Place and space in higher education: past, present and future visions of physical and virtual realities

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The article develops some conceptual ideas on the relationship between place, space and higher education in modern society, thereby introducing the following articles of this issue. The main arguments of the three international keynotes of the German Society for Research in Higher Education (GfHF)-Conference 2018 on this topic by Ron Barnett, Jos Boys and Ralf Tegtmeyer are summarised. Based on the idea of a matrix of spatial and content-specific aspects of research into higher education potential research questions are developed. Last but not least, three examples (Town & Gown, Internationalisation, Learning spaces) delve deeper into the relationship between place, space and higher education and refer to current research. The aim of this article is to highlight the importance of spatial topics for research into higher education and to contribute to the development of the field.

1 Higher education: space-bound or free-floating?

Higher education is a truly global undertaking. The knowledge produced in higher education institutions claims global validity and is being published in international journals. Even the idea of the university itself has spread globally (Schofer & Meyer, 2005; Hoelscher, 2012). With processes of digitalisation (E-learning, for example Massive Open Online Courses, MOOCS) and internationalisation, it seems also that teaching contents as well as those teaching or being taught are no longer place-bound (Altbach & Knight, 2007). Nonetheless, as early as 2004 Morgan explicitly rejected the idea of a *"death of geography"* on the basis of ideas about learning and territorial innovation systems (Morgan, 2004). And indeed, one can observe a growing discourse about higher education and its regional engagement and impact as well as its place-based situatedness. This issue of *Beiträge für die Hochschulforschung* therefore collects selected articles from the 2018 Conference of the German Society for Research in Higher Education (GfHf) in Speyer. They analyse questions of space and place of the modern university from different perspectives. Our introductory article aims to give a conceptual introduction to this field of research as well as some examples.

2 Social and physical space

Although higher education has existed in many forms and is one of society's oldest concepts, many academics have discussed and are still discussing the *idea* of the university (for example, Henry Newman as early as 1852, Karl Jaspers in the 1960s, Ronald Barnett (from 2000 onwards) and most recently Peer Pasternack et al. 2018). Until the beginning of the 21st century higher education institutions have always located *somewhere*. Researchers and teaching staff have needed their laboratories, offices and seminar rooms, in which they have conducted their work or met their students.

2.1 Social Space

A first useful differentiation, therefore, is that between a physical/geographic meaning of space/place and a more social understanding of the topic (Löw, 2001). The social localisation or positioning of higher education and the university in society has changed in recent years due to trends like increasing student numbers, fake news and the loss of confidence in experts and the establishment of new innovation actors. For example, the move from an elite system towards universal access (Trow, 1972), and current initiatives of widening participation and inclusion (e.g. Johansson, Kim, Storan & Sörlin, 2006), have led to an increased responsibility and accountability of higher education. In Germany, as indeed elsewhere, the higher education first-time entry rates have tripled, from 19 percent in 1985 to 58 percent in 2014 (Hüther & Krücken, 2018), with strong, but yet to come implications for the German system of dual vocational training, career patterns etc. This increased participation has definitely led to a growing space that higher education is occupying in societal and political discourses as well as in the media. An indicator for this, which may be accentuated by privatisation and possibly marketisation of higher education in Germany (Münch, 2014), are advertisements for higher education institutions that have become familiar in the public domain.

A second trend impacting on higher education's localisation in society is the changing role of expertise. While Weingart (2001) argues that in the course of an emerging knowledge society scientific expertise will play an increasingly important role, he already foresaw that this success might lead to its *"generalization and trivialization"* (Weingart, 2001, p. 31, own translation). Instead of more or less sharp boundaries between different subsystems of society, one can observe a re-amalgamation of the scientific system with other, mainly political and the economic realms (Schimank, 2012, p. 120). As a result, higher education's third mission is being fostered (Zomer & Benneworth, 2011; Berghäuser, 2017), science communication (Bonfadelli, Fähnrich, Lüthje, Milde, Rhomberg & Schäfer, 2016) and new actors such as think tanks (Ruser, 2018) are becoming more important, the epistemological role of knowledge as such is

changing (Nowotny, Scott & Gibbons, 2002) and last, but not least fake news that only claim scientific expertise (see, for example, the debate on climate change, McCright & Dunlap, 2010) have gained prominence (cf. also Hoelscher, 2015). Last but not least, one could discuss *"whether HEIs [Higher education institutions] are giving students enough space to think about important issues such as ethics and values"*, as Ron Barnett questioned in his keynote for the conference (Barnett, 2018; Bengtsen & Barnett, 2018). With regard to employability issues, he asked about the right balance between subject contents preparing students for their careers and free space for critical and *own* thinking. His main thesis was that the university *"is primarily, or rather should be, a place of thought",* but that this conception is in jeopardy. He argued for taking into account the *"knowledge ecology"*, including all kinds of aspects and manifestations such as the above already mentioned think tanks, parliamentary committees, companies etc. His sceptical situation analysis was that this knowledge ecology is currently impaired, and that it is the responsibility of the university to help to repair it by taking its space in society, open spaces for thought and a willingness to engage with society.

