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THE D.B. WELDON LIBRARY BY ANDREWS AND MURPHY: Modern Experiments in a Collegiate Gothic Campus¹

> JAMES ASHBY

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In London, the design of a new main library for the University of Western Ontario occurred within the rapid expansion of post-secondary education in Canada, concurrently with the architecture of the 1967 centennial commemoration, and as part of the emergence of the third generation of modern architects in the international context. With its ambitions for a library of national significance, Western's administration sought a building that was bold and forward-looking, and yet compatible with its picturesque campus of Collegiate Gothic buildings of stone. To that end, Western orchestrated a joint venture between Australian architect John H. Andrews [1933--] and Ronald E. Murphy [1924-1992] of London, which was supported by their associates and other disciplines.² The D.B. Weldon Library (1968-1972) was the result of the convergence of Andrews's design principles influenced by Josep Lluís Sert of Harvard, and Murphy's stewardship of the traditional architecture of the campus as the university's architect (fig. 1).

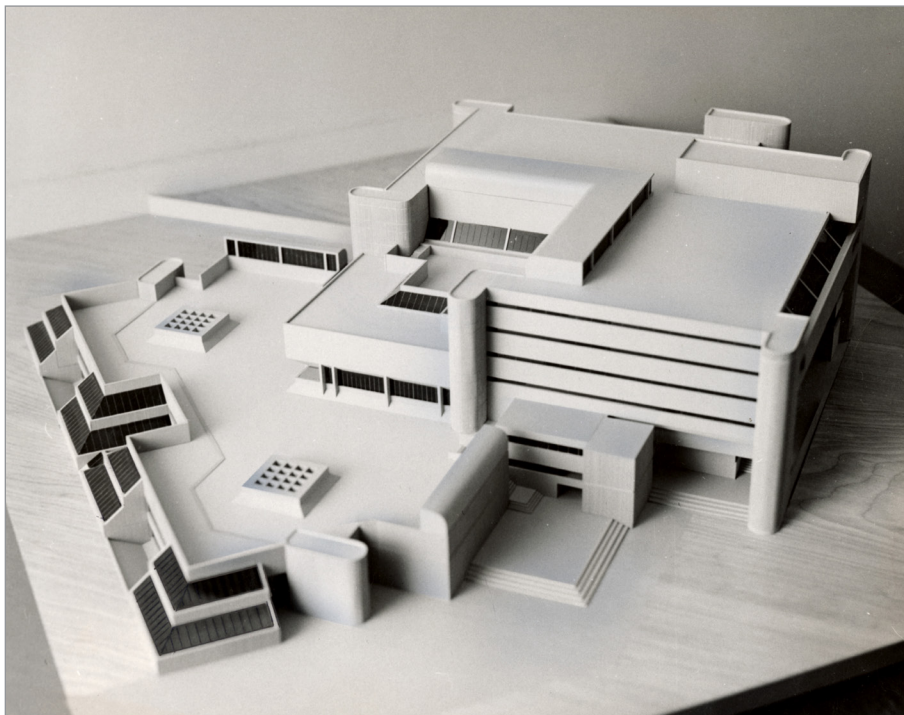


FIG. 1. THE ARCHITECTURAL MODEL ILLUSTRATES THE STEPPED FORM, AXIAL PLAN, DIAGONAL GEOMETRY, COLUMNAR CORNER TOWERS, AND SKYLIGHTS OF THE "NEW MAIN LIBRARY" (RONALD E. MURPHY ARCHITECT AND JOHN ANDREWS ARCHITECTS, C. 1967), UNIVERSITY OF WESTERN ONTARIO, LONDON. | AFC 399-7, WESTERN ARCHIVES, WESTERN UNIVERSITY.

When completed, Weldon was the largest of Western's buildings. Its stepped form rose to six storeys, with most of its flat-roofed volumes set at a diagonal to those of the buildings nearby. Weldon's composition of monolithic concrete walls with horizontal windows was anchored by columnar stair-towers at its corners, all of which lent a monumental and somewhat fortress-like presence. Skylights of sloped panels and half-barrel vaults of concrete animated the building's silhouette. The heart of the library was "the meeting place," a grand hall for circulation and communication. Weldon's interiors

included numerous multi-storey spaces of concrete bathed in diffuse light. Some of these were animated with colourful furnishings, wayfinding graphics, plants, and visual art, all of which supported an engaging environment for students, academics, librarians, and members of the wider community.

Weldon shifted the centre of the campus and introduced a new architectural vocabulary and urban character to Western. Two contemporaneous projects, together with the library, formed an open space, "Concrete Beach,"³ providing the campus with its first quadrangle. Supporting the formal and informal rituals of campus life, the library and its cultural landscape is a compelling fragment of 1970s campus design in Canada.

The architects' interest in adaptability, extensibility, and connections to adjacent buildings links the project to the megastructure movement.⁴ In addition, Weldon is increasingly characterized as an example of Brutalism in Canada. As the civic and institutional architecture of the period continues to be re-assessed, this paper examines the specificity of this library at an existing university in a mid-size city in Southern Ontario.⁵

EXPANDING EDUCATION AND ACCESSING KNOWLEDGE

Against a backdrop of university expansion across Canada and a building boom of academic libraries, in particular, University President G.E. Hall established an advisory committee on library planning, in October 1964.⁶ The rapid growth of Western in the 1960s and the need for a new library occurred as part of the response to expansion of enrolment in higher education, which had been predicted in the influential Sheffield Report of 1955. Edward F. Sheffield, director of

the Dominion Bureau of Statistics, estimated that enrolment in Ontario universities would more than double between 1960 and 1965.⁷ To address this predicted surge, many new universities were established in Canada. Between 1957 and 1967, new institutions were created in cities such as Victoria, Burnaby, Calgary, Lethbridge, Thunder Bay, Sudbury, Waterloo, Guelph, Toronto, St. Catharines, Peterborough, Ottawa, Moncton, and Charlottetown. In addition, existing universities built new campuses at Regina, Toronto, Kingston, Québec (Sainte-Foy), and St. John's. The oil crisis of 1973 and the ensuing economic recession brought an abrupt end to university spending.⁸ Somewhat of an exception is the Province of Québec, where the establishment of the Université du Québec in 1969 was followed by substantial construction at its series of campuses through the 1970s.

The design of these new educational institutions in Canada occurred while avant-garde architectural culture was redefining its mission.⁹ "The formal demise of CIAM [Congrès internationaux d'architecture moderne] in 1959, the emergence of Team 10 and a new generation of urban thinkers saw increased focus on concepts of community, the street, and the scale of the human body,"¹⁰ according to Philip Goad. Garnering international attention were the new Canadian campuses that challenged the orthodoxies of the earlier Modern Movement and promoted more interdisciplinary approaches to education. These projects each offered a bold, singular vision, and included Simon Fraser University (Erickson-Massey, 1963-1965), Trent University (R.J. Thom Architect, Thompson, Berwick, Pratt, & Partners, 1963-1969), and University of Toronto's eastern satellite campus, Scarborough College (John Andrews with Page and Steele, 1963-1965).¹¹

Some of the campus projects were planned and constructed during the same period as Canada's centennial buildings. This has been described by Peter Buchanan as the heroic period of modern architecture in Canada, when the country "was emerging as one of the world's few key centres of innovative architecture."¹² Critical attention has focused on the new campuses and centennial projects, rather than the impact of the Modern Movement on existing campuses, such as Western.¹³ Urban campuses, including those at Edmonton, Winnipeg, Toronto, Hamilton, Kingston, Ottawa, Montréal, and Halifax, developed considerably during the 1950s and 1960s.¹⁴ Of particular interest, with respect to Western, are the experiments with megastructure and, in some cases, Brutalism, at University of Alberta, University of Winnipeg, University of Guelph, McMaster University, Queen's University, and Dalhousie University. These existing campuses and the stories of their renewal in the postwar era comprise a parallel history of Canadian campus planning.¹⁵

The growth and democratization of higher education were reflected not just in campus expansion but also in the design of open and accessible library buildings. The postwar era in Canada witnessed maturation of librarianship, increasing complexity of library operations, establishment of research collections, and the redefinition of libraries.¹⁶ When Canada's baby-boom generation arrived at the universities, the student population served by libraries increased by three times, library holdings increased nearly four times, staffing multiplied almost six times, and operating expenditures increased approximately eleven times.¹⁷ Robert Downs's report, published in 1967, offered a comprehensive examination of resources for academic and research libraries in Canada. Downs's

recommendations addressed administration, technical services, reader services, physical facilities, and personnel.¹⁸ This demonstrates the interest in the wide-ranging transformation of academic libraries of the period.

In the 1960s and 1970s, academic libraries experienced a renaissance, with new central or divisional libraries constructed on every major university campus in the country.¹⁹ For new as well as existing universities, these library buildings represented modernity, technological advancement, and growth, and provided opportunities to establish new or renewed identities.

