LOOKING BACKWARDS: DRAWING DESIGN LESSONS FROM SMALL LOCAL BUILDERS FOR BRISBANE'S MEDIUM-DENSITY INFILL HOUSING

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ABSTRACT:

It is common to observe international architecture dominating design discourses in design studio discussions on undergraduate and post-graduate levels. Students are encouraged to engage with this discourse, adopting sophisticated ideas that challenge the status quo, often bearing solutions for social, environmental, and technological problems. A question I find myself often asking: how may we re-engage students with the unglamorous local built environment as the starting point of their design investigations? I have had the opportunity to interest students with a local housing type that is the catalyst to a) articulate the difference between 'design' and 'conditions for design', and b) examine market-driven housing that is often neglected in our discourses, but forms the framework in which architects design their projects. The significance of the study is that it a) demonstrated typology as a process of design, and b) drew design lessons from an un-likely source - the works of small local builders.

INTRODUCTION

Figure 01: Survey Photos

Information is readily available to both consumers and producers of design in our technology driven network, some are through digital magazines and blogs of the latest news and opinions; while others such as photographs and videos, are publicly available on the Internet supported by sharing platforms such as Flickr and YouTube. Also in recent years, there has been a proliferation of architecture and design publications. Given all of this, it is common to observe international architecture dominating design discussions in studio on undergraduate and post-graduate levels. Students are encouraged to engage with this discourse, adopting sophisticated ideas that challenge the status quo, often bearing solutions for social, environmental, and technological problems. On the one hand, I am impressed with the complexities of their work, however on the other, I am often shocked at the lack of relevance their frameworks and vocabularies have to the contexts of their work. A question I find myself often asking: is there a lack of lessons that we can draw locally? How may we re-engage students with the valuable, abide unglamorous local built environment as part of their design investigation?

For students engaged in housing design, I have had the opportunity to interest them with a local housing type that I have been studying for my PhD dissertation. The typology of Brisbane's medium-density infill housing type is the catalyst to (a) articulate the distinction between 'design' and 'conditions for design', and (b) examine market-driven housing that is often neglected in our undergraduate and postgraduate discourses, but forms the framework in which architects design their projects in practice.

HOUSING TYPOLOGY

The use of type can be traced to the age of craft, where craftsmen relied on models as the means to make artefacts. The act of producing through reference to models or templates meant that an artefact belonged to a class of repeated objects. More importantly, it meant that the essence of an artefact lay in its repeatability (Moneo 1978, p.23). Conversely, Moneo argues that an entire class of objects can be understood by the identification of characteristics that typify the whole. Moneo therefore describes type as:

> … a group of objects characterised by the same formal structure. It is neither a spatial diagram nor the average of a serial list. It is fundamentally based on grouping objects by certain inherent structural similarities. It might even be said that type means the act of thinking in groups. (Ibid.)

Almost all housing designs are based on some existing housing types. Because basic dwelling needs have changed very little over the years, many inherent social, environmental, and functional values in earlier housing types are still relevant today, the terrace house and the courtyard house, among many others. For students, it is important to identify what governs the taxonomy of housing. These can be density, architectural style, structural system, and so on. What is most useful to planners, architects, as well as students in the design of housing is the planning configuration of dwellings within the site. Housing typology by planning configuration enables detailed understanding of a type's benefits and disadvantages spatially, environmentally, socially, or economically. As a guiding principle of housing design, planning configuration of each type can be defined and re-defined with each generation of new housing. Even when many aspects vary between housing projects of the same type, such as decoration, structural system, and so on, the common character of their configurations remains the root form of the type.

The act of defining a type constructs a concept that embodies a set of meanings and conditions, while at the same time excluding others – a process of inclusion and exclusion (Schneekloth and Franck 1994, pp. 33-34). The naming of a housing type defines its unique planning configuration with its attendant housing conditions. Since nearly all housing designs are based on existing housing types, a project's successes, problems, and limitations may be determined by the housing type selected. Although typology is a prominent topic in architecture, there is surprisingly little written about it, this is especially so if one considers the large amount of work considered to be typological in nature. Typology includes any studies of particular building types for historical, theoretical, technical, or design purposes. For example, a picture book on recent skyscraper designs is a typology of this building

type. However, in general, this is not treated as an important fact. Perhaps this is a reflection of the topic's pervasiveness, but perhaps more importantly, it reflects how it is usually taken for granted. Typology accepts the premise that it contributes to the body of knowledge about the type. However at its base, the topic can be approached from many directions and points of view.

