ORIGINAL ARTICLE



The University *Couloir:* Exploring Physical and Intellectual Connectivity

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Abstract

Connectivity in both its tangible and intangible forms is a fundamental feature of all aspects of university life though often overlooked in much of the relevant literature. Using the metaphor of the *couloir*, this paper will examine features of university design and organisation which contribute to this connectivity, in its various senses, across the institution. A typology of connectivity features is proposed, setting efficiency of movement against possibilities for social interaction, with another axis contrasting open/public against closed/private spaces. Universities, which everywhere have both public and private dimensions, seem to have features that occupy a central place in this typology, highlighting the multifaceted nature of connectivity in university life. The significance of connectivity should inform a range of institutional policies affecting space design and use as well as methods in teaching and learning.

Keywords Connectivity · Space · Corridors · Liminality

Introduction: Exploring the Couloir

In mountaineering terminology, a *couloir* is a steep gully leading to some significant mountain feature, perhaps a ridge: what is known as the Great Couloir on Mount Everest/Chomolungma, for example, leads to the north-east ridge of the mountain, near the summit structure. While the original alpinists' use of *couloir* applied its literal meaning of "corridor" or "passageway" to mountain features (surely with a hint of irony), I want here to use the word to frame consideration of the ways in which connectivity, covering the movement of people and of thoughts, is provided by various features in and around universities. I consider not only corridors or passages in the usual senses of the terms, but other places that may benefit their users in various ways, which may also allow physical movement. They may be transitional,

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liminal, spaces, perhaps linking the internal with the external, with perhaps both symbolic and functional purposes; this liminality may describe an intellectual or cognitive space as well as a physical or material one. "Corridor" is too restrictive a term, lacking in emancipatory possibilities, to cover these and the other matters I want to discuss.

In examining aspects of connectivity in universities, this paper will study how physical space and intellectual or educational space interact, and the nature of the connectivity that supports their work together. I suggest that matters of connectivity are often overlooked in the higher education literature, precisely because the physical and intellectual aspects of the university are typically approached from different directions, with different professional groups using different methodologies. This paper seeks to contribute to the higher education literature by showing some of the linkages between the two, considering their importance, and using the couloir metaphor as a way of bringing them together. Although throughout this paper I shall refer on the one hand to the couloir being part of the physical form of the universityso an actual form of linkage-while, on the other hand, using it as a metaphor to help understand the university's social and intellectual structures, we should note that this is an unsatisfactory dichotomy. As Ronald Barnett and I have argued, the university's physical form and its academic outputs need to be understood together: they work with one another (Temple and Barnett, 2007). Barnett has subsequently proposed a three-part "ecology" of university spaces, consisting of material and physical space; educational space (involving the curriculum and pedagogy); and the student's interior space (involving individual motivations)-while emphasising the "dynamic between all three: each intersects with and influences the other two" (Barnett, 2011, 169). This paper takes this debate forward by examining the connectivity implied between the elements of Barnett's ecology.

The approach of this paper will be first to place the idea of the *couloir* in a wider historical and conceptual perspective and then go on to examine understandings of how meaning may be created by physical/social interactions, and how this may be relevant to understanding university activities by considering what I describe as the politics of the *couloir*. The paper will then attempt to link these theoretical ideas to discussions of university design features that may provide connectivity within a campus and show that current discussions of learning spaces draw on some similar understandings. Common-pool resource theory is drawn upon to offer a further perspective on aspects of university life which require the integration of its physical and conceptual aspects.

The typology presented here shows the range of *couloir* types the paper will examine.

A classification of *couloirs* in four quadrants is suggested, defined by an open/ public *vs.* closed/private x axis, and an efficient movement *vs.* social interaction y axis. Most (naturally, not all) university *couloirs* seem to be located towards the centre of the diagram—neither totally public, in the way a metro station, say, would be, nor yet wholly private, as in a members' club. The university quadrangle, at the physical (and possibly emotional) heart of many older university designs, is a central case in this typology: quadrangles typically offer a blend of social exchange and ease of movement between buildings (I consider the monastic derivation later)—a *couloir* serving physical and intellectual purposes. The public/private tensions inherent in many university spaces reflect the unusual position of universities, at least in most liberal societies, and are perhaps paralleled by the institutional contradictions that often present challenges to university leaders, such as the requirements to be both elitist and egalitarian, traditional and modern. Put another way, "...nobody owns the university forever, and everybody can own the university from time to time" (Watson, 2009, 96).