While these developments are having an important impact on higher education's position in society, this social dimension of localisation cannot be further developed here and would definitely go beyond the scope of this issue. Nevertheless, it is important to keep them in mind, as they also have an important impact on the physical aspects of higher education spaces and places.

2.2 Physical space

When concentrating on the physical/geographical place of the university, it is useful to apply certain distinctions. First, one can distinguish with regard to university its four main aspects of research, teaching, third mission and administration. Each is localised differently according to its specific traits. Second, one can differentiate levels of place or space: international, national, regional/local as well as units of analysis (system, organisation, individuals). Third, we need to analyse how the surrounding place is influencing the abovementioned activities of research or teaching (impact *of* place). Equally important, though, is to see in which ways academic institutions, their members and activities, influence the surrounding place, e.g. a city or a neighbourhood (e.g. Smith 2008) (impact *on* place). If we combine these (and other) distinctions into a multidimensional matrix, a plethora of relevant research-questions arises. Urban and human geography, spatial sociology and other disciplines have produced interesting results to many of these issues, and it is by no means possible to give appropriate consideration to all of them here. Nevertheless, we want to delve into some examples to elaborate in more detail in which ways higher education and the physical space interact.

3 Examples for the interplay of place, space and higher education

3.1 Focus: Town and Gown

Within our knowledge society or economy, scientific knowledge is playing an increasingly important role for social and economic processes alike (e.g. Sorlin & Vessuri, 2007; Powell & Snellman, 2004; Weingart, 2001; Böhme & Stehr, 1986) and there is a considerable amount of research which explores regional or local topics. If one looks at the interplay of higher education institutions and their respective cities or surrounding region, different themes come to mind.

For example, universities and their innovative effects are seen as a crucial ingredient for local economic success (e.g. Warnecke, 2018; Nijkamp, 2011; Koschatzky et al., 2011; Lever, 2002). A specific focus is here on economic clusters (e.g. D'Este, Guy & Iammarino, 2013; Sternberg, Kiese & Stockinger, 2010). As these clusters are in most cases town-based, this town-university link emphasises the role of towns (and cities) as a specific geographical entity in the knowledge-economy (Van Winden & van den Berg, 2004). Local clustering not only provides lower transaction costs (e.g. for transportation), but also has certain advantages, such as an easier exchange of *tacit knowledge* (e.g. Howells, 2002; Bathelt, Malmberg & Maskell, 2004). Accordingly, a huge majority of 89 percent of German higher education institutions aims to foster regional cooperation, as the latest *Hochschulbarometer* shows (Stifterverband, 2018). Regional collaboration refers to teaching (building human capital) and research alike, while the explicit transfer of knowledge is often addressed today under the label of *third mission* (Hachmeister, Henke, Roessler & Schmid, 2016; Henke, Pasternack & Schmid, 2016; Berghaeuser & Hoelscher forthcoming).

Various researchers have analysed the specific local conditions that influence the relationship between higher education institutions and their towns. Besides the already mentioned economic approaches, Matthiesen & Mahnken (2009), for example, highlight the importance of social milieus. Florida (2005) claims that tolerance is an important asset of cities to attract researchers and other members of the *creative class*, and Meusburger has started a whole book series *Knowledge and Space* that also addresses cultural factors and networks (e.g. Meusburger, Funke & Wunder, 2009). Researchers as well as political actors are eager to build supportive local conditions for the cooperation of higher education institutions and their cities (e.g. Knight, 1995; Landry & Bianchini, 1995). Officials, such as those in cities like Heidelberg with its International Building Exhibition on *Wissen|schafft|Stadt* (knowledge creates cities)[1] or *Urban Office*[2] are taking up these recommendations and building them into their

[1] See https://iba.heidelberg.de/english/ for further information.

[2] https://www.geog.uni-heidelberg.de/hca/urbanoffice_en.html as well as our follow-up project "Town & Gown" (https://www.witi-innovation.de).

policies. These perspectives, combining the impact of higher education institutions on the (economic) success of a city or region and the impact of a supportive surrounding for a prospering higher education institutions, have a positive view of this kind of relationship in common.