What is significant about housing typology is that it classifies a group of housing projects as belonging to a type, with which other types or groups of housing projects can be compared. Assessment of housing types therefore can produce a set of design principles in a language (by drawings, diagrams and built works) that is easily understood by designers and planners. This is a different working method to other forms of building assessments, such as those developed by international bodies including United States Green Building Council (USGBC), Building Research Establishment Environmental Assessment Method (BREEAM), Commission for Architecture and the Built Environment (CABE), Construction Industry Council (CIC), and locally Green Building Council Australia (GBCA). Building assessment tools developed by these bodies describe a much larger field of studies than simply design. Their emphasis is on improving building performances to minimise the negative impacts of buildings on human health and the environment. Each international body has its own set of criteria that represents its vision of what sustainable buildings are, which it integrates into a working process that owners, architects, and other building experts could participate in during the building process, from brief development through to post-occupancy evaluation. While housing typology develops general principles about designs using many different projects, building assessment tools examine one project at a time and mostly treat each project as an independent investigation and outcome. As a result, it is difficult for assessment tools to generate discussions and instruments that draw on the actual relationship between the attributes of specific designs and building performances in the way that the study of housing typology does.

Typology of non-architect designed housing is important because it represents the majority of housing production. Even though the outcome of architect-designed projects are innovative and more often than not, of a higher quality than general housing, this is only afforded to the privileged minority. Market-delivered housing occupies the general landscape of Brisbane's inner city area, with current policies of urban compaction, their numbers are likely to increase significantly in the coming years. As Murray highlights, general housing is often treated with a shrug of despair or quizzical disengagement (Murray 2007, pp. 43-45), little surprise that not much attention is given to examine their layouts and housing conditions. One of the reasons for this may be the perceived simplicity of market-driven housing, with little particularised details or motifs that generally attract the attention of architects. Another reason may be that developers often try to keep a low developmental cost; the designers' inputs are often neglected, which means that their fees can also be avoided (Carmona 2001, pp. 110-112). In Murray's own words, 'it is almost impossible to find an architectural discourse that attempts to uncover the embodied knowledge into contemporary and historical housing design and to

communicate this in a manner that would allow this knowledge to be used in developing new housing solutions' (Murray 2007, pp.43-45).

