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ASSEMBLING ARCHITECTURE

Kim Dovey

The concept of 'assemblage' emerges in the work of Deleuze and Guattari (1987), primarily in A Thousand Plateaus, and has been developed by DeLanda (2006) and others into a more transparent and practical social theory. This chapter explores the application of assemblage thinking to architecture and urbanism. In parallel with words like 'design', 'housing' and 'building', 'assemblage' is at once verb and noun. An assemblage is a whole that is formed from the interconnectivity and flows between constituent parts—a socio-spatial cluster of interconnections wherein the identities and functions of both parts and wholes emerge from the flows between them. Assemblage is at once material and representational, it defies any reduction to essence, to textual analysis or to materiality. It is also multi-scalar with smaller assemblages (rooms, families, events) enmeshed in larger ones (cities, societies, states) without reduction of the smaller to the larger. Assemblage is a useful way of re-thinking theories of 'place' in terms of process, identity formation and becoming, butwithout the Heideggerian essentialism. A building or a place is neither object nor a collection of parts—rather it is an assemblage of socio-spatial flows and intersections. Assemblage thinking has a capacity to move architecture away from a focus on fixed form towards process and transformation; from an expression of architecture as Being-in-the-world towards a more Deleuzian becoming-in-the-world. While appearing abstract and often opaque, the conceptual apparatus of assemblage thinking is eminently pragmatic in terms of both design and research. This will be illustrated through a discussion of the design of new school buildings where adaptable learning environments are in demand to house complex, contested and unpredictable practices. Architects are engaged with the task of housing a transformation in the field of education from disciplinary technologies towards student-centred learning where creative and critical capacities rather than social reproduction become key.

There are no easy entry points into A Thousand Plateaus or assemblage thinking because one essentially needs to think in a different way in order to understand – it is the deep end wherever you dive in. In the translator's introduction Massumi suggests that one approach the work like music – some parts you will like while others leave you cold. It can also be explored like a strange city or a neighbourhood - almost any chapter can serve as an introduction and you can follow the connections from there: 'The Smooth and Striated', 'Of the Refrain' and 'Micropolitics and Segmentarity' may be the most engaging for architects. Another place to start is the index - find the concepts you are particularly interested in and follow the threads through the text. For Deleuze, philosophy is the invention of concepts as tools for thinking. A Thousand Plateaus can be seen as a strange toolbox where the application of the tools is up to us. A tool is something we use to achieve a desired end; it mediates a process of production. What is at stake is not truth but usefulness – how does it enable us to think. The usefulness of some tools and/or concepts will not be apparent as we rummage through the conceptual tool box; we may also see uses that were never intended. As with any toolkit, the ways we see each concept will depend on our desires. If we are researchers conducting fieldwork, producing papers and concepts, then we will seek analytic, methodological or explanatory tools that help these tasks. If we are designers engaged in transforming the world then we will see and seek our tools in a different way. In either case our goals are practical.

I have argued elsewhere that assemblage can be approached as a theory of 'place' where it can help us engage with the socio-spatiality of the everyday world and therefore with the social dimensions of architecture (Dovey 2010). Assemblage theory offers an approach to theories of place

without the reductionism and essentialism that has weighed down such discourse for so long. It is empirical without the reductionism of empirical science; it gives priority to experience and sensation without reduction to essence; and it seeks to understand the social construction of reality without reduction to text.

ASSEMBLAGE

The concept of 'assemblage' is translated from the French 'agencement' meaning 'layout', 'arrangement' or 'alignment' – both a dynamic process and a socio-spatial formation. While there are always debates over translation, this seems the best English word with its mix of noun/verb, stability/change, structure/agency. The French word, however, also connotes the notion of 'alignment' indicating that the various parts of an assemblage are not simply connected but share a certain direction and synergy. Beyond any definition, however, assemblage emerges from the work and is better defined by its use than its meaning – as Deleuze puts it: "don't ask what it means, ask how it works" (quoted in Buchanan & Marks 2000). The question becomes one of how buildings and places are assembled and how they work.

My interests here also have to do with the larger project of understanding the ways architecture is enmeshed in practices of power. Power is much too large an issue to deal with here in any comprehensive way. It is important, however, to understand and to situate the work of Deleuze and that of Foucault (from which much assemblage thinking is constructed) in relation to the long-standing distinction between power *to* and power *over*– power as the capacity to achieve an end (empowerment) and power exercised through control of others (authority, force, violence, coercion, manipulation, seduction) (Dovey 2008). The revolution in thinking about power that Foucault initiated can be seen as a re-thinking of the ways in which power *to* becomes harnessed to practices of power over. With Foucault, however, power retains a bad odour – the critique of the architecture/power nexus remains a critique of the production of discipline and normalized subjectivity; the links with oppression always seems more potent than with liberation. While Foucault opens up our thinking to ways of understanding power as capacity, as empowerment, it is only to describe our subjection to modern regimes of power *over*.