However, critical voices do exist, although they are less frequent. Smith and others, for example, have examined the negative effects that "*studentification*", the intake of many students in a neighbourhood, may have (e. g. Smith, 2008). Florida (2017) and others (e. g. Gerhard, Hoelscher & Wilson, 2017) show the potential contribution of higher education institutions on urban inequality. Instead of contributing to a sustainable regional development, knowledge institutions and knowledge intensive industries often perpetuate or even increase existing inequalities. One reason for this is that the achieved trait education, as a key ingredient for successful participation in these sectors, is still heavily influenced by ascribed traits such as ethnic or socio-economic background (Parsons, Shils & Tolman, 1959; Becker & Lauterbach, 2010), as well as by local educational opportunities. Research on inequalities in higher education therefore is increasingly taking spatial factors into account (e. g. Chankseliani, 2013; Maaz, 2006, p. 199).

One reaction to these developments is an increased awareness of potential synergies between cities and higher education institutions. While research on technology-parks, bringing together research institutions and firms, is well established (overview in Geuna & Muscio, 2009; Goddard, Robertson & Vallence, 2012), recently also social innovations gain increased interest. A new, locally based research format has evolved around this: the *Reallabor* (real-world lab) (Schneidewind & Singer-Brodowski, 2014; Wissenschaftliche Dienste, 2018). The idea is to bring together researchers and citizens to tackle local problems in a co-creative and co-productive context (Marquardt, 2019 in this volume).

As one can see, there are many issues and questions for higher education research on the regional level, both in the sense of impact *on* as well as *of* place.

3.2 Focus: Globalisation and Internationalisation

In another section of the above mentioned matrix (trans-national level, teaching & learning), we can find discussions about globalisation's important impact on higher education. While this is an already well-established research field (e. g. Kehm & Teichler, 2007), some authors claim that we still lack a "*conceptual understanding and empirical evidence for which rationale(s) for internationalization are chosen by a given HEI [higher education institution] and why*" (Seeber et al, 2016, p. 1; but see, for example, Sandström & Hudson, 2018; Stifterverband, 2015 for a first take on these rationales).

Many researchers claim that a global competition has evolved between higher education institutions for the best students and researchers alike (e. g. "*Wettbewerb um die besten Köpfe*" in Neusel & Wolter, 2017, p. 9). As a fact, the average share of mobile students has not changed much during the last few decades, being stable at slightly below two percent of all students (Hoelscher, 2012, p. 1715), and probably was higher in medieval times, with English students returning from Paris which led to the establishment of the University of Oxford, or academics from Prague and Paris being the first professors of the University of Heidelberg, for example. Nevertheless, the absolute figures have increased dramatically, with important results for the higher education sector.

Internationalisation with regard to teaching has different facets. Besides traditional spatial mobility of students or academic staff, one can also identify the movement of organizations, for example, through the creation of different kinds of international collaborations, establishment of overseas campuses, etc. (Kosmützky, 2018; Knight, 2004). One of the most important future trends in this respect, with a clear relation to place, are digital technologies and E-learning.

Another trend is to commercialize higher education and *sell* it to foreign students. Certain countries and their higher education systems generate huge incomes from this source, due to student fees as well as indirectly through living costs. For example, Universities Australia (2016) stated that "*universities and other tertiary institutions generated $13.7 billion*" in the academic year 2015/16, making international education its third largest export good, beaten only by iron ore and coal. A reason for this commercialisation is probably the increased competition between higher education institutions worldwide, be it for prestige or resources. An indicator for the economic importance of higher education are the debates about its inclusion into the *General Agreement on Trade in Services (GATS)* (Knight, 2002). In this context it is also important to have a closer look at mobility patterns and their consequences, e. g. with regard to brain drain and brain gain, as there are clear sending (e. g. from Africa) and recipient countries (often English-speaking).

Massive Open Online Courses (MOOCs) and other open educational resources (OER) bring together the digital and commercial aspects. They promise to bring the best teachers into every students' home, irrespective of geographical distance. While German universities mainly use E-learning-materials to support their own students, and pure distance courses are still the minority, some universities, as the University of Phoenix with around 400.000 students, have specialised in the (international) provision of online degrees.

International rankings such as the World University Rankings by the Times Higher Educational Supplement or the Academic Ranking of World Universities by the Shanghai University play a crucial role here. "*Rankings are no longer simply about enhancing student choice, but increasingly about geopolitical positioning for universities and nations*" (Hazelkorn, 2017, p. 1). They seem to be able to compare higher education institutions globally. However, they are heavily criticised for inadequate metrics and for not taking into account local peculiarities and contexts (Müller-Böling, Hornbostel & Berghoff, 2001). Despite this critique, rankings are immensely influential (e. g. Hegglin & Schäfer, 2015), and Hazelkorn (2017) states: Rankings "*have changed – and are changing – the ways in which universities interact with the cities, regions and nations of their founding, and vice versa*."