BRISBANE'S MEDIUM-DENSITY HOUSING TYPE

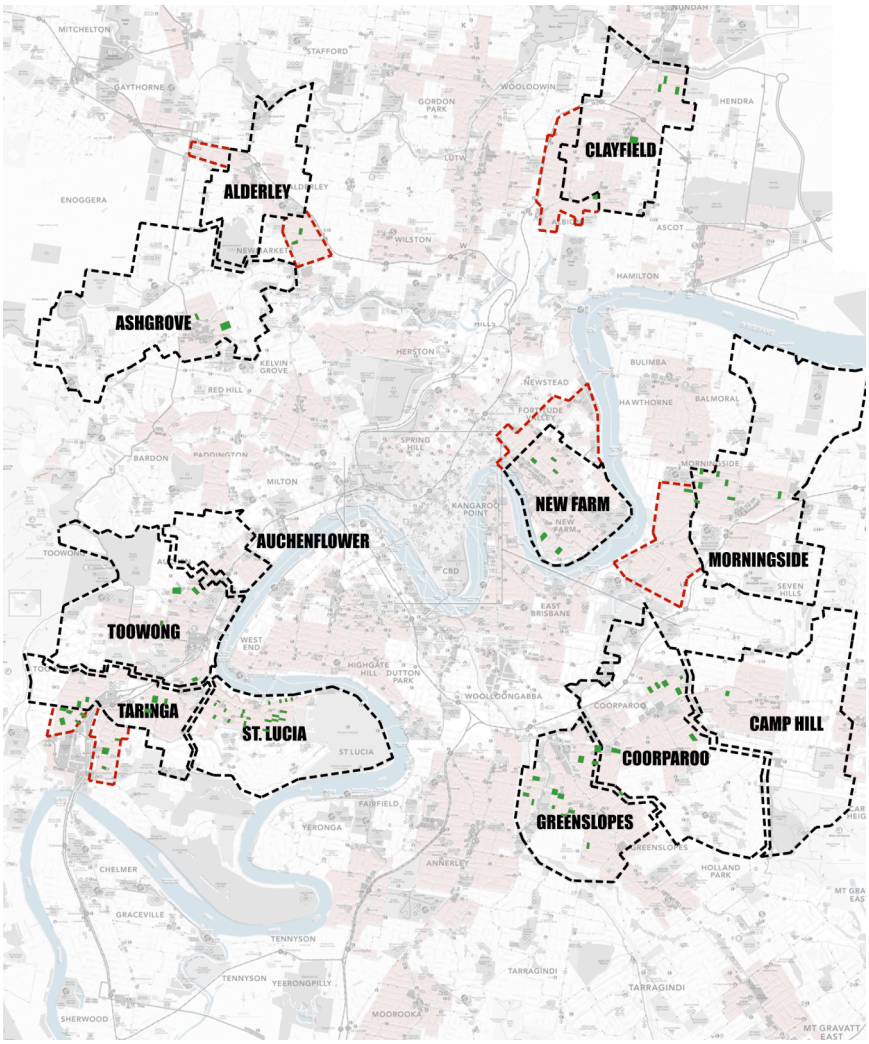

Figure 02: Map of Inner Brisbane (pink showing areas where medium-density infill housing is found)

The housing type I examined for my PhD, and for my discussion with students, is a medium-density infill type in Inner Brisbane. They occupy the pink areas illustrated in Fig. 02. Over the past 60 years, small independent builders have been responsible for much of the medium-density infill housing developments in Inner Brisbane. Many of the planning configurations developed over the years are still applied to new developments today, for economic, social, and functional reasons. Finding an appropriate *model* for replication is, therefore, a common

starting point for this type of housing development. It is difficult to trace when each model was first developed. What is significant is that the majority of developments seen today are reproductions of particular typological precedents. Each model addresses specific economic and social demands; this is often marked by a shift in configuration and/or building element. Once a model is developed, it becomes the basis for potential replications, or a framework for a new model; this process is ongoing today. Over time, medium-density infill housing has become as much a vernacular dwelling option as detached houses, and occupies a significant percentage of Inner Brisbane residential land. Because of this, there is a large sample base of housing models developed over 60 years or more.

Many, if not most, of these developments are financed, designed, and developed by small local builders, the majority of whom would invest time to understand and adapt the basic conditions of housing to market demands, comfort, and 'buildability' before they would consider issues of 'architectural design'. This rudimentary developmental practice is evident in the simple organisation and aesthetic quality of the housing projects. These attributes alone do not suggest that they are poor quality housing. Rather, I argue that their unabashed simplicity represents a direct translation of Brisbane developmental conditions into physical organisations and building forms. Furthermore, their 'honesty' of appearance makes identification of their typological characteristics discernible from simple observation. One could readily distinguish one model from another simply by the arrangements of the external building elements, such as windows and balcony positions, locations and forms of circulation, massing of building footprint, and carpark numbers and locations. These attributes make the survey process efficient, and documentation effective.

The need to discuss housing type with students, in particular, a local housing type not associated with 'high architecture', began when a student asked for my opinion on a "new type" developed by the local architecture practice Donovan Hill, which had recently won a national award for residential architecture, termed 'The Cornwall Apartments'. To this particular student (and I suspect to many students in general), the 'Cornwall Apartments' represent something much better than what is existing, a new type that illustrates how poorly the previous models were built – and more importantly, it shows that when architects are involved in market-driven housing, a much better result can be obtained.

