The study of urban form in Australia

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Abstract. *This paper reviews urban morphological research in Australia, undertaken since the 1960s mainly by urban geographers, urban planners, urban designers and architects. During the eighteenth and nineteenth centuries Australian colonial governments generally prepared plans for towns, and also for rural lands, before allowing settlement to occur. Much of the study of urban form has therefore concerned the initial plans of Australian towns and cities, and how these have influenced the subsequent evolution of country towns, city centres, residential areas, and detailed urban forms. Some broader overviews, theoretical works, and studies in a comparative international context are also discussed.*

Key Words: urban morphology, geography, town planning, urban design, Australia

The study of urban form in Australia does not yet really form a distinct, well-developed body of research comparable to that in countries previously reviewed in *Urban Morphology*. In looking for comparisons with other countries so far reviewed (the United States, France, Germany, Italy and Spain), Australian urban settlement shares similarities only with the United States – both in its underlying societal values as well as its general physical nature. The values identified for the United States by Conzen (2001, pp. 4-5) – the ubiquity and dominance of commercialism operating in the context of *laissez-faire* capitalism; individualism, expressed under the notion of privatism and favouring private over public space; a deep anti-urban streak towards urban governance, and hence fragmented control over the production of morphological attributes – have also permeated Australian society. Equally, the same absences in urban form are just as obvious in Australia as in America (Conzen, 2001, p. 5) – there are no monarchical and religious urban complexes on the scale of those in European and Asian countries, no 'pre-urban nuclei' because the towns are new creations from the era of colonialism or merchant capitalism; no historic urban fortifications; and few large-scale government-maintained cultural institutions, except in their capital cities. Consequently, studies of urban form in both countries are likely to reflect the many similarities, but also some differences, in their respective societal values and original physical settlement forms.

Regulations and models for Australian town layouts

Understanding the nature of research on urban form in Australia depends in part on appreciation of the origins of Australian town layouts. Land settlement in Australia commenced in 1788 and colonial governments generally followed a policy of surveying the land before it was granted or sold. Thus the large majority of towns were located and laid

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out by colonial governments, and unplanned or private settlements were relatively rare. In the first colony of New South Wales (NSW) the early towns were planned without any common set of rules. However, pressure for the rapid provision of further towns led Governor Darling to issue regulations in 1829 (Colonial Secretary's Office, 1829), which required streets to be laid out in a rectilinear fashion using the following dimensions for town layouts:

Main street	100 feet (30.48 m)
Other streets	84 feet (25.60 m)
Blocks	660 feet (201.17 m) square, containing 20 lots
Lots	66 by 330 feet (20.12 by 100.58 m) on main streets 165 by 132 feet (50.29 by 40.23 m) on cross streets

Freeland (1972, p. 103) regarded Governor Darling's regulations effectively as the Australian counterpart of the Laws of the Indies governing Spanish settlement in South America, and stressed their widespread effect on towns in other Australian states.

> These regulations were directly responsible for shaping the character of the great bulk of Australian towns. While they remained in force – everywhere except in South Australia and Western Australia – they imposed a uniform pattern on towns. Even after they were superseded, their basic ideas and principles were incorporated into later Acts and their thinking was accepted unquestioningly so that with a few late exceptions Australian towns are all Darling towns.

Only South Australia used a distinctly different form of town layout, modelled on the 1836 plan of Adelaide, incorporating a square and a surrounding belt of parklands. Given that government regulations or models determined the planned layout of most Australian towns, it is not surprising that many Australian urban form studies have focussed on initial town plans and their influence on subsequent development and land subdivision patterns.