Architecture is always and everywhere implicated in practices of power, this is the condition of architecture. The desire for an architecture that might escape such practices is often implicated in such practices. The task for architecture is to embrace such an engagement because that is where the emancipatory potential of architecture lies. In everyday life architecture is taken for granted and its potency lies precisely in this capacity to escape contemplation. While the roots of assemblage thinking are in the Foucaultian notion of the 'apparatus' (dispositif), assemblage moves beyond the instrumentality and pessimism. It enlarges our capacity to understand the implications of Foucault's insight into power as a production of subjectivity, and it enables us to understand the key link of power to desire.

For Deleuze, desire is the primary force of life; immanent to everyday life and not limited to the human world. Desire does not exist pre-formed but is a process of connection and of becoming. Far from thinking of the world as a collection of beings who then have desires. Deleuze insists that life begins from flows of becoming or desire, which then produce relative points of stability (Colebrook 2002: 66). Architecture, as both process and form, can be understood as the result of a multiplicity of desires - for shelter, security, privacy and boundary control; for status, authority, identity and reputation; for profit, authority and political power; for change or stability; for order or chaos. Assemblage is both verb and noun, agency and structure, change and stasis, process and product.

Flows of desire are the primary forces of assemblage (as a verb) - the formation of connections that becomes the assemblage (as a noun).

An assemblage differs from an 'organization' in that the relations between parts are 'machinic' rather than 'organic'. As Colebrook (2002: xxii) puts it: "Desire is 'machinic' precisely because it does not originate from closed organisms or selves; it is the productive process of life that produces organisms and selves". From this perspective assemblages of cities and citizens, neighbourhoods and neighbours, houses and homes, schools and classrooms, institutions and states are produced by desires. When used as a noun, assemblages are "wholes whose properties emerge from the interactions between parts" (DeLanda 2006: 5). But the assemblage is not a thing nor a collection of things. Buildings, rooms, trees, cars, gates, people and signs all connect in certain ways and it is the connections between them that make an assemblage.

Assemblage has a fourfold (or tetravalent) structure formed from the intersections of two primary axes (Deleuze & Guattari 1987: 88-9). The first of these axes opposes and connects materiality to formal expression; it both distinguishes and connects flows and interactions of bodies and things in space to expressions of meaning through language and representation. To see architecture as assemblage is to reconfigure the relation of form to function and avoid a reduction to either text or material conditions. This axis is construed as horizontal – neither side has priority – and is also described as form versus content.

The second axis, construed as vertical, involves an opposition and movement between the formation and erasure of territory - from territorialization to deterritorialization and reterritorialization. This is what we know in everyday terms as the appropriation and/or expropriation of space. In terms of representation it involves the inscription/erasure/reinscription of territorial boundaries and identities; in material terms it involves the construction, penetration and enforcement of material boundary control. While territories are not necessarily spatial, this is what establishes assemblage as the most architectural of concepts in the Deleuzian lexicon.

Territorialization mediates the degree to which an assemblage is stabilized or destabilized. The concept of territory here is broad enough to encompass everything from the rhythms of the urinating dog to the defence of national boundaries. Territoriality is creative rather than merely defensive, it is a stabilization of the assemblage, establishing a zone of comfort and order, a sense of home that keeps chaos and difference at bay (Deleuze & Guattari 1987: Ch 11). Deterritorialization is the process by which territories are eroded or erased, walls are demolished, nations are invaded. Reterritorialization, in turn, is the formation of new assemblages. The ways that boundaries are used to construct, perform or inscribe territories, is called 'segmentarity':

> "We are segmented from all around and in every direction. The human being is a segmentary animal... Dwelling, getting around, working, playing: life is spatially and socially segmented. The house is segmented according to its rooms' assigned purposes; streets, according to the order of the city; the factory according to the nature of the work" (Deleuze & Guattari 1987: 208).

