

Ch 15: Urban Design Pedagogy

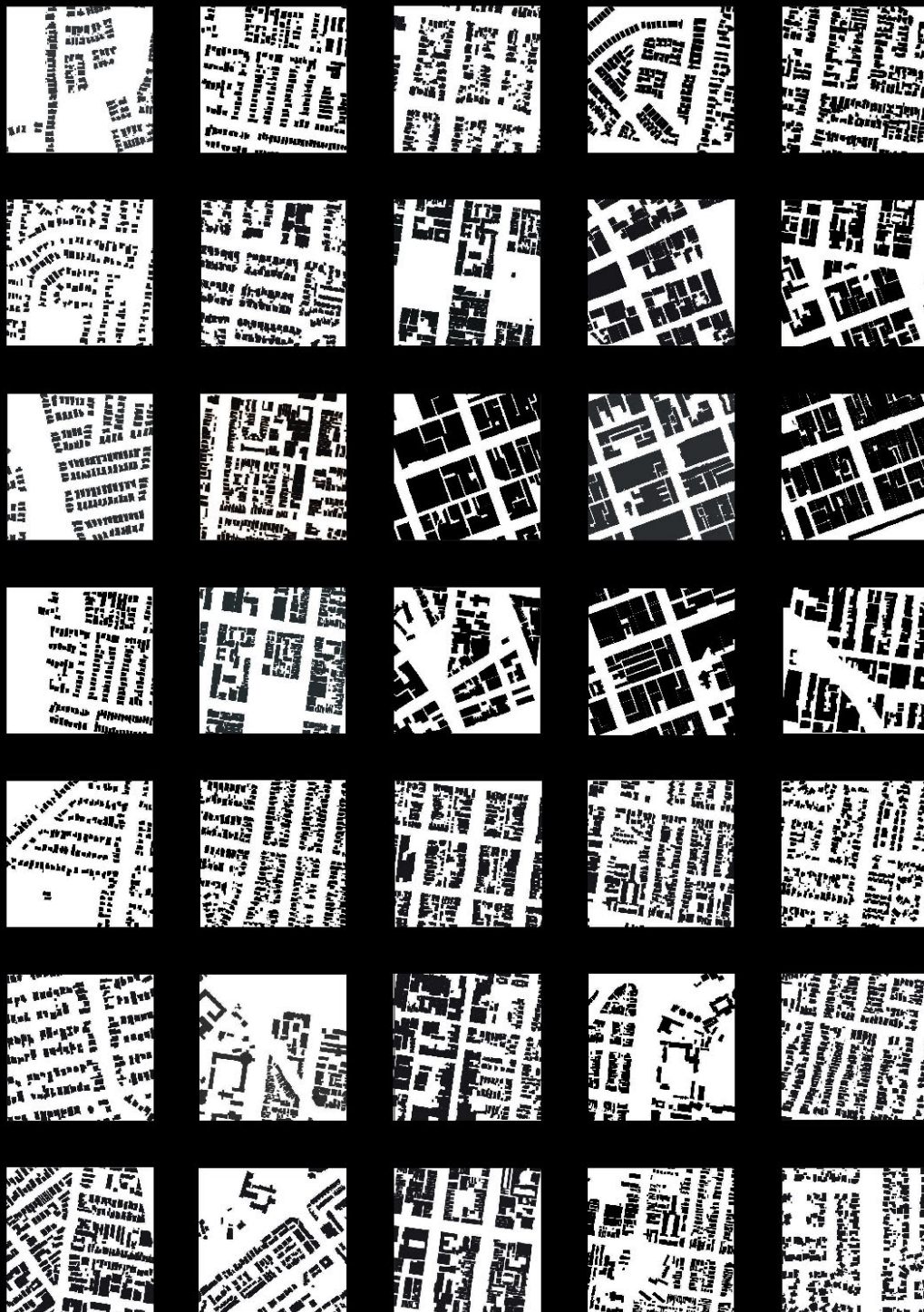
Elek Pafka and Kim Dovey

We began this book with the claim that mapping plays a key role in the production of spatial knowledge; here we discuss the use of mapping in the propagation of knowledge, in helping students to explore, to see and to understand cities, as a tool in urban design pedagogy. While the potential of film (Strickland 2006), video (Lim et al. 2015) and GIS (Moudon 2015) in urban design teaching has received attention, the potential of morphological mapping remains relatively unexplored. This chapter is based on our experience of teaching the subject Morphological Mapping for third year undergraduate students at the University of Melbourne. The key aim of the subject is to introduce students to multiple ways of seeing, observing and analysing complex urban environments, to raise their interest and curiosity as a starting point to a lifelong process of learning from cities. Direct observation is the basic method that enabled urban thinkers like Cerdá, Sitte, Lynch and Jacobs gain their seminal insights on how cities work. Mapping can be a framework for structuring direct observation as well as focusing it on socio-spatial relations. We seek to defamiliarize the city for students in a manner that enables them to discover the less obvious dimensions of urbanity, to draw connections between morphologies and streetlife, between the measureable and the unmeasureable.

The teaching program is structured around weekly exercises, whereby the city is explored through a new lens each week of the semester. The introductory exercise is a multi-layered mapping of each student's own neighbourhood - the 16 hectare area around their home. Students map building footprints (fig.15.1), private and public open space and pedestrian space in separate layers, and then experiment with combinations of layers to explore the relations between them. Through this process they discover the analytic capacities of mapping, relations between public and private space, between pedestrian and vehicular domains, and between buildings and voids. This helps to identify existing skill levels and opens questions about how these maps relate to the experience of home. Through discussions students also gain a sense of the variety of urban and suburban morphologies in which their classmates live.

