

# architecture institutions and change

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## **Design as Remedial Practice: John Andrews International Educational Projects in Queensland 1972-1980**

*When John Andrews returned from North America to Australia in 1970, bringing his architectural office to Sydney's Palm Beach, it was with the ambition to grow his professional practice globally. Creating the firm John Andrews International that same year, the architect was soon working out of offices in Toronto and Sydney but also Brisbane, Queensland, by 1972. The bulk of Andrews' Queensland projects were institutional, familiar territory for an architect who had garnered his reputation through high profile university work in North America. The wave of investment in new tertiary education facilities in the 1960s that had led to reforms in the design and conception of university campuses in Britain, Canada and the United States (in which Andrews played his own key part) had yet to fully impact Australia by the early 1970s. Andrews' office was well placed to transfer its knowledge and expertise directly to those Queensland government agencies and institutions that sought impetus to new agendas for campus expansion. Projects included a raft of master plans – Kelvin Grove College of Advanced Education, Brisbane (1973); Ithaca Technical College, Brisbane (1974); Darling Downs Institute of Advanced Education, Toowoomba (1974); and Ipswich College of Technical and Further Education, Ipswich (1975). Other works included educational buildings for Kelvin Grove College of Advanced Education, Griffith University and the University of Queensland. Unlike the 'greenfield' opportunities Andrews was given in North America, his projects for Queensland were, in most cases, 'corrective' – prompting strategies of infill planning designed to remediate moribund building stock and poorly organised sites. Yet the architect's bold and holistic approach to institutional planning remained, producing an evident tension within the given conditions. Though the planning work did not always lead to architectural commissions for the office it did result in the maturing of its design practices, developed in the previous decade.*

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This paper will discuss four key tertiary education master planning projects undertaken by the John Andrews International office in Queensland during the 1970s, and examine the change in design strategy that emerged over this time. Comparisons between these plans and Andrews' earlier educational work in North America will also be made in order to observe continuity and difference in the architect's approach.

## **The Queensland office**

The office faced very different conditions, both physical and institutional, in undertaking the Queensland master planning work. Unlike the 'greenfield' opportunities Andrews was given in North America, his projects for Queensland required the adaption of existing facilities into expanding campuses – prompting a 'corrective' strategy of infill planning designed to remediate moribund building stock and poorly organised sites. The impetus behind the growth of Australian education facilities in the 1960s and 1970s was also different to those Andrews had encountered in North America. A new type of education delivery in the form of Colleges of Advanced Education (CAEs) was in play, a product of the 1964 Martin Committee of Enquiry into the Future of Education in Australia, calling for greater diversity in high education through the establishment of institutions with a strong technological and practical focus.<sup>1</sup> This new method of education delivery was to be complimented by a refreshed approach to institutional planning for both existing and new campuses and the Andrews' office was well positioned to provide its expertise. Yet the architect's bold and holistic approach to institutional planning would not find the same favour it had in North America, producing an evident tension within the given conditions. Many of the master plans remained unrealised, while others were implemented to only varying extents, occasionally leading to architectural commissions for the firm.

The office's first Queensland institutional planning project was the master plan for Kelvin Grove in 1973, as the campus transitioned from Kelvin Grove Teachers College to Kelvin Grove College of Advanced Education.<sup>2</sup> Following this were proposals for both Darling Downs Institute of Advanced Education and Ithaca Technical College in 1974, and Ipswich College of Technical and Further Education in 1975. After completing initial master plans, the office then received architectural commissions for three of the campuses; the libraries

at Kelvin Grove and Ipswich, and a general-purpose building at Darling Downs. Other early architectural commissions included the Chemical Engineering Building at the University of Queensland St Lucia Campus in 1973 and the Australia Environments Research Centre at Griffith's Nathan Campus in 1975.

## Educational experience

Prior to their institutional work in Queensland the Andrews' office had produced the internationally acclaimed projects Scarborough College (1963-69) and South Residences, University of Guelph (1965-68), part of Canada's significant growth in higher educational infrastructure.<sup>3</sup> With these projects Andrews' office played key part in a broader international push that sought to redefine the role of the campus in facilitating education, making university planning a testing ground for new concepts of communication and human interaction. In Andrews' Canadian work the re-creation of urban qualities within the overall campus environment, mainly through the control of passage and movement, was seen as critical to producing the best conditions for learning.<sup>4</sup> This clear focus on an architecture that supported a change in the delivery of education based on ideas of connectivity was part of the transfer of knowledge enacted by Andrews' office in its institutional commissions in Queensland of the 1970s, although the strategies for the Queensland-based projects would further develop the firm's work in North America. As such analysis of the master plan reports for Ithaca, Ipswich and Darling Downs campuses reveal a pattern of development strategies centred on concepts of communication and circulation, at both the planning and building scale, which were initiated in the Canadian work.