The Couloir and Social Knowledge

The *couloir's* function is to help structure the social knowledge that every building contains (Hillier and Hanson, 1984, 185), the "particular social relations" that it embodies (Lefebvre, 1991, 83)—and, after all, what is a university if not a set of arrangements for managing social knowledge and relationships associated with it? Buildings do this by allowing the exercise of control in relation to insiders and outsiders (in universities, usually staff and students) through the management of their interactions and their connections. This connectivity requires an understanding of both the university's physical and intellectual properties and I propose that the couloir is involved in both: it allows movement and embodies knowledge. The *couloir* can, then, share with corridors the idea of being an "embodied metaphor of communication and mediation" (Luckhurst, 2019, 20), assisting in social interactions and cognitive processes as well as physical movement. Speaking of her university design work, an architect approaches this dynamic by saying that "we are consciously engaged in making spaces that bring together different worlds...[connecting] students to a place and to each other, encouraging a mix. Our trade encompasses both sociology and construction" (quoted in Goodwin, 2014, 85). Steel and concrete; knowledge and inspiration.

These two considerations, communications and knowledge, appear to be intertwined historically. Jarzombek (2010) tells us that the term "corridor" comes from fourteenth-century Spanish and Italian usages meaning a person who delivered important messages speedily, often military despatches, a sense which by the seventeenth century had evolved into the French word "courier". Meanwhile, the term "corridor" had shifted from people to architecture, while retaining its connection with privacy: it was a crucial innovation in creating the modern Western house, offering a partial solution to "the issue of privacy [which] still haunts the history of space. Architectural history has furnished a story of advancing physical privacy for the most privileged" (Vickery, 2008, 150). The house has been said to play a special role in the Western understanding of self: the "degree of intimacy and intensity...[that we experience there makes the house] a place-world, a world of places" (Casey, 1997, 291). Corridors and similar spaces are key elements in providing this privacy and, if we accept Casey's argument, they must be linked to the formation of our ideas of self. Inasmuch as corridors are generally associated with achieving both privacy and ease of movement, we need another term to cover spaces through which people move that are not private and where rapid transit is not always the main aim: hence my use of *couloir*, covering different modes of connectivity.

In a previous paper, I considered some of the ways in which the physical form of a university, its materiality, might affect the social knowledge and relationships it produces, and in particular how the process of university *space* become *place* might be involved: place here being space with special meanings for its users which might support the development of an academic community (Temple, 2009). Subsequent case studies have developed this argument (for example, Cox et al, 2012; Kuntz et al, 2012; Whitton, 2018). I suggested that the concept of social capital (notwithstanding its various conceptual problems), together with some other forms of what might be considered "capital" (Bourdieu, 1986), could help to explain how apparently ordinary buildings could be considered to have developed distinctive properties so far as their users were concerned. Martin Trow drew attention to this phenomenon in the 1960s when he emphasised the need for universities to create "special places" that would foster "intellectual milieu[x]" (Trow, 2010/1968, 308).

Particular design features may help in this place-making process. One such feature which is often, I suggest, neglected in discussions of university planning and design is to do with the linking together of the different elements of a university: how, through connectivity, the whole becomes more than simply the sum of its parts. Academic planning usually seeks to do this in relation to the university's academic work by developing mutually reinforcing subject strengths: bioscience supporting teaching and research in clinical medicine, for example, which in turn may lead to medical developments involving other departments in the university—perhaps engineering or sociology. If we accept the point made by the various writers noted earlier, that physical, Euclidean, forms embody social knowledge and political objectives, then it follows that physical planning, by providing *couloirs* of different types, embodying various kinds of knowledge and connectivity, can work with academic planning in supporting intellectual endeavour. I shall go on to give an example of university design that seeks to do this.

The Politics of the Couloir

Most theorists of space take it as axiomatic that we should consider space not as a fixed, purely physical, entity that can be wholly defined in Euclidean terms, but rather as a practice, as a social object, as a set of relationships, as something constantly under construction (for example, Hillier and Hanson, 1984, 2; Lefebvre, 1991, 26; Massey, 2005, 9). Probing this physical/social interaction, another theorist argues that "the built environment clarifies social roles and relations. People know better who they are and how they ought to behave when the arena is humanly designed...[it] can communicate ideas even more effectively than can ritual" (Tuan, 1977, 102/112). Putting this another way, while also underlining the claim made (above) by Barnett (2011), Boys argues that "meaning-making occurs through the activation of space by our...experiences...space and its uses are not different aspects that reflect each other...but are inseparable...informing and influencing each other" (2011, 50). Putting people at the heart of understanding what spaces mean, De Botton argues that: "Belief in the significance of architecture is premised on the notion that we are, for better or worse, different people in different places..."

