"Waiting for Robbins"

Modernist architecture as a representation of transitional education at the Royal Technical College, Salford, 1961-1964.

by

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Abstract

Was the University of Salford a 'new university'? Both technically and legally, Salford became a new university via Royal Charter on 4 April 1967. However, the University's history can be traced back to its foundations in 1892. The Vice Chancellor, Whitworth (1968, p. 7), claimed "this newness cloaks its maturity; spiritual, physical and academic." Similar to other educational providers, the University was shaped by and contributed to society (Venables, 1978, p. 11). This architectural historiography explores the factors that prompted the University's modernisation in response to government legislation, specifically the *White Paper on Technical Education* (1956) and the *Robbins Committee Report on Higher Education* (1963). The investigation considers the impact of these reports to help understand the institution's motivations and aspirations to evolve, and why modernist architecture was chosen to reflect this period of transformation. This era was characterised by a science and technology revolution when education was central to the United Kingdom's prosperity. Simultaneously, after World War II, a global movement of Modernism helped facilitate national redevelopment, with architectural designs embracing new styles and construction methods to rebuild cities and towns, including the City of Salford. As a time of novel economic forces, particularly 1961-1964, when architectural masterplans responded to progressive teaching, leadership, and governance. Ambitions were echoed through diversifying curricula, new styles of pedagogy and emerging student communities. The study aims to understand these campus ideals within the context of new universities, specifically the Plateglass Universities with which Salford is closely associated. Whether considered utopian or not, envisioning another wave of new universities was almost impossible (Taylor & Pellew, 2020, p. 11). By examining this period's historical significance, new research develops a present-day narrative which contributes to a greater understanding of the country's mid-twentieth century higher education and architectural landscape.

Contents

Illustrations

Definitions and terminology

Technical colleges and colleges of advanced technology	Technical colleges and colleges of advanced technology were instrumental in shaping vocational education and training, particularly in the disciplines of science, engineering, and technology. These institutions traditionally focused on the provision of practical skills and knowledge, and prepared students for careers in industries that required specialised expertise. Colleges of advanced technology, like Salford, became technological universities, reflecting the growth and diversification of the higher educational sector during the twentieth century.
Royal Charter	A formal process and documentation issued to newly forming universities by a monarch or reigning authority which grants the specific rights to award undergraduate degree and postgraduate certificates of higher education.
Civic universities; the ancient, redbrick and whitetile universities	Until the nineteenth century, the only universities in England were Oxford (founded c1096) and Cambridge (founded c1209, chartered 1231). These are referred to as the Ancient Universities. Hundreds of years later other higher education institutions were developed across the country varying in scale and size. The first of these might be seen as "prototype redbrick" universities (Beloff, 1968, p. 18) and included Durham University (founded 1832, chartered 1837), and the University of Manchester (founded 1851, chartered 1880). Until new institutions received their own royal charter, the University College London, later the University of London (founded 1826, chartered 1836) provided accreditation and awarded degree certificates. The next wave included the Universities of Birmingham (founded 1825, chartered 1900), Liverpool (founded 1881, chartered 1903), Leeds (founded 1874, chartered 1904), Sheffield (founded 1828, chartered 1905), and Bristol (founded 1595, chartered 1909). Unlike the ancient universities who were formed on collegiate ideas of teaching, these institutions were predominantly non-collegiate. They became known as Redbrick Universities (a term coined by Edgar Allison Peers, a University of Liverpool Professor) in response to their red brick construction (Whyte, 2015, p. 7). By the middle of the twentieth century, newer institutions

evolved. They included the University of Reading (founded 1892, chartered 1926), Nottingham (founded 1881, chartered 1948), Southampton (founded 1862, chartered 1952), Hull (founded 1927, chartered in 1954), Exeter (founded 1838, chartered 1955), and Leicester (founded 1921, chartered in 1957). These younger institutions are often referred to as Whitetile Universities (Beloff, 1968, p. 19).

New universities and Plateglass Universities

Universities designed and constructed as a response to ongoing government legislation after World War II (and which were fully realised in response to the *Robbins Committee Report on Higher Education* (1963)), are known as new universities, or more precisely, Plateglass Universities (Beloff, 1968, p. 11). These newly created universities were characterised by their modern architecture and avant-garde teaching methods. Unlike traditional civic universities, Plateglass Universities were predominantly built in suburban areas, creating novel experiences for students in which to learn, socialise and reside. While the term Plateglass Universities might today be used for a variety of institutions which formed during the 1960s and 1970s, including former colleges of advanced technology, their name specifically refers to the Universities of Sussex (completed in 1961), East Anglia (1963), York (1963), Essex (1964), Lancaster (1964), Kent (1965), and Warwick (1965).

Modernism and modern architecture

During the early to mid-twentieth century, a global societal and cultural shift occurred. This movement signalled a departure from traditional practices as the world transitioned and modernised after World War II. A novel interchange of Modernism was formed by new and original values, expectations and beliefs driven by changes to industries, politics, culture and the arts. A contemporary architectural form and style developed which was a deliberate rejection of traditional architectural methods and ornamentation. This modern architecture favoured a streamlined and minimalist approach to design, form and style. Architects in the United Kingdom embraced this ethos and drew their inspiration from European and worldwide ideas, incorporating innovative materials such as glass and concrete. From the 1930s and up until the end of the 1960s, this architecture became known as the Modern Movement (Unknown, 2018) in the United Kingdom and was pivotal in shaping town and city developments, including the higher education sector. The terms modern architecture,

	modernist architecture, and mid-century modern are closely associated with European and global concepts of Modernism, often referred to as Bauhaus, International Modernism, and the International Style.
Brutalism, brutalist architecture, new brutalism	A specific form of modern architecture which emerged in the 1950s and is often attributed to the later work of Le Corbusier (Charles-Édouard Jeanneret, 1887-1965). Brutalist architecture is characterised by an emphasis on materials which are used in their raw and original form. The term can be associated with British architects, Alison Smithson (1928-1993) and Peter Smithson (1923-2003); and the architectural historian Reyner Banham (1922-1988), particularly Banham' earliest review of the Smithsons work (Banham, 1955), and his ideas presented in *The New Brutalism: Ethic or Aesthetic?* (Banham, 1966).
The City of Salford, or Salford	Located in Greater Manchester, Lancashire, Northwest England, the City of Salford is to the west of Manchester city centre and is part of the wider metropolitan county of Greater Manchester which comprises 10 boroughs. These include Manchester, Salford, Bolton, Bury, Oldham, Rochdale, Stockport, Tameside, Trafford, and Wigan. Historically, Salford and Manchester were two separate towns but have expanded to be contiguous urban areas. Salford became a borough in 1844 and received city status in 1926. The River Irwell form part of the boundary between the two cities. Like Manchester, Salford has a rich industrial heritage dating back to the Industrial Revolution. Today, the city constantly evolves and is known for its cultural contributions and regeneration efforts. Like Manchester, the architectural transformations witnessed in the City of Salford during the emergence of Modernism in the mid-twentieth century can be interpreted as representing a "postwar belief in progress" (Spinoza, 2023, p. 27).

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Part 1. Chapter 1. Introduction

Granted university status in 1967, the University of Salford's foundation can be traced back to 1892 as the Salford Technical Institute (Morris, 2020; Royal Technical College Salford, c1892), a result of a merger between Pendleton Mechanics Institute (established in 1850) and Salford Working Men's College (established in 1858). This amalgamation was influenced by the creation of the *Technical Instructions Act* (1889), that allowed Salford City Council and Lancashire County Council to raise a penny rate to finance the design and construction of the Peel Building. Further funding and support was provided by local industry, manufacturers and mill owners (O'Reilly & Rabbitts, 2019, p. 60). Described by former staff member Colin Gordon (1975, p. 24), as "a handsome building in Ruabon brick in a subdued Victorian Renaissance style," the new Institute was officially opened on 25 March 1896, by the then Duke and Duchess of York, who later became King George V and Queen Mary. Through a series of decisions reflecting rising enrolments and "higher standards of courses" (Whitworth, 1963, p. 963), the Institute received Royal Assent and became a college in 1921.

As a pivotal provider of technical skills, the Royal Technical College, Salford played a crucial role in fulfilling the demands of the northwest's industries through courses and resources that were specifically designed to enhance the capabilities of their industrial workforce. The College attracted students from both local and international backgrounds. While definitions of technical education varied between countries, in Britain, the term concerned the education and training for technologists, technicians and craftsmen (Knowles, 1958; Venables, 1965, p. 151). Today, the University of Salford's Peel Building is Grade II Listed and one of the main buildings on the Peel Park campus, the focus of this architectural study [Figure 1].

Figure 1: Royal Technical Institute, Salford (Royal Technical College Salford, c1900). Known today as the Peel Building. Foreground: statue of Queen Victoria (1819-1901).

At the end of the nineteenth century, the Greater Manchester region faced a shortage of skilled workers, particularly across the borough of Salford, where industries predominately consisted of "factories and mills, brewers and engineering works" (O'Reilly & Rabbitts, 2019, p. 7), most of whom were strategically taking advantage of the rail and dock networks. The opening of the Manchester Ship Canal in 1893, located to the south of the borough, stimulated new employment opportunities through international trade access. However, by the 1960s, similar to the textile industry, the canal's trade deteriorated. In response to this industrial downturn and anticipating greater economic pressures from the government, the College diversified and focused on the scientific and technological subjects to target more promising areas of commerce.

This widening of courses led to increases in student enrolments and necessitated the use of accommodation beyond the Peel Building. Teaching in temporary spaces was far from ideal and, in response to this

challenge, the Board of Governors officially confirmed the first expansion plans in 1947. Architectural designs for a new building were produced in 1949 and construction followed in 1954. Then, on 27 February 1955, the building operations were abruptly halted, triggered by the government's incoming *White Paper on Technical Education* (1956), published just under a year later on 16 February 1956. Released under the leadership of the Conservative Prime Minister, Harold Macmillan (1894–1986), the paper identified Salford and nine other institutions as suitable to teach specialist courses and advanced work. On 2 November 1956, Salford was officially upgraded to a new national Royal College of Advanced Technology with a curriculum aligned to universities. Salford's new modern building, later known as the Maxwell Building, was initially designed for specific purposes but had to be redesigned to meet more complex teaching requirements. A "complicated architectural alteration job" (Stewart, 1960, p. 13) meant a reconfiguration was required to accommodate new types of students and equipment. In 1958, the College segregated [Figure 2].

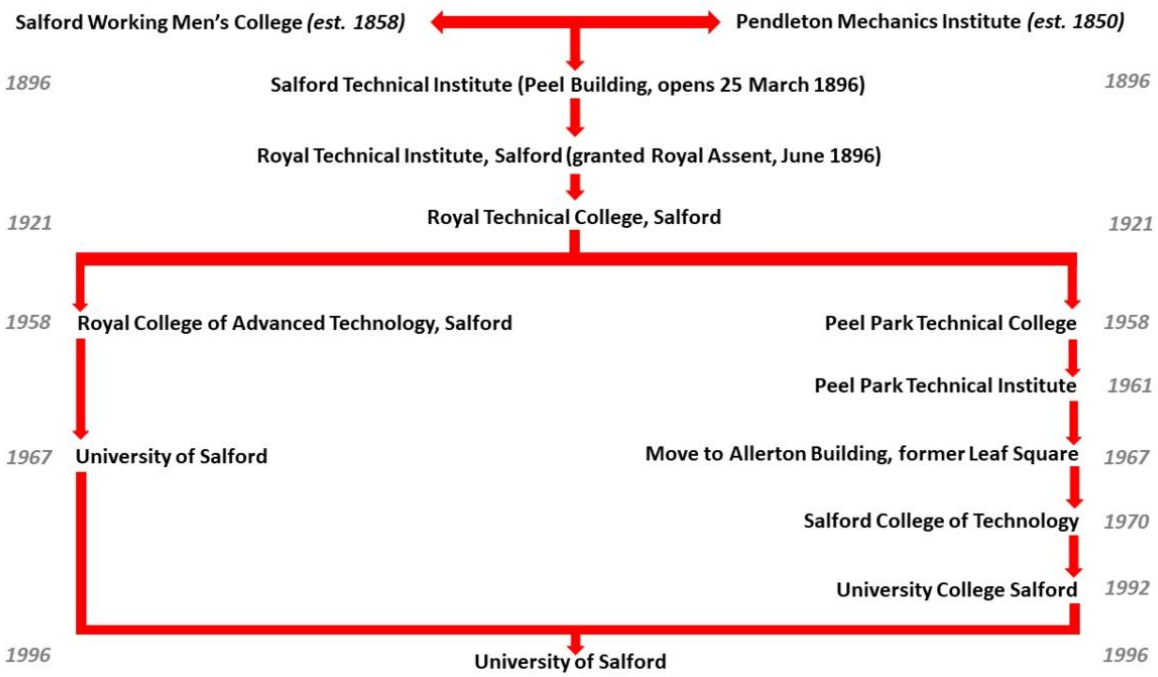


Figure 2: Institutional flow chart. Both institutions merged as a single institution in 1996, 100 years after the initial founding.