The initial impetus to establish an Andrews International office in Queensland was not the institutional work but a major urban re-development project at Roma Street Brisbane for the Hooker Corporation that failed to eventuate. Scottish-born architect John Simpson was the director of the Queensland office, who joined Andrews in 1963. Simpson worked on the firm's major institutional projects in North America including Scarborough and Guelph, as well as being partner in charge of the design for Gund Hall, Harvard (1967-72).<sup>5</sup> A key figure in John Andrews' access to institutional work in Queensland was architect and planner Roger Johnson. In his role with the National Capital Development Commission in Canberra, Johnson had encountered Andrews in relation to the Cameron Offices project (1968-76). In 1972 Johnson became the architect responsible for the master plan of Griffith University's Nathan Campus, where he commissioned the John Andrews International office to design the Australian Environmental Studies building.<sup>6</sup>

The creation of the Colleges of Advanced Education presented an opportunity for new institutions to actively differentiate themselves from the predominant planning strategy of existing universities and colleges consisting of the arrangement of discipline-specific standalone buildings, reflective of an international trend in institutional design.<sup>7</sup> The aspirations for these new institutions were centred on integration between disciplines and the wider campus community through strategies of access, communication and circulation. Such strategies, which had informed Andrews' institutional projects in North America, were strongly articulated in the planning reports produced for Ithaca, Ipswich and Darling Downs campuses. Analysis of the reports reveals recognition of the importance of the link between

planning and pedagogy in the delivery of knowledge allied to a clear understanding of siting and context as key determinants of campus organisation.

Of the four master planning projects, only the Ipswich site presented a 'greenfield' opportunity, as the campus prepared to transition from the technical college facilities in the city centre to a fringe suburban site at Bundamba. The Ipswich master plan report was also the last of the four, produced in late 1976. Consequently, this final proposal can be argued as the clearest articulation of the methodology of the practice across their Queensland institutional master planning portfolio. At Kelvin Grove, Darling Downs and Ithaca, however, Andrews International operated with the physical constraints of the existing institutional buildings, as well as those constraints imposed by institutional and governmental bodies. These sites represented opportunities for 'correction' of the existing arrangements, prompting strategies of radical intervention in setting up the possibility of future development and expansion.

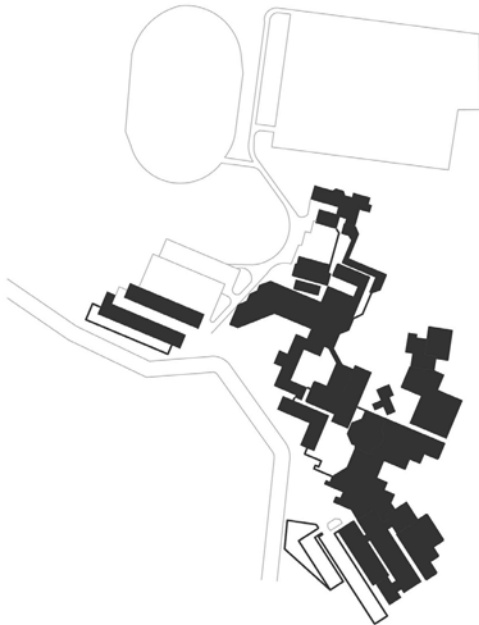
A recurrent issue across these sites was what the architects referred to as a lack of 'identity', demonstrated through incoherent planning, inconsistency in building scale and materiality, and disregard for natural setting. These issues are clearly illustrated in the 1974 report for the Darling Downs Institute of Advanced Education, where the conflict between existing built form and the innovative educational aspirations of CAE was most pronounced. As stated in the report, "the campus does not express to outsiders the fundamental concern with the application of knowledge"<sup>8</sup>, through what was seen as the 'concealment' of learning activities and a lack of continuity in built form. These sentiments are echoed in the report for Ithaca, citing ill-considered placement of buildings and unprotected circulation routes as fostering an environment un conducive to student interaction and collaboration.<sup>9</sup>

Each of the four proposals demonstrates a synthesis of a consistent set of planning strategies with response to site-specific constraints of topography, climate and access with an impetus on planning for future growth and change within the institutions. While at a conceptual level the strategies remained consistent, each master plan can be read as an iteration of an increasingly distilled diagram, culminating in the 1976 Ipswich master plan.