(2007, 13). All these remarks imply that new social practices and changing relationships may involve, or may arise from, the movement of people through spaces, with the exchange of ideas, the adoption of different intellectual positions, and, taking Casey's point (1997, above), thoughts about the self. A model of connectivity, then, must underlie these theoretical positions.

If we allow the various propositions just noted, it must also follow that space—in that it involves beliefs, choices, and behaviours—will have a political dimension, not simply a social one: a society's political norms set the framework for many other types of action. The *means* available for moving from one space, one built environment location, to another, is what I have suggested we think of as a *couloir*. This may involve moving between sets of social and political practices or relationships and so must be significant in our understandings of both space in a social setting and of individuals' behaviour as they may be affected by it. As Massey puts it, "a global sense of place evokes another geography of politics…It raises the question of a politics of connectivity" (2005, 181)—the central feature of this enquiry.

We may also develop the idea that effective university spaces are those that help their users to build social capital by drawing on an insight of Sennett's (2018, 1). Considering this interplay between people and places, Sennett (borrowing, he tells us, from medieval French) uses the term cité to refer to human interactions in urban spaces, as distinct from the separate yet encompassing ville infrastructure: Sennett shows how the *cité* and the *ville* interact to create a political entity. We may also draw on theorisations of space by Lefebvre (1991), whose concept of "lived space" encompasses symbolic values, cultural resonances, and for individuals, beliefs, feelings and memories: Sennett's idea of the *cité* seems similar. Lefebvre also proposed the idea of what he called "perceived space" (39), which is said to be revealed through the daily use of space: the way space is physically used in routine activities, such as walking or meeting others—our spatial practices. In a university, spatial practice might include studying, researching, teaching or socialising, with these activities mostly taking place in defined locations. I shall try to show that certain aspects of connectivity in university design can be seen in terms of these "perceived" and "lived" categories of space: in particular, the idea of "perceived" space emphasises the importance of creating connections that add to the quality of users' experience (Lefebvre, 1991, 33); or, to use Sennett's terms, how the *ville* supports cité activities.

The principal functions of universities, and indeed of most organisations, take place in designated spaces, mostly rooms of various types designed for certain purposes: in universities, this includes large group teaching, one-to-one or small-group teaching, work in libraries, laboratories or studios, and so on. These "conceived" spaces, to use Lefebvre's terminology, are typically integrated with, or located close to, spaces designed for social activities and for refreshment—both, we know, being fundamental to university work. Administrative offices and residential accommodation may also be close at hand. All these spaces need to be connected to one another: and these connections, these *couloirs* allowing the movement of people and knowledge may tell us something about how the institution works, about its politics. The designs of various institutions created by modernising states in nineteenth-century Europe and elsewhere—bureaucracies' offices, prisons, workhouses, asylums,

barracks, and hospitals—were intended to manage a certain "distribution of individuals" within them, and often to modify behaviour (Luckhurst, 2019, 161). The main design feature in nearly all cases was a collection of corridors giving access to rooms, cells, wards, or other spaces: connectivity—usually, the control of it—was the central aim of their designs.

The universities created by states across continental Europe in the same period had many physical similarities to these other state institutions, and, arguably, some related social purposes, with connectivity—people and ideas in transit—at the centre of their designs. In medieval foundations, connectivity had often been achieved by the use of quadrangles and cloisters, borrowed from monastic models: older colleges of Oxford and Cambridge Universities in the UK, the University of Valencia in Spain, and the Jagiellonian University in Poland, are among many examples. It is surely plausible that these highly distinctive architectural features were intended to symbolise the value of human interactions, of connectivity. It is certainly the case that from the thirteenth century the cloister became the nucleus of new monasteries, designed to operate both as a means of access to the monastic buildings surrounding it and to provide a place for monks to gather and, in orders where a rule of silence otherwise applied, to talk (Braun, 1968, 193). The movement of people and of ideas was embodied in this medieval *couloir*.

The question of how space affects the interplay of people and ideas is pursued by Leijon when studying the politics of space and of connectivity in university teaching spaces, using the concept of the "interpersonal metafunction", a theorisation of the relationships between space and its users (Leijon, 2016). She presents empirical data that suggest that the ways in which students and teachers "read" a teaching space, and the interpersonal political conclusions they reach about it, can affect the learning that takes place there. We might say that a *couloir* is created where physical space and intellectual endeavour interact with one another. (A Lefebvrian perspective would suggest that she is describing a "conceived" space becoming a "perceived" space.) Leijon describes how a further theoretical notion, the "textual metafunction", can be used to consider how space is composed and arranged, and—usefully for my purposes—how connections may be made between different spaces, and how these connections can prioritise and give meaning to spaces. The politics of space use and connectivity within it are, on this view, related.

