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The morphological basis of practice: learning from doing

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Reconciling change with the maintenance of historical character is a major challenge for urban planners. The *Plano Director Municipal* for Porto offers valuable lessons, not least for urban morphologists designing a house for their own occupation within the area covered by the plan.

The Porto Plan was ratified in January 2006. Its preparation involved a comprehensive typo-morphological analysis to identify the tissues constituting the city of Porto. The main characteristics of these tissues formed the basis for the regulations supporting the process of development control. Control of design detail generally decreases from the historical areas to the areas of isolated buildings.

A previous contribution to this journal focused on plan implementation and planning practice (Oliveira *et al.*, 2014). In relation to conservation in historical areas, where design control is at its greatest, the main strengths and weaknesses of development control were identified. Here we offer a different perspective, focusing on a specific building we have designed ourselves in an urban tissue in which design control is at an intermediate level. Since we are both the owners and the architects of the building, options were either those provided by the Plan or those determined by us.

The house was built on a rectangular plot, 5 m wide and 40 m long (Figure 1). It is within the Plan's 'Tissue III: Areas of Continuous Building Frontages and Plots in the Process of Repletion' (see Oliveira, 2006, for a detailed description of this tissue). The street, Rua do Lindo Vale, is 2 km from the historical centre of Porto. It is 10 m wide and 500 m long, and dates from the nineteenth century. Over recent decades, the street went through major transformations, with numerous demolitions and the construction of many new buildings. The building that previously stood on the plot had already been demolished when the plot was acquired. Only a part of the building's main façade remained intact, and reconstruction was not a feasible option.

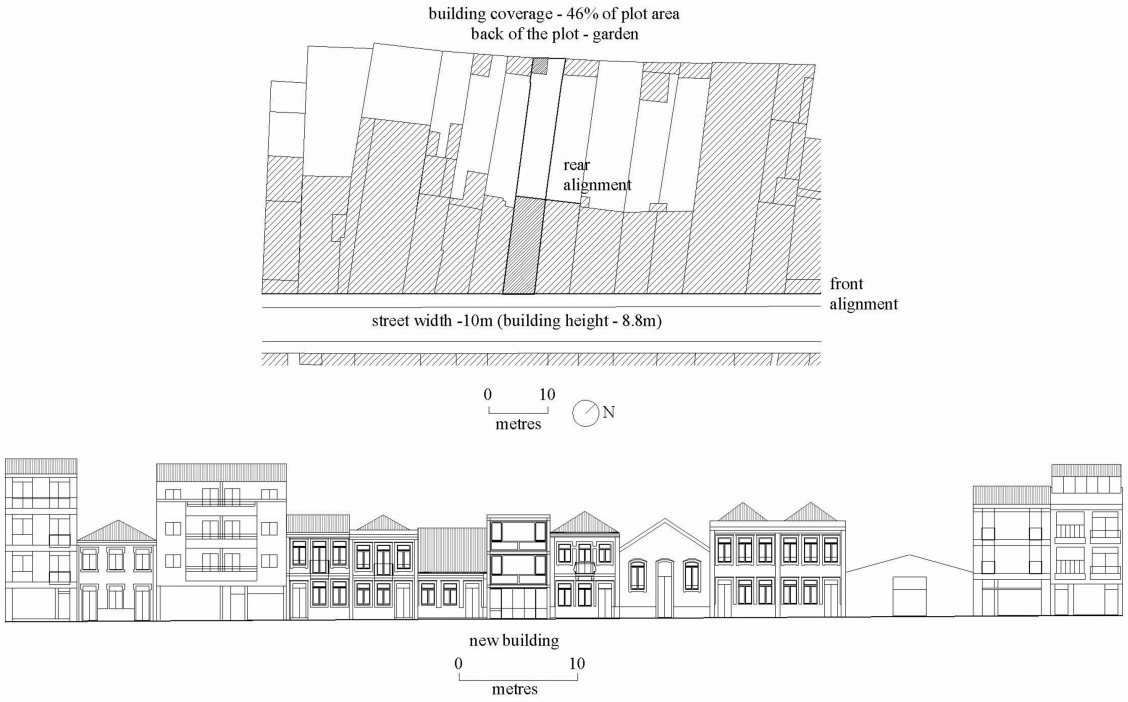

Figure 1. Plan and façades of part of Rua do Lindo Vale, Porto.