Spatial segmentarity is akin to spatial syntax or the use of walls and boundaries to inscribe a social logic of space (Hillier & Hanson 1984). Social segmentarity is in some ways akin to Bourdieu's notion of habitus – the set of practical taxonomies, divisions and hierarchies embodied in both habit and habitat (Bourdieu 1990). Segments can divide according to race, class, age and gender with no place for hybridity. Segmented assemblages resonate with other assemblages at similar and different

scales. Horizontally, gated enclaves resonate with each other, as do squatter settlements, schools and suburbs. Vertically, the bank branch resonates with the headquarters, as the police station resonates with the state, the classroom with the classifying system and the neighbourhood with the nation. One becomes a bank manager, a cop, a student, an Australian...in accordance with different spatial segments.

The vertical dimension of territory and segmentarity marks assemblage thinking as fundamentally multi-scalar. It is impossible to understand the room, building, street, district, city or nation without considering the connections between them. Each segment gains its meanings, functions and capacities from the network of spaces in which it is enmeshed. Crucially, however, there is no privileging of scales – the micro is as important as the macro. A multi-scalar focus will pay attention to both top-down and bottom-up practices, but particularly to the connections between scales and to understanding the flows of desire that are productive of the assemblage in the first place. Assemblage research entails a focus on thick description at every scale and a resistance to any tendency to treat the architectural or the everyday as simply epiphenomena of larger scale processes and structures (McFarlane 2011). It opposes the tree-like thinking that privileges change from above and focuses on understanding the relations and dynamics between scales as socio-spatial change spreads up, down and laterally (Dovey 2011). This entails attention to microspatialities that may seem like a fetish, but it is here that one finds the micropractices of power embedded in the morphology of the built environment. Multi-scalar thinking is inherently interdisciplinary and requires that we think across the fields of geography, urban planning, urban design, landscape, architecture, interiors, fashion — overturning any hegemony between fields.

For Deleuze and Guattari there is a distinction between 'supple' and ‘rigid’ segmentarities. Rigid segmentarities have strong boundaries while supple ones allow a fluidity of lateral connections with potential for old segments to dissolve and new segments to form. This supple segmentarity is based on the power of networks and a fundamental distinction between tree-like and rhizomic or networked structures. The tree and the rhizome are metaphors for ways of thinking based on hierarchical control on the one hand and horizontal connectivity on the other. These are part of a set of twofold concepts that can help us analyse the ways buildings work as assemblages: network/hierarchy; supple/rigid; rhizome/tree; smooth/striated; difference/identity; and the more generic becoming/being, potential/actual. Assemblage theory opens up the spatial imaginary in a critical manner, connecting actual with potential.

While there is much more to be said about this, I want to link the idea of assemblage to the concept of place and explore how it might be applied in particular place types. The concept of place is not one that is deployed by Deleuze and Guattari so far as I know but assemblage thinking is infused with spatiality at every level. The title of ‘A Thousand Plateaus’ is adapted from a concept in Gregory Bateson’s book Steps to an Ecology of Mind where he described the ways in which dynamic cultural systems can stabilize on a plane or 'plateau' between polarities (Bateson (2000 [1972]). The concept of the ‘plateau’ is central to A Thousand Plateaus in the sense of a consistent focus on the spaces between levels and things, and it shares more than etymology with the concept of ‘place’. For Bateson, a plateau is a culturally constructed system where the tendency for a system to run out of control – an arms race, crime rates, environmental degradation – is countered by a plateau or plane of stability that co-exists with constant change. What we sense as the stability of place is often a plateau of development produced by locally sustainable limits. Yet to perceive place as static is to misrecognize it as a thing rather than an assemblage of differences: As Deleuze (2007: 179) puts it:

> … an assemblage is first and foremost what keeps very heterogeneous elements together:... both natural and artificial elements ...The problem is one of "consistency" or "coherence" ... How do things take on consistency? How do they cohere? Even among very different things, an intensive continuity can be found. We have borrowed the word "plateau" from Bateson precisely to designate these zones of intensive continuity.

Yet assemblage theory is not a theory of place so much as an intellectual toolkit for understanding how places work. To what degree and in what manner is space segmented and territorialized? To what degree and how are material spatial practices and representational narratives deployed in these assemblages and to what ends? What coalitions of desire drive architectural and urban development processes? We need to know a lot more about how architecture is assembled; this is the yawning gap in so much of the research applying Deleuzian theory to built form – the actual mechanisms that operate at and across different scales of room, building, neighbourhood, landscape, city and nation (DeLanda 2006: 31). One of the key tasks here lies in the practice of mapping. For Deleuze and Guattari (1987: 12-13) mapping is a creative act that they distinguish from a simple mimetic tracing: 'What distinguishes the map from the tracing is that it is entirely oriented toward an experimentation in contact with the real… ' The map is more than a simple 'tracing' of an existing form because it is infused with a desire to understand how the place might be conceptualized, navigated or changed. Maps reveal the workings of assemblages; they are at once concrete (grounded in a material state of affairs) and abstract (because they cannot show everything, they select and extract layers of data). Maps mediate between the real and the virtual, between past and future, between history and design.