Moving away from the classroom, the same theoretical ideas were used to analyse the politics embedded in the design of the "extravagant souvenir shop" created for the 2000 Sydney Olympic Games: Ravelli (2000) notes that "pathways form clear connecting vectors between the [store's] different 'sections', [so that] the relationship of the different sections to each other is seamless...[using combinations of bright and neutral colours] shoppers or spectators are gently coerced into following a particular direction, while being given apparently open invitations to join in and become part of the experience." Ravelli suggests that the pathways—the *couloirs*, we might say—determine the visitor's experience of the store: "One has to move through the space in order to buy or to gaze...As a text, it unfolds temporally [it is]...integrated via a combination of the principles of spatial composition and of rhythm". The politics of connectivity, then, can appear in different guises in unexpected settings, yet similar considerations arise: what are the characteristics of the means of communication available, and what effects do they have on those using the space in question? A university quadrangle and a retail store atrium both facilitate movement and invite the acquisition of information.

Connecting University Spaces

Some contemporary university buildings have been designed around an internal "street"-the University of Hertfordshire's (UK) De Havilland Campus, just north of London, is an example-with teaching, social spaces, and various cafes and small shops opening onto it, thereby increasing the chances of random encounters among students and staff. This is an example of what has been described as achieving both "transitional and transactional activities in public space" (Nordquist and Fisher, 2018, 210): some people are simply transiting to another destination, while others are engaging in transactions of various kinds-meeting friends or visiting a café, perhaps. "Spaces are...articulated, for example, as 'atrium', 'street', 'hub'...[with] spatial layouts for enabling a range of group and individual study combinations... such as learning 'nooks', 'pods', 'nexus' and 'clusters'..." (Boys and Smith, 2011, 36). These spaces—neither wholly public nor private, so towards the centre of my typology figure-may be described as liminal or transitional, perhaps taking people out of their "comfort zones" and encouraging interactions with others (Winstanley and Hardie, 2019, 56). The mixes of activities slow down the flow of people and will tend to create what Massey has called "throwntogetherness" in a place where we are "implicate[d]...perforce, in the lives of human others, and in our relations with nonhumans [in a]...temporary meeting-up with these particular rocks and stones and trees" (Massey, 2005, 141)—as one might be in a mountain *couloir* or on a familiar stretch of campus path or city pavement. A good deal of contemporary university planning, then, involves connectivity, both physical and social, with the political choices involved being implicit or explicit.

Older universities which developed without a masterplan squeezed into the urban fabric, usually with their city growing around them as they grew, achieved this street structure and "throwntogetherness" opportunities naturally, without any plan: the connections between individual buildings are usually ordinary city streets. We may sometimes see the growth of the university in these circumstances crowding-out non-university uses, to create a quasi-campus (so-called studentification of residential areas can be a negative aspect of this) where one did not previously exist: the University of London's ever-expanding institutions in Bloomsbury continues a trend begun with the acquisition by the University of parts of the Bedford Estate in the 1930s, and now spread across a wider area of central London. Achieving connectivity here, other than digitally, is difficult when individual buildings are randomly distributed and a *couloir* may be hard to construct.

The planners of the actual UK campus universities developed in the 1960s had to consider how to make the whole university more than the sum of its parts, when it was usually spread over a large campus: cities bidding to be the location of one of the new universities had to make available a site of at least 200 acres (81 ha) (Shattock, 2012, 52). Such large sites were inevitably going to be on the edges of the

cities concerned, or even further away, as with Sussex and Essex Universities. In retrospect, it seems surprising that, while Oxford and Cambridge Universities provided many of the academic staff for the new universities, and contributed through Academic Planning Boards to what would now be called academic quality assurance (Pellew and Taylor, 2021, 3), the spatial models of Oxford and Cambridge, and of many civic universities, with university buildings integrated within an urban fabric, made little headway as planning options (Whyte, 2021, 28). The possibilities of thereby renewing run-down inner-city areas and seeking means of connectivity within an existing city seem not to have been properly explored. Instead, the 1960s ideal, heavily influenced by modernist architectural thinking and the perceived need for a "fresh start" (Whyte, 2021, 21), seems to have sought the isolation of gown from town, siting new campuses "in neglected vales and marshes outside cities across England" (Ossa-Richardson, 2014, 131).