In 1961, the Royal College of Advanced Technology, Salford, officially moved into the Maxwell Building. The building was designed by the Lancashire County Council Architect's Department, responsible for architectural schemes across the county of Lancashire, including "health centres, schools, colleges, libraries, police, fire and ambulance stations, magistrates' courts, residential accommodation and archives" (Brook, 2018, p. 131). In collaboration with the College's Principle and the Board of Governors, the final architectural designs led to the construction of a modern-day superstructure housing engineering and scientific programmes and supporting newly evolving approaches to teaching and pedagogy. Although incongruous with the nearby architecture across the broader topography, which was typically designed during the nineteenth century, the building's scale and position could be compared to the city's former mills and factories, often sited close to rivers or canals (Fletcher in Little Hulton Folk, 2007, p. 7). This contemporary structure became central to systematic growth and laid the foundation for the College's first two architectural campus masterplans [Figure 3].

Figure 3: The Maxwell Building and Hall (Royal College of Advanced Technology Salford, c1960e).

From 1961-1964, the architectural masterplans were designed in response to the *White Paper on Technical Education* (1956) and the *Robbins Committee Report on Higher Education*, published on 23 October 1963. These reports, coupled with ongoing legislation from the Ministry of Education, meant there was a need to foresee challenges and swiftly adapt to change. During this period, the architectural planning was intrinsic in supporting the diversifying institutional vision of the College.

In a study on educational development at the University of York, scholar David Smith (2008, p. 24) noted that the events unfolding in the 1960s were a consequence of earlier economic activities. These marked a critical phase in the evolution of higher education, occurring amidst profound societal shifts leading to the establishment of widely accepted policies. Population increases amongst younger generations and growing demands from the science and technological industries for more qualified personnel put pressure on the government to expand the economy and produce more graduates. As part of the solution to progress, educationalist Roy Niblett (1906-2005) contended, that higher education was considered by the country's senior decision-makers "indispensable to the national economy" (Niblett, 1962, p. 11). Influential reports, such as the *Percy Report on Higher Technological Education* (1945), had claimed that the sector lacked frameworks promoting a harmonious evolution (Gillard, 2018). Alongside this, *The Beveridge Report* (1942) and the *Education Act* (1944) each played a crucial role in subsequent legislative change.

The government's advancing of educational laws coincided with increases in steel, coal and automotive production. Creating better living standards was central to their economic strategy that aimed to maintain employment and a steady price index of goods and services. Despite an optimistic speech by Macmillan in 1957 suggesting that people had "never had it so good" (News, 2002), research such as the work of Professor of Modern History, Matthew Cragoe (2015), has revealed that a

technologically sophisticated workforce was still required. In this belief, expanding higher education became central to the country's economic upturn. The *Robbins Committee Report* (1963) made a total of 178 sector recommendations, promising the construction of seven new universities, along with 50 specific measures related to technical education (Committee on Higher Education, (1963), Venables, (1965, p.151)). Each of these stipulations played a defining role in post-war higher education and in response to these proposals. Salford and the advanced colleges were fast-tracked to become technological universities.

The architectural expansion of the College took place during a period of major change to both the public and private sectors. This was a period of redevelopment to the physical environment affecting many towns and cities. The urban planning process initiated by Salford City Council occurred in tandem with the design of the campus masterplans. Vast areas of the city had remained untouched since the nineteenth century, judged as poor and inadequate by the housing inspectors (Hopkins, 2022). To address the situation, the Council commissioned the architectural services of Robert Matthew Johnson-Marshall, perceived to be a "new, socially-orientated model of private practice" (Glendinning, 2010, p. 39), to oversee the necessary improvements that contributed to the "regeneration of the industrial north of England" (Matthew & Johnson-Marshall, 1963, p. 6). The ensuing developments garnered attention from both local and national media outlets, with headlines such as: "Salford Leading Way in Civic Planning" (Leading Way, 1961, p. 18). The Council's development schemes introduced modernist architecture in the belief that this form and style would create a new city with a visibly defined and clear identity.

The government's speed in rebuilding towns and cities after World War II had a long-lasting impact in British history. Former politician and Vice Chancellor of the University of Leeds, Edward Boyle (1923- 1981), claimed

this era was “the most rapid period of educational advance” (Boyle, 1960, p. 92). In regard to national university planning, up until the 1950s, progress had been slow and modernist architecture scarcely featured; a lethargy identified in *The Architectural Review* (1957) through a polemic article by the arts and architectural historian, Nikolaus Pevsner (1902-1983). Architecture had been restrained with subtle neo-classical design that was generally entrenched in the ancient and older civic universities (Pevsner, 1957). However, as the decade progressed, Professor of Architecture Iain Jackson, revealed through the work of architect Maxwell Fry (1899-1987) at the University of Liverpool, that architecture started to embrace a new meaning, a monumentality, and ideas around vernacular design. Emerging approaches were becoming far removed from many earlier “routine, clichéd modern buildings that became so prevalent and scorned” (Jackson, 2011, p. 675). By 1960, universities started to display vast architectural differences as the sector experienced rapid growth leading to creative designs and innovative construction techniques.

In the view of post-war architectural historian, Elain Harwood (1958-2023), universities “became the country’s most ambitious architectural patron” (Harwood, 2015, p. 207) with architects producing more expressive work compared to other municipal projects. An article in *The Architectural Review* titled, “The Universities Build (1963, p. 132), observed this ongoing shift, declaring that a visible architectural departure had occurred from the outdated “ivy-grit traditionalism.” Toward the end of the decade, more than seventeen new universities had formed throughout the United Kingdom. In most cases, modernist architecture signalled their arrival.

Salford’s (then) modern-day architecture was inspired from multiple reference points. Similar to other new universities, ideas were taken from educational, residential and municipal designs with influences from within the United Kingdom and internationally. At the University of Oxford’s St Catherine’s College, architect Arne Jacobsen (1902-1971) envisioned a

modern integrated solution. His final design in 1962 considered the university's entirety practically and aesthetically in order to reflect the traditional methods of ancient institutions (Oxford, 2022). Internationally at the Illinois Institute of Technology (1947-1958) to architectural designs by Mies van der Rohe (1886-1969), the institution believed their campus signified a spectrum from the functional to pure art. In their view, Van der Rohe interpreted the past to represent the epoch and was only made possible by an architect who could "articulate the significance of the time" (Illinois Institute of Technology, 2023). Professor of architectural conservation, Miles Glendinning (2010, p. 28), regarded the 1940's-1960s as a zenith of government involvement in the production of the modernist-built environment. During this era, especially in the early 1950s, the Modern Movement looked to the future with hopes of establishing a new societal framework that acknowledged the past and traditional hierarchies. They sought to create an uplifting impact through comprehensive planning and integrating social communities into the fabric of urban development.

Many ideas were embedded in the 1951 Festival of Britain that channelled scientific and technological advancements while championing new architectural solutions to eliminate social indifference (The Festival of Britain, 1951). Urban growth reports, including the *New Towns Act* (1946) and the *Town Development Policy* (1954) applied similar theories to the built environment, such as the "careful division of functions" (Muthesius, 2001, p. 26), thereby creating new architectural norms. As then current day concepts gained momentum, they permeated throughout modern architecture and a collective mindset continued to diversify. By the end of the 1950s, architectural historian Sir John Summerson (1904-1992) was clear in his belief that "new architecture swept suddenly into public view" (Summerson in Dannatt, 1959, p. 19). Likewise, architect Sir Frederick Gibberd (1908-1984) claimed the fashion was "reconstruction, not

conservation" (Banham & Hillier, 1976, p. 138). This progressive spirit openly invigorated university architecture, not least that of Salford.

The urgency for construction of new physical environments in higher education is elucidated in *The Plateglass Universities* (1968), a survey of the newly constructed universities as recommended in the *Robbins Committee Report* (1963), except for Salford. The title (and phrase) of the book, as mentioned six years earlier in *The Expanding University* (Niblett, 1962, p. 13), encapsulates both the literal and metaphoric intrigue of the author, Michael Beloff. These universities aimed to educate students to be flexible and capable of adapting to a changing world. While arguably biased towards liberal studies rather than the vocational training of technical colleges (Beloff, 1968, p. 39), the Plateglass Universities showcased exciting teaching environments that were mirrored in the modernist architecture. After their completion, in 1974, Professor of Civic Design Myles Wright (1908-2005) proclaimed that they were a "truly noble venture for Britain" (Wright, 1974, p. 234). This endeavour is one that Salford became closely affiliated with through embracing comparable principles and contributing to a newly forming education system.

The primary focus of this study is the architectural masterplans of the University of Salford, designed between 1961 and 1964, during a period synonymous with "waiting for Robbins" (Gordon, 1975, p. 176), the committee's official report released in 1963. This time of notable expansion of the physical environment was overseen by two former Principals: Sir Peter Venables (1904-1979) from 1947-1956, and Dr Clifford Whitworth (1906-1983) from 1957-1974 (who served as Vice Chancellor from 1967). Both leaders were pivotal in modernising the teaching methods and pedagogy; and recognised the importance of architecture to instil civic pride in both the institution and a rapidly redeveloping city.

In 1959, the writer Barbara Price had completed a survey of 12 college architectural schemes and published her findings in *Technical Colleges and Colleges of Further Education* (1959). Price's 12 architectural case studies included colleges in Bedford, Buckinghamshire, Coventry, Derby, Essex, Harlow, Huddersfield, Leeds, Luton, Newcastle, Sheffield, and Worcestershire. Other than a small architectural sketch of the Maxwell Building [Figure 4], Salford did not feature. Nevertheless, the book highlighted that college's needed to relinquish the past when contemplating the future (Price, 1959, p. 5). Seven years later, the *Financial Times* (Dent, 1966, p. 10) alleged that the new universities were established relatively easier compared with institutions that had a longer history and faced challenges with reshaping their image. Given the scarcity of scholarly literature concerning Salford's mid-twentieth century campus, this study addresses the ideas posited by Price (1959) and the *Financial Times* (1966). As a new social historiography, this examination considers modernist form and style, exploring how the architectural elements symbolised the institutional aspirations for modernisation in the context of operating as a new university.