Development and nature of urban form studies in Australia

Sulman (1921, pp. 103-9) was perhaps the first Australian author to look at urban form in a morphological sense. His primarily practical text on town planning also contained interesting analyses of existing urban forms in Australian country towns and in Sydney's city centre. He discussed the problems caused by the 330 feet deep lots in NSW country towns produced by Governor Darling's regulations, and suggested nine different ways in which they could be treated. Sulman also noted the problems experienced in deep blocks in Sydney's city centre, with their irregular internal pattern of lots and alleys, and suggested a better model for their future development by incorporating a system of internal arcades, thus breaking the block down to smaller dimensions.

Another early work was by the American husband and wife team (McIntyre and McIntyre, 1944), who undertook a survey of the amenities of country towns in Victoria. This also included an examination of the layout and appearance of towns, in which there was an analysis of the layout of streets, and particularly the Main Street both in its physical forms and its social function, the conditions of the Main Street (street width, footpaths, trees, lawns, memorials, seats), and the form and appearance of residential streets (construction materials of houses, paving, trees). These are described in words and many aspects are also quantified in a simple table for the 180 towns examined. No plans are provided, but some photographs and the verbal analyses give a reasonable description of the morphology of Victorian country towns.

Studies of urban form have emerged gradually only since the 1960s and their overall characteristics are very similar to those evident in the broader field of planning history in Australia, as summarized by Freestone and Hutchings (1993, p. 72).

> Diverse if not fragmented, parochial and sometimes quirky, the general nature of this body of work partly reflects the spatial isolationism and parochialism that have been

> hallmarks of Australian cultural and political development. Beyond the straitlaced general surveys of state, city and metropolitan planning, several established lines of inquiry are evident, notably colonial town layout, civic design, the impact of planning movements, evaluations of metropolitan planning, political conflict, and federal urban policy… Future challenges lie in more original research, integration, theory development, and policy relevance.

As far as urban form studies are concerned it might be added that they developed in an even more fragmented way. There has been little research along particular lines of enquiry or in fields of similar interest, and therefore no substantial consolidation of knowledge on specific topics has yet emerged. Neither has there been much direct focus on 'urban morphology', and investigations of 'urban form' have ranged from those of small urban precincts to ones encompassing metropolitan areas, and have often been geared to practical needs in planning, urban design and heritage conservation. Urban geographers, urban historians and urban planners have conducted most studies, but urban designers and architects have also taken an interest, particularly in terms of practical projects and competition designs.

However, since the 1980s a more focussed and purposeful search for urban forms that might be considered typically Australian has led to an expansion of research results in the field. Urban morphology emerged also as a matter of practical concern in the analyses and policies for city centre developments in most Australian state capitals. An overview and bibliography of planning history by Freestone and Hutchings (1993) revealed quite a few works dealing with urban form and morphology, and several Australian Urban History/Planning History conferences have been held since 1993 at which further papers dealing with urban form have been presented. Several Australian researchers have also presented their urban form studies in an international context at International Seminar on Urban Form (ISUF) conferences, particularly since 2001, even though only a couple have contributed articles to *Urban Morphology* (Mugavin, 1999; Siksna, 1997).

Even though studies of urban form in Australia have been individual and diverse in nature, some distinct concentrations and emphases have emerged and they can be loosely grouped under the following topics: country towns; initial plans of capital cities and their Central Business Districts (CBDs); residential areas; detailed urban forms; and overviews, theoretical works and studies of urban form in other countries. Finally, it is worth noting that several studies have extended beyond Australia and have included comparative international analyses.

Country towns

In view of the planned origins of Australian towns it is not surprising that their plan forms have attracted considerable interest. Most early works were general and descriptive in nature, such as Walkley's (1951-52) account of the planning of towns in South Australia. The first detailed studies were made by Jeans (1965), who investigated the plans of NSW country towns from 1829 to 1842 and particularly highlighted the influence exerted by Governor Darling's regulations promulgated in 1829, and Williams (1974), who undertook a comprehensive analysis of early town plans in South Australia, which were largely based on the parklands and square model used in Colonel Light's plan for Adelaide in 1836. Similarly Glassock (1967) examined the colonial subdivision patterns in Queensland towns, which initially arose under Governor Darling's regulations, but were later determined by modified survey directions applied when Queensland became a separate colony. Powell (1970) and Barrett (1979) briefly considered country towns as part of a wider look at local government and rural settlement in Victoria, and Cox and Stacey (1973) provided the first overview of historic towns in all the states of Australia. However, all these studies considered only the initial plans of towns, and in some cases discussed morphological aspects only verbally without even including plans (for example Barrett, 1979; Ryan, 1964).