One of the more obscure concepts invented by Deleuze and Guattari is the 'abstract machine' or 'diagram' of the forces comprising an assemblage - at once embodied in the assemblage and productive of it. According to Deleuze (1988: 36): "the diagram or abstract machine is the map of relations between forces... that is co-extensive with the whole social field:" One example Deleuze (2007: 123) gives is Foucault's notion of the panopticon - a socio-spatial diagram of one-way visibility wherein practices and subjectivities are produced to meet the anonymous gaze of authority. This diagram of seeing without being seen is evident in the many disciplinary technologies of the prison, factory, school, hospital and CCTV network without being determined in each particular instance. It is an abstraction because an abstract set of relations are evident in all concrete examples, and it is a 'machine' because it is productive of subjectivity. The abstract machine "is neither an infrastructure that is determining in the last instance nor a transcendental Idea that is determining in the supreme instance. Rather it plays a piloting role" (Deleuze and Guattari 1987: 142).

A diagram is literally a graphic representation of connections between things, a pattern that connects a wide range of assembled outcomes. In many cases the diagram is an image that drives design practices without ever being written down. A stack of serviced floor-plates with a view is a diagram of the immanent forces producing the corporate tower. The flows of desire embodied in this diagram and ultimately this building type include desires for flexibility, the commanding view, corporate identity and profit (Dovey 2008: Ch 8). The diagram of pedestrian paths connecting 'magnet' stores shows how flows of consumer desire are captured in the private shopping mall. Here desires for a safe, clean and cool or warm environment mix with desires for products, for a fantasy world and an anonymous sense of community. The diagram is not a transcendent ideal but a conceptual understanding of the immanent forces of similar place types.

A final word on the rather fundamental connection of design to desire – recall that for Deleuze desire is the primary force of life and of all forms of assemblage. Design is always based in flows of desire. A public transport plan is based on a multiplicity of desires to get to work, to shop and

to visit friends. A school design is based on desires for particular modes of teaching and learning, but also often conflicting desires for discipline and liberation. Assemblage thinking enables us to overcome simplistic divisions between materiality and meaning, architecture and planning, form and function, subject and object. It enables us to see buildings and cities as embodying twofold concepts such as rhizome/tree, difference/identity and open/closed. It enables us to break with static, fixed, closed and essentialist notions of place; replacing the Heideggerian notion of being-in–the–world with becoming-in-the-world. It enables a replacement of binary paradigms such as people + environment with the dynamic inter-connectivity of the socio-spatial assemblage.

OPEN PLANNING

I now want to indicate how assemblage thinking might be applied in a particular research project. As with any toolkit, the ultimate test lies in practice – what new ways of thinking about architecture does it open up? This project, undertaken with educationist Kenn Fisher, is a study of innovative spatial planning in school classrooms.[1] The traditional classroom is a typical case of what Foucault (1979; 1980) terms a disciplinary technology where the gaze of authority works to produce a normalized and disciplined subject. A one-way flow of information is orchestrated from a privileged position that also maintains a controlling gaze over a class of subjects. Classrooms are assembled into schools with corridor access; learning is clearly demarked in space and time from 'play' or 'recess'. Since the early twentieth century we have seen a range of architectural experimentation on the school classroom that has been loosely labeled open planning. Such changes have been generally driven by pedagogical theory sourced to people like Dewey (1966 [1916]), Vygotsky (1978) and others who suggest a multiplicity of ways in which students learn – didactic teaching being just one. There is not scope here to describe this shift in detail but it entails a move from singular and static modes of teaching and learning towards multiple group sizes and activity types over time; from a separation of learning from play to learning through play; from teacher-centred to student-centred with a demand for a range of place types and adaptability.

It has long been clear that student-centred pedagogies are seriously constrained by traditional classrooms. Through the mid-twentieth century there was considerable architectural innovation (Blundell-Jones 1995; Hertzberger 2008) and in the 1970's the so called 'open plan' school began to proliferate in the developed world, a move that was largely abandoned by the 1980's when many such open plans became re-segmented into traditional classroom cells. There were many reasons for this failure; among them are that designs were often driven by ideology or economy more than pedagogy. In the new century we are seeing a substantial re-emergence of student-centred pedagogy in all educational sectors. So how does architecture respond to such changing pedagogy and how are underlying issues of power, control and discipline played out? Assemblage theory offers a framework for understanding this shift, but also for understanding why it is that so many open plans have failed.