A number of scholars of modern university design (notably Harwood, 2015; Muthesius, 2000; Saint, 1987) have identified the University of York, UK, as presenting a number of notable campus design features. Here for the first time "New University planning and design became an immensely serious issue, in thought and in the practical determination of all concerned" (Muthesius, 2000, 128). *The Buildings of England* volume covering York supports this view with the striking claim that the University is "the best of the new [1960s] universities visually and structurally" (Pevsner and Neave, 1995, 464).

The University masterplan was agreed in 1962 (University of York, 1962) with construction beginning soon after on a site on the very edge of the city. The Project Architect appointed by the Robert Matthew, Johnson-Marshall Partnership, Andrew (later, Sir Andrew) Derbyshire (1923-2016), wished to stimulate emotional responses among the new University's inhabitants: he wanted to provide a "quality of remarkability...to express the particular identity of place and experience" (Derbyshire, 2005). It should be noted, though, that the twentieth-century York campus did not, in most estimations, possess individual modern buildings of outstanding quality, other than perhaps the Central Hall, strikingly cantilevered over the lake. Indeed, it was the lake and other landscape design features (now nationally listed as a Grade II designed landscape) that attracted most praise initially (Ossa-Richardson, 2014, 148; Warren, 2021, 80), and which have a prime role in integrating the whole campus design. York was certainly not an example of a university putting "its faith in grandiose architecture as a way of asserting its importance" (Whyte, 2021, 30): on the contrary, the development of the original planned campus depended largely on a standardised construction system using steel frameworks and pre-cast concrete panels, known by the acronym CLASP. It had the advantages of speed of erection and, above all, cheapness. And, as it turned out, durability.

One study of how Derbyshire tried to achieve this "quality of remarkability" gives an example of the deliberate unknowability, the planned ambiguity, of the design, and its intentions towards connectivity: "[There are] no particular doors or entrances...Between Derwent and Langwith [Colleges] stretches the 'cloister', a passage ambiguously surrounding the walker now on both sides, now on one, first enclosed as a corridor and then opening out into a colonnaded path around a shallow, rectangular fountain" (Ossa-Richardson, 2014, 149). Here is a designed *couloir*

making an attempt, perhaps, to appeal to "lived" emotional or spiritual values, to encourage new thoughts (about the unexpected, say, or about questioning what may appear obvious) in those using what could easily have been a humdrum passageway, making no particular claims on those passing to and fro. Here, a means of linkage offers something distinctive: it brings together physical form and emotional values—it offers a Lefebvrian "perceived" space.

The literature on learning spaces produced in recent years now offers various case studies of connecting spaces aiming to achieve similar results to those just described. A study of the use of space in an Australian museum describes its use of what it calls the "welcome hallway", a transitional, "complex in-between space" (Mulcahy, 2018, 23) which uses video installations to disconcert visitors and to challenge any preconceptions they may have had about the museum's purpose (which is about immigration). The museum has used the transitional, liminal corridor along which visitors enter to begin the process of encouraging reflection. Another study develops the idea of "borderland spaces" which are "neither here nor there...[where] Expected norms are disrupted...and alternative forms of personal understanding are accepted" (Hill et al., 2019, 89). In both cases, the aim is for spaces that seem to offer a certain spatial uncertainty in order to stimulate new intellectual perspectives. Luckhurst offers the monastery cloister as another example of liminal space: "a transitional space...[allowing the mixing of] sacred and profane functions" (2019, 31). University and hospital corridors (I will return to this point) often function as this kind of transitional space, being neither formal ("sacred") meeting rooms nor mainly recreational ("profane") spaces such as cafes. Again, the couloir idea seems helpful: the corridor here is doing more than merely facilitating movement: like the mountain couloir, it may be opening up new possibilities, new ways forward.

As De Botton (2007), noted above, proposes, we are perhaps different people in different places: physical space and mental change are linked, and places providing connectivity to other people, other ideas, other times, may be settings for this to occur. And this seems to be close to Derbyshire's aim at York of stimulating emotional responses by providing a "quality of remarkability".

Bringing people together...

The *couloir* may offer a feasible mountain route, but, it being a gully, it may also separate climbers from their surroundings, cutting them off from wider perspectives. Corridors, while by definition providing a means of access, may encourage interactions and enhance connectivity, or they may separate, offer privacy, and encourage differentiation. We may therefore classify them as "open/public" or "closed/private".