In reality, Donovan Hill's project refers typologically to an already as existing type that is perhaps one of the most common models in Inner Brisbane, affectionately termed by most architects and builders 'The Six-Pack'. When this was communicated to the student, the association of an award-winning project to a local housing type built by local builders seemed un-imaginable. This is understandable, especially when we as architects, seldom acknowledge other architectural works as the source of our creative work. More significantly, 'high architecture' represents creativity and innovation, and 'copying' is anything but these qualities. As a result of this discussion, and as a simple exercise to introduce the

values of typology in our discipline, 'The Cornwall Apartments' project is often used to demonstrate (a) the distinction between 'conditions for design' and 'design quality', and (b) the valuable lessons for design from an understanding of the vernacular, even when it has been developed and constructed by people outside the discipline.

Vidler suggests that design quality and typological condition are paradoxical (Vidler 1977, p. 103). He argues that typological conditions are shared by buildings of the same kind, with particular aspects of commonality. Design quality conceals typological commonalities between buildings, and serves to isolate every building from every other building, in the process denying their root forms (Ibid.). To demonstrate this point, this study examines two projects based on the same model. The projects are 'Cornwall Apartments' designed by the architects Donovan Hill, and No. 22 Mitre Street at St. Lucia designed by a local builder. Both projects are reproductions based on the housing model termed 'Side H01'.

As illustrated in Fig. 03, the model Side H01 is distinguished by its tripartite configuration, with a driveway and landscape on either side of the building footprint, running perpendicular to the street along the length of the site. Car parking is located on the ground level, with living areas on the upper levels. The dwellings are arranged side-by-side, separated by structural and fireproof walls. This planning configuration is consistent in both the 'Cornwall Apartments' and Mitre Street projects. Beyond this set of typological conditions, the two projects differ considerably. To illustrate this point clearly, the address systems and private balconies of each project are discussed in detail.

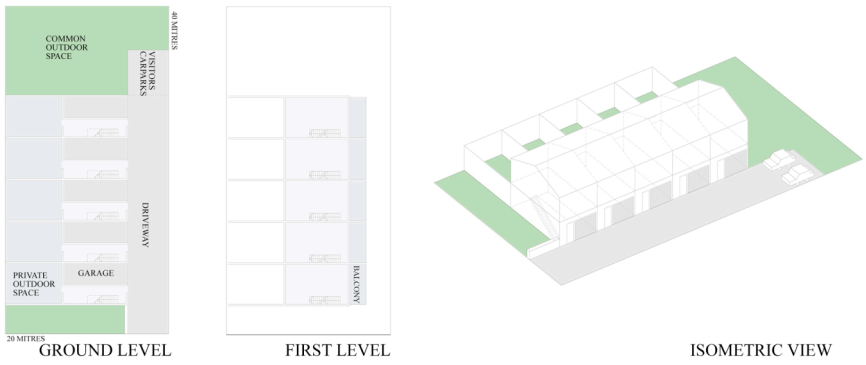

Figure 03: Plans and Isometric View of Side H01

Figure 04: Plans and Isometric View of Project at 22 Mitre Street, St. Lucia

Figure 05: Plans and Isometric View of Cornwall Apartments

As Fig. 03 illustrates, Side H01's address system begins on the driveway, indicated by the placement of the mailboxes. The driveway is shared between pedestrian and vehicle access, along which entrances to the private dwellings and garages are located. The private balconies are located on the first and second level, cantilevered from the building façade and over the driveway. They serve as extensions to living or dining areas on the first floor, and bedroom on the second floor.

As Fig. 06 and Fig. 08 illustrate, the address system on Cornwall Apartments is located on the landscape side of the site, away from the driveway. This is indicated to the public by a timber shelter and mailboxes adjacent to the footpath. From there, a change of level via a few steps indicates a change of realm (from public to semi-public), followed by a residents-only front gate access as the line of security. Along the garden, a concrete footpath indicates the line of common entry through the site, punctuated by a row of stairwells and timber gates as private entries. The address system concludes with the external stairs leading to the front doors on the first level, where the entrances are sheltered both visually and physically. The private balconies are terraces set within the building footprint, which open onto the communal garden, the kitchens, and the living areas.