## Kelvin Grove

The 1973 master plan for Kelvin Grove involved an existing set of institutional buildings belonging to the Kelvin Grove Teachers College – a loose organisation of ranked buildings around a courtyard set on a hilltop. Andrews' plan for future expansion reflected the bold holistic scheme for Scarborough in its overall diagram; a central core where the proposed library building was to be located, surrounded by the various faculties that were arranged along the site contours. Yet the relationship of form to landscape at Kelvin Grove refers most directly to another precedent within Andrews' oeuvre – the unrealised project for the expansion of the Behaviour Sciences Department of Tufts University, Massachusetts (1970) that proposed a terraced infill development around existing hilltop buildings.<sup>10</sup> Whereas at Tufts the new development was to be stepped down in deference to the existing neo-classical buildings on the crown of the hill, at Kelvin Grove the new arrangement deliberately

subsumed the existing building stock in favour of a consistent mat-like expanse of built form. Master plan drawings reveal how the proposed pattern of new development disguises the presence of the original buildings within a radial dispersion of program, which attempts a minimum articulation between the library as the hilltop core of the campus and the surrounding facilities (see Figure 1).



**Fig. 1** Diagram of Kelvin Grove masterplan. Image by Antony Moulis and Georgina Russell, 2015.

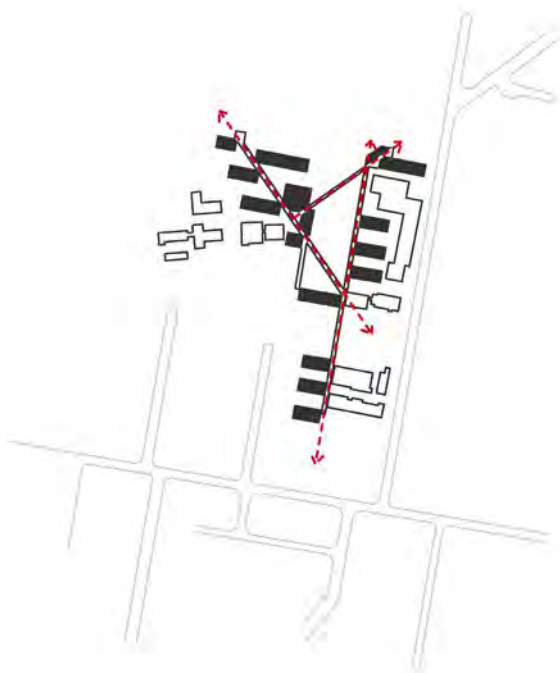
In comparing the sectional drawings of Kelvin Grove and Tufts the similarity between the schemes is evident. In both spaces are nestled into the hillside in such a way that the buildings resemble the form of the landscape – to ‘extend’ rather than react in contrast to it. To an extent, these similarities demonstrate the consistent application of principles across projects such as those for Scarborough and Tufts University and the active continuity of approach to practice attempted in transitioning from the North American to the Queensland work.<sup>11</sup> These principles included deference to site conditions, particularly topography, preference for tightly composed urban arrangements and the use of circulation space as a critical armature of social interaction.

Designed in parallel with the Kelvin Grove master plan in 1973 was the Canberra College of Advanced Education (CCAЕ) student residence located in Belconnen, a compact arrangement of shared dwelling units placed on a north-facing sloping site.<sup>12</sup> While not at the same scale as the proposal for Kelvin Grove, the CCAЕ residence reflects the same strategy of organisation – to create a dense occupation of the site intended to elicit a sociality among the student body via the structuring of streets traversing the slope that concentrate points of access and entry. This kind of dense street-like arrangement, evident at the level of the Kelvin Grove master plan entire, is indicative of influences that Andrews was evidently drawing from the broader international scene in his admiration of the Dutch

Structuralists, most particularly the work of Herman Hertzberger, as the architect admits in his 1982 monograph *Architecture: A Performing Art*.<sup>13</sup>