The York masterplan linked the University's separate colleges, science clusters, and other facilities such as the main library and Central Hall, with covered walkways (Saint, 1987, 217). The walkways, and the landscape design, were (and remain) important in tying the whole campus design together. The crucial point was that these walkways did not stop at the doors of the various buildings (leading to the criticism, certainly voiced by York taxi-drivers, that the University had "no front doors" (Ossa-Richardson, 2007)), but penetrated them and intersected internally

with walkways coming from other parts of the campus, creating pedestrian crossroads. The York Development Plan emphasised the aim of random mixing of people, indeed of deliberately creating confusion for students and staff: it represented "the peak of the integrative philosophy of the New University movement" (Muthesius, 2000, 133) with a design aimed at complexity: as Pevsner and Neave put it, "so intricately planned, with inner courtyards...[and] many walkways, and projections this way and that..."(1995, 466). It may be argued that this design sought to integrate Lefebvre's ideas of "lived space"—a routine walk from one building to another with the "perceived space" notion, in which the built design facilitates unexpected social interactions. The York covered walkway does more than merely allow people to move from one location to another: it invites, almost demands, human exchanges. The hallway liminality mentioned above is here swallowed up by the building.

We should note that we have now arrived at the polar opposite of the historic corridic objectives of speed and privacy: what are sought here are relaxed, informal, public interactions.

Considering the question of whether creativity can be enhanced by building design, Sennett (2018) examines the so-called Googleplex building in New York City. As with Derbyshire's planning from a half-century or so earlier, "social spaces are integrated into [pedestrian] high-traffic areas, rather than being removed into a separate social zone...The jumble of pool tables, food trolleys, low-slung sofas and work-stations makes Googleplex look like high-class fraternity houses...John Meachem, the architect-guru who masterminds Google's architecture, imagines a Googleplex as a 'loosely structured' university" (150). The "random mixing" sought by the 1962 York Development Plan becomes for Google "casual collisions of the work force...odd-angled corridors...stream employees towards intersections where the casual collisions will happen" (151). If he were practising today, Derbyshire might have found (undoubtedly better-paid) work with Google.

An account of how some other large American companies are responding in 2020/2021 to the COVID-19 pandemic suggests that there will be a move away from large open-plan offices designed for full-time staff attendance towards a hybrid model, in which home working will be combined with limited attendance at smaller offices designed more on Googleplex lines. The aim is to reduce office overhead costs and improve productivity, while maintaining corporate cultures and the commitment of individuals to the company: the best of both worlds, corporate planners hope. One design for a new corporate headquarters seeks to achieve "collaboration and collision", in part by providing "five different bar spaces scattered around two floors...for workers who are 'living the brand'"-this is, we should note, a drinks company (Seabrook, 2021, 45). Traditional corridors are unlikely to have a role in moving people around workplaces such as these: as with the York walkways, random human interaction is the aim. (It is not the purpose of this paper to debate the future of the university campus following the COVID-19 pandemic, but it is worth noting that most of the corporate executives interviewed by Seabrook wanted to rethink the functions of offices in their organisations, not to abolish them: a physical presence was seen as essential in defining the company and its culture. Various international surveys of organisations and their workers during 2020 point in the same direction (The Economist, 2021). For both companies and universities,

the limitations on human contact imposed during the pandemic may make physical proximity seem more desirable than ever.)

Luckhurst (2019) may have had York-style interaction in mind in his discussion of the British 1960s universities, with what he calls their "optimistic corridor plan[s]" (208) and "a certain utopian conception of interdisciplinarity" (206), offering spaces for informal academic and social interactions outside the lecture room. But later, Luckhurst suggests (perhaps with his rhetoric running away with him) that "it is the bland, horizontal anonymity of the corridor that turns it into a place of unsettlement and unease" (284): can corridors really be at once optimistic and utopian while also being unsettling and worrying? Luckhurst notes that, in his reading, newer British university buildings anyway appear to have abandoned the corridor in favour of what he sees as the shopping mall-influenced atrium, as a perhaps unconscious metaphor for the "new model of interdisciplinary fluidity" (210). Perhaps. My own, somewhat different, reading is that the atrium is better understood through the couloir metaphor, being essentially a non-prescriptive structure which allows passage through the university, while also providing opportunities to linger, observe, and meet. A modern academic building of Manchester Metropolitan University, UK, has a feature known locally as the Spanish Steps which, in a plausible imitation of the Roman original and as a perfect example of a constructed *couloir*, leads up from the main entrance to higher floors while simultaneously providing opportunities to sit and observe the pageant of university life (Whitton, 2018).

