Gordon Stephenson and the Radburn Idea in University Planning

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The paper commences with an introduction to university planning, concentrating on the post-war period. It introduces the Radburn idea and the nature and evolution of connections between Stein and Stephenson before surveying the ideas and principles to which Stephenson adhered in his university planning commissions, as well as their relationship to Radburn. Two examples of the application of his principles are discussed. The paper is drawn from the author's study of Stephenson's work in university planning and is based on published material by Stephenson and others, archival sources, notably letters written between Stein and Stephenson over two decades (1949-1969) and a family-held collection of Stephenson's personal papers, and visits to case study sites.

University campus planning before and after World War 2

Internationally, prior to World War 2, growth in the university sector was limited as the role of universities and their teaching programs and student enrolments remained relatively unchanged. Over time, various factors affected universities' layout and architecture with monastic, collegiate and 'academical village' models, as well as Beaux-Arts and City Beautiful approaches, arguably exerting the most significant design influences (Dober, 1963; Little, 1971; Turner, 1984; Griffith, 1994; Guilbert, 1995; Coleman, 1999). Master plans, favoured in the early decades of the twentieth century because they promoted a sense of permanence and stability and produced 'a unified design, specific in its overall form and architectural character', lost their appeal when the post-secondary education environment changed dramatically after World War 2 (Turner, 1984, p.260).

Globally in the post-war years, a combination of circumstances – broadening in communities' views of the purpose of universities, more varied research foci and undergraduate course offerings and the opening up of universities to new and heterogeneous student markets which included war veterans – led to unprecedented enrolments. Simultaneously, pressure mounted for improved, expanded and new teaching and research accommodation and related facilities like libraries. Such was the growth in student numbers that university administrators acknowledged the impossibility of predicting accurate medium and long-term enrolments, programs and facilities. As a consequence, flexible and fluid plans that addressed modern principles of growth and change replaced the fixed plans of the past (Turner, 1984; Stephenson, 1986; Dober, 1992).

In post-war Australia, where education was then a state responsibility, universities received occasional financial assistance from the Commonwealth government. Given the fact

President Alexander Bing to purchase land and build housing estates for moderate income earners. In formulating their plan for Radburn, Stein and Wright drew on their earlier CHC commission, Sunnyside Gardens (1924) at Queens, New York, as well as on educator-social worker Clarence Perry's concept of the neighbourhood unit. In the neighbourhood unit, Perry 'suggested a physical basis for planning socially cohesive residential communities in relation to schools, shops and other facilities' and made recommendations regarding its optimal size, street system and open space provisions (Ward, 2002, p.117; Lawhorn, 2009) He advocated walkable layouts and promoted a road system which minimised 'the impact of the automobile on safety of residents' by keeping arterial streets at the edge of neighbourhoods and reducing through traffic (Lawhorn, 2009, p.112). The neighbourhood unit's reception was such that it came to be widely regarded as the fundamental building block in community planning.

At Radburn, Stein and Wright aimed to create an environment in which residents would have 'security and happiness', safe from the 'disrupting menace to city life' of the car (Stein, 1957, p.41). Adopting the principle that people and vehicles should be kept completely separate wherever possible, they routed pedestrian paths away from streets and allocated arterial roads to the edge of discrete precincts which they named superblocks. Dwellings, shops, institutions and all other community facilities, including open space, were contained within the superblock. '[M]inimalist scale' streets in the form of cul-de-sac lanes provided vehicular (private car and services) access to dwellings (Martin, 2001, p.158). Thus roads were assigned specialised purposes which Stein (1957) defined as 'movement, collection, service, parking and visiting' (p.41).

Drawing on a lesson from Sunnyside Gardens where green commons in block centres 'served as a basis of local unity' and made 'a peaceful and beautiful setting for the surrounding homes', in the Radburn plan, Stein and Wright used spines of continuous and interconnected open space, not streets, as their 'organising principle' (Stein, 1957, p.35; Martin, 2001, p.158). In fact, these spines were the device which separated people and vehicles in the main community sectors. Stein and Wright devised 'a complete interior pedestrian system … . The green spaces and walkways of each superblock were connected to adjacent superblocks and the town center, schools, and recreation facilities by underpasses and overpasses thus forming a continuous footpath and open space system for the use of the entire community' (Parsons, 1998, p.xxv).

Houses turned their backs on the street and faced the internal open spaces, reinforcing the contained nature of the development as well as the role of the parkland in outdoor living

planner Clifford Holiday to plan the pedestrianised town centre for the New Town of Stevenage in Hertfordshire, England (Stephenson, 1992; Ward, 2010).

Through their various collaborations in the late 1940s and early 1950s, Stein and Stephenson struck up a lasting friendship. Upon the completion of his term as Lever Professor in 1953, Stephenson worked in Canada and Australia (Stephenson, 1992). The pair kept abreast of each others' projects through regular correspondence and infrequent meetings and field trips, including to Radburn in 1967 (Correspondence 1949-1969; Stein to Stephenson, 1967). In fact, Radburn was one of the many occasional topics on which they exchanged views. Although Stein wrote to Stephenson in 1961 that university planning was 'a subject I have not studied very deeply' (Parsons, 1998, p.618), periodically, after Stephenson became engaged in earnest in university planning in Australia, they aired their thoughts on the applicability of the Radburn idea to the design of the post-war university campus.