Jeans and Spearritt (1980), in their work on the cultural landscape of NSW, further expanded the understanding of rural settlements. Their chapter on country towns examined in words and photographs the country town landscapes and their urban fabric, including building styles, building materials, and designs of government buildings. They described the influence of government on town plans, but regrettably, despite Jeans' earlier work (1965) on town plans, there was no analysis of how town layout or block structure contributed to the composite town landscape, and only one original town plan was included. An unpublished PhD thesis by Paul-Alan Johnson (1985) investigated the formative influences in the five so-called Phillip Towns planned near Sydney during Governor Phillip's reign from 1788 to 1810.

The growing need for the preservation of areas of heritage significance spurred a more specific interest in their urban morphology. Studies of existing urban forms were sometimes directly commissioned by heritage organizations as a basis for framing heritage preservation policies. These mostly concerned typical building fabrics and lot and block patterns (National Trust of Australia (New South Wales), 1977; Tibbits *et al.*, 1976). Others were more ambitious, such as the major study of historic towns in Queensland by Walker (1981), which described the process of town founding, the regulations for town layout and road pattern contained in Governor Darling's regulations and the later Queensland government directions for the guidance of surveyors. It also provided a systematic and detailed assessment of the character of towns, their layouts, built forms and open spaces, and summarized the results in a very useful comparative table for the 45 towns examined.

The sesquicentenaries celebrated by two Australian States stimulated studies and consolidated knowledge about the plans of Western Australian towns (Pitt Morison, 1979b) and South Australian towns (Bunker, 1986). The bicentenary of Australian settlement in 1988 also produced fairly general works on its urban settlement and heritage. Some were more specific: for example Sait (1989) examined public buildings and planned public space as a means of understanding the rules of public planning and design used by the colonial administration in NSW, and described the early plans for NSW towns established by Governor Macquarie and the influence of Darling's regulations of 1829 on the urban form of towns in NSW. Later studies have also been undertaken in a wider international context by comparing the initial layouts of Australian towns with those used in American towns and in European extension plans in the nineteenth century (Siksna, 1999).

Initial plans of capital cities and their CBDs

The initial plans of the capital cities of Australian states served as the physical basis for the evolution of the CBDs of Australia's major cities, and for this reason studies related to both aspects are best considered together. Most of the early works dealing with capital cities (Dutton, 1960; Steele, 1975) were primarily concerned with their general history, their founders and planners, and only their initial plans were examined, and even then not always in detail. Although Kelly and Crocker (1977) produced an interesting collection of plans of Sydney at various periods in its history, there was little analysis of their evolution.

However, there are some important exceptions. Solomon's (1976) comprehensive study of the evolution of urban form in Hobart not only examined the various plans and surveys produced in the period 1811-1847, but also analysed the evolution of particular blocks in the nineteenth and twentieth centuries, the distribution of land uses in 19 inner city blocks in Hobart's CBD and the changes in functional composition of the main city block at various periods – 1847, 1901, and 1954. Similarly, R. Johnston's (1967) study of Melbourne's CBD from 1857 to 1962 traced the historical patterns and changes, and considered not only the broad land use changes in 62 blocks, but also the relative magnitude of changes that had occurred in different CBD blocks. It also examined the influence of the street pattern, and found considerable dissimilarity between

the front and back profiles of each block, and that most land uses seek characteristic locations on either the front or the back streets.