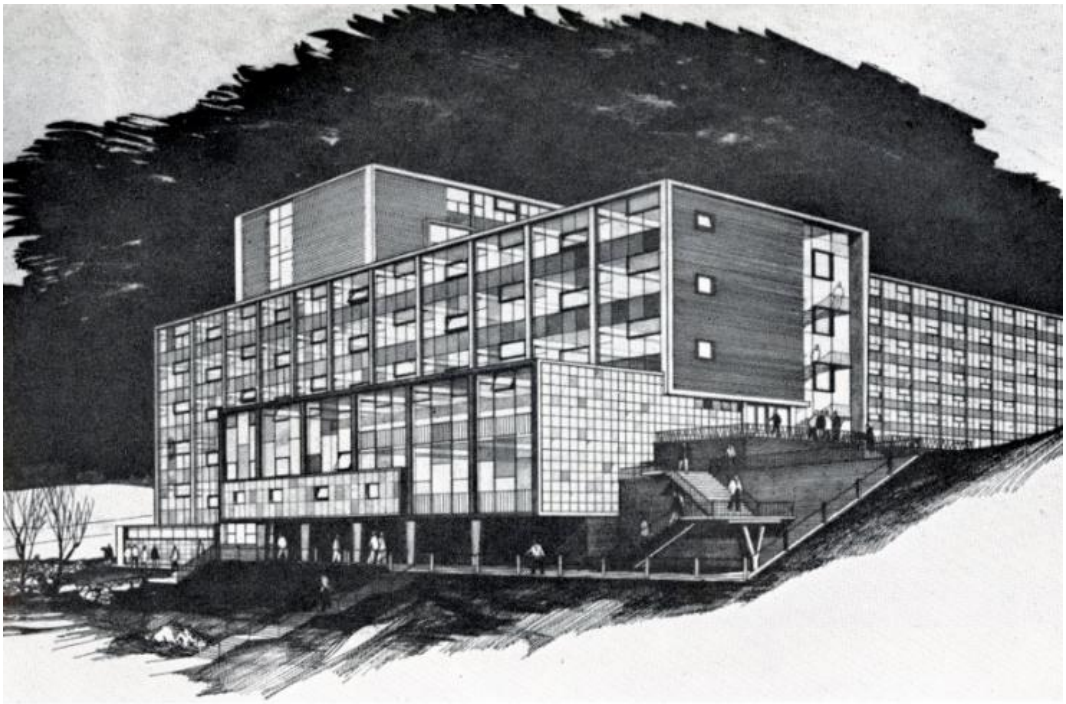


Figure 4: Sketch: Maxwell Building (Price, 1959).

Chapter 2. Critical Literature Review

This chapter presents a chronological review of research sources that are relevant in relation to the architectural growth of the University of Salford and the new universities. While other texts charting the nature of technical education such as Argles, (1964); Niblett, (1962); and Venables, (1965) are crucial to a larger overarching understanding of the sector, this review is architecturally focused.

As a primary source for the research, Colin Gordon's book, *The Foundations of the University of Salford* (1975) provides valuable insight into the University's past organisational structure, curricula and teaching. The content closely mirrors Gordon's 1967 thesis (Gordon, 1967) and is the outcome of his first-hand experience as a staff member from 1959, when he lectured in history and supported transitional change. This experience was central in shaping the book's content.

The book is comprised of eleven chapters that meticulously chart the University's evolution, beginning in the 1850s and finishing in the 1960s. The narrative concerns institutional development and how this affected curricula and teaching. As the reader reaches Chapter 10 of Gordon's book, a significant transition takes place. 1955 marks the turning point when Salford embarked on a new future as a College of Advanced Technology. Chapter 11 originally titled, 'The Proposed University' is aptly renamed as 'Waiting for Robbins' in Gordon's book. This title captures the sector's dynamic landscape dominated by uncertainty and constant change. The sentiment of this time "was by no means a passive one" (Gordon, 1975, p. 176). Both chapters take on a heightened relevance for this project. Gordon's primary research enables the viewing of a unique vantage point into the University's transformation phase that revolves around major historical events, notably the release of the *White Paper on*

Technical Education (1956) and the subsequent *Robbins Committee Report* (1963).

Gordon's analysis captures a vivid portrayal of the sector's ambiguity, the anticipation, impact and engagement of key entities such as the Ministry of Education and the University Grants Commission. Institutions similar to these operated within an evolving legislative model where they were instrumental in shaping roles in the daily operations and aspirations of the University's development. Gordon's examination positions the University during these years as a college within a broader context and microenvironment. His contextual analysis of teaching and the curricula, substantially contributes to the reader's understanding of the reasons for expansion and why some of the architectural decisions might have been taken. The book does this by dissecting the influences of external forces on internal dynamics, and by highlighting previous challenges and opportunities the university navigated.

Gordon brings attention to the function of leadership and governance, particularly the influence of past Principals, two of whom were pivotal in providing conducive learning environments. One such figure was Sir Peter Venables who served from 1947-1956. His role was vital to introducing sandwich courses from 1949, akin to contemporary apprenticeship courses (originally with an extended duration of up to four or five years and where students studied on campus and worked in an associated industry (Department for Education and Science, 1964, p. 3)), as well as managing teaching requirements and being a central figure in the Maxwell Building's architectural planning. Dr Clifford Whitworth took over as Principal from 1957-1974. He became the first Vice-Chancellor in 1967 and steered the College through the wake of the *Robbins Committee Report* (1963) to oversee the initial masterplans in 1961 and 1964. He was critical to the structural systems which directly impacted the physical environment during the mid-1960s and 1970s. Gordon stresses Venables

and Whitworth's contributions. He does this by highlighting their ability to meet local demands, adhere to government guidelines, and navigate the complexities associated with a growing student population. All this impacted the College's accommodation which, in turn, had a knock-on effect of requiring the continual need to use external teaching facilities. These leadership insights allow a direct glimpse into the University's capacity to demonstrate flexibility in the face of adversity during a period that was often beyond the institution's immediate realm of control and influence.

Gordon's research provides a thorough understanding of the growth that occurred by emphasising teaching developments and internal changes. However, the book's intention was not to produce an architectural study or documentation, even though Gordon (1975, p. 145) does acknowledge that, "besides the philosophical aspects of education, the Principal was increasingly occupied with the practical and, indeed, with the bricks and mortar of education." The limited discussion referencing architecture mainly concerns the *White Paper on Technical Education* (1956) and some of the changes to the Maxwell Building. However, the final chapter's summary is helpful by providing cues for further research into the buildings as they progressed in the 1970s. While Gordon (1975, p. 178) does not provide direct information on the decisions and reasons for using (then) modern architecture, he is clear that the first masterplans were designed alongside Salford City Council's development schemes, and a compliant relationship existed between both parties where architecture became central to the representation of the campus and city.

Despite Gordon's contribution in documenting the educational changes, the scholarly recognition of his work across more recent literature is missing. While primary sources including Beloff (1968) and Birks (1972) are regularly cited in secondary sources, *The Foundations of the University of Salford* (1975) does not feature. Gordon's drier writing style stands in

contrast to the vibrancy of other writers, certainly in the case of Beloff (1968) who employed an upbeat journalistic narrative style. Gordon's thorough exploration of the historical organisational changes, rather than a comprehensive study of the physical environment, has possibly contributed to this omission in the discussion concerning 1960s university architecture.

While Gordon (1975) and Beloff (1968) have distinct approaches, *The Plateglass Universities* (1968) shares a similar line of enquiry (albeit published slightly later) focusing on the group of seven newly constructed universities associated with the *Robbins Committee Report* (1963). However, unlike Gordon, Beloff's account is more animated containing anecdotes and opinions. The book is a survey of the Universities of Sussex, East Anglia, York, Essex, Lancaster, Kent, and Warwick.

The book's title holds a literal and metaphoric significance. The name distinguishes these newly created institutions from the ancient, and the civic universities, Yet the term breaks old connotations to reflect new innovations and aspirations. Beloff's title, widely used then and today, was created with reference to newly forming construction techniques, mainly during the 1950s with plateglass curtain walling, specifically Float Glass produced and manufactured by Pilkington Glass. Then modern-day materials such as glass and concrete symbolised the progressive flair awarded to teaching. The term encapsulated the defining moments of creation; a name Beloff (1968, p. 11) believed was not just "architecturally evocative... but more importantly... metaphorically accurate." Whyte (2015, p. 248) also acknowledged this idea, suggesting that the name resolved the academic tension felt among this group. Beloff's use of this phrase might be argued to be a defining interpretation, even a zeitgeist for the period covered by this study.

Beloff's analysis focuses on newly built universities from 1961-1965. Other newly formed institutions such as Keele University (chartered in 1962), and the Universities of Stirling (1967) and Ulster (1968) are not included. Similarly, colleges elevated to new technological universities, such as Salford, are also absent. In the view of Beloff (1968, p. 21), technical colleges were often perceived as second-class citizens, overshadowed by new universities, and "heralded with reveille not of trumpets but of tin-whistles." By excluding these, one could argue that he contributed to the idea of a subdivision within the higher education sector.

While the new universities aspired to embody a forward-looking perspective, they also exhibited elements of traditionalism that were "in a curious way throw-backs to a historic philosophy" (Beloff, 1968, p. 10). Despite their future pursuit, Beloff observed an ironic twist in that they displayed a continuity and conformity to what had passed before. A notable instance is their physical placement, often resembling older university campuses with proximity of their facilities to ancient houses and halls. In his opinion, there was a disparity to the strikingly contemporary, where older structures were "almost embarrassed in a context of the acutely modern architecture of the rest of the campus" (Beloff, 1968, p. 186). The complexities inherent in the efforts of the new universities to establish new identities through architectural expressions are evident.

This juxtaposition of tradition alongside forward thinking higher education design constitutes a central theme for Beloff's research. Comparable to Gordon, his study is not primarily driven by architecture, but rather by the educational sector and what the new universities might represent. While there is limited discussion about architecture, the insights are illuminating. For instance, Anonymous in Beloff (1968, p. 111), an observer of the University of East Anglia is quoted as saying: "a particular green of pines and the soft, delicate grey of ubiquitous concrete conjures up a

feeling of Scandinavia." This is in response to the architect Denys Lasdun (1914-2001) and his designs for a "landlocked harbour" (Beloff, 1968, p. 111) of interconnected walkways raised above the roads and traffic beneath. Despite this, Beloff's investigation was not considered enough to completely satisfy *The Architectural Review* (Cunliffe, 1970, p. 247), describing the research as "fairly critical." *The Review's* perspective was more pragmatic, considering the new universities as individual entities rather than a unified group which necessitated a nuanced approach to understand their architectural significance.

Shortly after Beloff's lay of the land survey came *Building the New Universities* (1972), a book by architectural historian Tony Birks. The book reads as though he felt bound to complete his predecessor's topical affair.

Birks acknowledged an earlier perspective that might be considered an overstatement regarding the significance of the 1960s universities, drawing a comparison between them and the Cathedral-Building Movement of the twelfth century, as suggested by *The Architectural Review* in 1964 (Whyte, 2015, p. 227). There are indeed parallels in terms of the scale of development, daring designs, and rapid construction. However, Birks takes a more grounded stance on this. According to him, the foundational underpinnings of the new universities are better likened to the emergence of Britain's twentieth century new towns. In this manner, Birks applies his analysis to the architectural themes of these new universities, emphasising the planning and construction principles adopted in response to their establishment.

Architecturally, Birks' approach was more organised and the formal tone in his presentation contrasts with Beloff. By conducting his investigation into the domains of financing, building design, and student housing, Birks aims to understand the interplay with the physical environment and consciously avoids using the term, Plateglass Universities, instead opting

for the ‘the seven,’ a phrase more commonly used at the time by educational commentators and organisations such as the University Grants Commission. This choice of language not only aligned with a prevailing preference of the era but also might have been perceived to be a more cautious alternative. Notwithstanding these distinctions, both Beloff and Birks agree on the significance of pivotal figures and groups such as the Commission and Lord Robbins' Committee. Both authors acknowledge that these entities were crucial in fostering a collaborative framework in a newly emerging landscape.

