building, denoted 3 in Fig. 8. The AZU public space itself has no integrated axis, but it is connected directly to the intersection of two integrated axes.

The visibility map of De Uithof campus is presented in Fig. 9, on which the intersection of the Heidelberglaan and Universiteitsweg is marked (1), and is the most visible space on campus. The other highly visible areas are located along the Universiteitsweg, close to the Faculty of Veterinary buildings to the south (2) and next to the north hospital entrance (3). There is an apparent lack of inter-visibility of spaces in-between the faculty buildings that

Fig. 8 Local axial map of the campus showing overlapped circulation

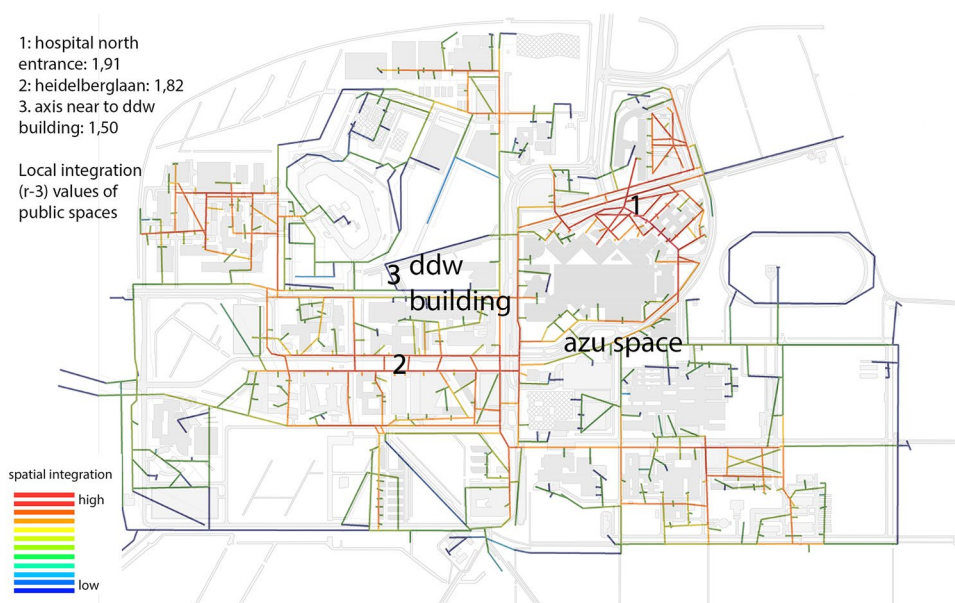
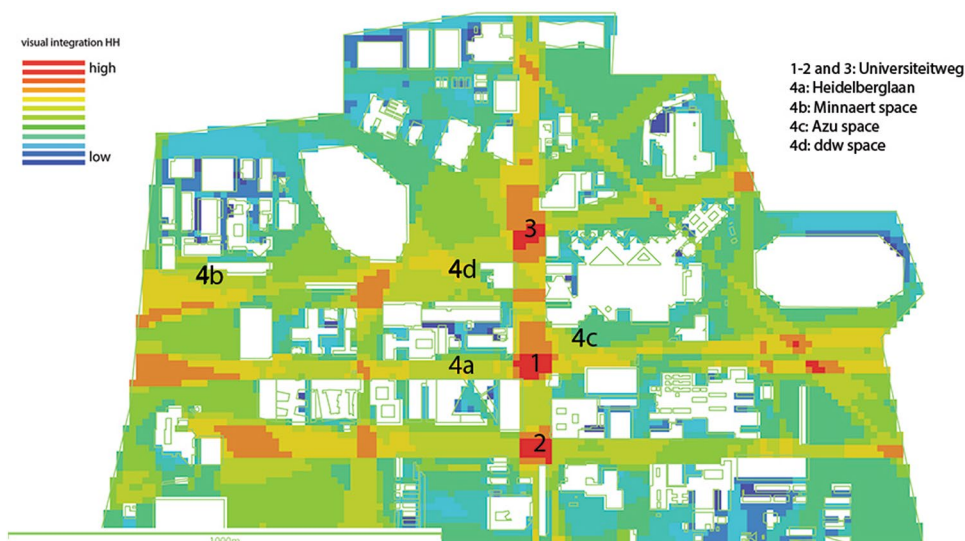


Fig. 9 Visibility map of campus with 1, 2, and 3 indicating the most visible spaces on the campus and 4 identifying the public spaces with medium visibility



are located along the Heidelberglaan. The most-often used public spaces, marked 4, including those next to the AZU building, the DDW building and the Minnaert building, all have medium visibility, as shown in yellow and green. In other words, the public spaces near the faculty buildings that were selected by our respondents as most-used spaces appear to be cut off from the widely visible areas. The Heidelberglaan itself and the open spaces in-between the buildings along Heidelberglaan have medium visibility values (Fig. 10).

Thus, both the Heidelberglaan and AZU public spaces occupy central locations in the spatial organization of De Uithof campus. They have good accessibility and are well integrated with very similar scores at the global as well as the local scale. In addition, the Heidelberglaan and AZU

spaces both have medium scores with respect to their degrees of visibility on campus.