## Ithaca

In the Ithaca Technical College Development Plan of 1974 formally articulated circulation routes, rather than passageways carved out of built form, become central to Andrews' strategy of linking planning and pedagogy. Proposing to reorganise a site of dispersed buildings divided by a gully and a new arterial road, the Development Plan for Ithaca ties together the whole via a set of circulation tubes that dramatically cross the site in the form a triangle (Figure 2). Designed to link the parts on a single level hovering above the gully and road, the tubes were also intended to unify the facilities in the provision of all-weather access and ameliorate issues of poor social interaction found in the pre-existing arrangement.<sup>14</sup> The circulation tubes as 'streets' were more than simply access way, they were also intended as places of social interaction and communication. It was envisaged that they would be wide enough to host informal gathering at points as well as open into double height spaces to form visual connection between levels. As stated in the Ithaca Development Report connections should also be made at various points such as "when a street passes at mid level through workshop areas."<sup>15</sup> This strategy was also a corrective to what was seen as a problem of divided discrete educational spaces. A pedagogic role for architecture was given by the fact that space broken open to visual access of passers-by would serve the mission to inform and educate. The plan was not implemented but its highly structured circulation strategy understood as pedagogic instrument provides an example of the bold conceptual approach to planning and its relationship to education that Andrews' sought to introduce to institutional projects in Queensland (see Figure 2).



**Fig. 2** Diagram of Ithaca masterplan. Image by Antony Moulis and Georgina Russell, 2015.

## Darling Downs Institute of Advanced Education

The report produced for the Darling Downs Institute of Advanced Education in 1974 provides evidence of a clear move toward a linear formal planning strategy, and the adoption of the 'spine' concept and terminology.<sup>16</sup> Whether this was a conscious move by the Andrews' office, or reflective of a broader change in design methodology of the practice is debatable, but it does appear as a refinement of the practice's approach – conceptually and strategically – to the 'problem' of master planning, as will later be argued. The linear approach to the plans for Darling Downs, and later Ipswich, might be fruitfully compared with the planning strategy implemented earlier by Roger Johnson for Griffith University Nathan Campus in 1973. There are two points that can be made in addressing these similarities. Firstly, by the mid-1970s the concept of the circulation spine as an organisational strategy was a rising approach to campus planning internationally, understood as a means to provide legibility and the possibility of expansion in relation to campuses that were subject to growth and change.<sup>17</sup> Secondly, as mentioned earlier, Johnson encountered Andrews and his office in the early 1970s in his role with the National Capital Development Commission (NCDC) and the concept of the linear circulation 'street' can also be read in the Cameron Offices project, a project Johnson was undoubtedly exposed to in his time at the NCDC. Yet the concept of the linear spine was not simply organisational in intent in the Andrews' master plan, it was also pedagogic, related to ideas of knowledge acquisition – the means by which students would attain knowledge and comprehend the world. As stated in the Andrews International report, the objective of this planning strategy was to "expose students to an awareness of their environment",<sup>18</sup> in reference to both the natural context and the activities of their peers, while also providing a clear and legible organisation – a protected pedestrian circulation path. The 1976 plan saw a revision of the singular linear spine to accommodate changes without considerable disruption to existing facilities, in light of reduced government funding.<sup>19</sup> The firm's 1977 general-purpose building at the campus strengthened the planning proposal, providing "an important central link in the pedestrian spine of the institute, incorporating courtyards to provide shelter from the prevailing winds".<sup>20</sup>

## Ipswich

Subsequent to the reports for Darling Downs, John Andrews International produced a master plan report for a 'greenfield' site at Bundamba for the Ipswich College of Technical and Further Education. The report rejects the organisation suggestion within the project brief, which "envisages each School as a separate entity"<sup>21</sup>, favouring the strategy adopted in the Darling Downs master plan where interaction between Schools is encouraged along circulation routes. A pair of diagrams is used to illustrate the point. The first diagram, showing a campus core radially surrounded by individual school buildings, is seen as limited in terms of the potential for interaction. The second diagram, showing the core and the Schools placed along a 'spine', is seen to encourage maximum interaction. The favoured organisation is certainly less hierarchic in placing all spaces along a route with the implied urban quality of a street yet it also illustrates how concepts of sociality and circulation are played out at various scales – over the master plan as a whole, in the relationships between



schools and in the interface between individuals and their encounter with buildings – each reinforcing the other. The role of circulation at a series of built scales points to a principle arrived at by Andrews in the mid-1960s while in the midst of his Canadian work, namely, that, “all architectural problems are the same, they only vary in dimension.”<sup>22</sup> Evidently for Andrews by the mid-1970s that principle had become so embedded in the architect’s practice it could be rendered diagrammatically through the representation of ‘spine’ and ‘circulation’ – capturing a set of relationships that implied broad functionality as well as the psychological states of individuals interacting in campus spaces.