In the following weeks a broad range of morphological conditions are explored through the prism of the urban transect. The transect as a sample cross-section traversing various spatial configurations has been much used in urban studies from Geddes (1988, orig.1915) until today (Mantho 2015). Here we chose a 400m wide and 2km long section through central Melbourne, traversing from Federation Square in the south, through a range of morphologies to extend beyond the central city grid to the inner-city in the north. This transect incorporates a large variety of building types, heights, public/private interfaces, functions and activities, making it a rich urban laboratory.

Working both in groups and individually, students are asked to map a broad range of forms, flows and relationships. For many of the exercises the transect is sliced into a series of smaller overlapping 12ha zones with each student mapping a different zone using identical criteria for the weekly 'lens'. These 'lenses' range from functional mix and public/private interface types to street signage and CCTV viewsheds. The individual zones overlap in order to reveal during class presentation how the same urban condition may be perceived and mapped differently. This leads to discussions about temporality, ambiguity, hybrid typologies and informality. As the process of mapping is an abstraction, a reduction of diverse and fluid urban conditions into defined categories, questions are also raised about the categories chosen and how this influences the results. A key aim here is to develop critical thinking, to question the kind of abstraction that takes place when mapping the city, to be aware of both what is shown and what is left out.



Morphological Mapping

ABPL30051 - Semester 1, 2016

Coordinator: Elek Palka

Home Territories

Fig.15.1 Home territories: building footprint maps of students' neighbourhoods.