Building the New Universities (1972) comprises five essays that have relevance to this study. These encompass a range of topics, including site planning, governance structures, residential considerations, library architecture, and the juxtaposition between newly established and more traditional campuses. Birks analyses the intricate dynamics that buildings aimed to serve in uniting users, and how planning principles impacted both students and faculties. Of note, his examination of distinctions between collegiate and non-collegiate campuses is particularly intriguing. For example, Birks highlights the adaptations which York, Lancaster, and Kent undertook. They embraced innovative concepts that cultivated fully immersive campus environments and nurtured vibrant student communities. In doing so, parallels are drawn with American campuses as Birks identifies similarities in the experiences of British students. The new universities aimed to fuse academic and social functions seamlessly and collegiate campuses were instrumental in diminishing the necessity for students to leave the grounds. Within these spaces, students engaged in study, socialised and resided. As a result, academics and architects encouraged immersive experiences across the physical environment.

Birks (1972, p. 10) examination of Lord Alexander Dunlop Lindsay's initiatives at Keele University, recognised as the "progenitor or forerunner" of the new universities, prompts questions about the architectural

practice of consultant architects versus architects working for local authorities. There is interest as to whether an advisory architect could have mitigated the disappointment felt by the City Architect's municipal-inspired architectural approaches. According to Birks, while Keele's inventive academic programmes were daring, the campus architecture was less so. This leads to the contemplation as to whether a closer partnership with an advisory architect might have addressed the disparity between educational vision and architectural realisation. In terms of this study and the relationship between Salford and the County Architect's Department, how did this dynamic influence the ambition to progress, and what implications did the buildings have in representing progressive aims and aspirations?

Birks is clear that the new universities had the opportunity to innovate from a clean slate, distinguishing them from more traditional institutions. While they began afresh, colleges had a longer history. When the seven new universities welcomed their first students, many colleges were already well established, in the case of Salford, by almost eighty years. Birks (1972, p. 45) contends that new universities were bound by methods and materials which would "date them very firmly to the 1960s." However, his stance remains ambiguous regarding whether the same sequential association applies to colleges as they transitioned in status and underwent their own physical changes. Nevertheless, his investigation is critical for understanding architectural transformation across Salford's campus.

Like Birks, scholar and contributor for Historic England, Diane Chablo sought a relatable architectural understanding of campus design. Chablo's thesis, *University Architecture in Britain, 1950-1975* (1987) investigates the design process and style of modernist architecture across ancient, civic and new universities. Her investigation is rigorous using specialist journals,

archives, campus visits and interviews with leading architects of the time, such as Trevor Dannatt (1920-2021) and Leslie Martin (1908-2000).

Chablo's discussion regarding the Treasury's University Grants Commission is interesting in regard of Salford, specifically their role in enforcing cost controls and how their policies impacted the phases of architectural design that had knock-on effects to construction. Their funding came with clear parameters for architectural advancement and growth plans were systematically reviewed at various stages of an institution's Schedules of Accommodation. This document, or plan, as noted by Price (1959, p. 40), served as the architect's necessary brief and was produced by all educational providers to delineate teaching requirements, student numbers, floor space and growth expectations. According to Chablo, the Commission's appointment of an in-house architect in 1957 allowed them to regulate the sector. Rather than a preoccupation with aesthetic appearance, their focus was to enhance the economical provision of facilities across the sector.

The exploration of building types and departmental demands is useful to assist understanding with the decision making around architectural form. In Chablo's view, universities who applied modernist architecture during the late 1950s and early 1960s, were indebted to the functional elements of the much earlier twentieth century Modern Movement. Architects took their ideas from prevalent European ideologies; this can be seen today with Hunstanton School (Norfolk), completed in 1954 to designs by Alison (1928-1993) and Peter Smithson (1923-2003), and the University of Leicester Chemistry Building, completed in 1961 to designs by the Architects' Co-Partnership. The University of Sheffield's Arts Tower, completed in 1965 to designs by Gollins Melvin Ward, is another such case. Chablo (1987, p. 176) believes this was "probably the most important Miesian work in the British universities," although Le Corbusier (Charles-Édouard Jeanneret, 1887-1965 is also of significant influence. These

buildings demonstrate Modernism's influence on planning the physical environment within educational settings.

During this period, Chablo identified two distinct architectural approaches that had emerged. The first approach emphasised a visual or pictorial impact, exemplified by traditional quadrangle layouts commonly associated with Victorian-era campuses. This architectural style often found favour in rural settings, as well as in the layout of American campuses characterised by symmetrical structures encircling spacious grassy areas. The second approach centred on urban planning strategies and the evolving role of modern-day architecture in challenging more conventional methodologies of the former. Over time, this approach became increasingly adaptable to specific site conditions, displaying heightened responsiveness. High-rise tower blocks, similar to those integrated into Salford's masterplans, emerged as innovative for urban campuses facing spatial limitations and exemplified flexible architectural solutions tailored to sites.

In the twenty-first century, Stefan Muthesius, an architectural historian specialising in the eighteenth to twentieth centuries, published *The Post-war University: Utopianist Campus and College* (2001). This book is an exhaustive critique of the new universities, examining their architectural design processes and the sector's interaction with the social and economic environment.

Muthesius, who witnessed the transformative era of educational reform based his research on credible sources, including well-established architects such as Andrew Derbyshire (1923-2016) at the University of York, and Sir Denys Lasdun at East Anglia, as well as influential academics and personnel such as Asa Briggs (1921-2016) at Sussex, and Frank Thistlethwaite (1915-2003) at East Anglia. Significant figures and groups alike, they were pivotal in shaping the sector through inventive campus

architecture, leadership, and curricula. Key figures and organisations similar to these, form the basis of Muthesius' thorough architectural investigation into what he believes were intrinsic to the "mutations and combinations of campus and college" (Muthesius, 2001, p. 1). What comes to light and is relevant are the close working relationships, specifically the client and architect synergies during a period of seemingly design freedom.

The concept of the 'utopianist' used for the title and throughout the book, captures the evolutionary spirit of the time, signifying a broadly recognised movement. Muthesius explores the intentions and tendencies associated with what might constitute a utopian university. He achieves his research aim without the need to unpick the term's deeper philosophical intricacies but does acknowledge three main associations with this larger concept including ideas around institution, education and community. Figures and groups who featured in the book adopt a view that a university's function and educational efforts are best summarised around a need to enhance student communality and socialisation (Muthesius, 2001, p. 3). There is a familiar thread throughout the literature connecting these impulses and their potential in shaping wider ideas as to what a utopian university might resemble. In a more recent case, the applied models used by Taylor and Pellew (2020) drew parallels with Muthesius.

Muthesius aimed to comprehend the social and professional structures, processes, groups, figures, and overall performance within the institutions' intricate economic, political and societal landscape. He believed the economic narratives surrounding the *Robbins Committee Report* (1963) and the work of the University Grants Commission, occurred during a more profound period of Modernism, a time when the movement's proposition "appeared sacrosanct" (Muthesius, 2001, p. 9), but eventually came and went. In his view, the focus is on a broader

agreement and universal understanding of the term that encouraged societal desires to change through new ideas, philosophy, art and architecture. The changes coincided with technological advances advocating scientific industries and repositioning higher education. His focus is the institutional intent and how new forms and styles of architecture were used to conveyed this.

Upon their establishment, Muthesius (2001, p. 107) alleged that new universities had “good fortune to be founded and designed when there was still a strong sense of autonomy.” In contrast to institutions similar to Salford, the new universities saw the evolution of their modernist architecture through a combination of financial security, independence and progressive design processes. This unique situation set them apart from the architectural norms associated with the Welfare State and government, even though they became linked and associated with the State during their construction. Consequently, colleges, as supported by claims from Beloff (1968) and Harwood (2015), operated almost separately and were reliant on the government. Muthesius insights into the architectural formation within broader sociocultural and economic contexts is important for this study into Salford.

In recent times, Professor of Social and Architectural History, William Whyte, provides a comprehensive examination of civic universities and their intertwined social and architectural narratives. In *Redbrick: A Social and Architectural History of Britain's Civic Universities* (2015), Whyte’s critique explores historical records and architectural concepts to investigate the significance of civic universities, often referred to as Redbrick Universities. In his view, these universities are largely overlooked academically. Within this book, he asserts that his research stands as the inaugural all-encompassing study on this subject within the sixty-year period before 2015. The book demonstrates a scarcity of attention to civic institutions. This neglect, he contends, led to an oversight of an

alternative narrative within the histories of the United Kingdom's higher education landscape. Whyte's meticulous use of primary and secondary research sources encompasses broader ideas to determine a narrative with considerations for the whole sector, as much as the book's path is civically focused.

Whyte asserts that civic universities had a substantial impact on the country's economic and social fabric. In turn, they shaped the structure and operation of the new universities. By this point, civic philosophy, curriculum design and pedagogy had created well defined models for governance, staffing and philanthropy. Without these frameworks, the educational system would be academically and physically different. Whyte sees an integral relationship between academic and architectural ideals that civic universities inspired in the formation of newer universities. In addition to this civic effect, the initiation of Modernism and the ideological goals and aesthetic agendas also helped to form their architecture. This is in slight contrast to Beloff, where new universities were free from the constraints of traditional buildings and older teaching methodologies. The campuses soon reflected pedagogical ambition with which modernist architecture became synonymous. Through this reflection, architecture as part of a larger vision created greater cohesion across new buildings and facilities.

Unlike the new universities, the architectural form and style across civic campuses alternates. Whyte (2015, p. 12) believes a mixture of architectural form and aesthetics creates a campus akin to a "palimpsest, overwritten by each generation's attempt to build a new sort of institution." He draws attention to this idea by considering the entire institution, the campus ideal, the overarching aspirations, and where the realisation of these goals meet. Through the examination of social and historical values, decision-making processes, and historical accounts, the goal is to comprehend the sense of place and meaning, whether singular

or multiple architectural forms were applied. This idea is particularly interesting in the context of how the Peel Park campus systematically progressed over time to achieve longer-term objectives while incorporating architecturally different buildings.

However, Whyte's direct references to Salford are limited and mainly given through the group of advanced colleges. Recognition is given to the sociocultural observation of Roberts (1973) regarding the early days of the Royal Technical Institute, Salford. Roberts' commentary highlights the social mobility experienced by local working-class residents. A perception of the emerging technical education and know your place mentality, "looking around Salford Technical Institute, a young and ambitious millwright was clear. This wasn't for people like me" (Roberts (1973) in Whyte, 2015, p. 168). Another acknowledgment to Salford pertains to the broader sector changes; specifically, the failed national bid to reposition the national colleges as 'Special Institutions for Scientific and Technological Education Research' (SISTERS). While references provide some insight into the sector, they are not architecturally focused.

Whyte's in-depth analysis of civic universities and their architectural identity enriches this critical literature review. However, to attain a more profound comprehension of the sector's modernisation and what this might mean in relation to the University of Salford's architecture, additional reading is still required. A logical extension of this discussion can be found in the work of Elain Harwood, a specialist post-war architectural historian. In her book *Space, Hope and Brutalism: English Architecture*, *1945-1975* (2015), Harwood offers a comprehensive overview of higher education with a focus on former colleges. The book is a glossy, well-illustrated, and exhaustive study which documents the more well-known buildings, as well as the influential architects who were seen as helping create better living and working standards after World War II.

Harwood's extensive research, conducted on behalf of Historic England (Powers, 2023) is a well-defined interpretation of the sector's architectural development.