CONCEIVING A NEW MAIN LIBRARY

In 1924, the University of Western Ontario established its first purpose-built library on the present campus within the Arts and Administration Building (now University College), at the former Bellevue home-stead in London Township.²⁰ Sited along the north branch of the Thames River, the campus is on the traditional lands of the Attawandaron, Anishinabek, Haudenaunee, and Leni Lenapewak peoples.²¹ The new campus was founded with just two faculty buildings, one each for the arts and sciences, designed by Frederick H. Spier of Detroit with John M. Moore of London.²² The buildings, sited with a picturesque relationship to one another and the landscape, established the Collegiate Gothic character that came to be associated with the university. O. Roy Moore, son of John, designed the first stand-alone library for Western, the Lawson Memorial Library (1934) (fig. 2).²³

The campus design was established with the advice of Thomas Adams,²⁴ the god-father of Canadian planning.²⁵ Western's campus developed in an incremental



FIG. 2. AERIAL VIEW OF LAWSON MEMORIAL LIBRARY (JOHN M. MOORE, 1934), LOCATED WEST OF UNIVERSITY COLLEGE (F.H. SPIER AND J.M. MOORE, 1924), UNIVERSITY OF WESTERN ONTARIO, LONDON, C. 1940. | G.R. NELSON PHOTOGRAPH COLLECTION - PG 043, IVEY FAMILY LONDON ROOM, LONDON PUBLIC LIBRARY, LONDON, ONTARIO.

manner, directed by Gordon Culham, who demonstrated "a preference for a picturesque campus layout."²⁶ From 1930 until the mid-1960s, the pioneering Canadian landscape architect provided continual guidance on the campus design and siting of buildings. Until 1959, the university buildings were encircled by the eighteen-hole golf course of the London Hunt Club, at which time the club relocated to permit further campus expansion.²⁷ By the early 1960s, Lawson Library was part of a row of buildings of similar height and character, which formed a mall lining the east side of Oxford Drive.

Under the leadership of chief librarian James J. Talman, additions were constructed at Lawson Library in 1954 and 1962.²⁸ Furthermore, new libraries were opened on the campus for law (1961), business (1962), health sciences (1965),

education (1966), and the natural sciences (1966).²⁹ Continued pressures for library expansion included new graduate programs, such as the School of Library and Information Science.³⁰ In addition, as an established institution, Western anticipated supporting the libraries of the new Ontario universities, particularly with the inter-library loan system, which was inaugurated in 1967.³¹ Amidst this fertile context of change and openness to new ideas, along with the growth in university enrolment, the shortcomings of the facilities at Western became apparent.

As regards a new main library, no previous building at Western had been the subject of as much planning, analysis, and external advice. Committees, both existing and new, addressed property and development, architectural services, library requirements, and space

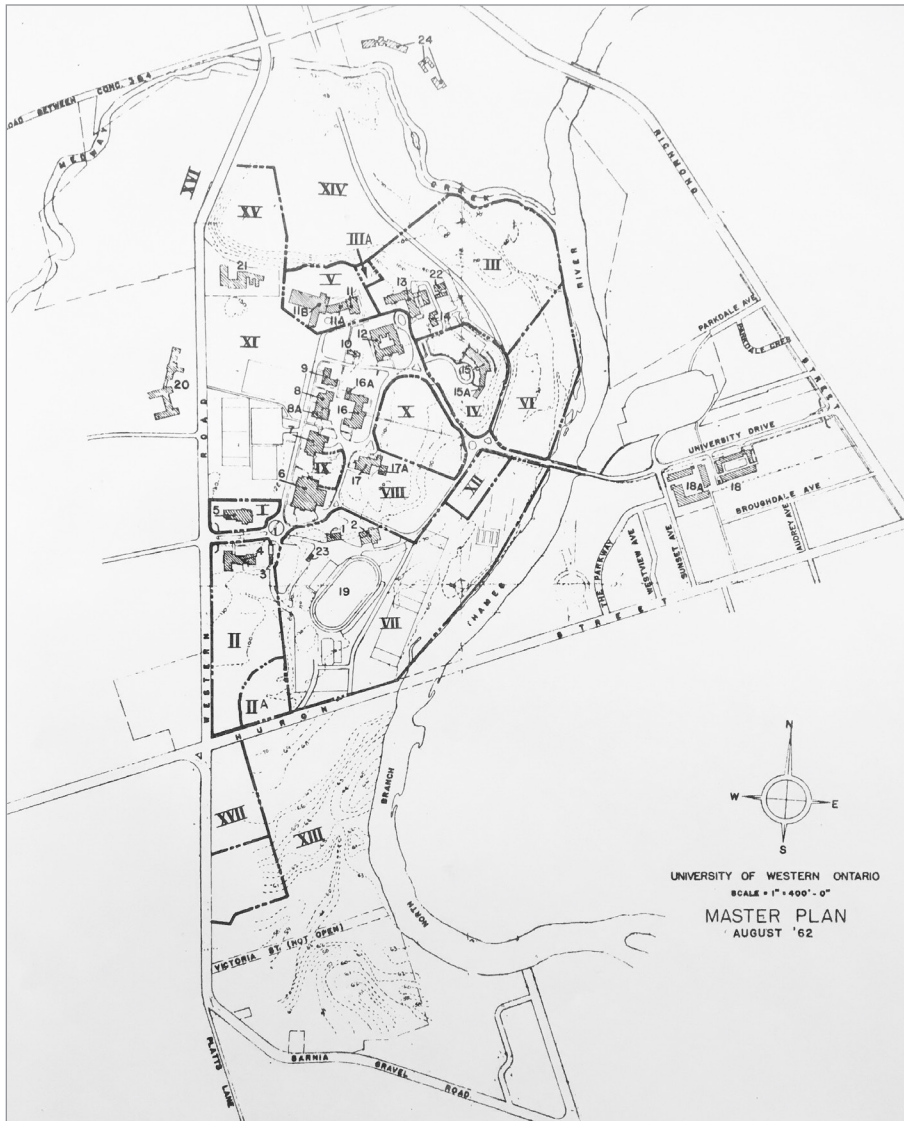


FIG. 3. 1962 MASTER PLAN, UNIVERSITY OF WESTERN ONTARIO, LONDON. THE LIBRARY WAS SITUATED WEST OF SOMERVILLE HOUSE, BUILDING NO. 7. | UNIVERSITY OF WESTERN ONTARIO, DEPARTMENT OF BUILDINGS AND GROUNDS, 1968, MASTER PLAN DEVELOPMENT: 1916-1968, LONDON, UNIVERSITY OF WESTERN ONTARIO.

allocation. External consultants included Murphy and experts from Toronto, Montréal, Minneapolis, and Cambridge (Massachusetts). Among the most influential was Keyes Metcalf, Harvard's Director Emeritus of University Libraries. He was in the process of publishing *Planning Academic and Research Library Buildings*.³² Following Metcalf's visit to the campus in 1965, he concluded that

expansion of the existing library was "possible but not desirable."³³

With respect to siting of a new main library, the 1962 master plan for the campus identified a science area to the north, an area for engineering, services and athletics to the south, an arts area to the east, and a central zone for general student activities (fig. 3). In order

to select a site, the committee sought the advice of three architectural and planning consultants.³⁴ Hazen Sise was a partner in Montréal's Affleck, Desbarats, Dimakopolous, Lebensold, and Sise. The firm had designed the Georges P. Vanier Library (1964) at Loyola College (now Concordia University).³⁵ The second was Thomas Howarth, dean of the University of Toronto School of Architecture. The third, William Greer of Toronto's UPACE (University Planning Architects and Consulting Engineers), had recently completed the master plan for York University.³⁶ The committee's choice of these architects, who were actively engaged in contemporary architectural culture, was an indication of the administration's interest in the discourse on urban design and architecture.

The considerations articulated by Metcalf, the architectural advisors, and the university's committees foreshadowed the urban design challenge that was to face Andrews and Murphy; that is, to design a large, centrally located library of symbolic importance, at the crossroads of pedestrian movement on the campus, while respecting the Collegiate Gothic buildings of stone, and the picturesque character of towers set in a verdant landscape.

Having taken into account the recommendations of its advisors, and the opinions of colleagues, the committee decided that the new building should be sited on the west side of Oxford Drive opposite Lawson Library, on an open green space known as "The Common."³⁷ In 1965, the committee put forward a formal recommendation for a new building that would accommodate both a graduate research collection, with restricted access, and an undergraduate collection.³⁸ The progressive program was based on the most recent available guidelines.³⁹ The library was to serve a student population of

12,000 and accommodate a collection of 1,000,000 volumes by 1975, effectively tripling the holdings.⁴⁰ The program included 500 spaces for graduate students, 1300 for undergraduates, and 200 for faculty. With a floor area of 22,000 square metres, the proposed library was approximately one and a half times the size of Lawson. The committee's high aspirations were evident in its declaration that the building would be in "a unique position to be a very important library resource for all of provincially assisted universities of the Province of Ontario and of the nation."⁴¹

The city of London itself was subject to considerable growth and renewal in the postwar era. Situated between Toronto and Detroit, London was a mid-size city with an economic base in the financial and manufacturing sectors. Annexation of surrounding communities doubled the area of the city in 1961. London benefitted from major investments in the region for projects such as Fanshawe Dam (1952), Highway 401 (late 1950s), Ontario Vocational Centre (now Fanshawe College, 1962), and an airport terminal (1965). Visual artists and the London Regionalism movement garnered national attention as the subject of a touring exhibition organized by the National Gallery of Canada.⁴² Local architects, involved in downtown renewal and suburban expansion, explored modernism in the design of institutions, schools, housing, and places of worship, as well as in the commercial and manufacturing sectors.

ARCHITECTS AND THE THIRD GENERATION

In February of Canada's centennial year, Western announced that architect John Andrews would assist Ronald E. Murphy in the design of a new main library.⁴³ This

partnership might have been considered an unlikely one. Andrews had just gained international recognition for Scarborough College, the commuter campus with closed-circuit television learning. Critics linked Andrews's radical concrete building with the avant-garde, in particular the ideas of Team 10 and megastructure.⁴⁴ By contrast, Murphy had been the steward of Western's Collegiate Gothic character, designing buildings in that style into the mid-1960s.