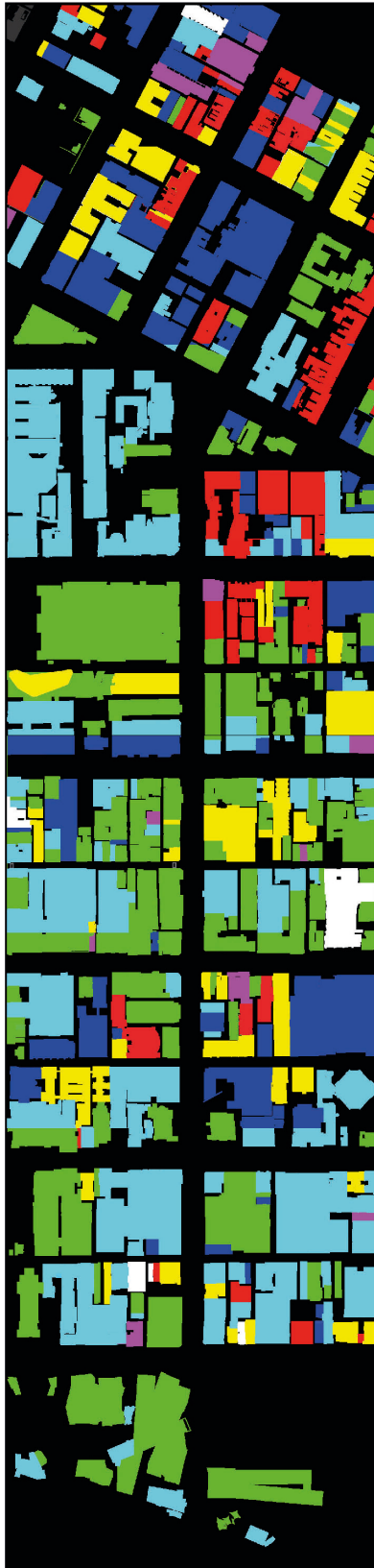
The individual maps are then combined into collective maps of the transect. These composite maps reveal some of the inaccuracies and inconsistencies where different maps are juxtaposed, yet they also reveal the overall morphological patterns across the transect. For the mapping of functional mix the live-work-visit triangle presented in chapter 2 was used (fig.15.2 left). It reveals how the visit (green) and work (blue) functions sometimes mixed vertically (cyan) to dominate the southern section of this transect (Melbourne CBD). The northern section (inner-city neighbourhood) is characterized by a horizontal mix of live, work and visit, represented by the dominance of the primary RGB colours. The vertical mix of live-work (purple) is rare. The mapping of interfaces followed the typologies presented in chapter 9. It shows a high level of mix as in creative clusters (chapter 10), yet with less setbacks (fig.15.2 right). These mapping exercises are used as frames for teaching disciplined research, broadening awareness of the range of morphological elements that compose the city and to introduce mapping as a tool for analysing connections beyond the phenomenological scale. It might be easy to conclude that this is a very labour intensive means of generating data that is increasingly available in GIS format. However, in this case the means is crucial since it is a primary pedagogical goal to get students onto the street, observing through a particular lens, learning to discriminate between functions, interfaces and so on. This is the primary tactic of defamiliarization - students will absorb many other aspects of urbanity while they are distracted by the mapping task.

As a final exercise, all of the data collected over the semester is made available to students who are asked to produce a single map demonstrating a creative and critical interpretation of one of a series of keywords such as 'rhythm', 'power', 'adaptation' or 'wealth'. These words are chosen to span across the various layers that have been investigated and because they return in a more oblique way to the experiential dimensions of urban life. Having learnt the value of strict rules, here students are invited to map a less measurable aspect of the city, one that is linked to its experiential dimensions or to its capacities. As Lao Tzu would put it: "The possession of method liberates us from the necessity of possessing method". The five examples we include here are a small selection of such assemblages, displaying a range of approaches and insights.

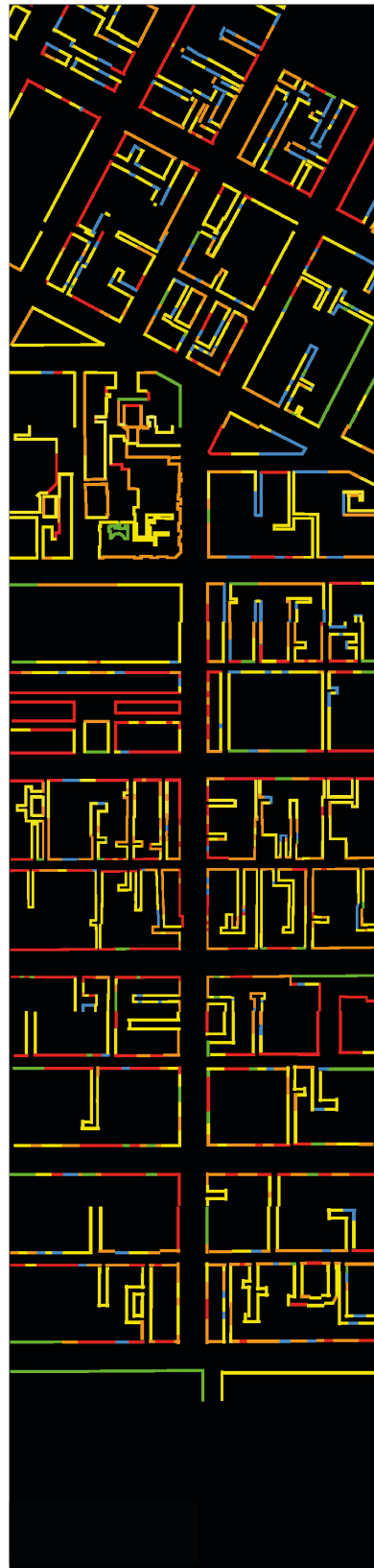
The map entitled 'control' (fig.15.3 left) shows how pedestrian flows (red = high) fall within CCTV viewsheds. The fact that the map resembles the street network eloquently illustrates that most public space in the transect is within the sight of CCTV cameras. Yet at the same time the fractured appearance of the viewsheds corresponds to their separate operation and control by hundreds of different landowners. Thus while this section of the city appears to be a potential panoptical space where there aren't many places without 24/7 surveillance, no-one has real-time full overview, hence control.