It is an equally scientifically and politically important question in which ways digitalisation and internationalisation will interact and shape future movements of students, researchers and knowledge across the world.

3.3 Focus: Building new learning spaces

Although universities as places of learning have been in existence for centuries, and various campus types have emerged (cf. Harris-Huemmert, 2019, in this volume), it is only fairly recently that a growing body of empirical evidence into the kinds of environment that are actually conducive to learning processes has developed (Riddle & Souter, 2012). Many fee-paying institutions are acutely aware of the quality of their infrastructure because they are in direct competition with each other for student 'customers'. In the United Kingdom, in particular, there has been a recent frenzy of building activity towards providing state-of-the-art new learning centres which provide different kinds of learning spaces. While this phenomenon may not be quite as prevalent in other countries, where universities are in less or no direct competition for student customers, we can nonetheless identify that university planners overall are becoming more aware of the need to provide students with different learning environments as it is clear that a one size fits all approach is not necessarily the best way forward.

In her keynote Jos Boys, Professor of Learning Spaces, Ulster University, Northern Ireland, undertook a review of contemporary changes in higher education learning spaces (Boys, 2018). In formerly-held notions of higher education learning spaces we saw typically the following two main learning environments: the lecture theatre, in which one person would disseminate knowledge to many, and the seminar room, in which smaller groups of students came together with one teacher, usually in rooms with fairly fixed furniture and seating arrangements. Today, however, we understand that learning needs can require highly individual solutions. One student, for example,

may conclude that he/she learns best in a quiet environment with no distractions and selects a desk in a library as a preferred learning space, whereas another may be completely happy listening to music over headphones and working on his/her laptop in a university or other café surrounded by the chit-chat and activity of others. As Jos Boys stated, we are moving from formal passive learning, one-to-many arrangements to informal, active and many-to-many. Yet how do we as teachers, or estate planners, know what our students really want? And secondly, in estate-planning activities, are we ensuring that their voice is being sufficiently heard?

This is tricky as an understanding of learning needs requires considerable evaluation activity *in advance* of construction, or ongoing evaluation of campus estate to examine whether small changes to existing areas can improve learning environments. However, campus planners may not necessarily be ideally qualified to ascertain what works best or indeed even feel qualified to ask these questions. In order to formulate the right questions we nonetheless need to establish a clear understanding about diverse student perceptions and experience with a range of pedagogies and spaces during their studies.

Progressing through any kind of degree involves different kinds of learning activity (and therefore learning locus): group or individual work which need places for louder discourse (outdoors or indoors) or places for quieter work. We need to develop a sense of the impacts these different loci have on student learning. As Jos Boys stated, we are in a relational dialogue between spaces, pedagogies and practices. Learning activities are complex and involve spatial inter-relationships. We need to think carefully about which educational processes and practices are *actually* needed, rather than providing something because we believe we are fulfilling a given norm as in: we need a lecture theatre of a particular type because it was always thus. This admittedly makes the task of estate planning for ideal learning environments particularly challenging as it places us at the intersection between different disciplines such as sociology, architecture, interior design, behavioural sciences, environmental psychology, material culture to name only a few. Our biggest challenge, therefore, is to make explicit the taken-for-granted about higher education environments and bring to the surface our emotive attitudes towards learning experiences and routines (Boys, 2018). In other words: we need to analyse our own experiences of higher education spaces *and* the experiences of others, in order to then decide if what we believe might be suitable will actually fulfil our and their needs and be ideal environment, one which will encourage discourse, creativity, collaboration and transformation. For this to happen, we need to transcend our disciplinary cultures and identities and go beyond familiar borders. We need to negotiate meanings, relationships and processes and, to summarise from Jos Boys keynote conclusion:

> *"a) recognize learning as underpinned by implicit and unspoken interactions across intellectual, affective and performative dimensions;*
>
> *b) make the rules of the game explicit. Provide a safe base from which to experiment. Take risks and think differently;*
>
> *c) support anytime access to a multiplicity of resources and spaces; and multiple routes through learning experiences."*