In size the new building follows the main guidance of the Plan, contributing to maintenance of the existing relationship between buildings and street. It follows both the front and rear alignments of all buildings in this section of the street. The building height is 8.8 m (1.2 m less than the width of the street); the building coverage is 46 per cent of the plot area; and the rear of the plot is garden. Conformity to the size of existing buildings requires an interior arrangement of rooms similar to that of surrounding buildings (and, indeed, of traditional houses in Porto). The maintenance of existing plot boundaries needs to be seen in the context of the rarity of plot amalgamation in Porto in recent decades: where it has occurred, it has usually preceded the construction of an apartment building, not a single-family house.

Apart from specifying the size of the building and its position within the plot, the Plan for Tissue III provides no guidance on architectural style. The style chosen was influenced by modernist architecture. It has a symmetrical and classically proportioned design, contains similarly sized elements, and has a neutral range of colours and materials. It clearly 'belongs' to Tissue III, and would be out of keeping with other tissues, such as Tissue I or Tissue II. In the latter two tissues the Plan offers sound guidance on architectural style: architectural creativity must not be confused with the destruction of fundamental expressions of urban history.

A different architect might well have designed a building in a different architectural style for this plot or a similar plot in this street. However, it would have needed to conform to the main constraint on new buildings in this tissue; namely to maintain a sound definition of the street.

The Porto Plan helps to maintain the character of the city while allowing for change. It does so by acknowledging that the city is composed of different parts. In some of these parts, the main concern is to maintain the historical character of the city by conserving its streets, plots and buildings. In other parts, the Plan allows for the creation of new built forms. Some of the new buildings will form the built heritage of future generations.

Could the Porto Plan make a more tangible contribution to improving the quality of architectural design of new built forms, addressing matters such as materials, colours and design of doors and windows, to name a few? Or is it already imposing too many constraints? And what should be the role of different architectural schools of thought? There are not easy answers to these questions. But addressing them is central to strengthening the relationship between urban

morphological research and professional practice. The particular example of personal involvement considered here strengthens our view that the Porto Plan is able to promote an urban morphological culture among the agents responsible for the transformation of the form of this city.

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Interlacing urban morphology and design studio education: the time is ripe

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Researcher Anne Moudon laments that for architects and planners 'morphological analysis remains a difficult mental exercise' because few practitioners are willing to 'spend time assessing the impact of their design decisions on the city' (Moudon, 1997, pp. 3-8). There are several root causes: the economic realities of development inhibit capacity to engage in reflective urban practice; a majority of practitioners have not been exposed to urban morphology theory or methods during their educational experience; and design studio faculty rarely teach morphological methods as part of a pre-design process for site and context analysis. If urban morphology is to gain widespread acceptance in design practice, it must first become a mainstream component of architectural and urban design curricula. This is not the case in the United States (and probably elsewhere in the world) where professional design and planning programmes rarely include urban morphology as an elective, much less a required subject. By contrast, use of Kevin Lynch's methods (1981) for imageability and legibility analysis are commonly integrated into design studio teaching and required courses in urban theory. What impediments continue to prevent urban morphology from becoming a mainstream subject in the discourse of architectural and urban design education and what strategies might help to better profile its importance?

Over the past 15 years I have sought to communicate urban morphology's relevance to architecture students through multiple teaching venues including topical seminars, as a component of urban theory courses and as an applied method for context analysis in design studio courses. I discovered the value of Conzenian methods (Conzen, 2004; Whitehand, 2001) through my own efforts to better understand and interpret traditional town morphologies in regional contexts where I regularly engage students in community design and planning assistance partnerships (McClure, 2001, 2013). Through efforts to teach the subject I have experienced several frustrations and a few successes. Discussion follows concerning two of the most significant issues and suggested strategies to address them.

The first is to find appropriate course readings. Urban morphology lacks an appropriate publication in English for introducing its theory, purpose, language and potential applications to architecture and urban design students. As early as 2001, Peter Larkham highlighted the paucity of published work available to inform course content (Larkham, 2001). This persistent vacuum suggests a need to publish a concise, well-illustrated 'morphology of the city', in the spirit of Lynch's *The image of the city* (1960). If presented in a format that can engage students who are primarily visual thinkers, such a resource might find its way onto studio desks, thus exposing a broader audience of future practitioners to processes for systematic interpretation of the underlying structure of urban fabrics. Architecture students would be more likely to incorporate morphological methods as part of their process for site and context analysis in preparation for urban intervention projects, and urban design students would be more likely to develop design recommendations and policy guidelines that are based on a structural rather than cosmetic under-