Andrews came to international attention in 1958, while completing a master's degree at Harvard under Dean Josep Lluís Sert. It was just several years earlier that "urban design" was introduced to the public by Sert and Sigfried Giedion, and then subsequently codified, promoted, and used as the basis of a professional program, which was integrated with architecture, planning, and landscape architecture at Harvard.⁴⁵ "Under Dean Sert the emphasis in the School had changed from the strict Bauhausian line of Gropius, towards the more expressive social and technological stance of the mature Le Corbusier,"⁴⁶ according to Andrews's biographer, Jennifer Taylor. In addition to serving as dean, Sert maintained an architectural and urban design practice. The time at Harvard would prove to be formative for the young Australian, as Taylor noted: "Andrews' later work clearly demonstrates lessons well learnt at this time."⁴⁷

As an architect and graduate student, Andrews entered the international design competition for Toronto City Hall, along with three fellow students at Harvard. Of the 509 entries, their scheme was one of the finalists.⁴⁸ Evident in the team's design were themes of proportion, axiality, symmetry, and sequence, which have been linked to Sert's Harvard design studio concerned with the monumental

in architecture and with the urban ensemble.⁴⁹ Also present in the scheme were gridded plans, multi-storey interior space, integrated building systems, and concrete construction technologies. All of these interests were to be pursued by Andrews in subsequent work, including the library at Western. Upon graduating, he moved to Toronto to work with John B. Parkin Associates, the firm associated with the competition winner, Viljo Revell of Finland.⁵⁰ As senior designer until 1961, Andrews's work for the firm developed through an awareness of the accomplishments of contemporaneous architects, such as Paul Rudolph and Louis Kahn.⁵¹

From its beginnings as an informal studio in 1962, Andrews's design collaborative included expertise in law, architecture, engineering, landscape architecture, and visual art.⁵² Initially it was named "INTEG," which stood for "integration of the professions."⁵³ With respect to Sert's influence, Goad concluded:

The idea of professional or disciplinary integration had been an intrinsic part of Andrews' education at Harvard under Sert who had argued in 1953 that the challenge of post-war urban design was the "carrying out of large civic complexes: the integration of city planning, architecture and landscape architecture; the building of a complete environment."⁵⁴

Prior to the commission at Western in 1967, Andrews's career intersected that of Sert for the second time. The urban design and architectural challenges of campuses had become an important part of Sert's practice. In Canada, Sert Jackson and Associates Inc. contributed to the University of Guelph's 1965 master plan.⁵⁵ Sert's firm also consulted on the designs of Complex A (now Lambton Hall, 1966), Arts Building (now MacKinnon Building, 1967), and McLaughlin Library (1968) at

Guelph.⁵⁶ With respect to architectural design, Sert pursued the expressive possibilities of concrete.⁵⁷ At that time, Andrews designed North America's largest student residence there. Accommodating 1660 students, South Residences (1966-1968) demonstrated Andrews's

increasing commitment to a design approach based on repetitive systems, the expression of circulation, structure and space increasingly strained of heroic modernist formalism, and instead committed to non-hierarchical, flexibly planned and flexibly inhabited spaces that would fine [*sic*] be explored in his later buildings for universities.⁵⁸

From 1967, when he joined Murphy to execute the commission at Western, until 1972, when Weldon was fully operational, Andrews was working on major projects in Canada, the United States, and Australia.⁵⁹ In addition, he served as chair of the Department of Architecture at the University of Toronto from 1967 to 1969.⁶⁰ The trajectory of his career, particularly following the interest generated by Scarborough College, has been described as meteoric.⁶¹ Andrews, while in his thirties, enjoyed a global reputation. In 1972, Philip Drew placed him in the third generation of modern architects with, amongst others, James Stirling, Kiyonori Kikutake, Paul Rudolph, and Moshe Safdie.⁶² Aside from being born during the interwar years, that generation of architects shared a technological pragmatism and, according to Peter Scriver, they were "better attuned to the humanistic dimensions and open-ended flux of social space, and the ecological imperatives of environmental design than their forbearers in the more narrowly mechanistic understanding of functionalism that had been upheld by CIAM."⁶³

Concurrent with the commission at Western, the careers of Andrews and Sert intersected a third time. As dean, Sert gave Andrews the opportunity to return to his *alma mater* to design the Graduate School of Design (1968-1972), later named Gund Hall. At the time of the announcement, Sert described Andrews as "one of our most brilliant alumni of recent years."⁶⁴

It was at Harvard, in the 1960s, where the work of three generations aligned, that is, the axis of Le Corbusier-Sert-Andrews. There are direct links from one architect to the next. Upon invitation, Sert had apprenticed with Le Corbusier in Paris in 1929. They both participated actively in CIAM, and Sert eventually served as the organization's president. While at Harvard, Sert's practice authored buildings there, notably Peabody Terrace (1962-1964) and Holyoke Center (1958-1965); and, as a client, Sert commissioned Le Corbusier to design Carpenter Center for the Visual Arts (1963), and Andrews to author Gund Hall. Thus, it is at the Harvard campus where there are examples of the work of all three architects. For the ageing Le Corbusier, Carpenter Center was his final building, and completed posthumously. For the young Australian, Gund Hall was one of the last buildings of his design when based in Toronto.

While Andrews's work was connected to the avant-garde of the 1950s and 1960s and the work of his contemporaries, as Peter Walker has argued, one must not disregard the monumental aspects of the work and the particularities of its urban engagement, specifically, the new directions exemplified for Sert in the post-war trajectory of Le Corbusier's work.⁶⁵ Andrews's projects demonstrate that he was "true to the modernism of his first and second generation mentors, on

providing 'the solution,' as he put it, to a given design problem."⁶⁶

Murphy, originally from Mexico City, graduated from the University of Toronto in 1952. He joined the London firm of O. Roy Moore one year later. From 1964, Murphy practiced under his own name, becoming the third generation of the firm to author buildings for Western. The production of designs, following his arrival at the firm, was prodigious. While the entire series complemented the existing character of the campus, there was an evolution from Collegiate Gothic toward the Modern Movement. For example, the clock tower of Middlesex College (1959) is an essay in Collegiate Gothic with respect to form, materials, and detailing; while Alumni Hall (1967) is characterized by the subtle expression of structure and lack of ornament. The Medical Sciences Building (1964) is representative of the transitional character of many of the buildings (fig. 4). Murphy demonstrated the flexibility of the architectural language of Collegiate Gothic as he pushed a conservative university administration toward modernism.

At Western, during the planning phase for the new library, Murphy held the title of "university architect" and served on its library planning committee.⁶⁷ It was the university administration that orchestrated the joint venture. Initially, Western's superintendent of buildings and grounds, John Shortreed, tabled a recommendation for the "engagement by the University Architect of the services of an architect having such artistic talents as to be distinguished for them in his profession."⁶⁸ Eventually, the Board of Governors directed Shortreed to invite Andrews and Murphy to collaborate with each other.⁶⁹

Dean Howarth of University of Toronto, who was serving on the architectural

committee at Western, may have influenced the selection of Andrews. In 1967, Howarth appointed Andrews as chair of the Department of Architecture, indicating his work was clearly admired by the dean. While Howarth may not have influenced Western's administration, he certainly predicted the dynamism within the architectural profession with respect to commissions at universities: "New professional groupings have emerged and formal and informal consortia have been arranged; the old order is changing and new tensions are evident as various groups act and interact."⁷⁰

Given Andrews's focus on interdisciplinary practice and his previous experience with partnerships, his Toronto studio was well suited to collaborate with Murphy, who brought extensive knowledge and experience of Western (both the institution and the campus), as well as the region's construction industry. In 1969, Murphy formed a partnership with Norbert J. Schuller, a former student of Andrews, and the two London architects were directly involved with the library at Western. The firm expanded further in 1971 and practiced as Murphy, Schuller, Green, & Martin.⁷¹ At Andrews's Toronto office, British émigrés Robert Anderson and Anthony J. "Tony" Parsons were involved with the London project.⁷² The library was initially known as the "New Main Library."⁷³ It was subsequently dedicated to Lieutenant Colonel Douglas Black Weldon.⁷⁴

URBAN, MONUMENTAL, COMPATIBLE, AND EXTENSIBLE

By the time the architects initiated the design, Murphy, the committees, and the librarians had established some key determinants. The building site was the Common, on Oxford Drive opposite Somerville House (O.R. Moore, 1955),



FIG. 4. THE MEDICAL SCIENCES BUILDING (RONALD E. MURPHY, 1964) TERMINATES THE VISTA OF OXFORD DRIVE AT THE NORTH, UNIVERSITY OF WESTERN ONTARIO, LONDON. | MEDICAL SCIENCES BUILDING, MEETING NOTES 1968, AFC 399-7, FILE 4, WESTERN ARCHIVES, WESTERN UNIVERSITY.

near Lawson Library. The new library was to be organized along an east-west axis perpendicular to the street, with the tallest portions furthest west, facing the back of the campus. This location permitted a quadrangle to be established to the north, with the main entrance of the library opening onto it. Commissions for an adjacent University Community Centre and Social Science Centre followed, and were led by Murphy's firm.

Campus Plan as Laboratory⁷⁵

The proposed strategy for the site dovetailed with Andrews's approach. Speaking about a subsequent library of his design, he explained:

It puts the library at the heart of the campus, it puts the major student facilities at the heart of the campus, and it pulls all of the ground level pedestrian circulation together into the one system, maximizing the opportunity for convenience and contact. That is an old story for me . . . It is still the major genesis of any building.⁷⁶

Taking advantage of the sloping site that rose approximately two metres from east to west, the library was partially submerged and its volumes were terraced in order to lessen the impact of its height with respect to the existing buildings. The floor area of over 22,000 square metres was distributed over seven levels. The main volumes were disposed symmetrically on an axis centred on the modest tower of Somerville House. While the floor levels varied, the composition comprised mainly a volume of two storeys (undergraduate area) at the east, an intermediary volume (meeting place) at the centre with an additional three storeys, and a westernmost volume (graduate area) with a further two storeys (fig. 5).