As Fig. 07 and Fig. 08 illustrate, the address system on the Mitre Street project operates in a similar manner to that of Side H01's, with the pedestrian and vehicle addresses sharing the same route. Again, the main entry is conveyed by the location of mailboxes, located on the driveway at the front of the site. What is unique about the model are the alcoves located between the front doors and the driveway, which function as shelters and transition areas between the common areas and the private realms. Again, similar to the model, private balconies are cantilevered from the building façade as extensions to living and sleeping areas. Vertical screens are added for privacy between balconies, and planter boxes are used in place of balustrades for added amenity, and to improve the quality of visual prospect from each dwelling.

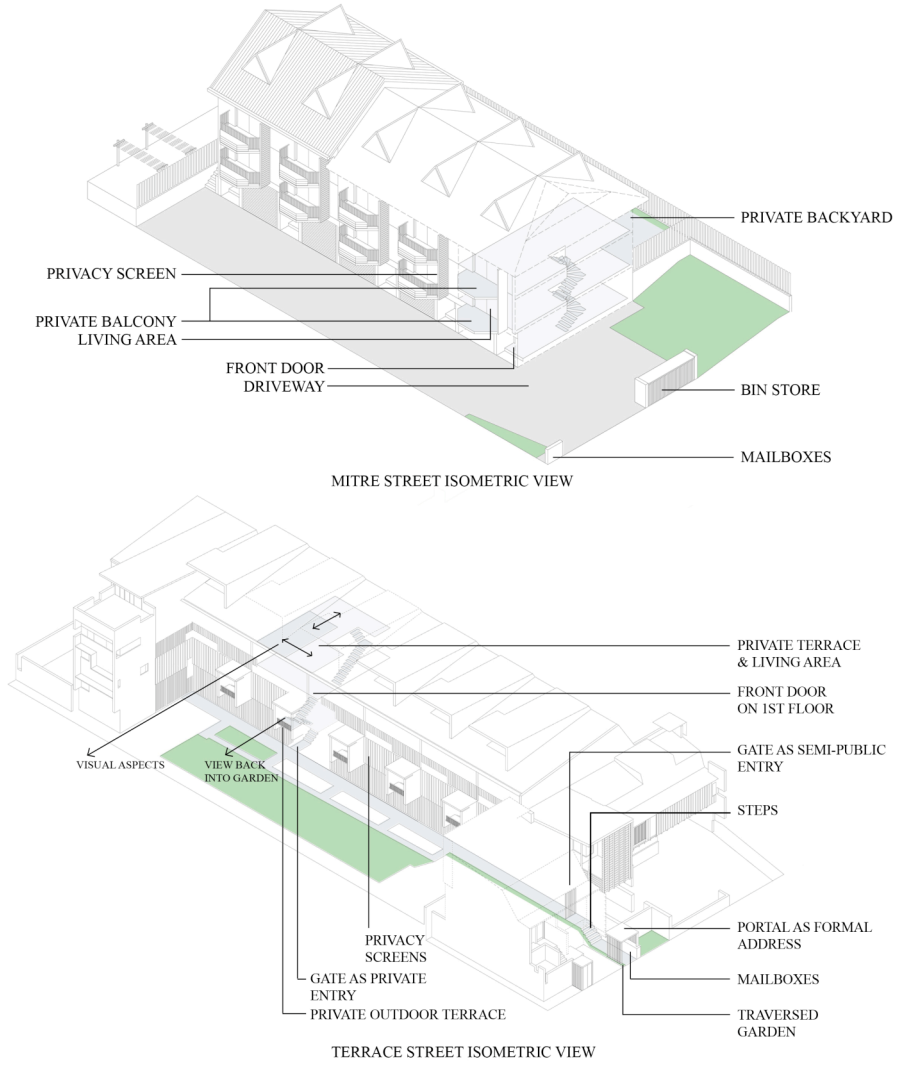

Figure 06: Comparison of Address System and Private Balcony Between Project at 22 Mitre Street, St. Lucia, and Cornwall Apartments

Figure 07: Photographs of Project at 22 Mitre Street, St. Lucia

Figure 08: Photographs of Cornwall Apartments

From general observations, the architectural tectonics, materials, and spatial sequences between the two projects are noticeably different; any formal analogy between the two projects is not immediately discerned. However, if we strip away the architectural elements, we recognise their configuration of program elements as having similarities to those of model Side H01. Architects and builders may employ the same model, which in many respects will make for similar housing conditions. What we think of as quality of design is the product of how well the model is elaborated or finessed. I argue therefore, that the basic conditions of housing do not convey quality of housing design, but rather, convey housing conditions *for* design.