As part of a larger project entitled Smart Green Schools, we analysed a range of award-winning and innovative middle-school plans drawn from organisations promoting new pedagogies and new learning spaces.[2] These plans are replete with spatial categories such as 'general learning area', 'learning commons', 'learning street', 'open learning', 'lounge', 'collaborative learning', 'studio', 'meeting', 'activity area', 'heartspace' and 'breakout'. Each of these can mean many things but our key question is how has space been segmented and assembled? The analysis suggests that there are many different kinds of open planning. When conceived as socio-spatial assemblages of both people and buildings, plans and pedagogies, we begin to expose an extraordinary complexity of activities and

spatial types where the potential for any space depends fundamentally on its interconnections with other spaces.

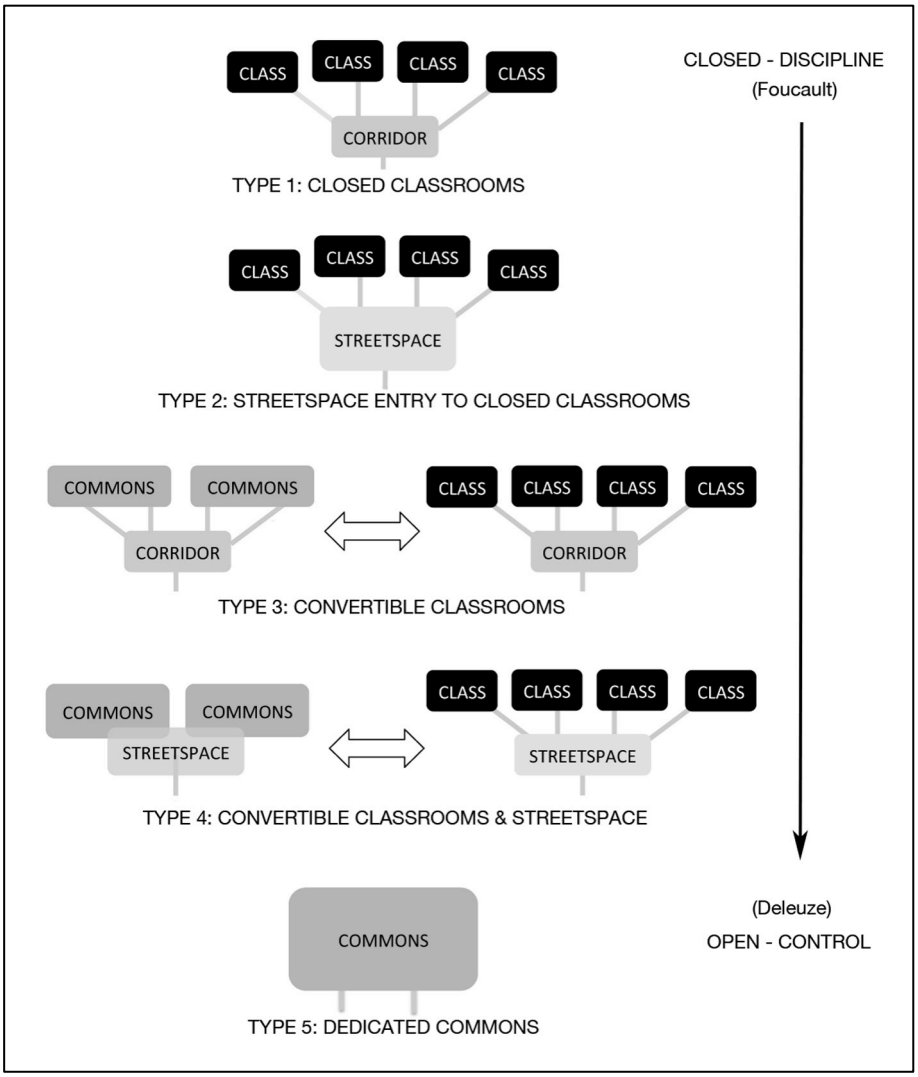

Figure 1: TYPOLOGY OF SEGMENTARITY

The focus here is on spatial segmentarity with the task to discriminate between different kinds of openness and closure. To understand the emerging plans a diagrammatic mapping technique has been developed responding to a need to simultaneously represent segmentarity (open vs closed) interpenetration (overlapping), connectivity (adjacency, syntax, through paths) and adaptability (openability, closeability). A typology of five primary plan types emerged ranging from the traditional classroom cluster to the fully open plan. This is illustrated in an indicative manner in Figure 1, which shows diagrams of the generic spatial assemblages for each type. Type 1 is essentially a traditional classroom cluster where the inclusion of open learning areas occurs at the level of the school rather than the classroom. Type 2 involves the inclusion of a learning 'street' as the entry space for a cluster of traditional closed classrooms. Type 3 incorporates plans where classrooms within a traditional cluster can be converted through moveable walls to become common learning space and vice versa. Type 4 is where an assemblage of traditional classrooms and learning streets can be converted from closed to open or the reverse. Type 5 is the dedicated open plan that cannot be converted to closed classrooms.

While there are many kinds of adaptability within these assemblages that involve the moving of furniture and changes to governance, pedagogy, spatial practice or timetables; our focus is on the flexibilities enabled by the architectural shell and it is crucial here to make a distinction between two kinds of flexibility. First there is the reversible convertibility from closed classroom to open learning areas, designed to enable conversion from traditional to student-centred pedagogies and the reverse. Second there is the ways the building enables flexible flows from one activity type to another within a multiplicitous pedagogy. These two kinds of adaptation that may be termed 'convertibility' and 'fluidity', operate on different time cycles and rhythms, and at different scales of control.

Plan types 1 and 2 are essentially non-convertible; the disciplinary technology of the classroom is maintained and progressive design is contained to a higher level of the spatial assemblage. It is interesting to note that while this is not a quantitative study, almost half of our sample of buildings selected as promoting progressive pedagogies belonged to these types. Analysis of these types needs to pay particular attention to the ways in which the parts are formed from their connections with the whole and to connections between different scales of the spatial assemblage. The distinction between 'streetspace' and 'commons' is based not on size or supposed function but on the existence or absence of through traffic. 