While Andrews's previous projects at Scarborough and Guelph were on so-called greenfield sites, the parallel projects of Western and Harvard were within established campuses. The approach to Western was consistent with that to Harvard. The play with scale in the overall massing of Gund Hall suggested Sert's

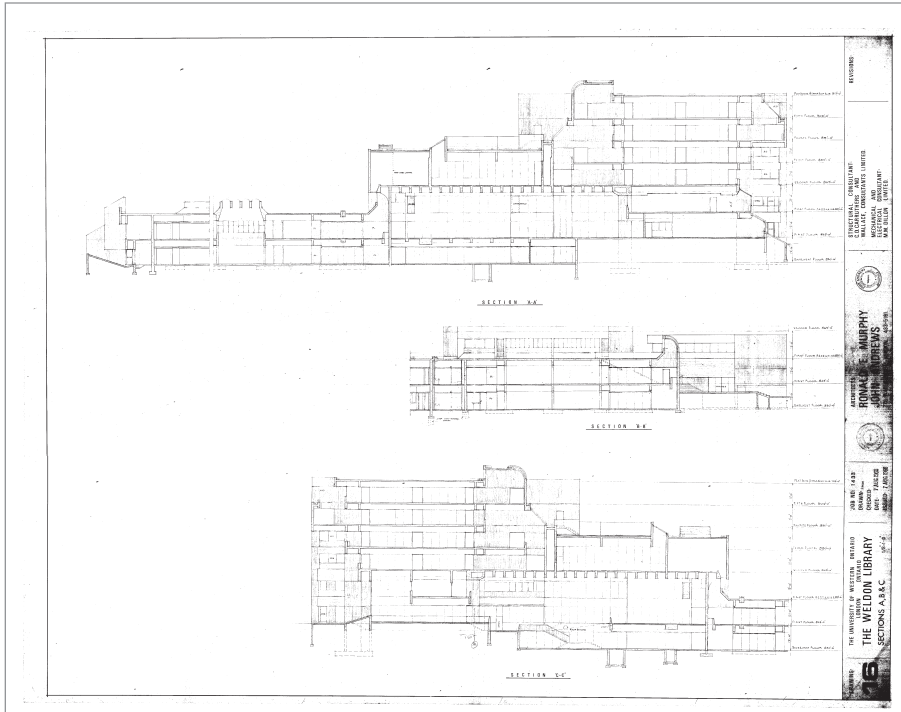


FIG. 5. THE MULTI-STORY "MEETING PLACE" AS A CENTRAL SPACE OF CIRCULATION AND COMMUNICATION IS EVIDENT IN BUILDING SECTIONS A AND C, DRAWING A16, THE WELDON LIBRARY (RONALD E. MURPHY / JOHN ANDREWS, 1968), THE UNIVERSITY OF WESTERN ONTARIO, LONDON. | FACILITIES MANAGEMENT, WESTERN UNIVERSITY.

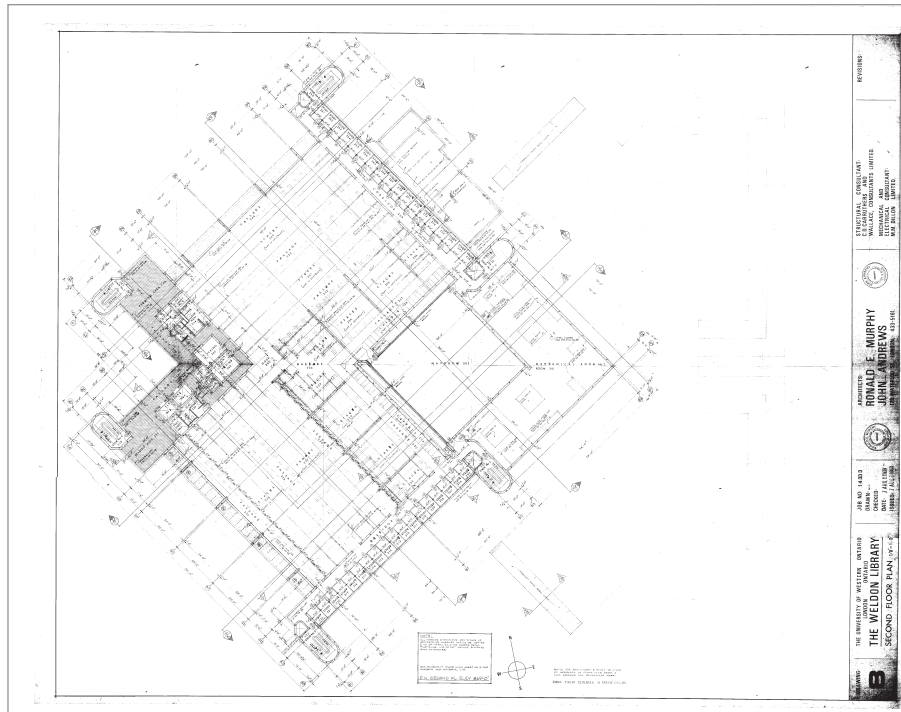


FIG. 6. THE RIGOROUS SYMMETRY OF THE MAJOR FORMS OF THE BUILDING IS EVIDENT IN THE SECOND FLOOR PLAN, DRAWING A8, THE WELDON LIBRARY (RONALD E. MURPHY / JOHN ANDREWS, 1968), THE UNIVERSITY OF WESTERN ONTARIO, LONDON. | FACILITIES MANAGEMENT, WESTERN UNIVERSITY.

influence, in particular the stepping down of the building volumes.⁷⁷ Deference to site conditions, both topography and adjacent buildings, were a consistent theme in Andrews's work.

As with Andrews's previous buildings, the architectural strategy for the library had its roots in Sert's teaching and practice: monumentality and compositional urbanism.⁷⁸ Weldon's main entrance with its four-storey high portico, located approximately 60 metres from the sidewalk at Oxford Drive, established the library as a destination for pedestrian movement. Inside, the axial design connected the library's elevator lobbies at the west end to a tunnel at the east, under the street to Somerville House. The design's urbanity, monumentality, linearity, and connectivity all resonate with the megastructure movement.

Geometric Order and Diagonal Relationships

Andrews's work is recognized for "addressing patterns of use, circulation and organisation expressed through the modulation of space arranged in intricate, geometrically ordered and gridded plans."⁷⁹ With respect to geometries, his strategy differed from that of Sert. While the latter was one of public realms of rectilinear courts and quadrangles, particularly within campuses, Andrews's strategy was one based on diagonals. At Western, an underlying grid informed the planning relationships for the library, with the grid rotated 45 degrees from the main axis (fig. 6). Thus, most of the volumes of the library have a diagonal relationship with the existing buildings nearby.

While symmetry informed the overall composition of the library's various volumes, the design team introduced a deliberate asymmetry with respect to

circulation. The main entrance was placed off axis, at the north. In addition, visitors arrived at the mid-level between basement and ground floors, enhancing the dynamic tension of the experience.

A further contrast to the overall symmetry of the composition is evident in the building's elevations, particularly those at the western end, where various approaches were taken on each façade. There is a greater proportion of glazing on two façades, anticipating the possibility of light wells, following the proposed addition of multi-storeyed wings.

"Spaces of static occupation are organized by the orthogonal grid and corresponding enclosure; and spaces of movement, passage, and interconnection operate diagonally," according to Jared Bird's assessment of Andrews's work, and "by using the diagonal as an axis of movement, Andrews reflects ideas associating the diagonal with dynamism, openness and interconnection."⁸⁰

Circulation for Social Interaction

The meeting place was a multi-storey main hall at the centre of the composition (fig. 7).⁸¹ With its grand stair and mezzanine, it brought together all the shared activities of the library. Conceived as a place for communication, the meeting place connected the undergraduate, graduate, and staff areas, and linked circulation from both the main entrance and the tunnel. Apart from places for sport and recreation at Western, the scale and grandeur of the meeting place rivaled that of Western's most spectacular room, Convocation Hall (1924).⁸²

Andrews's work is known for its development of circulation space as a place for social interaction.⁸³ The role of Weldon's meeting place recalls that of Andrews's



FIG. 7. "MEETING PLACE," THE D.B. WELDON LIBRARY (RONALD E. MURPHY / JOHN ANDREWS, 1972), UNIVERSITY OF WESTERN ONTARIO, LONDON. | AFC 399-54-F70-1, WESTERN ARCHIVES, WESTERN UNIVERSITY.

inner court for the Toronto City Hall competition, and the meeting places at Scarborough and Guelph. At Western, the team established a hierarchy of meeting places. Within the undergraduate areas, concrete waffle-slab ceilings with skylights characterized two double-height spaces. Within the graduate areas, there were several multi-storey skylit spaces at the perimeter. Even when engaged in solitary work at a carrel, a student was part of a community of researchers within a multi-storey space bathed in indirect light.

The concrete interiors of the library were animated by custom-designed fixtures and furnishings with a colour palette of orange, purple, yellow, and blue.⁸⁴ A program of graphic wayfinding, based on Helvetica typeface, had a considerable presence within the library. With respect to the main hall, all these elements came

together with plants and visual art to enhance the complex spatial interplay.⁸⁵

Social spaces also occur outside the building. There was a roof terrace accessible from an exterior stair at the north, although this was closed from an early date.⁸⁶ A raised plaza (now Renaissance Square) had a stage-like presence outside the main entrance. Its brick paving echoed the terracotta flooring within the library. The relationship between the interior meeting place and the outdoor plaza echoed Andrews's City Hall scheme with its winter (interior) court and summer (exterior) plaza.