The analysis begins with the well-established Oxford and Cambridge universities. Harwood (2015, p. 218) emphasises the role of leading architects and acknowledges how established universities "came to appreciate that a sophisticated modern building could sit well amidst historic college fabric." This recognition of the architectural significance of (then) more recent buildings at traditional institutions adds context to this study, particularly when contrasting the Peel and Maxwell Building. Instead of solely concentrating on new universities, Harwood's research is grounded in exploring how the more established universities approached their design process in developing new and modernised buildings, aiming to retain some form of campus cohesion. This importance is recognised within the innovative campus masterplans seen at the University of Sheffield in 1953, and at Leeds in 1960, due to the architectural design by Chamberlin, Powell, and Bon. Similarly, scholarly material such as Whyte (2008) recognised the architectural significance of Leeds, where the development plan was approved by the academics and architects in the hope that emerging (Brutalist) architecture could express a new modernity.

With reluctance to labelling the new universities, Harwood does not explicitly reference Beloff's terminology. However, she recognises the freedom that architects, and university decision makers had in designing both their curricula and physical campus from scratch. In contrast to other literature (Cragoe, M., Nehring, H., and Warren, A. in Taylor and Pellew, 2020), there is less detailed discussion regarding architecture in relation to educational philosophies. Even so, Harwood's descriptive and factual account creates a straightforward narrative. The top-down approach concludes with a less inclusive roundup of the technical sector compared

to the ancient and civic universities, with commendations primarily directed towards more well-known buildings including for example, Manchester's former Hollins College completed in 1960, to architectural designs by Leonard C. Howitt (1896-1964), and the former University of Manchester Institute of Science and Technology (UMIST) campus with the Renold Building, completed in 1962 to designs by W.A Gibbon of Cruickshank and Seward.

In accordance with Beloff, Harwood (2015, p. 264) observed that technical colleges underwent a "separate evolution." The limited coverage of certain institutions might stem from a prevalent trend of standardised architectural designs. She claimed that, at the time, many designs featured a distinctive layout characterised by a prominent "tall, central teaching block of up to twelve storeys, flanked by low workshop ranges, with perhaps a hall or gymnasium, a library and students union" (Harwood, 2015, p. 267). This uniform approach might account for the brevity of coverage with former colleges similar to the University of Salford. Alternatively, Harwood was more intently focused on unique and distinctive buildings. These structures might have been perceived as significant in the evolution of modernist architecture, hence warranting a deeper exploration of buildings that adhered more closely to 'off the shelf' architectural models.

One of the most recent and well-aligned accounts of new universities designed and constructed during the mid-twentieth century is *Utopian Universities: A Global History of the New Campuses of the 1960s* (2020). As part of a larger project for the Institute of Historical Research, this book has "benefited immeasurably from the peer review" (Taylor & Pellew, 2020, p. XV). Contributors include, amongst others, Senior Research Fellow Jill Pellew; Professor of Modern History, Miles Taylor; Professor of Science and Technology, Jon Agar; Matthew Cragoe, and Professor of Social and Architectural History, William Whyte. The book is organised

thematically to cover higher educational reform, architectural design and influence, theoretical methods, governance, and concepts associated with utopian institutions. Each chapter is highly relevant thanks to the diversity in perspectives and scholarly expertise. New universities with particular emphasis on the Plateglass Universities, are central to the book's essays and overall exploration. Additional context is provided through the examination of Keele, Stirling, and Ulster. Concerning Keele, that became commonly known as the Keele Experiment, Taylor (in Taylor & Pellew, 2020, p. 37) believes that the philosophical and sociological reform earned the University a reputation as a "pioneer in the modernisation of higher education." While not specifically considered a Plateglass University, the institution was perceived to be avant-garde in terms of curricula and pedagogy.

References to Beloff (1968) surface early the book, particularly around his observations on the distinct physical aesthetics of the new campuses. However, there is a certain degree of resistance toward his research due to his approach of isolating and critiquing the newly built universities, similar to *The Architectural Review* (Cunliffe, 1970). A pertinent question arises i.e., is separating the new campuses legitimate, especially when many were planned from the 1940s? According to Taylor & Pellew, the late 1960s marked a period of student uprisings, fervent media commentary on institutional progress, and fictional literature that portrayed new and contemporary university life, exemplified by works such as Malcolm Bradbury's *The History Man* (1975). These elements might have influenced the satirical tone in Beloff's research. Whether characterised as parody or not, Beloff's topical work is pertinent enough to feature in this review.

Taylor and Pellew's focus is on the discourse and comprehension of the new universities relating to idealist solutions about utopian educational reform. The essays intertwine themes that recognise and explore this overarching concept, by adhering to four areas: first that new universities

came from bold schemes with original routes for growth that could be traced and tracked, second that the government was intrinsic to early funding and development, third that architects created daring campuses with innovative buildings for teaching and living spaces that were driven by then modern-day curricula and pedagogy, and fourth that these ideas led to many changes during the 1970s often seen together with student radicalism. In their view, a fine line existed between utopian experiment and “opposing extremes of anarchy or ideology" (Taylor & Pellew, 2020, p. 4). Given the complexity of utopian philosophies as discussed by scholars such as Coleman (2014), the book has parallels with Muthesius’s (2001) ideas concerning the role of the institution, education and stimulating communities.

Individual authors contextualise their research against the post-war baby boom, the need to enhance research skills, and the dismantling of colonial empires. Within this context, the advanced colleges hold meaningful importance as seen through Agar’s detailed account of the sciences. The period between the *Percy Report* (1945) and the release of the *White Paper on Technical Education* (1956), was marked by intense debate regarding the provision of appropriate technical courses to meet a rapidly changing society. Conversely, there appears to be a clear division in universities educating scientists while colleges trained technical assistants and craftspeople. Agar (2020, p. 123) claimed that “the Treasury hoped the expansion would take place in the (cheaper-per-student) Colleges of Advanced Technology.” This tactic tied in with the Treasury’s vision of doubling student numbers compared to pre-war levels and positioning the country for an era of automation and atomic development. Agar’s contribution provides valuable insights into the technical sector within a book that touches on architecture but predominantly discusses the elements that might constitute utopian ideals and educational progress.

Similar to Taylor & Pellew (2020), scholars Débora Domingo-Calabuig and Laura Lizondo-Sevilla present an alternative perspective on new universities, specifically focussing on architectural design, planning and processes. In *Student Housing at Plateglass Universities: A Comparative Study* (2020), Débora Domingo-Calabuig and Laura Lizondo-Sevilla conduct architectural evaluations of student accommodation in the seven Plateglass Universities by re-drawing and dissecting their campus plans. As a result, Lizondo-Sevilla and Domingo-Calabuig (2020b, p. 97) claim that their study is the first comparative architectural analysis of student accommodation.

The authors stress the importance of accommodation to student life, referring to past observations by architect and 1951 Festival of Britain Director, Hugh Casson (1910-1999), who emphasised the significance of accommodation to the overall university experience. Both view the quality of accommodation as a defining factor over the quantity (Lizondo-Sevilla & Domingo-Calabuig, 2020b, p. 98). The authors highlight that Kent, Lancaster, and York followed stricter collegiate accommodation models, while East Anglia, Sussex, and Warwick had designs that were more distinct from traditional models. In the case of Essex, innovation was displayed through heightened blocks of flats. Their aim was to understand how the designs contributed to the creation of "a sense of belonging to a community" (Lizondo-Sevilla & Domingo-Calabuig, 2020b, p. 101) and how new campuses instilled social interaction among students. The ideas of companionship, integration and equality are identified as driving forces behind architectural design concepts, as the architects and senior personnel sought to create vibrant student hubs of activity.

In *The University of Sussex by Basil Spence: Graphical Insight of the First 'Plateglass University'* (2018), Lizondo-Sevilla and Domingo-Calabuig (2018, p. 53) use Sussex, a university referred to an "architectural, social, and educational experiment" as a case study to examine the design process.

Their analysis of Spence's archival work is to understand the unique traits he incorporated, differentiating between his architectural theory and practice. They accentuate his architectural mastery; his understanding of materials that contributed to the modernist aesthetic, the impact of the wider environment, and the effects of the design process on buildings and their users. Spence's approach at Sussex was influenced by the existing landscape, the project's timeframes, and his visionary to both education and architecture. The result was a new university that exhibited a cohesive architectural language across its total built environment "inspired by the landscape and its aesthetic concerns" (Lizondo-Sevilla & Domingo-Calabuig, 2018, p. 56). To achieve his vision, he executed drawings by applying his knowledge of colour, materials, and the natural skyline in relation to his buildings. Consideration was given to the limitations and possibilities of both interior and exterior space. While Spence's previous university buildings featured informal courtyards, at Sussex he accentuated "the concept of the quadrangular enclosure" (Lizondo-Sevilla & Domingo-Calabuig, 2018, p. 60) through a non-collegiate campus that prioritised pedestrian movement with concourses and corridors free from traffic. The use of rounded arches in response to the surrounding countryside created a sympathetic connection between the established and new environment. The preservation of Spence's archive and his drawings provided valuable material for Lizondo-Sevilla and Domingo-Calabuig (2018) research, contributing to the recognition of new design intentions in university campus architecture.

The most current reference to the University of Salford is by writer and journalist, Owen Hatherley. *Modern Buildings in Britain: A Gazetteer* (2021) is a geographical directory featuring more than 600 heavily illustrated pages. The structure of the book and the individual accounts of the buildings are described with a sense reminiscent of Pevsner's *Architectural Guides* (1951-1974), albeit combining factual descriptions with personal experiences of the author.

Hatherley classifies the University of Salford's Allerton Building (the former Salford Technical College) as International Style, "a decent but minor piece of municipal Modernism – brown brick, a mid-rise tower and a lecture theatre" (Hatherley, 2021, p. 412). However, the inclusion of the building is primarily due to William Mitchell's external sculptural work in the courtyard, rather than architectural or historical significance. These brief features concerning Salford lack detail and raise questions as to whether Hatherley solely relied on desk research. The book references a past pedestrian bridge outside of the Allerton building, demolished in 2011 (Pearman, 2022; Salford Online, 2011) and indicating a possible discrepancy between source information and the book's publication. Other nearby buildings include Salford Civic Centre (former Swinton and Pendlebury Town Hall), completed in 1938 to designs by Percy Thomas and Ernest Prestwich; the adjacent Lancastrian Hall and Central Library, completed in 1969 to designs by Leach Rhodes and Walker; and West Riverside & Highland House completed in 1966 to designs by Leach Rhodes and Walker. However, there is a question of whether including the Maxwell Building and Hall within this survey would have provided a more credible and balanced account. Understanding Hatherley's perspective on this matter would be interesting. Considering these buildings together would provide more context to the University's post-war campus architecture.

2.1. Critical Literature Review Conclusions

Literature highlights that the higher education sector during the 1950s and 1960s was determined by earlier educational decisions, policies and legislation such as *The Beveridge Report* (1942), *Education Act* (1944) and the *Percy Report on Higher Technological Education* (1945). Each contributed to the genesis of the *White Paper on Technical Education* (1956) and the *Robbins Committee Report* (1963). In addition, social factors

such as the return of service personnel and displaced war refugees, along with a bulge in birth rates known as the baby boom generation, added extra pressure on the sector. Britain's full-time students steadily rose; 1938, there were 50,000 full-time students, increasing to 68,000 in 1946; 82,000 in 1954, and approximately 243,000 by 1972 (Wright, 1974). In response to these population changes, the Treasury's University Grants Commission aimed to widen the sector from as early as 1943, when discussions about expansion became evident. Muthesius (2001, p. 94) claimed that as much as the new universities are associated with Lord Robbins, the Commission's much longer involvement was paramount in most of the modernisation process.

Educationally and pedagogically, new universities often found inspiration from their precursor Keele University. When the Colleges of Advanced Technology transitioned to universities, they were, in many ways, already rooted in their own teaching methods. In the view of Beloff (1968) and Harwood (2015), these underwent their own unique reinvention occurring simultaneously alongside the construction of the new universities. However, while the newly formed universities undoubtedly shared some similarities with Keele's teaching philosophies and wider civic models, their campuses differed dramatically. Unlike Keele's campus, perceived by Taylor (2020, p. 38) as non-revolutionary without a real plan and lacking in a "concept of space or stunning architectural design," the new universities that followed, devised their campus masterplans with a very different architectural form and aesthetic style firmly in mind. Whyte (2015, p. 226) described how the new universities distinguished themselves through their rural locations and publicly discussed their architectural designs as they implemented ambitious masterplans, often by well-known architects.