The 'network' map (fig.15.3 right) shows restaurants serving Asian cuisine and potential connections of less than 200m between them. The web in the centre of the transect is a visualisation of what's known as 'Chinatown' and its connections north- and southwards. This area has a fine grain structure, with a large number of small venues clustered in a few central city blocks. This network is juxtaposed with public visitor attractors, mostly large museums, theatres and libraries (ochre footprints). The dense web of micro-connections visualises the capacity of fine-grain morphologies to generate intensive interaction.

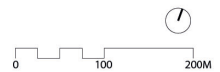
The 'rhythm' map (fig.15.4 left) illustrates midday pedestrian flows and how they relate to building entrances for work (light blue) and retail (dark blue). Here the smoothly meandering pedestrian trajectories tend to align with the fine-grain retail entries in the central part of the transect, while the large-grain work-related entries face less streetlife. This convergence of lunch time pedestrian flows with spaces of consumption and exchange is consistent with the rhythms presented in chapter 5. The 'porosity' map (fig.15.4 right) illustrates permeable and transparent public/private interfaces (light grey) and building entrances to work (magenta), retail (purple), spectacle (blue) and residential (green) functions. The overlay of morphological and functional interface types shows both convergence, such as in the case of permeable retail frontages and divergence, such as in the case of work entries.



MIX



IMPERMEABLE
DIRECT OPAQUE
DIRECT TRANSPARENT
SETBACK
VEHICULAR



INTERFACES

Fig.15.2. Functional mix and interfaces maps (collectively produced by 14 students).