Interdisciplinary Design, Planning for Flexibility

Andrews was interested in design and construction practices that responded to

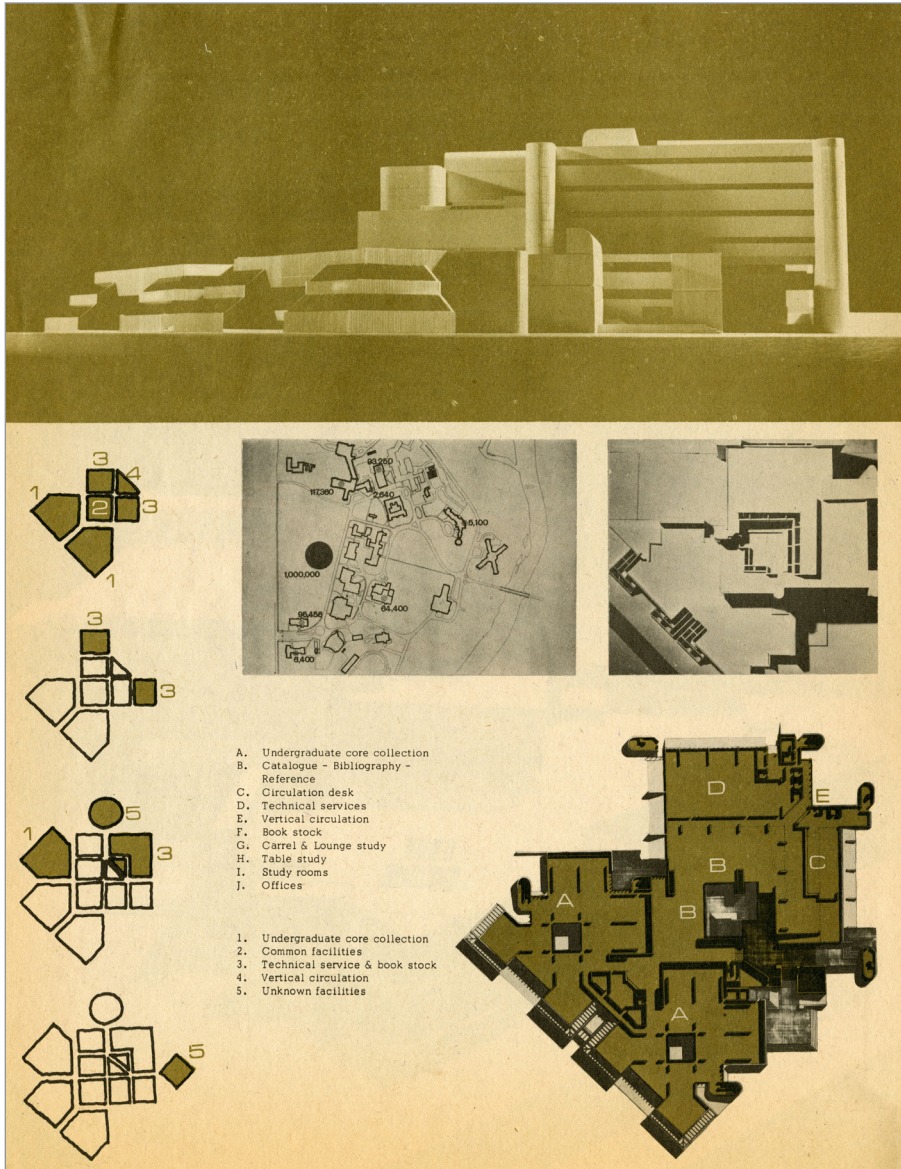


FIG. 8. THE ARCHITECTS' PROMOTIONAL MATERIALS OF THE D.B. WELDON LIBRARY ILLUSTRATE ANTICIPATED PHASED ADDITIONS (RONALD E. MURPHY / JOHN ANDREWS, C. 1970), UNIVERSITY OF WESTERN ONTARIO, LONDON. | XL1 MS A016102A, BOX 8, FILE 70, ROGER DU TOIT ARCHITECTS COLLECTION, MCLAUGHLIN ARCHIVES, UNIVERSITY OF GUELPH.

specific needs and local circumstances; that is, the choices were not merely aesthetic. At Western, the administration's concerns that shaped the design team's decisions included the requirements for library holdings, future expansion, comfortable study areas, as well as the compatibility of the design with the existing stone buildings.

Anticipating the future expansion of the library, the university required that the graduate stack areas could be converted to practically any conceivable use.⁸⁷ Working with structural engineers C.D. Carruthers & Wallace Ltd., the team determined that the most economical solution could be achieved in concrete, specifically a system combining precast

single tees and post-tensioned, poured-in-place slabs. Furthermore, working with mechanical and electrical engineers M.M. Dillon Ltd., the team pushed all the vertical elements (circulation, structure, and comfort systems) to the perimeter of the floor plates. This maximized unobstructed, flexible space on each floor.

Future expansion was to proceed both radially and even vertically, given the ambitious plans for growth: "The Weldon Library is the first phase of a three-phase expansion programme. It is at this time estimated that each addition to the building will be equal in storage capacity to the first phase."⁸⁸ (fig. 8).

Locating stair towers and mechanical shafts at the corners of the graduate stack area facilitated phased expansion in the future. Adjacent to the stair towers, corridors on upper floors terminate at large windows. For construction of future additions, the existing corridors could be easily extended by removal of the windows.

This overall organization was also consistent with the committee's demands for "an architectural solution that will ensure efficient operation, provide flexibility of space, and be direct, logical and easily understood in its arrangement."⁸⁹ The need for flexibility was underlined, as the library program was in a state of flux, even during construction.⁹⁰

The architects were also directed to maximize indirect light in the study areas.⁹¹ They provided diffuse light in several ways and within a variety of multi-storey spaces, demonstrating the integration of architecture, structural design, and comfort systems. Illumination techniques included half-barrel vault roof lights in precast concrete, as seen in Sert's work. Skylit concrete waffle slabs were designed above two double-height spaces in the

undergraduate area. Translucent panels of “Kalwall,” a proprietary fibreglass material, illuminated work areas in both sections of the library.

Due to the nature of exposed concrete walls and ceilings, particular care was taken to integrate the building systems, including ventilation, plumbing, lighting, and electrical power. The results were a testament to the team’s commitment to interdisciplinary collaboration.

Concrete and Compatibility

While there is specificity to the design of the library, the materials palette at Western, as at Guelph and Scarborough, generally followed that of Sert’s Harvard buildings, in particular “off-form concrete coffered ceilings in the meeting places; terracotta quarry tiles on floors; and walls of raw concrete.”⁹² Weldon was the last of Andrews’s projects to have close affinities to Scarborough College, as Taylor remarked, yet “the studied resolution of structure and the immaculate finishes of the library’s finely-corrugated concrete construction provide marked contrast to the earlier building.”⁹³ The impressive results garnered the project an award for its concrete.⁹⁴

The library was constructed mainly of poured-in-place concrete, although there were precast elements. Consistent with Andrews’s previous projects, the design for Weldon comprised monolithic walls with exposed concrete surfaces, both inside and out. The team did not embrace the emerging building envelope technology based on the rain-screen principle, which was being pioneered by the National Research Council at that time.⁹⁵

Generally, smoother finishes were designed for the interiors, with more textured surfaces for the exterior. In



FIG. 9. THE SANDBLASTED, STRIATED CONCRETE WALLS OF THE D.B. WELDON LIBRARY (MURPHY, SCHULLER, GREEN, & MARTIN, AND JOHN ANDREWS ARCHITECTS), 2013, WESTERN UNIVERSITY, LONDON. | PHOTO: JAMES ASHBY.

defending the proposal for exposed concrete, which broke from the University’s tradition of quarry-faced stone and ashlar details, Andrews explained: “It is felt that the expression of the structural material as the external face is desirable from the standpoint of building clarity.”⁹⁶

The various finishes were designed according to their specific role in the building. Exterior walls generally had a sandblasted striated finish. Exceptions included horizontally spanning elements that had a horizontal board-marked finish and vertical load-bearing structure that had a vertical one.⁹⁷ Precast units had a steel-form finish. For interior walls, the concrete finish was created using wooden forms of either plywood or timber boards. The architectural vocabulary extended to the expression of the construction processes. Andrews explained: “Recessed pour joints and board marked areas

would be used in place of the traditional horizontal moulding strips and cornices. Through the expression of pour lines, we would not only control scale but also make a visual statement of the system of construction.”⁹⁸

Care was taken to ensure the uniformity of the concrete; for example, over 90 sources for aggregate were considered prior to selecting materials quarried in nearby Brantford and Paris.⁹⁹ The exterior walls were sandblasted to reveal this aggregate.

There is specificity in the sandblasted striated finish that characterizes much of the building exterior. Place Bonaventure (Affleck *et al.*, 1967) and Yale Art and Architecture Building (Paul Rudolph, 1963) were among case studies for the development of the exterior finishes for Weldon. Both buildings featured a

ribbed finish achieved by formwork. At Place Bonaventure, a consistent ribbed texture was achieved with precast panels that were hoisted into place. At Yale, the concrete was poured-in-place and, following curing, the ribs were then broken with a hammer. The result was Rudolph's characteristic "corduroy concrete." At Western, the ribs were left intact; that is, Andrews and Murphy succeeded in combining monolithic walls of poured-in-place concrete with a uniform texture typically achieved with precast concrete.

The team designed a series of finishes derived from the specific properties of reinforced concrete and its construction practices (fig. 9).¹⁰⁰ Moreover, for Weldon the team developed a language of concrete architecture with a specific vocabulary whose scale and textures addressed the particular qualities of its historic context, that is, a campus of Collegiate Gothic buildings of stone.