Alexander's (1974) investigation of the applicability of Horwood and Boyce's core/frame concept for CBDs in Australia was a particularly significant contribution. Not only did he confirm the validity of the concept for considering the overall arrangement of land use in CBDs but, by addressing previously neglected aspects and the true complexities of structure and change that characterize the CBD, he also constructed a more refined conceptual model of central-area structure. Whereas Horwood and Boyce's concept dealt with the area's structure primarily only in its horizontal arrangement, his model also encompassed the vertical arrangement of land uses in the CBD core, as well as the processes at work, the major variables controlling the patterns and the dynamic aspects of the core/frame structure (Alexander, 1974, pp. 172-85).

Later works dealing with historical aspects of particular cities had a more detailed interest in urban form. Perth was explored in several studies. First, Pitt Morison (Pitt Morison, 1979a) and Markey (1979) very thoroughly examined the early town plans and survey plans of Central Perth in 1829-30, 1832, 1838, 1845, 1855, 1877, 1883 and 1903 as well as its general evolution and the nature of building styles and materials. Then followed Seddon and Ravine's (1986) comprehensive work on the central area of Perth with a considerable focus on physical forms and aspects of urban morphology. It described the initial town plan of 1829 (Seddon and Ravine, pp. 84-9) and its influence on subsequent development and subdivision, and then systematically examined the changes in planning, land use, scale, colour and texture, sequence, and function that occurred in the Central City during several key periods of its evolution – 1850-1889; 1890-1919; 1920-1949 and 1950-1986. Mostly this was done only verbally and in photographs, but some parts contain comparative plans. It also analysed the evolution of development of some blocks along St Georges Terrace, comparing plans of the block structure at different periods in the nineteenth century to that in 1982 (Seddon and Ravine, pp. 218-9; 237-49). More recently, inspired by Gandelsonas's method of virtually mapping Chicago, the historical plans of Perth have also been used to explore conjectural aspects of its morphology (Lewi, 2000).

Sydney has also been examined in several studies. Paul-Alan Johnson (1993) explored surveyor Augustus Alt's early plans for Sydney (initially Albion), Parramatta and Toongabbie, discussed their street, block and lot dimensions, traced evidence of certain geometric and numerical correspondences between these town plans and suggested that Alt may have derived their principal dimensions from the town names, enumerated using the system of gematria – a method of computing the numerical value of words based on those of their constituent letters. McLoughlin (1988) produced an interesting study of the early town plans for Sydney and the survey plans of 1788, 1802, 1807 and 1822, pointing out the anomalies between them, while Helen Proudfoot (1992) revealed puzzling differences between the 1789 and 1792 plans for Sydney, and Ashton (1993, pp. 13-21) examined the early survey plans of Sydney in 1792, 1828 and 1854, as well as the regulations for controlling street alignments and building development.

Bunker (1986) provided a comprehensive overview of the Adelaide plan. An interesting study of the origins of the 1836 plan for Adelaide (Johnson, D.L. and Langmead, 1986) questioned Colonel Light's authorship of the plan and traced possible influences and alternatives in the production of the plan. The Adelaide plan has also figured in several studies that have compared it with Melbourne (Proudfoot, H., 1998), with Darwin (Bunker, 1995), and with Wellington, New Zealand (Brand, 2004).

In a very thorough exploration of Melbourne's 1836 plan, Lewis (1993) discussed the uneasy compromise reached by surveyor Robert Hoddle, who was fully imbued with the principles of Governor Darling's regulations, and the next governor, Bourke, who was not committed to them at all, which resulted in the introduction of narrow lanes within the Governor Darling block to

give rear access to lots. The study included a comparison of Melbourne with Hobart, Perth, and Adelaide in terms of the 'town reserves' used to cater for future growth, the lot sizes employed, and the conditions applied to materials and completion times for buildings.