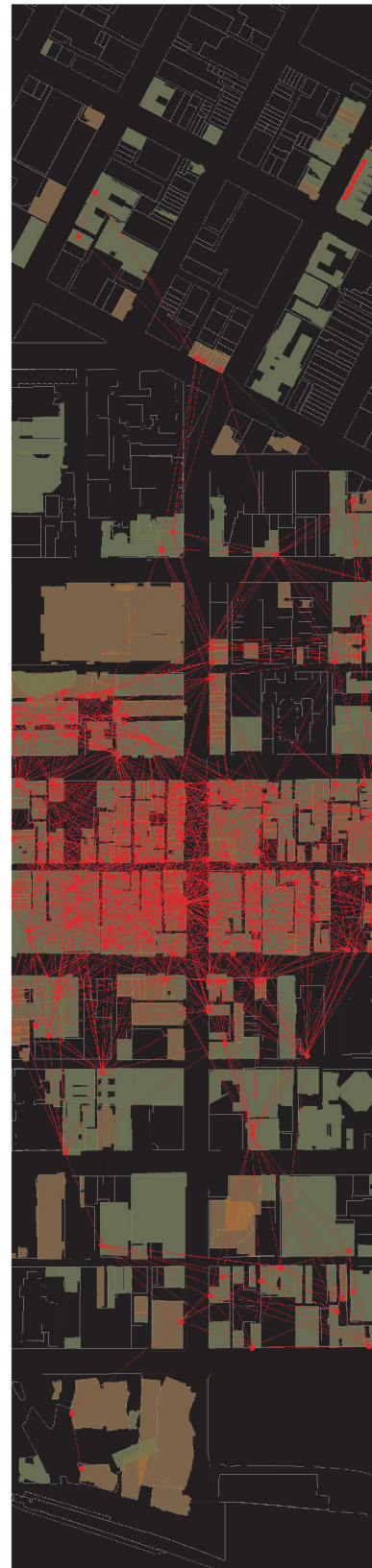


CONTROL

CCTV VIEWSHED



PEDESTRAIN FLOW
Low High



NETWORK

- ASIAN RESTAURANT
- <200M CONNECTION
- PUBLIC ATTRACTION
- MIXED USE

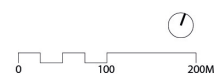
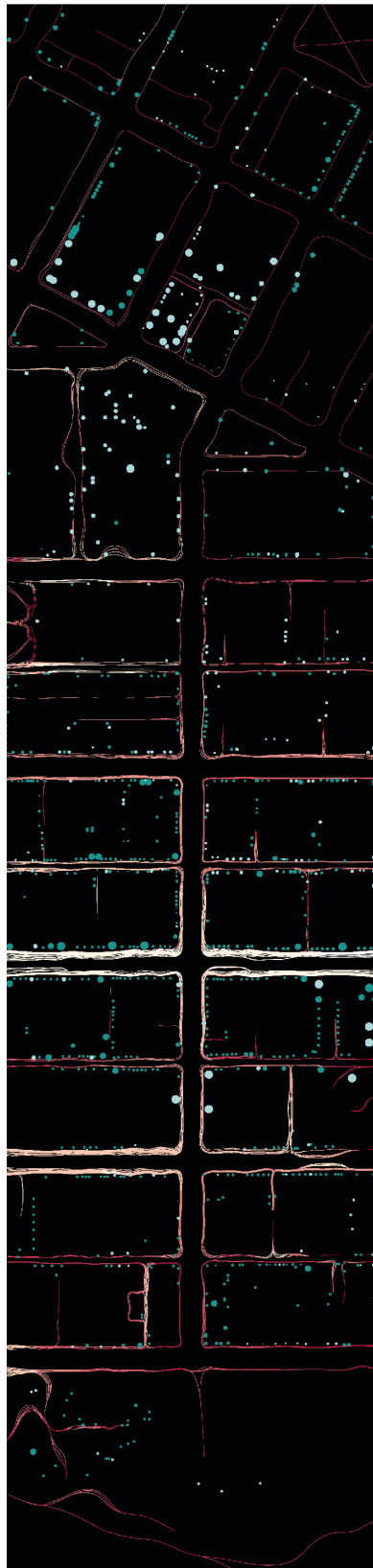
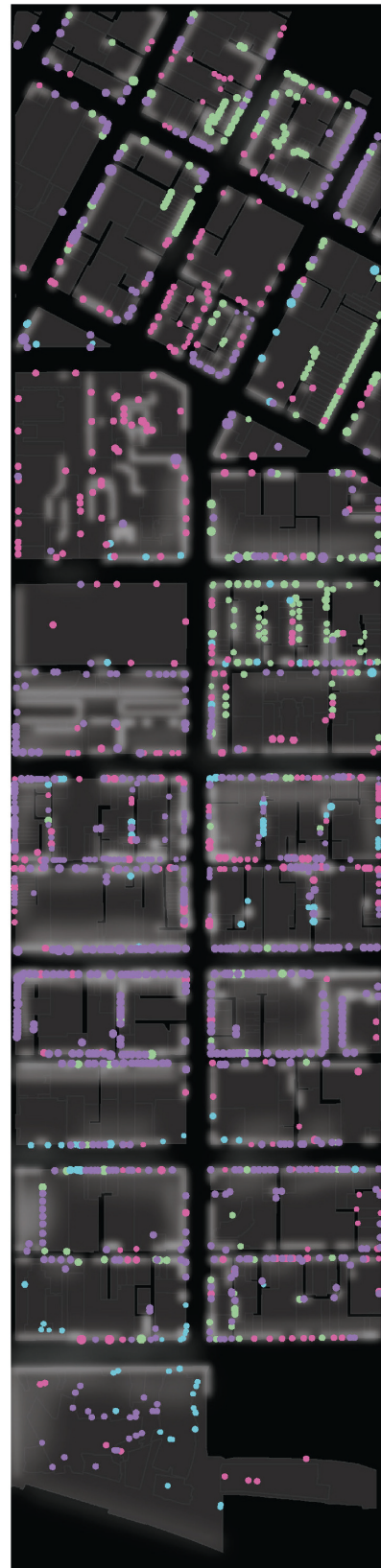


Fig.15.3. 'Control' and 'Network' (maps by Enoch Chang (left) and Poh Yen Tabitha Yeoh (right)).