TOWARD A MODERN URBAN CAMPUS

In the 1960s, while a departure from Collegiate Gothic architecture might have been expected, that was not entirely the case. When plans were unveiled, the project was described as "an architectural revolution" on the campus, with the design characterized as both rambling and ultra-modern.¹⁰¹ On the one hand, Western's administration had been cautious with respect to a project that was such as departure; yet, on the other hand, deliberate and determined in seeking something new. University librarian James J. Talman speculated: "I think it's going to be a significant contribution to library architecture in the world."¹⁰² While under construction, the library was characterized as "perhaps the most daring of the University of Western Ontario's architectural endeavors."¹⁰³ Upon completion,

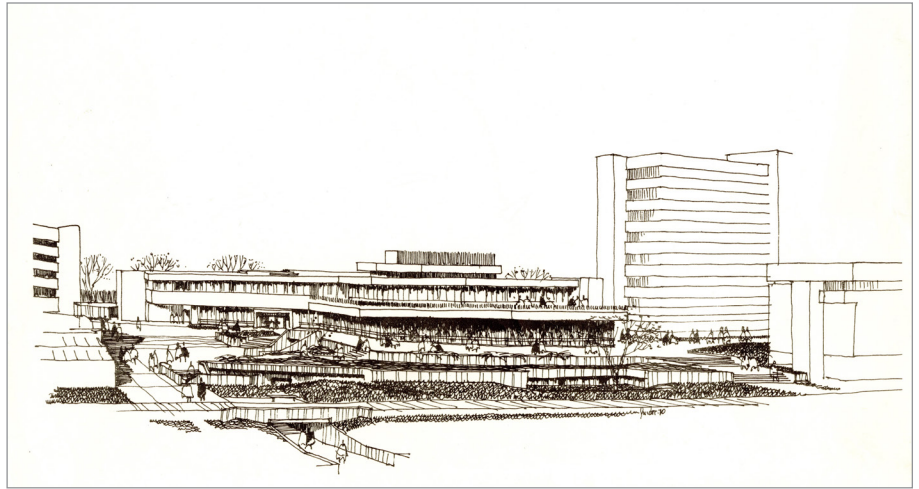


FIG. 10. PERSPECTIVE SKETCH OF UNIVERSITY COMMUNITY CENTRE (MURPHY, SCHULLER, GREEN, & MARTIN WITH PRATT LINDGREN SNIDER TOMCEJ, 1970), UNIVERSITY OF WESTERN ONTARIO, LONDON. | AFC 399-54-F48, WESTERN LIBRARIES HISTORICAL COLLECTION, ARCHIVES AND SPECIAL COLLECTIONS, WESTERN UNIVERSITY.

the design of Weldon library was considered a sufficient accomplishment to be featured as a cover story of *The Canadian Architect*.¹⁰⁴ With respect to the reception of the library by community members, Margaret Banks observed: "There was a mixed reaction to the appearance of The D.B. Weldon Library. Those who like the more traditional architecture of other buildings at Western nicknamed it 'Fort Weldon.'"¹⁰⁵

The completion of Weldon effectively shifted the heart of the campus westward. Concurrent with the construction of the library was Murphy, Schuller, Green, & Martin's (MSGM's) design for the adjacent University Community Centre (UCC, 1972) with Pratt Lindgren Snider Tomcej of Winnipeg (fig. 10). This building accommodated meeting spaces, recreational facilities, and services, providing a hub for a range of social activities that had been lacking at Somerville House. The concrete building was carefully sited to permit future expansion of the library, and to form an extensive plaza on much of its roof. MSGM also designed the Social Science Centre (1973), north of the UCC. The building was the largest of the three

and further extended the architectural vocabulary of the library. Its monumental entry portico and its interiors are reminiscent of Andrews's work in Ontario and at Harvard.

The specific combination of library, community hub, and social sciences research communicated the educational values of the period, and reinforced the library's role at the heart of the campus. By 1973, the library appeared to be successful as a locus of activity, working very much as Andrews and the design team had envisioned:

The design of the interior makes it truly a focal point on campus. Gallery programmes, including Music in the Library, are presented in the Main Lounge; art displays featuring travelling exhibits, such as Artario and part of Appel's Appels; student works from Trois-Pistoles; and works from the McIntosh Gallery collection are exhibited.¹⁰⁶

The three buildings (library, community centre, and social science building) loosely framed Concrete Beach, an urban plaza fronting Oxford Drive and its row of Collegiate Gothic buildings (fig. 11). This

cultural landscape comprised a series of urban spaces: a tree-lined promenade, roof terraces, a sunken court, a sunken garden, and tunnels.¹⁰⁷ Activities of the university community occurred on the landscape, overlooking the landscape, and underground within the landscape itself.¹⁰⁸ Along with the existing buildings, the triad of concrete buildings loosely defined a quadrangle for a campus that had lacked one. This space became the urban heart of Western supporting the formal and informal rituals of campus life.

BRUTALISM, THE ACADEMY, AND THE LIBRARY

Weldon and many other academic libraries in Canada were planned and constructed during the same period as the buildings of the centennial programs. "As the country emerged from its colonial past to forge a new identity as the culturally progressive, democratically transparent and independent nation,"¹⁰⁹ Colin Ripley and Marco Polo observed: "it represented itself with the anti-historical, anti-hierarchic informality of Brutalist architecture."¹¹⁰ The architects of the official projects of the centennial programs embraced Brutalism, making it "a *de facto* National style."¹¹¹ In examining Brutalism in Canadian architecture, Réjean Legault observed that it became the unofficial code word to designate the architecture of the civic centres built to celebrate the centennial; that is, "Brutalism . . . was turned into a marker of Canadian architecture's modern identity."¹¹²

Many of the centennial projects and much of the academic architecture of the period, including Western's library, share the formal and visual characteristics ascribed to Brutalism in Canada:

Brutalist architecture embraces the weightiness, the power of architecture's masonry forms . . . Often the walls are constructed

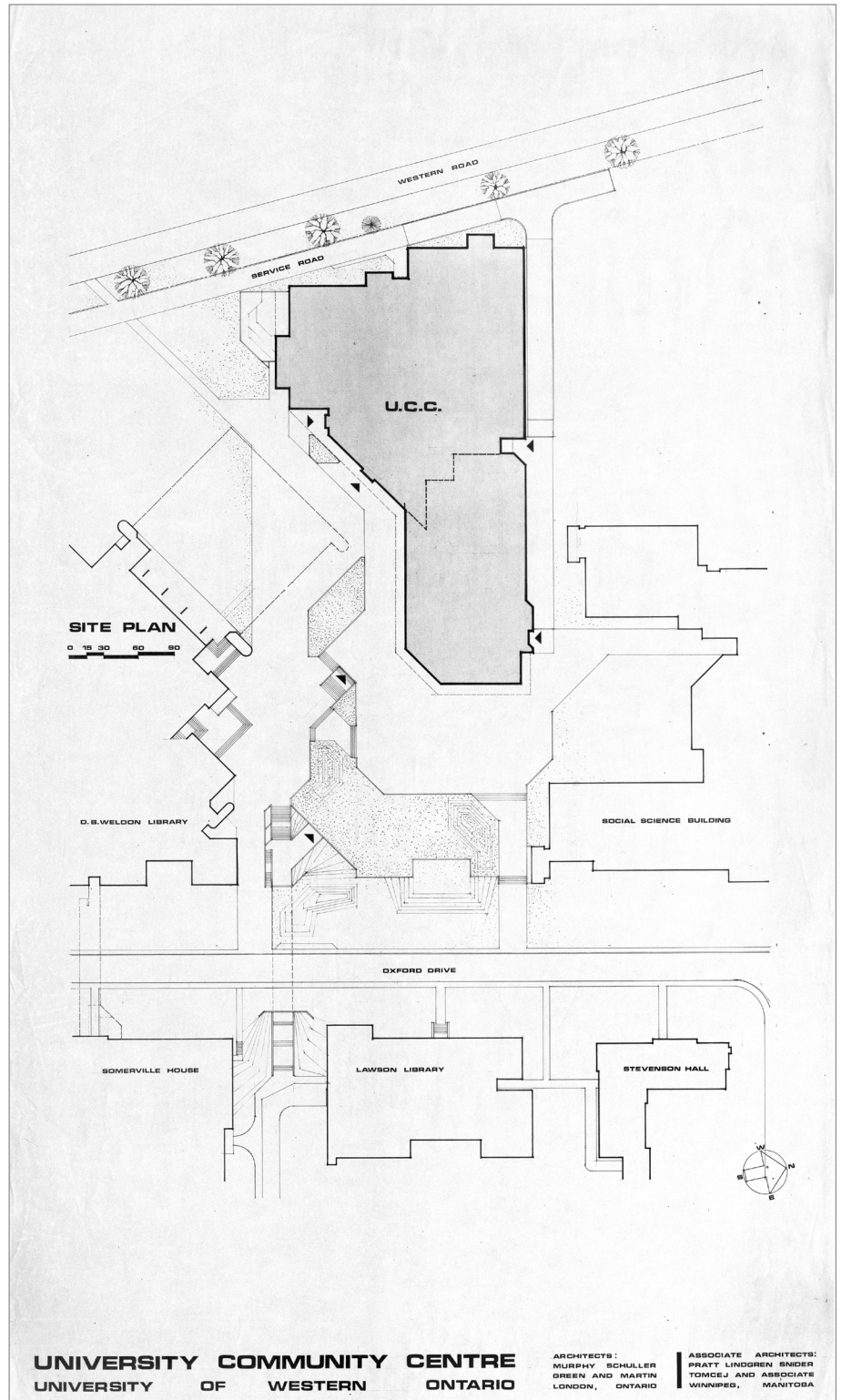


FIG. 11. SITE PLAN OF UNIVERSITY COMMUNITY CENTRE (MURPHY, SCHULLER, GREEN, & MARTIN WITH PRATT LINDGREN SNIDER TOMCEJ, 1971), UNIVERSITY OF WESTERN ONTARIO, LONDON. | ARCHIVES AND SPECIAL COLLECTIONS, WESTERN UNIVERSITY.