Discussion

The space syntax analysis of the both the Heidelberglaan and AZU public space, as the most-often used spaces on De Uithof campus—based on the student survey—, reveals that both spaces are well integrated at the global as well as local scales. At the same time, both popular public spaces have medium scores of visibility. This combined finding overall concurs with the argument by both Greene and Penn (1997) and De Arruda Campos (1999) that lively open spaces are the ones that are most embedded into the urban





Fig. 10 Photos: first two photos show the Heidelberglaan axis; second two photos show AZU space

fabric (locally integrated or close to an integrated axis) as well as visually segregated—offering a degree of privacy. However, despite the approximate values for integration and visibility—offering great potential for public practices and experiences in both the Heidelberglaan and AZU spaces—the survey results revealed some quite different degrees and forms of publicness. According to the students visiting these public spaces, the AZU space provides a setting for more social interaction, and related processes of discovery and display, than the Heidelberglaan space. The latter space was even ranked by students as below campus average for most statements with respect to publicness and the former space as above average for nearly all statements. As such, the Heidelberglaan space does not seem to live up to its potential for publicness to the extent in which the AZU space seems to do.

This difference in living up to the potential of publicness production may be explained by looking more closely at the Heidelberglaan and AZU spaces, revealing several details in terms of physical design and functional facilities. On-site observation revealed that most of the seating facilities in the Heidelberglaan space are located relatively close to and often have an open view on the street while an important part of the seating facilities in the AZU space seem to be

located in a relatively more secluded setting in the visual field. The Heidelberglaan space also contains more—and more diverse—services and facilities, including shops, bistros and the main library, and their exits—which seem to generate more diversity and dynamics in terms of walking routes and mobilities within the area, compared with the AZU space. The much more green setting of the latter, even containing a small pond, may also add to a potentially more relaxed atmosphere. Altogether this could provide an additional explanation for why the AZU public space provides students with more physical comfort and ease—fostering a higher degree of ‘interaction,’ ‘discovery,’ as well as ‘display’ than in the Heidelberglaan space.

An additional explanation, based on the student surveys, may be found by also taking into account the differences in terms of the social composition of the crowd in both public spaces. Whereas a more heterogeneous crowd in public space would usually and idealistically be expected to generate a higher degree of publicness, our comparison of the Heidelberglaan and AZU spaces reveals that the latter generates a higher degree of publicness—despite, or rather due to, its rather homogenous crowd. The more homogenous crowd—in terms of faculty background and nationality—in the AZU space may make that students experience more



social familiarity and comfort in that public space, fostering a higher degree of ‘interaction,’ ‘discovery,’ as well as ‘display.’ At the same time, the more heterogeneous crowd in the Heidelberglaan space seems to reflect some degree of what Lofland describes as “co-presence without co-mingling” (1989, p. 426)—with students more often spending time there individually without making much contact with others in that public space. The AZU public space is predominantly used by students going there together.

Conclusion

In the overall assessment of the publicness of De Uithof campus, the students were the least outspoken about opportunities for *discovery* and the most outspoken about opportunities for *display*, with particular emphasis on “feeling like a university student” in public space. In addition, “chatting with others on an informal basis” also scored high, providing an indication of the prevalence of social *interaction* in public spaces on campus. Thus, public spaces on De Uithof campus play an important role in the public life of students by providing settings for socialization with familiar and unfamiliar others, while making themselves visible, experiencing self-realization and constructing their student identity, outside the classroom.

Zooming in on the Heidelberglaan and AZU spaces as the two most-often used public spaces on De Uithof campus reveals that both have similarly high scores for global and local integration as well as medium scores for visibility. This promises much potential for the production of publicness in both public spaces, whereas the survey results revealed some rather substantial differences in publicness. From the student perspective, the Heidelberglaan public space does not seem to live up to its potential in producing publicness (with most scores for interaction, discovery, and display of below campus average) as much as the AZU public space does (with nearly all scores for interaction, discovery, and display of above campus average). Acknowledging detailed differences between both public spaces in terms of physical design (e.g., location of seating and greenness of the environment), functional facilities (e.g., number and diversity of services), and social composition (e.g., social diversity) seems to enable an explanation for why one public space lives up more to the potential of publicness production than the other.

Space syntax analysis provides important insights for the planning and designing of popular public spaces on campus, in particular, when it comes to their level of integration and visibility. Our case study, however, showed that public spaces with much potential for publicness production do not always live up to this potential in an equal manner. Complementary methods, such as surveys and observations, provided additional insights (including the setting of seating

facilities, the diversity of consumer services on offer, the greenness of the environment, and the social diversity of public space users) that were important for explaining different forms and degrees of publicness production between particular spaces. These complementary methods and insights are valuable for detailed planning and designing open spaces with a high degree of publicness, supporting a learning and intellectual environment on university campuses.

Considering that this paper focused on studying the production of publicness on campus from a student perspective, future research should follow up by taking the perspective of the general public. It would also be of great relevance and interest to explicitly compare, through a bilateral approach, the perceptions on and experiences of a variety of encounters between and among students, academic staff, supporting staff, and the general public in public spaces across a diversity of campuses as well as in public spaces beyond the campus, in the wider city. In so doing, close attention should be paid to the importance of details in physical design, functional facilities, and social composition for developing a comprehensive understanding of the production of publicness on university campuses.

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