Stephenson's university planning oeuvre

Stephenson could be described as an 'accidental' university campus planner. When he arrived in Australia in 1953 to make recommendations on a metropolitan plan for Perth, he had had only one university planning commission – advising in 1952 on the design for a new national university in Dublin, Ireland (Stephenson, 1992). However, his lack of experience in the field did not deter Acting Vice-Chancellor of the University of Western Australia (UWA) Noel Bayliss from seeking 'some planning advice' from him (Stephenson, 1986, p.3). At the time, UWA enrolments had reached unprecedented levels. Existing facilities were stretched but Commonwealth government funding for building works was imminent. Bayliss approached Stephenson because of their shared background as Commonwealth Fellows (Stephenson, 1986; Garnaut, 2010). Stephenson went on to be employed by UWA on several occasions, on a casual basis as consultant planner for various periods in the 1950s and then as a permanent member of staff from 1960 to 1972 when he was consultant architect, and, latterly, inaugural Professor of Architecture.

Variously between 1953 and 1972 other Australian universities also engaged Stephenson to advise on campus planning matters: the University of Tasmania, Hobart (1954, 1972); the University of Adelaide, South Australia (1962-63, 1964); James Cook University, Townsville, Queensland (1967) and the Canberra College of Advanced Education in the Australian Capital Territory (1967) (Garnaut, 2010). In 1972 Stephenson resigned from

1. Buildings for all faculties and major departments should be so designed that they could be expanded when required.
2. Faculties and departments should be placed in the most convenient possible physical relationship.
3. Buildings and departments should be arranged to face a series of quiet inner courtyards and spaces. Car should have access to buildings only from the periphery of the campus.
4. Cars should be confined to car parks and a ring road on the edge of the campus. Paths and promenades through the inner parts of the campus should be for pedestrians only (Stephenson, 1966, p.25).

The first two encapsulated his view that universities, like cities, were places that grew organically. Although their plans should be formulated with 'a long-term view of a century or more' they required continuous development in detail and should be reviewed 'periodically' (Stephenson, 1992, p.191). They needed not only to be open to growth and change but also to express clarity and a continuity of ideas in terms of the campus layout and character and the disposition of elements. Stephenson (1966) asserted that '[g]enerally, modern universities are planned as precincts' (p.160) and his third and fourth principles address the physical form of precincts and the relationship, and movement, of people and vehicles within them. In both respects they suggest the influence of his association with Stein and of his knowledge of the Radburn idea.

How did Stephenson draw on the Radburn idea in applying these principles? The following section addresses this question by considering two of his university planning projects which he identified as referencing Radburn. One was the remodelling of the University of Western Australia campus, while the other was the planning of an entirely new university campus for the University of Adelaide at Bedford Park, South Australia. (established in 1965 as the independent entity, the Flinders University of South Australia).

The University of Western Australia

The University of Western Australia overlooked Matilda Bay and the Swan River at Crawley not far from central Perth. By 1953, when Stephenson was asked to advise on its future planning, the campus layout had been influenced by two plans. The first, a 'geometrical exercise' by Melbourne architect Harold Desbrowe-Annear had created numerous axes, spaces and a 'proliferation' of roads of varying line criss-crossing the campus, while the second, by Professor of Architecture Leslie Wilkinson from the University of Sydney, had turned the original concept into 'a bold, compact classical composition for a relatively small university' (Stephenson, 1986, pp.2, 4). While Wilkinson had introduced a central axis

'As new buildings go up they will form a series of courts and spaces, with the automobile excluded from them as there will be no departure from the Radburn [Stephenson emphasis] system' (Stephenson to Stein, 7 March 1961). At the time, Stein was considering a trip to Australia and, three months later, endeavouring to entice his friend to commit to the journey, Stephenson declared: 'In Perth you would ... see a beautiful University campus growing on the Radburn principle' (Stephenson to Stein, 14 June 1961). The following year, Stephenson was afforded an opportunity to apply the principles that he had adopted at UWA to the plan for an entirely new campus.

The University of Adelaide at Bedford Park (Flinders University of South Australia)

Geoffrey Harrison, staff architect for the University of Adelaide, brokered Stephenson's involvement in planning the university's new campus about twelve kilometres from the Adelaide CBD (Garnaut, 2010). The foothills of the Mt Lofty Ranges formed a distinctive backdrop for the steep site which held a commanding view in three directions. Harrison, who had been on an extensive overseas study trip prior to the commencement of the project in late 1962, envisaged that the new campus would be laid out along the lines of what was 'then pretty much the universal vogue – [a university] on an ample site with a park setting and buildings scattered about' (Interview, 1986, p.4). The junior of the pair, he recalled Stephenson's 'generosity' in involving him in the site planning process and in co-authoring the plan (Interview, 1986; Stephenson and Harrison, 1964).

Stephenson (1966) described the campus plan as 'a precinct of the same kind as the Radburn superblock' (p.160) and Harrison (1986) late remembered Radburn as a specific influence:

> The planning principles that we were following included the notion which is known as the Radburn plan, which takes its name from a suburb in New Jersey where the road goes round the outside and the centre is free of traffic and a pedestrian precinct – the buildings around the inside of the road, and a park or play area in the centre (p.14).

Stephenson and Harrison laid out the campus on a horseshoe-shaped ridge with an inner park bordered by buildings divided into two groups, one on each ridge: 'Now in our case we had the park defined ... by our slope of one in five around the inside of the horseshoe ... The whole of this area could be developed on the Radburn pattern, as a pedestrian precinct' (Interview, 1986, p.14). The entire site was encircled by a perimeter ring road which 'went around the outer shoulder of the ridge and just crossed over at the top ...' (Interview, 1986,

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