ACADEMIC AND RESEARCH LIBRARIES Characterized by Brutalism and/or concrete, 1964-1974	
W.A.C. Bennett Library Robert F. Harrison, 1964-1965, Simon Fraser University, Burnaby	Scott Library UPACE (University Planners, Architects & Consulting Engineers), 1968-1971, York University, Toronto
Dr. John Archer Library Minoru Yamasaki Associates Inc., 1967, University of Regina, Regina	Morisset Library Martineau, Lapierre, Murray & Murray, 1972, University of Ottawa, Ottawa
McLaughlin Library Hancock Little & Calvert Associates, Sert Jackson & Associates Inc., 1968, University of Guelph	D.B. Weldon Library Murphy, Schuller, Green, & Martin, with John Andrews, 1968-1972, University of Western Ontario, London
Pavillon Jean-Charles-Bonenfant St-Gelais, Tremblay, Tremblay et Labbé, 1969, Université Laval, Québec City	Sedgewick Library Rhone & Iredale with Richard Henriquez, 1971-1972, University of British Columbia, Vancouver
McLennan Library Dobush Stewart & Bourke, 1967-1969, McGill University, Montréal	John P. Robarts Library Warner Burns Toan Lunde with Mathers & Haldenby, 1968-1973, University of Toronto, Toronto
Thomas J. Bata Library R.J. Thom Architect, Thompson, Berwick, Pratt, & Partners, 1967-1969, Trent University, Peterborough	Ryerson University Library Webb Zerafa Menkes Housden, 1974, Toronto
Dana Porter Library Shore & Moffat, 1963-1965, 1969-1970, University of Waterloo, Waterloo	McPherson Library R.W. Siddall & Associates, 1964, Siddall Dennis Warner, 1974, University of Victoria, Victoria
Killam Memorial Library Leslie R. Fairn, 1966-1971, Dalhousie University, Halifax	Canada Institute for Scientific and Technical Information Shore Tilbe Henschel Irwin, 1974, Ottawa

TABLE 1

of load-bearing concrete; texture plays an important part in these surfaces and exaggerates the sense of mass . . . Few windows puncture the surfaces and these are often sealed, further accentuating the sense of an enclosed, protective environment.¹¹³

Historians have used “Brutalist” as a stylistic descriptor to allot a place within an architectural taxonomy.¹¹⁴ However, grouping such a diverse series of buildings under a single label has proven to be limiting. In searching for Brutalism in

Andrews’s work, Paul Walker and Antony Moulis concluded: “The confusion even among architects between architecturally specific readings of ‘Brutalism’—multiple as they are—as a term of opprobrium makes it impossible to use with any definitional precision or finesse.”¹¹⁵ With respect to the Canadian context, Legault had similar observations: “Brutalism has already been the subject of many different, not to say divergent, interpretations . . . use of the term also seems to be fraught with a persistent ambiguity.”¹¹⁶

Publications such as *Concrete Toronto* and the recent activities of Docomomo and the Winnipeg Architecture Foundation, among others, have demonstrated that Brutalism in Canada extended well beyond the centennial program and campuses. In southwestern Ontario, for example, in addition to major projects at the universities in London, Guelph, and Waterloo, there were a variety of civic institutions constructed. In that one region, concrete architecture associated with Brutalism is evident in public research institutions, judicial buildings, and community facilities.¹¹⁷ The pervasiveness of this particular architecture of the late 1960s and early 1970s at places of governance and civil society reinforces the association of concrete and Brutalism with both civic and modern identities in Canada.

While a concrete library at the heart of Western’s campus represented a considerable shift for that institution, internationally, from the mid-1950s through the 1970s, concrete was increasingly the preferred material for campus buildings. In North America and elsewhere, “Concrete buildings became the signals of institutional advancement. Concrete became not just an acceptable material for the traditional forms of institutional architecture but an emblem of its age.”¹¹⁸

The insertion of concrete or Brutalist buildings into existing or historic campuses became relatively commonplace in North America and beyond. Architects of note authored buildings that garnered international attention. Examples include Berkeley Library (Paul Koralek, 1967), Dublin; Phillips Exeter Academy Library (Louis Kahn, 1971), Exeter; and School of Oriental and African Studies Building (Denys Lasdun, 1973), London. Many of these buildings have since been described as “Brutalist.” The challenge of compatibility was much discussed within

the profession during the period. Daniel Toan, a prominent American architect known for designing academic buildings, wrote: “Concrete is the same as the Gothic tradition—the same material inside and outside.”¹¹⁹

In Canada, of the approximately two dozen academic and research libraries that were constructed or expanded between 1964 and 1974, at least sixteen may be characterized by concrete and/or Brutalism (table 1). Noteworthy examples include Trent’s Thomas J. Bata Library (R.J. Thom Architect, Thompson, Berwick, Pratt, & Partners, 1967), Guelph’s McLaughlin Library (Sert, Jackson and Associates Inc. with Hancock, Little, & Calvert Associates, 1968), and Toronto’s John P. Robarts Library (Mathers and Haldenby with Warner Burns Toan Lunde, 1973).

THE AGING ACADEMIC LIBRARY

Western has grown considerably in recent decades, with the student population now more than triple that of the administration’s earliest predicted capacity for Weldon.¹²⁰ The library remains the largest of the facilities within the network that is now Western Libraries. While Weldon is still a major hub at Western, today it is among places that form a larger centre of activity within the core of the campus.

The distinction between graduate and undergraduate collections has long since been abandoned, and technological advances have been continual. Weldon has been subject to alterations and additions over the years, most notably the extension of the ground floor within the meeting place, along with associated improvements for universal accessibility.¹²¹ A major addition for the archives was completed in 2003.¹²² The original graphic wayfinding system has been largely abandoned, and the current one

is piecemeal. There have also been many minor, incremental alterations within the library, which have lent it a lugubrious air and undermined its aesthetic integrity.

Western Libraries is embarking on a major multi-phase project to transform Weldon, responding to needs for improved learning, increased natural light, effective wayfinding, vertical interconnections, enhanced community engagement, and improved staff facilities.¹²³ Perkins & Will, the architects of the rehabilitation project, characterize Brutalist academic buildings of the period and their approach to “adapting the modernist legacy” as follows:

In their approach to public space these buildings often embody an approach that speaks to still-relevant values of publicity, community, and collegiality. The key, then, is to find strategies for adapting these buildings in a way that resolves their shortcomings, enhances their best features, and does so in a way that is sympathetic to their underlying architectural ideas.¹²⁴

This is part of a recent wave of rehabilitation and expansion projects for ageing academic libraries in Canada, including those at Carleton, Ryerson, McGill, Concordia, Guelph, and Toronto. Pressures for change include more collaborative approaches to learning, increasing reliance on digital resources, flexibility for unpredictable technological changes, and higher expectations for the university experience as institutions vie for both local and international students. One challenge for architects, which is like that faced forty or fifty years ago, is finding an appropriate symbolism to communicate traditions and reputation while expressing progressive, future-oriented thinking. All that said, contemporary rehabilitation projects that integrate the conservation of heritage values remain the exception.¹²⁵

While buildings of the period are vulnerable to insensitive alterations, the designed landscapes are at even greater risk. Concrete Beach, the open space framed by the library, University Community Centre, and the Social Science Centre, is “the pedestrian heart of the main campus.”¹²⁶ In spite of this declaration in Western’s Open Space Strategy and the presence of numerous surface parking lots that might serve as building sites, a new facility has been located directly on Concrete Beach. At 9200 square metres, the proposed Integrated Learning and Innovation Centre will be almost half the size of Weldon Library.¹²⁷ This will have an irreversible impact on the outdoor public realm.

Given the breadth of the modern cultural heritage across Canada’s campuses and the scale of its renewal, there is a need to further examine the specificity of the academic buildings from the 1960s and 1970s, the values they communicate, and what role these monumental places should play in the future of academic communities.¹²⁸

CONCLUSION

Contextualizing Western’s library is challenging because scholarship of the urban design and architectural legacy of the period is in development. The growth and renewal of Canada’s existing university campuses during the postwar era is a subject that would benefit from further research and analysis. Regarding the country’s academic libraries of the 1960s and 1970s, historians have documented the phenomenon with respect to librarianship and institutional advancement, but their architecture remains an area for additional examination. While the renewal of many of these ageing libraries continues, there is also value in analyzing rehabilitation projects.

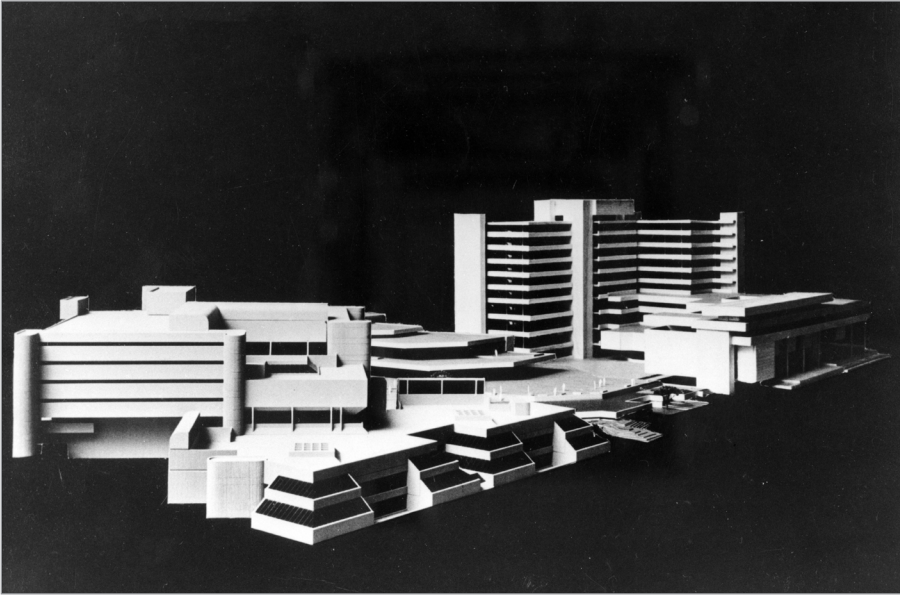


FIG. 12. THE ARCHITECTURAL MODEL ILLUSTRATING THE ENSEMBLE OF THE D.B. WELDON LIBRARY, UNIVERSITY COMMUNITY CENTRE, SOCIAL SCIENCE CENTRE, AND CONCRETE BEACH (MURPHY & SCHULLER, C. 1969), UNIVERSITY OF WESTERN ONTARIO, LONDON. | WESTERN LIBRARIES HISTORICAL COLLECTION, WESTERN ARCHIVES, WESTERN UNIVERSITY.