Apart from several works that describe the initial competition plans for Canberra, there are also some analytical studies. Reid (2002) has investigated the various changes to the original plan, in particular highlighting the origins and consequences of the Departmental Board's plan produced in the 1920s, which thwarted implementation of the original plan. Peter Proudfoot (1994) has made a conjectural analysis of the plan in terms of possible esoteric symbolism that Walter and Marion Griffin may have incorporated in its patterns.

During the 1980s urban morphology emerged also as a matter of practical concern in the analyses and policies for city centre developments in most Australian state capitals. For example, the City of Melbourne's publication *Grids and greenery: the character of inner Melbourne* (Urban Design and Architecture Division, City of Melbourne, 1987) contains plans and analyses of the evolution of block structures from the 1836 original plan through the nineteenth and twentieth centuries, looking in particular at lanes, building heights and forms, and on the basis of these suggests envelopes for new development so as to control the future block fabric. These urban morphology considerations were then applied in planning and design guidelines for the City of Melbourne (City of Melbourne, Department of Planning and Housing, State Government of Victoria, 1991).

Architects and urban designers also showed an increasing interest in respecting traditional perimeter block urban fabrics in city centres. Two competitions dealing with new urban forms in city centres were organized by state chapters of the Royal Australian Institute of Architects – *Adelaide 2000: a new vision for the City of Adelaide* and *Urban architecture for Brisbane: urban ideas competition*. Several theoretical explorations of Australian urban form issues followed these competitions (Beck and Cooper, 1988; Maitland, 1989). Most competition entrants explored the character of existing urban forms, several proposed the adoption of traditional block forms, to strengthen the continuity of street façades, and the incorporation of a common vocabulary of design elements to articulate urban form in relation to public spaces, for example at street corners. Some also suggested that lanes and minor streets, which had grown in an ad hoc way within city blocks, should be shaped to form a more coherent system. These proposals were substantially reflected in later planning and design guidelines for the city centres of Adelaide and Brisbane.

Australian centres have also been studied in comparative international contexts in an examination of the evolution and relative performance of block sizes and forms in Australian and North American CBDs (Siksna, 1997,1998), and a study of the similarity of urban form models used for town centres in new towns in Britain and Australia (Siksna, 2001).

Residential areas

In comparison to city centres, the study of residential areas has received less attention. There were several early studies of the evolution of suburban forms in considerable detail, particularly in Melbourne. Johnston (1968) made a very thorough examination of the general stages and process in residential street pattern development, and its areal variations between 1890 and 1964, by four sample studies of residential areas in the Melbourne Metropolitan Area. Saunders (1967) undertook six case studies of nineteenth-century residential areas, one of which contained a detailed analysis of the evolution of a typical block in Carlton. Although the prime focus of Barrett's work (1971) is industrial areas, there is also an examination of the stages in the block and lot subdivision in Fitzroy and East Collingwood between 1838 and 1842 and 1847 and 1854. Nankervis (1992) examined the broad effect of economic development phases on the evolution of Australian urban forms, and

included an analysis of how the corrupt, untrammelled speculative process created a distinctive pattern of small irregular streets, lanes and, in time, slum areas in the inner suburbs of Melbourne between 1840 and 1890.

Other cities have received less attention. Kelly (1978) made a very comprehensive study of the development of the Sydney suburb of Paddington from the 1840s to the 1890s, focusing mainly on economic and social aspects, but in parts describing and including plans illustrating the typical process of estate subdivision and building. The study by Pikusa (1986) of the Adelaide house from 1836 to 1901 often examines the original block and lot patterns in Adelaide's city centre, and their evolution in conjunction with the development of minor streets and lanes and in relation to various residential building types.