'Streetspace' is a thoroughfare that generates social interaction but also loses the acoustic control and privacy necessary for many learning functions; 'commons' is open but not exposed to through traffic. Since it is exposed to prospective parents and visitors, streetspace has become the visible face of new pedagogies — it signifies student-centred learning. Thus we find the emergence of type 2 where streetspace is added to but segmented from traditional classroom space. Traditional pedagogy can proceed under the sign of progressive schooling. From the perspective of assemblage theory this can be understood in terms of 'faciality' – the emergence of an abstract machine or diagram that produces a 'face' of the assemblage – a surface akin to a map which we read as if it were the territory (Deleuze & Guattari 1987: 170-5).

Plan types 3 and 4 are designed with a relatively high level of convertibility between different pedagogies. These plans reflect the tension between pedagogies and the demand for buildings that will satisfy both traditional and student-centred learning. The adaptation from classrooms to commons is not possible during the course of a teaching session and may be controlled by principals rather than teachers or students. These are plan types where pedagogical bets are hedged; both/and solutions popular with funding bodies that seem to embody a resilience that enables pedagogical change without enforcing it. In these plans we can detect a tension between the Foucaultian conception of disciplinary technology and the more positive Deleuzian conception of flows of desire; often evident as tension between teachers wishing to teach in a traditional manner and a principle promoting student-centred learning.

Type 5 incorporates plans that cannot be converted into traditional classrooms, where the commitment to open learning is irreversible. It is important to note here that this does not strictly represent an architectural type; while types 1 and 2 have a very strictly coded spatial structure, types 3 & 4 are less strict and type 5 is an umbrella for a vast range of spatial configurations with considerable scope for architectural experimentation. Some dedicated open plans are highly complex with auxiliary spaces in varying degrees of closure; others are simple barn-like spaces where furniture arrangement and acoustics are left to the occupants. Such open plans are cheaper to construct than segmented plans and can be supported for budgetary or ideological reasons. Just as the classroom reproduces teacher-centred pedagogies, the irreversibility of the open plan can coerce teachers into new pedagogies. As one moves from types 1 to 5 the segmentarity becomes less rigid and more supple. Yet the practices of power also become more subtle; Deleuze describes this as a movement from regimes of discipline to those of control and warns that these new spaces of openness "could at first express

new freedom, but they could participate as well in mechanisms of control that are equal to the harshest of confinements" (Deleuze 1992: 4)

I earlier suggested two kinds of flexibility or adaptation – convertibility and fluidity. The latter involves the capacity for flow and change between activities within the cluster. This is enabled in part by the scale and openness of the space, yet as the space becomes more exposed and noisy, as the classroom becomes 'streetspace', it can constrain self-directed and reflective activities. In other words the openness also produces a demand for segmentarity, closure or semi-closure. One paradoxical result is that the most open of plans are often not the most fluid because they constrain choice. In this sense fluidity is a condition produced by the conjunction of openness and closure rather than one or other side of this continuum.