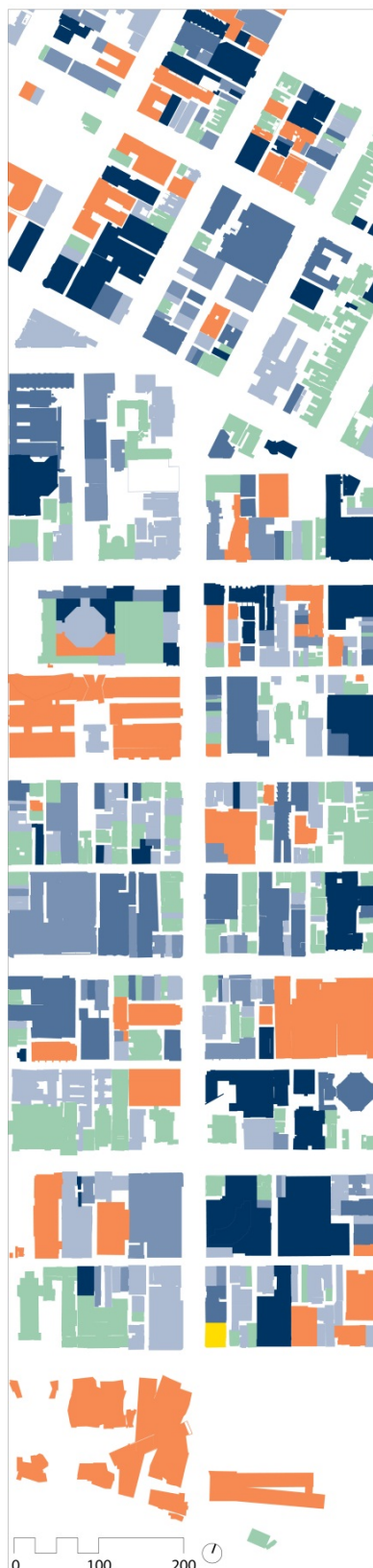


RHYTHM

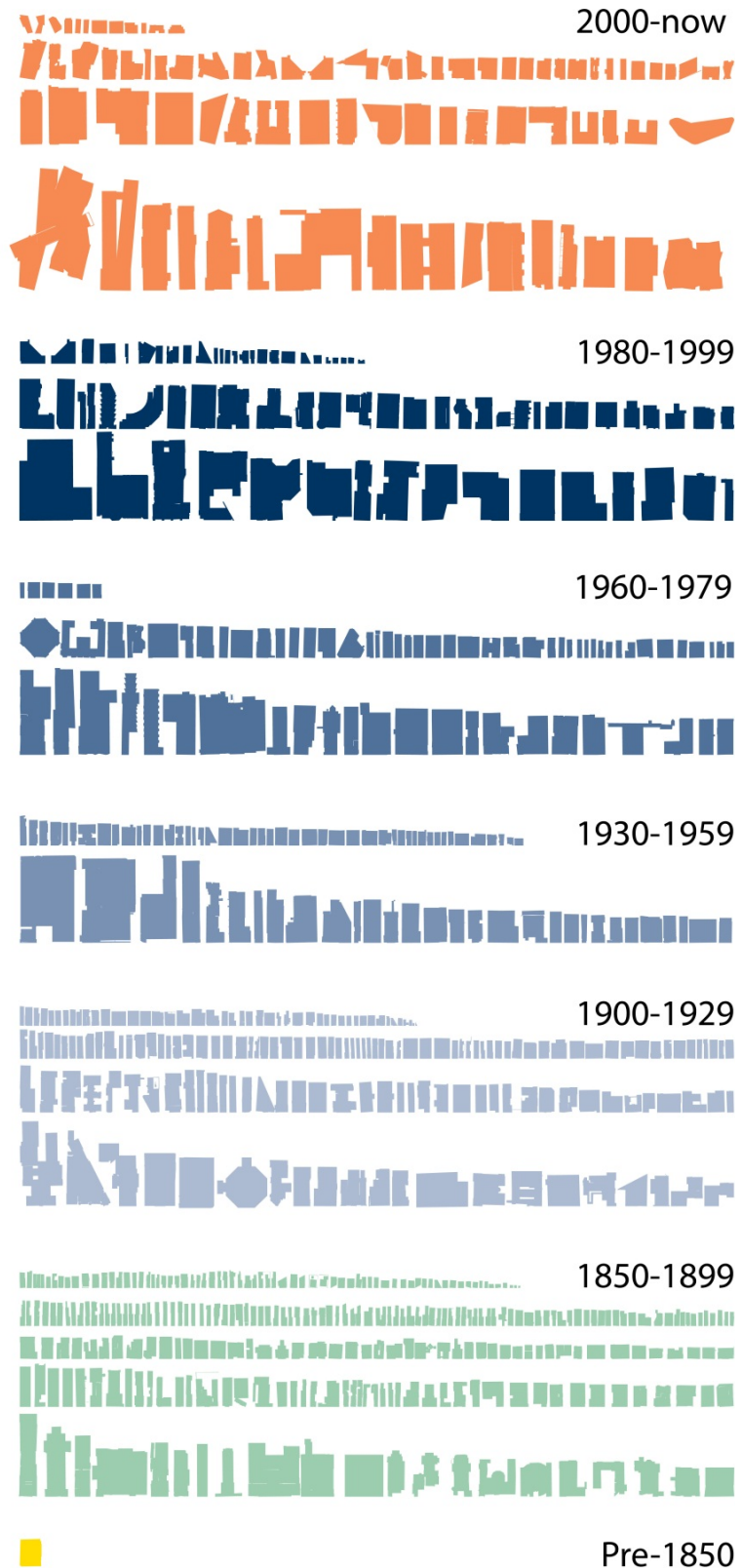


POROSITY

Fig.15.4. 'Rhythm' and 'Porosity' (maps by Laura Benoit (left) and Clarice Egan (right)).



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CHANGE

Fig.15.5. Mapping morphological change (map by Lucas Wells).

The final map included here is a morphological analysis of building footprints by building age (fig.15.5). Combining mapping with diagramming, the footprints are extracted and displayed according to the period they were built. While the map on the left simply shows a high level of mix between building ages with no dominant pattern, the diagram on the right shows how newer buildings are significantly larger. Newer footprints also tend to become less intricate, as increasingly free standing buildings have been replaced by developments that seek to fill in the entire lot - usually rectangular in shape. While many 19th century buildings survive, overall they cover a small area, less than a fifth of the transect. This de-bricolage technique previously used by Caron (2010) as a way of artistic exploration of the geometric complexity of city plans, is here employed for a more rigorous analysis of urban morphological change.

While these maps do not provide a complete picture of the interconnections between morphology and everyday urban streetlife, neither do they descend into the kind of reductionism that has plagued urban planning theory and practice throughout the 20th century. Mapping is not simply a matter of establishing facts yet it is a means of constructing spatial knowledge - indeed the very kind of knowledge that is at the heart of the ways the best urban designers, architects and planners practice. What these examples have in common is an openness to the observed territory, the basis of the best kind of learning about cities.

Morphological Mapping has also provided a testing ground for various mapping methods, investigations of urban morphology and a forum for discussion. As maps embody spatial knowledge that is not replaceable by words or numbers, so is intellectual exchange in this field reliant on communication with maps in all formats, including large scale and colour. This reliance of morphological mapping research on visual communication may be a reason why the early morphological schools had such a strong geographic concentration around universities in Venice, Birmingham and Paris/Versailles (Moudon 1994).

Urban design, like the city itself, is fundamentally multiple and therefore also subject to multiple pedagogies. A key task is to prevent students from performing any one of the many reductions that are on offer - reduction to phenomenological analysis, big data, discourse, graphic design, parametric design or morphological analysis. Many 'isms' hold the same threat: modernism, post-modernism, participationism, new urbanism, formalism, marxism, deconstructionism. There is no one thing that explains cities, no single way of designing them, no singular urban design pedagogy. All great cities are different and the best urban design teaching inspires lifelong learning about them. Our goal is to focus student attention on the various particularities of urbanity and on the ways that the larger whole of neighbourhood, district and city emerges through multiple forms and practices. Mapping, we suggest, can be fertile beginning to such a process.

Acknowledgements:

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