A major work dealing with more recent urban forms is Freestone's (1989) comprehensive examination of the Garden City Movement in Australia, particularly of the models introduced for residential areas. This led to studies of the field by others during the 1990s. Hutchings's work (1986) on the plans of garden suburbs and model estates planned in Adelaide from 1917 to 1929 has been followed by studies of Colonel Light Gardens suburb (Harper, 1991), and of Westbourne Park (Harper, 1990), which traced the changes from its rural origins to its suburban subdivision in the 1920s and its present day form, including a detailed examination of the evolution of typical block structures.

Finally, it is also worth noting that there have been several practical applications of existing urban forms and of morphological considerations by architects in the design of inner residential areas (Myers, 1992), and in Federal government guidelines for residential areas (Commonwealth Department of Housing and Regional Development, 1995). Particularly interesting in its direct use of existing morphological characteristics was the Multi-Function Polis development in Adelaide (Kinhill Delfin Joint Venture, 1991). Its 'generic village model' (600 m by 600 m) had a square about 120 m by 80 m in size, and was to be based on a block size and structure that resembled the 'super block' of the 1836 plan for Adelaide, but structured to provide more appropriate lot subdivision by the introduction of narrower streets and alleys. Regrettably, the initial plans were later altered to a more conventional pattern.

Detailed urban forms

Studies of detailed forms have also received some attention. A very interesting study was made by Kelly (1982) of the physical form of William Street, Paddington, depicted in contemporary photographs and elevations of all buildings in seven blocks along the street as it was in 1916, just before it was widened. Freestone (2000) has explored university campuses deriving a morphologically-focused classification of ten types of campus plans, drawn from American, British and Australian experience. Other studies deal with such aspects as the use of internal open space reserves inside the block (Nichols, 2000) and the typology of flat buildings erected in Sydney and Melbourne during the 1920s and 1930s (Dunbar, 2000). Noble (1993) examined the block structure in the Fortitude Valley area of Brisbane in comparison with block and lot patterns in Paris, Kyoto, New York, Edinburgh, and Los Angeles, and also produced an intriguing study (Noble and Schaefer, 1993) of pre-urban settlement morphology, which analysed the location patterns of 'bora-rings', places where Australian Aborigines conducted initiation rituals, within the area now occupied by Brisbane – both published in French!

Overviews, theoretical works, and studies of urban form in other countries

Some works with a broader scope also contain material related to Australian urban forms. Cheesman (1986) studied the patterns for settlement of new towns and new colonies, in various parts of the world through different historical periods, and how the initial plans have been recast through time by adaptive planning processes. A large part is devoted to

Australian new town experience, ranging from Adelaide and South Australian towns in the nineteenth century to the plans for Metropolitan Adelaide and the new towns of Elizabeth and Monarto in the twentieth century. Siksna (1990) made a detailed comparative study of block sizes and forms used in new town plans in several countries and historical periods – Greek; Roman; medieval Czechoslovakia, France, Germany, Italy and Poland; and eighteenth and nineteenth century America and Australia.

Some interesting studies concerning theoretical urban forms for application in new urban developments were stimulated by the federal government's initiatives for new towns and growth centres in Australia during the 1970s. Some explored forms suitable for metropolitan areas and new towns (Cities Commission, 1975); others investigated the use of traditional block and street-layout patterns in the planning of town centres (National Capital Development Commission, 1972; Siksna, 1974). Morison (1999) also highlights the application of the 'corridor concept' in planning the metropolitan form of Australian capital cities in the 1960s, pointing out that it still remains a feature of metropolitan planning.

A few works have tackled theoretical aspects of urban morphology (McGauran, 2003; Mugavin, 1999; Osmond, 2003) and a graduate report contained several theoretical and design explorations of the morphology of Melbourne (Morgan, 1991). Parkes made interesting contributions to the analysis of attitudes to residential quality in 560 blocks in inner Newcastle, Australia using a technique based on the Guttman scalogram (Parkes, 1969), and to the study of the element of time as revealed in the morphology of the built environment through townscapes, economic cycles, and building cycles (Parkes and Thrift, 1980). A valuable unpublished theoretical work by Morton (1980) examined the dimensions used in Governor Darling's regulations of 1829 for town layout in NSW in comparison to earlier gridiron plans in Europe and America. He then analysed the relationship between certain parameters – street layout, building type, sun elevation, open space, number of storeys, achievable floor-space index – for Mannheim, Central Manhattan, a typical 'Darling town', and Melbourne as laid out in 1836 and ten hypothetical variations on this layout. Also included were nomograms demonstrating the interrelationships between these parameters for different types of gridiron plan.