Modernist architecture enabled new universities to make confident statements concerning their status through working with well-established

architects who engaged senior personnel in discussion about their ideologies concerning teaching and pedagogy. For example, according to Lasdun & Partners (in Brawne, 1967, p. 39), architectural practice aimed to respond to the institution's desires to support and contribute to a "unity of learning." This resulted through their final designs for East Anglia which included a concrete ziggurat formation (Lizondo-Sevilla & Domingo-Calabuig, 2020a). At Lancaster, Muthesius (2001, p. 169) described how the architectural masterplan pursued socio-educational aims and demonstrated "conviction and perseverance." As much as the new universities have been actively researched across the literature, information surrounding technological universities is relatively scarce, with limited interest given to their architecture and aspirations to progress. Topping (in Brawne, 1967, p. 81) stressed the need for greater acknowledgement of the technological universities, noting that although they are often discussed collectively, they demonstrated individualism and distinctive attributes.

The critical literature review and further reading is clear that the *White Paper on Technical Education* (1956) brought investment to the sector. Gordon (1975, p. 176) witnessed the building programme of the Ministry of Education as a mechanism to reposition vocational specialisations and integrate advanced colleges into the university system. Even so, there were differences with the newly forming universities, particularly pertaining to vocational scale. Agar (2020, p. 122) emphasised the breadth of studies across new universities, while technical skills providers focused more specifically on specialised vocational courses.

Until the late 1950s, modern architecture's adoption in the higher education sector was gradual, with only a handful of university buildings embracing functionalist principles. This cautious approach stemmed from decision-makers' reluctance to depart from traditional architectural forms and styles. Muthesius (2001, p. 60) claimed this restraint was seen with

civic universities, who often built grand and elaborate buildings using classical architectural forms that were deemed appropriate for government and municipal commissioning. However, civic universities, such as Leeds and Sheffield did push architectural boundaries and influenced the new universities in designing their masterplans through inventive ideas concerning space and arrangement. At Leeds, Harwood (2016, p. 3) wrote that Chamberlin, Powell, and Bon were driven by a quest to understand the fundamentals of the institution, rather than impose architectural solutions to a pre-determined brief. Similarly, Leeds and Sheffield were perceived to be test beds for planning that "strongly influenced the post-war foundations" (Chablo, 1987, p. 21). As the 1960s passed, modernist architecture became widely accepted and functioned as an alternative form and style to represent the rapidly diversifying sector. Chablo claimed this period was marked and consistent with the New Brutalism Movement (Banham, 1955; Banham, 1966). However, as the 1970s approached, Glendinning (2010, p. 39) identified this transformation in social, public and municipal architecture as fragmenting. Younger architects such as Alison and Peter Smithson, Denys Lasdun, and James Stirling (1926-1992) embraced new social Modernism, and drew their influence from earlier figures associated with International Modernism such as Alvar Aalto (1898-1976), Le Corbusier, and Walter Gropius (1883-1969). Each exhibited individualism, creativity and an artistic attitude to design and materials.

Newly evolving architecture represented more than just physically educating students. For the architects, Harwood (2015, p. 256) suggested that a clean slate and an ability to start from an almost neutral point was influenced through the wider desires to experiment with the teaching and pedagogy. This ultimately impacted on architecture and vice versa. Taylor and Pellew (2020, p. 7) described these changes as a "lucrative lure for some of the best modernist architects of the period." Multiple opportunities created an air of independence for new architectural

designs and methods of construction. As a result, the country's universities and their architects aspired to create new campus totalities to meet newly forming curricula and changing student needs.

Within the new architectural masterplans, Birks (1972, p. 43) demonstrated ideas around "total environments" that were often influenced by international concepts such as the expansion seen across America. While American campuses, particularly collegiate, have been described as "a complicated story" (Wilson, 2014, p. 60), architects aimed to integrate the student experience with design aspirations to construct complete physical environments. This became a norm. As well as study commitments, students could remain on campus and undertake non-academic activities such as shopping and socialising. The goal was to create a complete student experience that extended beyond academic studies. Birks (1972, p. 45) correctly underlined that this could result in a "a protective shield, an exhilarating backcloth or even a frightening cell," highlighting the importance of achieving the correct architectural design to realise the notion of community and belonging.

Beloff's concept of Plateglass Universities encapsulates ideas around student communities and togetherness, extending beyond the physical attributes of the buildings. His investigation of the seven newly constructed campuses took precedence over the colleges. He visited campuses on the outskirts of towns and cities, in contrast to institutions located more closely to an urban core. He observed residential campus communities that primarily served their local catchment areas. Despite similar physical differences, the colleges still aspired to be leading educational providers and embed their aims and objectives within new architecture. Taylor and Pellew (2020) mentioned that the prerequisites set by the University Grants Commission redefined the traditional and daily attendance models. In addition, Lizondo-Sevilla and Domingo-Calabuig (2020b, p. 101) believed that this was achieved with accessible

campus accommodation on plots of land at 200 acres and no more than three and half miles from a large town or city. As the colleges progressed, the Commission also imposed stipulations on their operations. Gordon (1975, p. 182) witnessed the introduction of new courses, other than science and technology, which became standard practice. All of this had a profound effect on the campus and the plans for future architectural intentions. By the mid-1960s, this had contributed to a societal uplift, or as Beloff (1968, p. 21) claimed, a university "trend" with more people undertaking higher education.

The University of Salford shared parallels with civic institutions yet had ambitious growth plans aligned to the new universities. While far from identical, the literature is certain that the architectural theories and principles of civic and new universities are similar through spatial planning and architectural construction methods, such as vehicular segregation and vertical buildings. Muthesius (2001, p. 90) saw this to be the responsibility of architects, town planners and sociologists, each aspiring to create a new sense of attachment. To achieve this ideal state, modern architecture was applied to stimulate new ideas of identity and belonging. New universities enjoyed autonomy and carte blanche with their masterplans, embracing design freedom through interdisciplinary and democratic approaches that avoided over-specialism (Agar, 2020, p. 122). While each institution underwent a distinct journey, common architectural threads relate to Salford as the institution progressed from a technical college to a new university.

Chapter 3. Research Aims, Objectives and Methodology

In 1960, Britain was “without doubt, the scientific and technological powerhouse of Western Europe” (Edgerton, 1996, p. 53). Despite the country’s slow growth rate, this period was a pivotal moment in modern history for research and development that became synonymous with the 'White Heat' technological revolution, as emphasised in a memorable speech by the opposition party leader, Harold Wilson (1916–1995) on 1 October 1963 (Staufenberg, 2022). Wilson’s discourse focused on education and the importance of industrial skills to improve living standards, aiming to change post-war austerity and create a more effective economy. For this new research, a neutral perspective is adopted to politics, viewing this study period as a time when both parties aspired to achieve similar socioeconomic outcomes.

In terms of the government’s ambition to strengthen the country, the Royal Technical College, Salford’s transition is examined in part two of this study, in Chapter 4 in the context of the City of Salford, and with the development the first modernist building, Chapter 5. With the growth of new universities, discussion is interspersed throughout the chapters. As the city evolved, so did the College by realigning itself with these new institutions. Chapter 6 investigates the period when the institution became the Royal College of Advanced Technology, Salford, and the campus development from 1955–1963, a period governed by the Conservative party under the leadership of Prime Minister Harold Macmillan. Modernist architecture started to inform Salford’s campus masterplans which resembled other new universities that were also applying alternative materials and new construction methods. This chapter outlines the architectural change which occurred in the lead up to the institution receiving university status. Architectural plans accentuated greater functionality, efficiency, and simplicity by creating new structures and spaces that enabled and enhanced user flexibility and adaptability.

Consequently, Chapter 7 marks the start of part three, involving a formal analysis of the buildings presented as individual architectural case studies. Most buildings were constructed from 1964 onwards, the year the Labour party won the general election led by Wilson.

Unlike the new universities who grew more freely with their progressive architecture that supported new curricula with “precocious academic autonomy” (Vernon, 2017, p. 50), Salford’s growth was constricted and dependent on Salford City Council. Nevertheless, democratic behaviours were still encouraged through the implementation of contemporary architecture. This approach facilitated a physical evolution through the construction of new teaching spaces supporting emerging communities, all whilst aligning with a diversifying institutional culture. Today, the University of Salford is associated with this decade of reformation and a narrative of 1960s universities. Yet, there is a missing link in the knowledge regarding the mid-twentieth century campus and the relationship with progressive aspirations.

Salford’s masterplans clearly demonstrated institutional intent as the architectural objectives responded to the ongoing legislation from the government and Ministry of Education. Their demands on teaching enforced tough decisions impacting the construction of the Maxwell Building and Hall. The subsequent stages of this construction period influenced the initial 1961 masterplan, establishing a framework for Phase III. The architectural design process for this phase then laid the groundwork for the second masterplan in 1964, providing context for the progression of Phase III and Phase III+. These architectural blueprints were created concurrently with the Council’s development plans and, collectively shaping and influencing the decade ahead.

In simple terms, the purpose of this study was to access the present-day archival material at the University of Salford, apply scholarly insights, and

discuss emerging topics related to university architecture from the 1950s to the latter years of the 1960s. Where there was missing knowledge, to create insight that is relevant today, this new research attempts to construct novel bridges around the limitations and absent parts of the narrative. The study sets out to achieve this in four ways. First, in Chapter 5, by investigating the Royal Technical College, Salford, the cause and effects of institutional progress and reasons to expand under the governance of Principals Sir Peter Venables (from 1947-1956), and Dr Clifford Whitworth (1957-1974) are laid out. Second, the chapter examines the realisation of the Maxwell Building and Hall to acknowledge the importance of the architectural planning and relationship with the Lancashire County Council Architect's Department. Chapter 6 considers this significance that was pivotal to the masterplans and their design. Third was to comprehend the architecture as a whole campus and to understand the reasons for choosing modernist architecture. This is presented through the individual building audits, developed as case studies in Chapter 7. Finally, Chapter 8 interprets the new research and the meaning of this in relation to the University of Salford, the City of Salford, and the new universities. Overall, the learning within this study establishes deeper insights into the University's institutional and architectural changes during the mid-twentieth century.

3.1. Research Question and Objectives

During the national higher education reform in the 1950s and 1960s, how did the Royal Technical College, Salford envision and develop the campus masterplans from 1961-1964, using modernist architecture to demonstrate the intent as an advancing institution to attain university status in 1967?

From the start of the 1950s to the end of the 1960's, the United Kingdom's higher education sector experienced a series of defining reforms. During

this period, Salford became a university and was at the heart of this reform process. The stories which occurred during this time present an interesting case study. This was a bifurcated process with changes to the educational environment, such as the curriculum, pedagogy, and students, and the increase to the physical environment through buildings and masterplans. Both parts were interlinked and are inseparable as they responded to each other. The creation of a new campus facilitated the changing educational environment and new research documents both sets of requirements. However, the study's main body of research is principally concerned with the campus' physical changes and expression by examining the architectural planning and commissioned buildings. The period of study was also a time of major architectural change and style where Victorian and Edwardian forms were ousted by Modernism. This, together with the rising dominance of the motor age, rapidly changed the planning and appearance of towns and cities, not least the City of Salford. To address the research question, the study explores whether there was a conscious decision or policy to contract then modern-day architecture as a deliberate endeavour to demonstrate the physical expression to the changing world of education, or whether this was simply a reflection of the prevailing spirit of the time. Four objectives support the question:

1. To create a critical historiography of the modernist campus through the investigation and interpretation of socioeconomic factors which affected the physical environment after World War II.