...And Keeping Them Apart

If corridors can bring people together, they can also be used to control connectivity by keeping them apart. When they became common in European domestic architecture from the seventeenth century, the corridor became "a space that secures a new kind of privacy for the affluent mercantile family" (Luckhurst, 2019, 40) by allowing controlled access to individual rooms. This insight leads Luckhurst to argue that the essence of the corridor "always hinges on being both public and private, open and closed" (42). I suggest that, on the contrary, the corridor has to be essentially one or the other, either public/open or private/closed. It is precisely because the corridor can be public/open that the rooms to which it provides access may be private/closed, as, obviously, in a hotel: without the public (or at least semi-public) corridor, individual rooms could hardly be kept private if they were the means of access to adjoining rooms. The crucial innovation here, which Luckhurst overlooks, is the lockable door, made practicable by a wave of eighteenth-century, largely English, innovation which created small yet secure locks. Studies have shown that, as a result, eighteenth- and early nineteenth-century London houses in multiple occupation (as most were) had locks on most internal doors as well as the external ones: "The person who carried the keys was in a position to manage access to the house, its common spaces and its private rooms. The privileges of access [that is, of connectivity] were finely calibrated" (Vickery, 2008). Some university buildings operate on these lines, of course, often where it is thought necessary to separate student flows from administrative offices-a point I will touch on below.

An example of relatively modern designs intended to achieve controlled access can be found in some English law courts, where standard designs were introduced following 1846 legislation which created the modern County Court system. Where new buildings were provided, separate entrances and internal corridors were provided to ensure separation, for obvious judicial reasons, between judges, lawyers, and defendants or litigants when outside the actual court room (Brodie and Brodie, 2016). This feature can be seen in perhaps its fullest extent in G E Street's designs for the Royal Courts of Justice in The Strand, London (1870), a building usually noted for its fanciful neo-gothic style. Internally, it contains four separate corridor's designated users—judges, barristers, litigants and so on. As Jarzombek (2010) puts it, the building is "a corridic machine", with private, closed corridors giving access to public, open courtrooms. Both people and ideas need to move, as in universities, but controlled here by judicial norms.

The Couloir and Common-Pool Resources

The *couloir* notion, as well as casting light on the use of Euclidean space in the university, may also help to describe intellectual space, even if the relationship between the two is not always noticed. One way of thinking about this relationship draws on common-pool resource (CPR) theory, associated with the work of Nobel laure-ate Elinor Ostrom (1933-2012). Its original formulation provided examples of how natural resources such as fisheries, grazing land, and water supply were managed collectively to maximise sustainable outputs (Ostrom, 1990). CPR theory brings together an understanding of the physical resources in question with an analysis of the social structures needed to manage them effectively. (An important effect of CPR studies was to demolish the so-called "tragedy of the commons" claim that only private ownership could prevent the degradation of shared resources.)

Ostrom's ideas have been extended to consider the management of both physical and conceptual shared spaces (Hess and Ostrom, 2011) and seem relevant to understanding how university spaces can be made to work to their users' advantage. Various case studies showing this can be interpreted through a CPR lens, for example, Acton and Halbert's work from an Australian university (2018) and Yu's study of learners in a Chinese university (2021). In both cases, students tell the researchers that being in a space where other students are working purposefully affects their own motivations: "We're all in this together" is how one of the Australian students puts it—a psychological connection has been created between users. (Barnett's "ecology" of learning spaces (noted above, 2011) offers another approach to considering this connection of physical space with knowledge processes.) Furthermore, it is significant that libraries are now sometimes referred to as "knowledge commons" and their use may to an extent be managed informally on common-pool lines (Browndorf, 2014; Temple, 2018): an example of the intersection of the physical and intellectual/ social dimensions of the university in a setting often seen as its symbolic heart.

The *couloir*, I have suggested, can be both a means of communication and a contribution to structuring social knowledge. Both are necessary features of CPR

arrangements, whether material or conceptual, as the users of the resource must share information about their activities and their behaviours must fall within agreed boundaries. The *couloir* idea, I suggest, helps in thinking about university CPRs such as libraries and other shared facilities where information and understandings need to be exchanged in order for them to operate effectively.