Where the conditions of the site at Darling Downs lent itself to the linear configuration proposed by this diagram, the Bundamba site had a considerably more pronounced topographical landscape. Nonetheless persisting with the linear circulation strategy adopted previously, the central circulation spine provides the key circulation route, as well as defining the territories of various activities within the site.<sup>23</sup> Connectivity and transportation were key foci of the master plan, with the proposal providing a critical link from the Bundamba train station to the northern edge of the site. While the Resource Management Centre was completed in 1977 within the objectives of the master plan proposal,<sup>24</sup> the connection to the railway failed to eventuate, confining the campus facilities to the northern edge of the site.

The scheme represents a further iteration of the linear circulation spine concept, with the characteristic stepping of building program in response to topography. In this way, it can be read as a culmination of a conceptual approach reiterated and tested against unique topographical and climate conditions. The refinement of the linear circulation diagram, which emerged in the reports produced by the office from 1974, supported a notional strategy of interaction between students of different disciplines. More than this, it sought to affect the students’ uptake of learning through their relationship to environment. The master planning work of the John Andrews International office in Queensland illustrates a transition in their approach and methodology of institutional design and also its conceptual development. This move is most notably illustrated in the master plan report developed for Ipswich TAFE at Bundamba, and its greater sophistication, in comparison with the earlier Kelvin Grove master plan and through the later schemes.

## Education and architecture

The role the architectural environment played in the quality of education was a topic of considerable interest internationally in the 1960s and 1970s – debates which Andrews would lead, through his promotion of ideas and his built work in North America. Andrews’ role as an innovator in the field might be understood in the seriousness that attended the examination of his institutional projects. In 1967 the prominent educationalist David Abbey held a seminar at Andrews’ Scarborough College on ‘Education and Architecture in the 20<sup>th</sup> century’, reported in *The Canadian Architect*, at which he was highly critical of Andrews’ building and its capacity to contribute to the students’ education.<sup>25</sup> Abbey considered that the spaces of the college might induce psychological problems in students who felt intimidated by the distances of travel in the building, the vastness of its internal spaces

– which led students to “report feelings of inadequacy”<sup>26</sup> – and the oppressive nature of its “hermetically sealed environment.”<sup>27</sup> As salve to these conditions Abbey argues that architects must have their buildings provide for “visual exploration of the environment around the instructional space.”<sup>28</sup> In turn he speaks of the need of students in their “active searching of the environment for stimulation”<sup>29</sup> as if only students, consciously active in this way, could receive a proper education. Finally for Abbey it is the flexibility of space – the ability of students to propose and enact physical change in their architectural surroundings and group themselves informally within it – that would guarantee them the best conditions for the acquisition of knowledge. Andrews’ Scarborough College may well have fallen short of these requirements, despite its cutting edge formal appearance (as Abbey was to claim) yet the role that architecture could take in its formation of the proper psychological conditions for education was apparently not in doubt. By the time that the Andrews International office was undertaking its major master planning work for educational institutions in Queensland, the office had continued to develop its approach regarding the role of architecture in supporting educational needs based on its North American experience. Indeed the kinds of approaches that Abbey proposed in 1967 regarding the role of environment in relation to student learning are exactly those ideas that sustained the office’s design practice in Queensland – illustrative of the knowledge transfer that was occurring in its move from North America to Australia. The opportunities of visual stimulation in the educational environment as well as possibilities of active participation and informal gathering were just the kinds of student ‘needs’ that Andrews’ institutional master plans sought to promote and address. Yet the ambition of Andrews’ agenda for education nationally would remain relatively unfulfilled, particularly in Queensland. The master plans, though increasingly comprehensive, were little realised and the individual buildings that Andrews was to construct at Kelvin Grove, Griffith University, and the University of Queensland at St Lucia were not enough, in their own terms, to affect changes of behaviour in the larger campus settings which the plans aspired to promote. The particularised responses to the settings of Kelvin Grove and Ithaca, producing plans that came closest to emulating approaches brought to projects on similar sites in North America, would develop by the mid-1970s into a clear diagrammatic response – the linear planning ‘spine’ – which came to stand for the crystallisation of Andrews’ practice around concepts of sociality in institutional space developed over the previous decade. Design as remedial practice here was not simply about the correction of deficiencies of building stock and campus organisation, it was also about the psychology of education in relation to environment – evidencing the maturing of the office’s design practice around the provision of educational spaces.

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