As the project Cornwall Apartments illustrates, even though architectural designs are developed from a set of housing conditions, they are by no means dictated by it. The address system in the Cornwall Apartments rejects its typological pre-conditions, and forgoes the provision of private back yards in favour of an address system based around a common outdoor space, away from the driveway. The project also disrupts the linearity of the address system by slowing its progress. This is achieved through implementation of architectural elements along the path of its main entry route to articulate the progress from the public realm to the private realm. The Cornwall Apartments project illustrates therefore, that the typological conditions of a model is only indicative of a project's design outcome.

CONCLUDING REMARKS

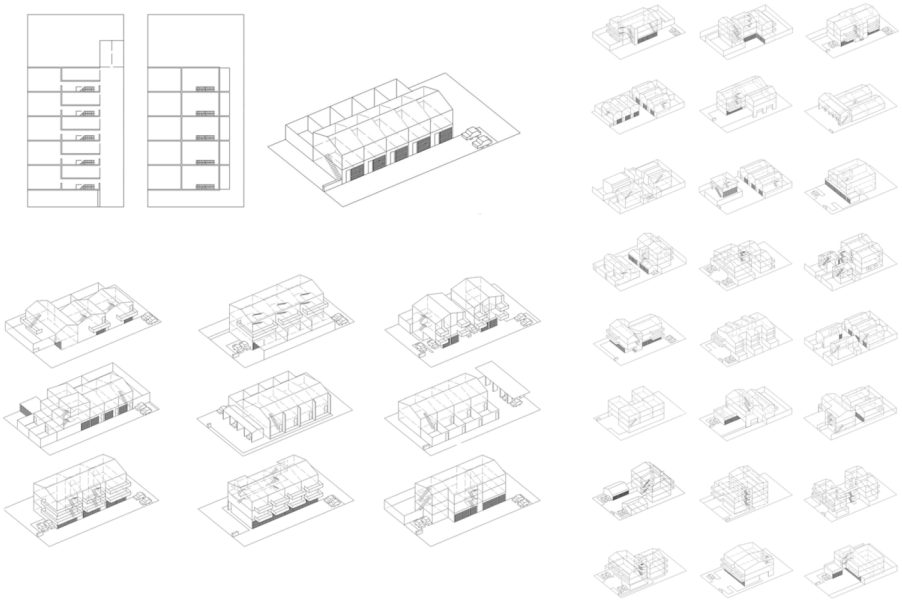

Figure 09: Small Sample of Housing Models Found

Most students are familiar with the categorisation of architecture by function (such as hospitals, skyscrapers, housing, etc.), by stylistic trends (constructivism, minimalism, etc.), and by place (Japanese or European architecture). What this exercise shows is that typology can take on many different forms. In this case, type is defined by planning configuration based on a unique developmental process, with works that stretch over seventy years, built under the same planning regulation and similar site conditions.

It is clear from discussions with students that a full appreciation of what housing typology can offer will come as they practice as architects in the local environment. For now, their work and design process remains closely aligned with international designs by practices such as SANAA, OMA, Toyo Ito, and so on. Even though a body of work as either, part of the curriculum, or as an exhibition, never materialised from these exercises (which originally began as simply informal discussions), students have gained an insight into two important ideas: that a) locally produced works, even when they are produced by people outside of their discipline, have valuable lessons, and b) most projects, even "successful ones", are rooted in typological precedence – some are easily discerned, while others more difficult. Among other things, it is hoped that by using a local housing type as the focus of discussion, students are engaged on both a theoretical as well as a practical/personal level.

Finally, perhaps what concerns students the most at this stage of their career is innovation and creativity. Designs with typological precedence can be viewed upon as works of inferior creativity. However, a reference to a type is simply an acknowledgement of past solutions as having

relevance to contemporary problems. More importantly, as Franck and Schneekloth observe, individuals have different capacities to recognise and use type; some are empowered by it, while others are limited by it (Schneekloth and Franck 1994, p. 17). Type, therefore, both encourages and hinders creativity.

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