2. To explore the institutional progression from 1930-1947 to understand the demands and challenges that were put upon teaching accommodation, and which led to decisions to expand.

3. To analyse the 1961 and 1964 masterplans, both indicative of growth; and conduct a historical architectural survey of the buildings that materialised from each of the two plans.

4. To utilise contemporaneous records to assess the transition from a college, examining how the campus reflected institutional aspirations to modernise and operate akin to a new university.

3.2. Research Methodology

The study's methodology was based on the premise of Iggers (2005, p. 103) who said "not history, but histories, or, better, stories, are what matter now." Building on this proposition, this new research considered past stories and historic events that shaped the University of Salford from the 1930s to the 1970s. As a first architectural study concerning the modernist campus, the researcher analysed this period with a particular focus on the mid 1950s and early 1960s, with the ambition of creating a new social history. To assist this new account and present-day narrative, the methodology considered a range of twentieth century historians associated with new social history. These included but were not limited to the theorist Edward Carr (1892-1982), historian of historiography Georg Iggers (1926-2017), historian Christopher Lloyd, historian Raphael Samuel (1934-1996), Professor of theory and history Johannes Westberg, and the critic, Hayden White (1928-2018).

As a method Lloyd (1991, p. 199) regards new social history as a way to provide overarching interpretations of a particular historical era, rather than conventional methods that often conform to traditional strict sociological behaviours. White (1987, p. 27) viewed real life events as the content of historical stories. Likewise, Carr (1964, p. 22) claimed "the past which a historian studies is not a dead past, but a past which in some sense is still living in the present." The historical stories relevant to the research question were firmly grounded in past activities as this study focused on capturing and reinterpreting the real-life and everyday occurrences that took place. The intention to construct a novel social

history was aimed at igniting the reader's enthusiasm and to capture (and captivate) the popular interest within the academic discourse (Samuel et al., 1985, p. 34). While new social histories bear some resemblances to older approaches, such as the exploration of economic facets through interdependent processes (Cochran, 1969), the genesis of this methodology from the 1950s, emerged as a departure from more conventional techniques. Samuel et al. (1985) have argued that more established methods and approaches were preoccupied with their own construction, well-known interpretations and rigid methodologies. By reading around a variety of new social history writers, this study set out to encapsulate the essence of the common place, the reality of ordinary existence, and the historical truths and the practical influences that shaped the University's built environment.

In current times, there are burgeoning discussions surrounding the architecture of the 1960s universities. In tandem, there is a heightened discourse regarding the enduring impact of the Modern Movement that gained prominence in the aftermath of World War II. The research question aimed to craft an original narrative from the social histories associated with this research study period, contributing to similar dialogues and discourse of today. In doing so, the narrative endeavoured to decipher the institutional ambition in order to facilitate the reader's comprehension of historical events and provide insights into the how and why of their occurrence (White, 1987, p. 4). Grounded in empirical sources, a realist perspective was employed to write an almost linear and chronological narrative. Through this ordered research arrangement, the study has predominately focused on the architectural direction of the Royal Technical College, Salford.

Assembling the new research positioned the architectural planning, masterplans and structures "within a complex and multifaceted context" (Westberg, 2020, p. 209). Instead of isolating or loosely connecting this

planning to society, the examination aimed to explore the intricate and multifaceted contexts that exerted influence on the University's architecture and physical environment. The exploration inquired beyond the surface to inspect the webs of interactions between the institution and multiple structured systems; an approach that considered the impacts and influences on decision making, uniting social, cultural, and economic forces at local, regional, and national levels. "Under the impulse of a past society" (Carr, 1964, p. 34), individual figures and groups were considered to function together, rather than as segregated. Within this shared framework, new discourse revolves around relevant groups and individuals, such as former Principals, the Governing Body, Vice-Chancellors, senior leadership, councillors, architects, planners, engineers, and broader government bodies, including the Ministry of Education, the University Grants Commission, Salford City Council, and Lancashire County Council. The research objectives aimed to reveal the intricacies of the effects, actions and motives that shaped their role in the University's expansion.

Research materials for this study encompassed a broad range of sources which were relatable to sociocultural, economic, higher education and architectural contexts. Primary sources included architectural plans, drawings, maps, photographs, reports, correspondence (letters, memos), newspapers, videos, economic data, conference proceedings, brochures, theses, and scholarly journal articles. Secondary sources consisted of scholarly textbooks, journal articles, websites, biographies, reviews, newspapers and documentaries. The principal focus of the research involved extensive use of archival collections, particularly from the University of Salford's Archives and Special Collections to analyse architectural aspects of masterplans and selected buildings within the institution. Additional contextual research on the City of Salford draws from regional repositories such as the Salford Local History Library at Salford Museum and Art Gallery, Manchester Archives and Local

Collections at Central Library, Manchester, and the Lancashire Archives at Lancashire County Council Records Office, Preston. Community archives such as the Working-Class Movement Library in Salford, and professional organisational archives including the Royal Institute of British Architects Collections in London were also consulted and visited.

To understand the physical environment and grasp the "organic relation between education, culture and society" (Westberg, 2020, p. 209), the methodology used interdisciplinary tendencies by integrating historic dialogues with broader debates. In consideration of these interconnected relationships and the twentieth century Modernism movement, the method adopted a global perspective. This approach acknowledged the movement's influence due to multiple stakeholders and global factors, culminating in the development of modernist architecture characterised by a "sense of autonomy" (Crinson & Williams, 2019, p. 55). While the study has explored the domain of this architectural form and style, the research does not directly participate in or challenge debates on utopian ideologies. Instead, an appreciation exists to the presence of these philosophies (Coleman, 2014; Muthesius, 2001; Taylor and Pellew, 2020) to examine what drivers and motivators impacted the campus' physical expression and reasons as to how and why these occurred. This is particularly relevant to the conclusions in Chapter 8. As a discourse this may not be entirely impartial (Barker & Galasinski, 2001). Nevertheless, the methodology aimed for rigour, emphasising critical assessment and a contextual understanding of the historical occurrences that left an imprint on the University of Salford.

Part 2. Chapter 4. Modernisation of the City of Salford

This chapter focuses on the architectural aspirations of Salford City Council as they aimed to rejuvenate the built environment across the City of Salford. The engagement of a consultant architect addressed the concerns of the Minister of Housing, who initially deemed the proposals as “beyond the province of a local authority department" (Minister Rejects, 1961, p. 16). New construction swiftly commenced from the early 1960s (Architect Engaged, 1961, p. 26). This transformation coincided with the University of Salford’s architectural masterplans and both development scheme grew simultaneously, a result of an equally beneficial relationship facilitating symbiotic expansion. The exploration of this modernisation uses primary and secondary research to broadly contextualise the physical changes that occurred in the vicinity of the Peel Park campus. The aim is to comprehend the period of urban renewal and the Council’s efforts to reshape the city’s sense of place and purpose in connection with the University [Figure 5].

Figure 5: Pendleton development area (Digital Salford, c1960b).

Throughout history, architectural changes can be said to be a result of social deficiencies. Perceived indifference and ambivalence towards Salford and Greater Manchester have been explored in fiction and social studies by nineteenth century writers including Elizabeth Gaskell (1810-1865) and Friedrich Engels (1820-1895). During the twentieth century, "a tough succession of modern writers" (Salford City Council, 1965, p. 18) emerged. Specific to Salford these included Harold Brighouse (1882-1952), Walter Greenwood (1903-1974), Shelagh Delaney (1938-2011), and Robert Roberts (1904-1974). Each portrayed the borough impacted by socioeconomic forces, marked by poverty, and characterised by "frustrated ambitions" (Wildman, 2016, p. 5). These perspectives can be argued to be underlined by a marginalised status of working-class communities, frequently living in below standard conditions, and often observed as operating almost outside of mainstream society (Suttles, 1975). The repercussions of these challenging circumstances extended to the physical environment. By the mid-1960s, approximately 3.5 million of the country's houses [Figure 6] required demolition (Glendinning, 2021).

Figure 6: Brunswick Street (Digital Salford, c1960a). Background, Pendleton Town Hall.

By the turn of 1950, Salford's housing conditions showed little improvement from previous years and the low numbers of newly constructed houses contrasted sharply with the high number of notices served for the removal of insanitary conditions. Although the Council's Chief Medical Officer claimed that this effort alleviated and prevented ill-health, the fundamental issue of permanently improving housing conditions remained largely unaddressed (Burn, 1949, p. 5). However, by 1972, significant architectural developments had occurred. Frank Allaun (1913-2002), a prominent Member of Parliament for Salford, regularly spoke about the city's physical redevelopment [Figure 7], noting how the borough was transforming beyond recognition. Allaun (1972, p. 11) contended that many residents perceived this period as an era of an imagined welfare state, where their needs and expectations were not met by local services. Unfortunately, residential facilities and redevelopment schemes led to hardship for many of the city's residents.

Figure 7: Pendleton (Royal College of Advanced Technology Salford, c1960d). Centre: former John Street Board School.

Throughout the 1950s, Salford City Council considered many parts of the city as “disadvantaged by a plethora of economic, social and physical factors” (Smith, 2023). Similar to other northern towns such as Leeds, Liverpool and Sheffield, which had formulated modernist architectural development plans to reconstruct citywide areas after World War II, the Council recognised the inadequacy of its housing and civic amenities. As a result of this, the Council embarked with significant endeavour to address these prevailing social challenges and improve the inadequate conditions and standards across the built environment of the borough. This was all in proximity of the University of Salford’s Peel Building [Figure 8].

Figure 8: Ariel view towards the Peel Building (Britain from Above, 1949b).

In the early 1960s, the Council's Planning and Development Committee addressed the pressing urban issues by commissioning the expertise of the consultant architectural practice, Robert Matthew Johnson-Marshall. A comprehensive scheme, valued at more than £6 million and announced by *the Guardian* as “Giving Salford a new heart” (1963), involved a close collaboration between the Council and the architects. Together, they

worked on the *City of Salford: Ellor Street Redevelopment Area: Report on Plan* (Matthew & Johnson-Marshall, 1963) that articulated the Council's "visionary idealism" (Boughton, 2016). With minimal public consultation, the aim to reinvent the city's municipality through social engineering was to enhance the wellbeing of residents. Radical proposals set out a new agenda to create a new and vibrant urban environment visualising a city centre similar to a contemporary equivalent of London's Trafalgar Square (Matthew & Johnson-Marshall, 1963, p. 14). Constructing a new city centre was fundamental to the report by restoring the area as a modern-day hub to enhance living standards through new residential, retail and civic amenities. At the time, the ambitious vision aspired to reposition Salford as a newly forming city operating similarly with other leading towns and cities. The ideas that sharply contrasted with older buildings such as St Thomas Church, completed c1831 to architectural designs by Francis Goodwin (1784-1835) and Richard Lane (1795-1880) [Figure 9].