The set of twofold concepts sketched earlier are at play in all these plans. As pedagogies move from traditional to progressive the spatial structure moves from the hierarchy of hallway and classrooms to a network of interlinked spaces. The disciplinary striation of types 1 and 2 makes way for the smoothness of open space, singular identity gives way to multiplicity and difference, rigid segmentarity becomes supple – and, potentially, order becomes chaos. Yet this movement is far from simple since the rigidity of segmentarity may be transferred to a higher level of assemblage – the cluster of learning spaces becomes internally open but externally closed with a rigid boundary around the cluster.

Underlying this shift from teacher-centred to student-centred pedagogies is the issue of practices of power and how they are implicated in the architecture. Foucault's work explains a great deal about the traditional classroom, and it also sows the seeds for understanding the architecture of student-centred pedagogies. What he termed the 'apparatus' of power (dispositif) (Foucault 1980: 194-228) becomes the assemblage for Deleuze and Guattari (1987) where micro-practices of power are integrated with understandings of the ways productive self-organized wholes emerge from dynamic interactions between parts. In this sense the movement from traditional to constructivist pedagogies and from closed classroom clusters to more open spatial assemblages can be seen to parallel the move from Foucaultian to Deleuzian conceptions and practices of power; from an assemblage of discipline to one of becoming; top-down practices of power *over* make way for the student-centred power *to*. Again, however, things are not simple. How to stop a student-centred descent into chaos? A significant proportion of the more open classroom clusters incorporate staff areas with a clear surveillance function. On some plans panoptic locations are designed and named as 'resources' or 'co-ordination'; in others rooms or alcoves are left blank in locations that could be appropriated for staff control. The transformation into an open plan raises concerns about discipline that are addressed by producing new forms of surveillance — one panoptic regime is replaced by another. There is nothing surprizing here; micropractices of power are not eradicated, rather they become more subtle as we move from regimes of discipline to those of control (Deleuze 1992).

A word is in order about the diagrams in Figure 1 which may appear to be reductionist. They are nothing more than conceptual tools, to be judged on their usefulness rather than claims to truth. The diagrams have important precedents in Alexander's (1977) pattern language and Hillier and Hanson's (1984) spatial syntax. I would like to acknowledge the importance of this work but also to point out some key differences. Alexander is in many ways an assemblage thinker who wrote the seminal paper 'The City is not a Tree' (Alexander 1965) and argued that a building is not a 'thing' but the result of a set of forces (Alexander 1964). A 'pattern' is at once a set of social, spatial, aesthetic and material vectors or forces in a given situation and a diagram that resolves them. The key difference from assemblage theory lies in the essentialism of Alexander's approach, which is organic rather than

machinic, transcendent rather than immanent. Hillier and Hanson's (1984) approach, while also demonstrating much in common with assemblage theory, has a positivist and reductionist character that is biased towards the material pole of the assemblage.

The diagrams in Figure 1 have two key functions, one practical and one theoretical. The practical function is to identify similarities and differences in plan structure at an abstract level that both designers and educators can understand. The diagrams embody a spatial language that can distinguish, for instance, between 'streetspace' and 'commons'; between interpenetration and openability; between 'reversibility' and 'fluidity'. The diagrams have the potential to lift the design process out of the simplistic categories of open versus closed and into a discourse of multiple plan types. For architects, who universally loathe being given template plans to comply with, this leaves scope for both creative adaptation within plan types and the invention of new types. The theoretical function of the generic diagrams is that they reveal the immanent productive forces of assemblage, the ways that flows of desire congeal into certain socio-spatial patterns. Each of the cells in the diagrams is a form of territory that may be more or less rigidly inscribed in both material and expressive terms. What I have described as adaptation, reversibility and fluidity can be seen as the processes of deterritorialization and reterritorialization where one practice or pedagogy is erased and another is enacted. The current plans mostly reveal contradictory desires for buildings that will support both traditional and student-centred pedagogies – the building is an outcome of the assembled desires of teachers, students, principals, funding agencies, architects and parents.