There have also been several investigations by Australian researchers of urban form in Asia, the Middle East and Europe, covering aspects as varied as: war-torn or divided cities such as Beirut, Belfast, Jerusalem, Mostar and Nicosia (Charlesworth, 2003; Lozanovska, 2003); urban form and typological differences between Japanese and European cities (Shelton, 1992); morphological aspects of the relationship between Buddhist and Confucian thought and Islam in Xi'an, China (Radovic, 2001); planned extensions of Riga, Latvia from the seventeenth to nineteenth centuries (Bakule and Siksna, 2003); a re-reading of Nolli's 1748 plan of Rome (Basson, 2000); and an examination of the concepts underlying Augustine's *City of God* (Frith, 2003).

Conclusion

The study of urban form in Australia is a relatively recent, undeveloped field and consists mainly of unco-ordinated efforts undertaken by individual researchers. The studies are diverse in nature and range widely in their scope and depth. There are only a few that have engaged in comprehensive, detailed and successive studies of more specialized areas of interest in urban morphology. Despite their fragmentation and diversity, studies have generally focused on the plans of country towns and cities and their CBDs, as well as some inner city residential areas and garden suburbs. They have often been concerned only with their initial plans. While a few have examined the subsequent evolutionary urban forms and patterns, there are many research topics that await more systematic investigation. However, it is encouraging that urban morphology considerations have found several practical applications in urban design competitions, policies and guidelines. The

recent emergence of interest in theoretical works, in urban form in other countries and in a comparative international context, suggests that more substantial developments in the study of urban form in Australia may be forthcoming.

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ISUF Conference 2007

ISUF will hold an international conference in Ouro Preto, Minas Gerais, Brazil, 29 August-1 September 2007, co-hosted by the Federal University of Minas Gerais and the Federal University of Ouro Preto. The broad theme of the conference will be *Urban morphology in a global era.* This may include such topics as the variety of new forms in the 'New Urbanism', new commercial urban forms, new forms of squatter settlements, and the impact of new forms within heritage conservation areas.

It is also hoped to organize a two-day post-conference charette/workshop, in which the analytical concepts and methods of urban morphology will be considered in the light of the evidence of Ouro Preto itself.

Ouro Preto ('Black Gold') is Brazil's pre-eminent eighteenth-century Gold Rush boomtown and is listed by UNESCO as a World Heritage Site, because it comprises one of the most intensive, intact sites of Baroque art and architecture in the world. Located 93 km south-east of Belo Horizonte and about 300 km north of Rio de Janeiro, it was founded in 1698 and during the following century the region's mineral wealth attracted many outstanding artists who built and decorated a rapidly growing number of impressive buildings. In 1823 Ouro Preto became an imperial city and served as the provincial capital of Minas Gerais until that function passed to Belo Horizonte in 1897. This shift permitted Ouro Preto to retain its intensely historical character, which in 1980 gained it the prestige of becoming Brazil's first World Heritage Site. There will be excursions during the conference through this city draped over wooded hills, with its splendid religious structures and public buildings and interesting vernacular neighbourhoods.

Further information about the conference will be posted on ISUF's website (http://www.urbanform.org) as it becomes available, and those interested in participating may wish to contact the chief conference organizer, Professor Staël de Alvarenga Pereira Costa, Dipartimento de Urbanismo, Escola de Arquitetura, Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brazil (Email: spcosta@arq.ufmg.br).