With respect to the architects of Weldon, an understanding of the work of John Andrews has advanced considerably in recent years, primarily by a group of Australian academics, many of whom are cited in this paper. Regarding Ronald Murphy, whose practice was regional in scale, his legacy has not yet benefited from scholarship. His practice and those of his predecessors extend back to the 1850s in London. The comprehensive Murphy-Moore archival collection at Western documents the continuous evolution of place-making in Middlesex County, and it offers further research opportunities, particularly with respect to London and the campus of Western University, as it is known today.

Weldon has been recognized for its collections and the activities of Western's students, faculty, librarians, and visiting scholars. However, the building's specific place within the context of urban design and architecture has, until now, remained overlooked.

Weldon is Western University's most significant and ambitious example of institutional modernization from the dynamic period of postwar renewal and expansion from the 1950s to the 1970s. While outside of major urban centres and the architectural avant-garde, the University administration engaged a range of North American experts for the largest building on the campus. They sought expertise to advise them on matters of planning, design, and architecture, in seeking a library of national importance.

Weldon is Western's contribution to the international experiments in modernizing education whereby campuses were laboratories for innovation during the 1960s and 1970s. Andrews's office is credited for having played a key part in those broader efforts of "making university planning a testing ground for new concepts of communication and human interaction."¹²⁹ The Andrews-Murphy partnership brought together two architects who established a design process

based on interdisciplinary collaboration. The team combined Andrews's design principles, influenced by Sert at Harvard, with Murphy's expertise in respecting historic context. They employed a variety of innovative strategies to offer flexibility and opportunities for expansion while, perhaps more importantly, using circulation to promote communication.

Weldon's concrete architecture is an excellent example of the culturally progressive, anti-historical, and anti-hierarchical qualities of Brutalism in Canada. The library is also the region's most significant example of the international dimension of modern architecture in Canada, due to the involvement of Andrews, an award-winning Australian architect. At Weldon, the team developed a sophisticated concrete architecture to meet the anticipated growth of a library collection while responding to a historic context. The library demonstrates Andrews's interest in geometrically ordered planning, specifically axial and diagonal devices. The building's spaces of sectional complexity, rendered in concrete and bathed in diffuse light, provided opportunities for interaction as the new heart of the campus. Within the arc of a global career, Weldon is a further incremental step in Andrews's development.

Weldon and its broader cultural landscape form a compelling example of campus planning of the late 1960s and early 1970s in Canada. Andrews and Murphy exploited an edge condition to create a new centre for the campus. The team designed a library that was monumental, yet deferential to the existing campus. Murphy's subsequent buildings contributed to a new urban public realm for Western. The three buildings and their associated landscape resonate with themes of urbanism, megastructure, and the open-ended flux of social space of the third generation of modern architects (fig. 12).

As postwar academic libraries are renewed to accommodate new ways of engaging with collections, research, and collaborators, there is an urgency to understand their values. Weldon and other “library-battleships”¹³⁰ from the 1960s and 1970s not only transmit the values of an extraordinary time of ambition and experimentation in the late twentieth century, but may hold lessons for future generations with respect to intensifying and expanding built environments in a manner that fosters communication and community.

NOTES

1. I would like to thank Sandra Miller for research assistance, as well as Jacqueline Hucker and Steven Mannell for helpful reviews of earlier versions of this paper. Architect David Murphy was generous in providing insights into the work of his father, Ronald. Walter Evans Zimmerman and Len Geddie shared their knowledge of the library’s evolution. I am grateful to Western Archives, Western University (Anne Quirk); Canadian Architectural Archives, University of Calgary (Maggie Hunter); and McLaughlin Archives, University of Guelph (Kathryn Harvey). I am also indebted to Jessica Mace, editor in chief, and the editorial team.
2. While the design has been erroneously attributed solely to Andrews or his firm, the library was initiated as a joint venture between Ronald E. Murphy Architect and John Andrews Architects, and then completed by Murphy, Schuller, Green, & Martin, and John Andrews Architects. During the design phase, the fees were structured 60% Andrews and 40% Murphy. During the construction documents phase, the fees were 33% Andrews and 67% Murphy. Refer to Murphy, Ronald E., 1967, Financial Statement, March 20, 1967, in *John Andrews Fonds*, Accession 43A/78.33, Western Library 67115, Canadian Architectural Archives, University of Calgary.
3. The origins of the term “Concrete Beach” are unclear, but it appears to have been used by students as a nickname and has since been adopted into general use.
4. These themes are examined in Ashby, James, 2013, “Flexible, Adaptable, Extensible and Indeterminate: The Late Modern Megastructure and Conserving its Legacy in Canada,” in Timo Tuomi, Tommi Lindh, Miia Perkkio, and Jenni Sahramaa (eds.), *Proceedings of the 12th International Docomomo Conference*, Porvoo, Finland, Docomomo Finland, p. 131-136.
5. An overview of this research was presented in a lecture entitled *Oversize, Overdue: The Architecture of the D.B. Weldon Library*, April 10, 2019, at Western University. Discussions amongst panelists Michael McClelland, Sandra Miller, and David Murphy, which were moderated by James Patten, informed the development of this paper. See [<https://mcintoshgallery.ca/news/2019/oversize-overdue-the-architecture-of-the-db-weldon-library.html>], accessed July 22, 2019.
6. Letter from John F. Macpherson, assistant director for Public Services, to Mr. Jerry McDonnell, March 28, 1977, Western Libraries, series 4, D.B. Weldon – Correspondences Regarding Success/Failures of Library, 1976-1988, file 28 of 32.
7. Sheffield, Edward F., 1955, *Canadian University and College Enrolment Projected to 1965: Prepared for a Symposium on “The Expansion of Enrolment, 1955-1965,”* National Conference of Canadian Universities, Toronto, June 10, 1955, Ottawa, p. 39-63.
8. For example, in Ontario, “The process of financial retrenchment ushered in at the beginning of the 1970s continued largely unabated throughout the rest of the decade.” Axelrod, Paul, 1982, *Scholars and Dollars: Politics, Economics, and the Universities of Ontario 1945-1980*, Toronto, University of Toronto Press, p. 179.
9. Goad, Philip, 2013, “Open Field, Open Street, Open Choice: John Andrews and the South Residences, University of Guelph (1965-1968),” in Alexandra Brown and Andrew Leach (eds.), *Proceedings of the Society of Architectural Historians, Australia and New Zealand: 30th Annual Conference: “Open,”* Gold Coast, SAHANZ, vol. 2, p. 639-650, at p. 640-641.
10. *Ibid.*
11. These projects were identified and discussed in Liscombe, Rhodri Windsor and Michelangelo Sabatino, 2016, *Canada: Modern Architectures in History*, London, Reaktion.
12. Buchanan, Peter, 1994, “Back to the Future,” *Canadian Architect*, vol. 39, no. 3, p. 21-30, at p. 21.
13. Massey College, Simon Fraser University, Scarborough College, and Trent University are identified and discussed in Liscombe, *Canada: Modern Architectures in History*, op. cit., p. 185-196. York, Trent, Simon Fraser, Scarborough, Lethbridge are identified and discussed in Muthesius, Stefan, 2001, *The Post-War University: Utopianist Campus and College*, New Haven, Yale University Press.
14. “New Architecture on Old Campuses” was one of four themes explored at the Banff Sessions in 1964. Refer to “Banff Session ‘64: Campus Architecture,” 1964, in *Journal of the Royal Architecture Institute of Canada*, vol. 41, no. 7, p. 47.
15. An overview of campus planning in the postwar era is outlined in Williams, Ron, 2014, “The Democratization of Learning: New and Expanded University Campuses,” in *Landscape Architecture in Canada*, Montréal, McGill-Queen’s University Press, p. 445-451.
16. Bruce, Lorne, 2018, “Postwar Canadian Academic Libraries, 1945-60,” *Canadian Journal of Academic Librarianship*, vol. 3 (January), p. 1-34, at p. 1.
17. *Id.*, p. 25.
18. Downs, Robert B., 1967, *Resources of Canadian Academic and Research Libraries*, Ottawa, Association of Universities and Colleges of Canada.
19. Beckman, Margaret, Moshie Dahms, and Lorne Bruce, 2015, “Libraries,” *The Canadian Encyclopedia*, n.p., [<https://www.thecanadianencyclopedia.ca/en/article/libraries>], accessed October 28, 2018.
20. Szpurko, Vanessa, 2016, *Western Archives Finding Aid for Kingsmill Family Fonds*, AFC 388, London, University of Western Ontario, p. 3.
21. This territory also covers lands connected to the London Township Treaty and Sombra Treaty 1796 and the Dish with One Spoon Wampum. From James Patten in correspondence with the author, October 18, 2018.
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 57. The concrete buildings of University of Guelph are examined in the exhibit *Brutalism at Guelph: Concrete in a New Light*, curated by Wilfred Ferwerda and Sally Hickson, at McLaughlin Library, June-December 2019. Refer to [<https://digex.lib.uoguelph.ca/exhibits/show/brutalism>], accessed July 19, 2019.
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122. The Archives Research and Collection Centre (Randy Wilson Architect Inc. with Diamond Schmitt) was completed in 2003.
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