OPEN THINKING

The open plan school is just one small example where assemblage thinking might be applied to architecture, and while the focus here has been on spatial segmentarity, there are also many other dimensions of assemblage.[3] In more general terms assemblage thinking enables a range of approaches to architecture in terms of both theory and practice. It provides a framework within which we might get rigorous about a focus on connectivity and flow rather than object and form. It embodies a focus on between conditions that privilege the both/and over the either/or. Assemblage theory enables a more rigorous critique of the ways in which architecture works to produce or constrain spatial practices and subjectivities. It enables us to explore the myriad ways in which buildings are produced by flows of desire and are productive of further flows. Assemblage thinking focuses attention on multiple scales of assemblage and on the crucial connections between them.

I argued earlier against any front to back reading of *A Thousand Plateaus* because it is not organized like a tree, and the first chapter 'Rhizome' makes clear the privileging of rhizomic over arborescent thought. This conceptual contrast finds a parallel in the penultimate chapter on striated and smooth space (Deleuze & Guattari 1987). The 'smooth', with its absence of boundaries and slipperiness is easy to identify with open planning while 'striated', with its links to 'strict' and 'stringent', is easy to identify with Foucaultian disciplinary technologies. The smooth resonates with the rhizomic and networked while striation resonates with the arborescent and hierarchical (Patton 2000). While the rhizomic and smooth is consistently and implicitly privileged, this priority needs to be read critically as a reversal of traditional forms of thinking that see the world in terms of pre-existing unities. These are not different types of space so much as properties of all spaces, as Deleuze and Guattari (1987: 474) put it:

> Nothing is ever done with: smooth space allows itself to be striated, and striated space reimparts a smooth space... all progress is made by and in striated space, but all becoming occurs in smooth space. (Deleuze & Guattari 1987: 486)

What should we make of the idea that “all progress is made by and in striated space”? I read this as a recognition that territorialization, organization, stabilizations of identities and practices are fundamental to the ways we live. While architects can have a significant impact on the ways in which the smooth/striated twofold plays out, the act of design is primarily one of striation - of stabilizing the forms of buildings, the construction of walls, the inscription of meaning - the idea of designing a smooth space can be a dangerous illusion.

The conceptual opposition between smooth and striated, between lines of flight and points of stability, between 'wings and roots' to add another metaphor, makes it tempting to add the conceptual opposition of space versus place and to identify space with freedom and movement in contrast with the stability and rootedness of place. I think this is a serious mistake and that place is best conceived as the assembled mix. The concept of place has been widely misrecognized as an organic tree-like concept that organizes spatial meanings around an essentialized stem. This view of place is understandable since it meets a primary human desire for a sense of home and identity. Place can be identified with the axis of territorialisation along which assemblages become stabilized. Yet the wholesale identification of place with being, stability and striation, with singular modes of rooted sedentary dwelling and stabilized identities is a narrow, self-deceptive and insular view. Place is an assemblage that stabilizes dwelling but also encompasses lines of movement and processes of becoming. The immanence of place is a field of differences within which tree-like stabilized identities are planted.

In all of these senses places can be construed as assemblages in continuous states of change. Such an approach to place runs counter to Heideggerian notions of place as grounded in an ontology of ‘being’ rather than ‘becoming’. Some of those who adopt a Deleuzian approach to built form see the need to overturn the Heideggerian notion of a spatially grounded ontology. For Rajchman (1998: 86) the 'grounding' of dwelling in place is a source of false naturalism and a constraint on freedom: "we need to get away from the picture... that the lifeworld is in the first instance a grounded world.” From this view, the gravitas and heaviness of the earth is to be overcome in a Nietzschean spirit of freedom; place is an anchor which weighs us down. As Rajchman (1998: 88) puts it: “Once we give up the belief that our life-world is rooted in the ground, we may thus come to a point where ungroundedness is no longer experienced as existential anxiety and despair but as a freedom and lightness that finally allows us to move". There is here a privileging of movement over stasis, of 'wings' over 'roots' which is understandable, but the ideal of severing buildings from the ground on which they stand is wishful thinking that suggests architecture can escape the constraints of dwelling. This involves a denial of the materiality of the assemblage and, ultimately, a reduction of architecture to text. The task is not to decide between an architecture of roots or wings but to understand that it is always both: points of order and lines of flight, smooth and striated, openness and closure.

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[2] These organizations were: The British Council for School Environments (www.bcse.uk.net); Design Share (wwwdesignshare.com) and *the Council of Educational Facility Planners International (www.cefpi.org)*. The sample included 68 middle-school plans with a global spread but a bias towards the English-speaking world.

[3] I have been using the assemblage framework at an urban design scale in the investigation of creative clusters, transit-oriented developments and informal settlements, see: Dovey 2010, 2011, in press; Dovey et al 2012.