The Corridor and The Non-place

The anthropologist Marc Augé, reflecting on the distinction between place and space, suggests a further category of "non-places" (1995). His hypothesis is that these are the result of "two complementary but distinct realities: spaces formed in relation to certain ends (transport, transit, commerce, leisure), and the relations that individuals have with these spaces" (76). (Lefebvre would surely have seen these spaces as particular instances of his "conceived space" category.) Augé contrasts non-places with "anthropological places" where "individual identities … and the unformulated rules of living know-how" (81) apply. In non-places, by contrast, people have standardised, fixed identities as passengers, customers, and so on, and thus remain anonymous as individuals, with little choice but to obey the formal rules governing the non-place: the airport terminal, the supermarket, the motorway. This anonymity, though, is paradoxically based on some proof of the individual's identity being presented (an identity card, an airline boarding pass, a credit card, a vehicle registration), something not required within more traditional settings where relation-ships are created between individuals.

The role of the corridor may be ambiguous in this typology. It may be a nonplace connecting real places, but in a university it may have anthropological (to use Augé's term) functions, as a place for informal discussions ("I've just had a corridor for student exchanges and socialisation ("Which essay title did you do?", "Let's meet for a coffee later") while waiting for a room to become free or for a teacher to arrive at their office. That is to say, it will have taken on the character of a *couloir*, combining movement and knowledge. Hospital corridors have similarly been analysed as having an essential *couloir*-type role in allowing both movement and the exchange of information among staff in situations where a formal meeting would be impractical or unnecessary (Carthey, 2008). Presumably reflecting this operational reality, corridor confrontations seem to be staples of TV hospital soaps, chosen, according to one study, as liminal settings which will plausibly (as these things go) allow the interweaving of professional and personal storylines, in particular permitting "the high number of romantic and sexual relationships portrayed in medical dramas" (Rocchi, 2019). The structuring of social knowledge can take surprising forms.

The modern university and its students seem to fit quite well with Augé's account of non-places, with students—and indeed members of staff—obeying a set of rules when in these spaces. The expansion of higher education has in many countries led to university spaces becoming non-places in this sense, rather than Lefebvre's lived spaces. Most obviously, student and staff movements are increasingly monitored and controlled by electronic means (security cameras, swipe cards)—even student attendance at lectures is now frequently recorded using ID cards. There is an irony here in that just as workers at all levels in modern businesses are given greater autonomy, then universities, where the emphasis was once on individual students' personal responsibilities, are reducing autonomy. Augé might say that, in England at least, this shift is perfectly consistent with government insistence that universities should treat their students as paying customers (as for example in BIS, 2011): as such, they should expect to inhabit university non-places, under constant surveillance, as they do as consumers in other spheres of their lives.

But at a deeper level, university spaces may become non-places because their users feel no connection with them or responsibility for them—ultimately, like all non-places, they are unloved, always someone else's responsibility, merely "lived through in the present" by their users, as Augé (84) puts it. This presents a bleak view of the university. More optimistically, we should note that the non-place concept can be turned to advantage, by using it as a critical lens through which to analyse spaces, to identify missed opportunities within and around buildings (featureless corridors or unwelcoming car parks, perhaps), and then, with a little imagination, to create places that people will wish to use (Nordquist and Fisher, 2018, 210)—changing a corridic space into a *couloir* with a purpose.

Conclusions

The physical form of the university, with its Lefebvrian "conceived" spaces, and its intellectual life, taking place in special, "perceived" places, are of course necessarily connected: the material and the conceptual are inseparable. Both, we have seen, are phenomena with social and political dimensions, and how they are connected must be significant in our understanding of the work of the university. I have used the metaphor of the *couloir* in an attempt to move away from ideas about "corridors" or "passageways", with the inevitable preconceptions that such everyday terms bring with them, and to try to think about connectivity in the university in a wider sense with the interweaving of both the material and intellectual elements that make a university the social institution it is. The idea of connectivity is not widely considered in the higher education literature—I have referred to the few works on this topic that do address this matter—and this paper's distinct contribution is, I suggest, to draw attention to how these material and cognitive connections operate, and their significance to the university as a whole.

The university is, perhaps to a unique extent, an institution with both public/open and private/closed characteristics: many of the demands on university leaderships result from conflicts created by these contradictions—and these are reflected in the forms of connectivity found within it. Consideration of this connectivity should be at the heart of the university's physical, academic, and social planning (Fig. 1).

There are no conflicts of interest to register.

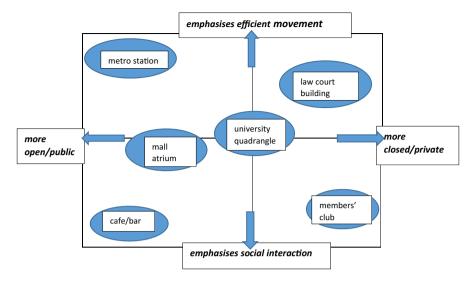


Fig. 1 Couloir typology

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