So: if we are to achieve this, the question is how? In his keynote, Ralf Tegtmeyer, HIS HE Institut für Hochschulentwicklung, addressed the point that higher education spaces as local and everyday dimensions are frequently taken for granted and not really given much reflection (Tegtmeyer 2018). It is only when we engage in a cognitive dialogue with our feelings towards different kinds of environment that we can begin to understand how we are reacting. As identity-granting places, buildings are anything but trivial, and some within the higher education sector are purposefully stunning and thought-provoking. Daniel Libeskind's new flexible auditorium at the Leuphana University of Lüneburg, Germany, has been designed in marked contrast to existing red-brick buildings (formerly: military barracks) and it points in the direction of future visions. Notably, once a decision for a new central building had been taken, the architect, in this case and unusually himself a professor at the institution, worked very closely with students and university leaders to work out their present and any future needs. Although the Libeskind building challenges us by presenting radically new shapes and features, it is a fine example of purposeful cooperation which has taken into account present needs and experiences, but also future ones. It is a highly versatile building which can be quickly modified.

The creation of new buildings in higher education and the maintenance of existing estate is a large cost factor and important in the context of learning space provision. In German higher education, as Tegtmeyer explained, there is a huge backlog of work that needs undertaking in order to maintain the status quo of higher education estate and there are hardly sufficient funds to provide enough new buildings (Stibbe & Stratmann, 2016). So is the solution for higher education in general to move away from physical sites towards digital ones in which lectures can be uploaded as and when students wish, or in which people come together for online group chats rather than conduct discussions in actual seminar rooms? If we project higher education into the future, will physical locations become (partly) redundant?

In spite of the possibilities that we now have in terms of global communication and digital learning, onsite observations of student learning activities in different countries do not suggest that students are seeking moves away from the physical campus. If this were the case in those institutions in which digital learning *is* provided, then university libraries and campuses would be far emptier. Instead, what students are

doing is using a variety of learning space options as and when they need them. If university planners provide a range of learning spaces (formal and informal), students and their teachers will make use of them and this will promote academic debate and exchange. Learning happens when students are sprawled across sofas in winter (Amphipôle, University of Lausanne, CH) or lying on their backs on green lawns in summer (colleges at University of Oxford), it happens when they are huddled in groups around smaller or larger tables (Carlsberg University, Amsterdam), it happens when students rearrange the furniture of existing provision to suit their activities. It happens in comfy niches (John Henry Brookes Building, Brookes University, Oxford). It even happens when students appear half-asleep having a rest in large beanbags (Rolex Learning Centre, Écolé polytechnique fédérale de Lausanne, CH). And for many it happens within the confines of their study bedrooms in halls of residence. University leaders therefore need to move away from possibly outdated notions of traditional learning (and movement) and allow students and their teachers to explore different physical learning environments. If they do, creativity and innovation can be encouraged to happen.

4 Conclusion and Outlook

The aim of the 13th Conference of the German Society for Research in Higher Education (GfHf) in Speyer and of this introductory piece was to highlight the important role of space and place when thinking about higher education today. We often forget about the influences of buildings, local conditions, regional recruiting patterns etc., because the knowledge we produce and work with seems increasingly fluid and globally available. However, and this is the thesis we wanted to highlight with the conference and this issue of the *Beiträge zur Hochschulforschung*, spatial conditions still, and maybe even increasingly, play an important role for higher education institutions, e.g. by opening up or disclosing opportunity structures of access to certain resources. Spatial or space-based analyses also open up new methodologies and approaches for research, e.g. when we trace the flow of ideas by following the movement of certain influential people (e.g. Jöns, 2018).

Generally, all processes of research and teaching are place-bound in some way, while often being international in their effects. Frühwald (2005) therefore talks of universities as "*cosmopolitan local institutions*", and Stichweh (2016) about the "*Unilokalität einer globalen Organisation*". And it is important to keep in mind that the influences are always bi-directional: Higher education institutions are influenced by their surroundings, but these surroundings are also influenced by these institutions. Many relevant and still insufficiently addressed research questions can be identified when one thinks of a matrix combining spatial levels (local, regional, national, inter- and transnational) with dimensions of higher education (e.g. teaching, research, third mission, governance),

actors (students, researchers, administrators, organisations, political systems etc.) and so on. Above, we highlighted some of these with regard to a) regional exchange between cities and their respective higher education institutions, b) internationalisation, and c) concrete learning spaces. Additional light will be shed on these issues by the following articles.

However, to refer back to the first distinction made above between the social and the physical space: As Ron Barnett made clear in his keynote, an ecological perspective may help to recover university's mission. But, as he insisted, thinking about buildings and digital technologies just as technological fixes to current problems will not suffice, and a "*concern with physical arrangements [new pedagogical spaces] may [even] be dangerous if that is all there is*". Instead, the "*process by which universities are 'built' becomes crucial: the conversation to go beyond the architects – a space for utopian thinking about the university*" (Barnett, 2018) is needed!

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