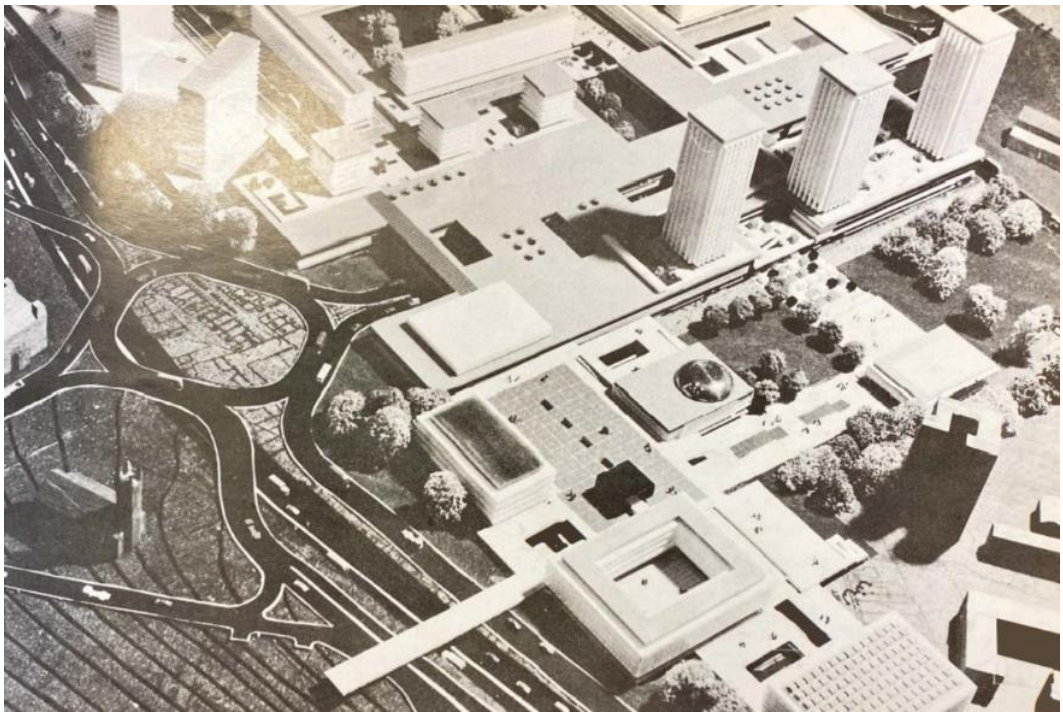


Figure 9: Detail: *Ellor Street Redevelopment Plan* (Matthew & Johnson-Marshall, 1963).

Salford City Council perceived Robert Matthew Johnson-Marshall as "planning consultants of international reputation" (Giving Salford, 1963, p. 18). Led by eminent architect and Professor of Architecture, Robert Matthew (1906-1975), and with the support of the University of Edinburgh's Architectural Research Unit, supervised by Percy Johnson-Marshall (1915-1993), this team brought vast experience to the modernisation plans (Glendinning & Muthesius, 1994). Matthew was recognised through his work with the London County Council in the late 1940s and 1950s. His design contributions with the Royal Festival Hall on London South Bank, built from 1948-1951 as part of the 1951 Festival of Britain, were part of broader schemes focused on community planning and social housing (Glendinning, 2010, p. 28). Matthew was resolute in his belief, stating that "Salford deserved to have something really modern" (Towards a new Salford, 1961, p. 16), and Pendleton's ideal location for improvement was enhanced further by the city's wider conurbation. The unparalleled prospects and novel approach to urban planning presented the Council with a unique opportunity to shape a more prosperous city, aligning with a larger national socioeconomic narrative.

Their confidence in this belief was that they envisioned their forward thinking planning as able to influence Britain's "future civic development" (Leading Way, 1961, p. 18), with other towns and cities following their pioneering proposals. At the time, the *Ellor Street Redevelopment Plan* (1963) signified a bold and transformative vision, pushing boundaries and exploring ideas that many other development schemes avoided or were afraid to embrace. The Town Clerk shared a similar view, believing that the city required an almost obliteration of the nineteenth century conception of existence, to make way for a modern age (Salford new, 1963, p. 18). Using new architectural forms and styles in urban design and construction was perceived as so influential that modernist architecture had the power to revolutionise outdated metropolitan areas, including Salford.

The Planning and Development Committee's architectural plans were designed using (then) modern-day design and construction techniques, responding to the popularity in motor vehicle ownership and the country's increasing motor age. Redevelopment began with the demolition of older residential and industrial areas across Pendleton, Ordsall, and Lower Broughton; parts of Salford that were believed to have "declined beyond acceptable quality" (Dyson, 2023). In the case of Pendleton, situated next to the Peel Building, the Committee were confident that there had been a deficiency of adequate buildings across this entire inner suburb.

The drive to usher in a new era of prosperity meant Salford City Council targeted areas of economic and physical decline. In their view, the areas surrounding the campus had degenerated into a "dismal and overcrowded slum" (Matthew & Johnson-Marshall, 1963, p. 5) and their intention sought to enhance Pendleton's liveability. The *Salford City Council (1965, p. 18)* actively reconfirmed the discourse presented in the *Ellor Street Redevelopment Plan* (1963). In an article titled, 'Salford Tomorrow', the objective was to rejuvenate "89 acres of outworn slum property in the heart of the city." New facilities were introduced, including a municipal civic hall to replace Pendleton Town Hall, constructed in c1868 to architectural designs by Alfred Derbyshire (1839-1908). The aim was to establish a new civic centre with a range of updated amenities. This initiative involved the modernisation of schools to replace older ones such as John Street Board School, completed in c1895 following architectural designs by Henry Lord (architect for Peel Building). Additionally, there were further plans to renovate and construct a centralised library, a swimming pool, leisure facilities, a health clinic, and a contemporary Museum and Art Gallery designed to house the borough's art collection and relocate the more traditional galleries from Peel Park. However, the completion of the latter, initially planned for 1965, did not materialise, impacting on the University's masterplans [Figure 10 and 11].

Figure 10: Detail: *Ellor Street Redevelopment Plan* (Matthew & Johnson-Marshall, 1963, p. 17).

Figure 11: Detail: *Ellor Street Redevelopment Plan* (Matthew & Johnson-Marshall, 1963, p. 19).

In addition to inadequate residential conditions requiring demolition, land availability also affected the city's development programmes. The City Engineer, Mr W. Albert Walker, who served from 1921-1951, claimed that many areas were restricted by industrial units as well as the canal and rail infrastructure. As a result, new construction was "almost impossible" (20 Year Plan, 1951, p. 10) and the pace of progress was determined by the speed of land clearances controlled by the Planning and Development Committee. Walker collaborated extensively with John Lancelot Burn (1902-1973), the city's Chief Medical Officer from 1941-1969, whose expertise and understanding in welfare influenced the Committee's decision making. Burns published his research annually in reports such as the *City of Salford Annual Report of the Medical Officer* (1952), a publication that played a central role in addressing the challenges affecting the urban fabric. Both figures were involved in numerous architectural development schemes. Their work on the design and construction of Salford's "first skyscraper flats" (Bullock, 1996, p. 39), a modernised low-rise residential block formerly situated on Liverpool Street, was considered a catalyst for "revolutionary new techniques" (Skyscraper Flats, 1956, p. 1). This project inspired the Council to continue their exploration of innovative urban development.

Walker and Burns' contribution to these projects played a crucial role in fulfilling the Council's ultimate aspirations to create a "fuller and happier life" (Matthew & Johnson-Marshall, 1963, p. 1) for the city's residents. The Council's pursuit of additional residential initiatives ultimately resulted in the creation of multiple high-rise development blocks across the borough. The planning approaches regularly forced urban sprawl and community displacement by re-locating residents to unfamiliar areas, such as Little Hulton seven miles north, and placing them in new or temporary accommodation. These schemes continued to influence the city's planning into the 1970s with a reduction of the population by one-sixth from approximately 177,000 residents. As development progressed,

growth became reciprocal between the Council and the University. This relationship created newfound opportunities to expand the campus through strategic building and land acquisition; a collaborative approach that was clearly evident. Gordon (1975, p. 178) was confident this working relationship was "to the advantage of both parties," thereby fostering a new constructive bond. The University capitalised on the emerging opportunities to leverage land assets and construction, all of which contributed to the formulation of the first major architectural masterplan in 1961 and pivoted the future shape of the campus. Multiple development sites were dependent on the Council's future initiatives, such as the demolition and land acquisition directly west of the Peel Building, known as the Wallness Road area [Figure 12]. Today, Wallness Road is known as University Road. Accessed from Salford Crescent (A6), this former community of approximately 90 back-to-back houses was demolished to make the way for the Newton Building, constructed in 1976. This parcel of three acres was exempt from immediate demolition, but the University secured the area by purchasing individual plots of land with a phased approach of compulsory purchase orders (Royal College of Advanced Technology Salford, 1962b). Once demolished, a systematic method of expansion ensued with critical land acquisition to support the College's growing student community.

Land clearances to the northeast of the campus involving parts of Lower Broughton, Adelphi, and around the former Meadow Road reservoir area associated with the former Adelphi dye and iron factories (O'Reilly & Rabbitts, 2019, p. 42), helped to advance the Department of Civic Engineering (The Royal College of Advanced Technology Salford, 1962). During the acquisition process, the Governor's took proactive steps to address the Department's immediate needs by purchasing the Adelphi Building [Figure 13], a white-rendered factory completed in 1915, that served as a temporary teaching accommodation solution. The expansion opportunity was identified before the formal acquisition process began,

with the College expressing interest in the land from 1958 (Need Land, 1958, p. 10). This progressive approach was guided by a newly emerging institutional vision, with hopes that the architectural development across the campus would immediately commence in 1961.

Figure 12: Windsor Crescent and Crescent View (University of Salford, c1950a). Left: former Feathers public house.

Figure 13: Adelphi Building (Royal College of Advanced Technology Salford, c1960a).

Chapter 5. The Royal Technical College, Salford, 1930-1955

The aftermath of World War II disrupted the growth opportunities of the Royal Technical College, Salford. Resources were diverted to meet the requirements of the national War Office; the Army and Royal Airforce required services from the Departments of Mechanical Engineering, Electrical Engineering, and Chemistry. In addition to this reactivate role, the College was adapting to varying societal needs and adjusting a growing course programme to reflect the changing demands for technical education. Whitworth (1963, p. 962) claimed the main aim during these earliest years of the twentieth century, was to provide the Borough of Salford with a "systematic instruction in those branches of knowledge which have a direct bearing upon the leading industries of the district." The focus of this chapter lies in the post-war years and the profound effects on the teaching spaces. These changes were ultimately a catalyst for the initial discussions regarding expansion in 1947 and the architectural planning of a new, modernised building from 1949 [Figure 14].

Figure 14: Royal Technical College, Salford (Royal Technical College Salford, c1930).

Despite the challenges to teaching and organisational operations, when the 1940s arrived, the college was a "thriving institution" (Whitworth, 1963, p. 963). Success, inevitably brought challenges and “on several occasions” (Venables, 1954, p. 4) the Governors questioned the potential of developing space to construct modernised facilities. Growing student numbers added strain on the physical accommodation, and with financial grants obtained from Lancashire County Council less than those given by Salford City Council, meaning they subsidised students attending from outside the boundary, institutional governance soon changed. A newly elected Governing Body ran until 1962 when the Local Educational Authorities' funding ceased, and the University Grants Commission awarded direct grants, along with the creation of a new sub-committee, who were responsible for reviewing the growth strategy. As much as the Governors shared their concerns regarding teaching pressures with the Board of Education, a decade passed before their ideas became a reality.

By the second half of the 1940s, the College comprised nine Departments: a Junior Technical School including Building, Engineering and Textiles; a Junior Art School; the School of Art; Building and Civil Engineering; Chemistry including Biology, Pharmacy and Chiropody; Electrical Engineering including Applied Physics; Mechanical Engineering; and Textiles, and Domestic Subjects (Royal Technical College Salford, 1945, p. 7). These operated within the Peel Building, that is said to be modelled on Huddersfield’s earliest technical school (The Victorian Society, 2018c).

The architectural design for the Peel Building was by a local architect, Henry Lord (1843-1926). Described as one of Lord’s “finest achievements” (O'Reilly & Rabbitts, 2019, p. 62), the building is vastly different to the modernist buildings that followed. The Victorian Renaissance style is highly ornate, even reminiscent of Jacobethan Revival styles with decorative sculptural details, arches and high chimneys. The designs feature classical compositions with elaborate pilasters and terracotta

friezes, such as the entrance relief representing Art and Science. The building is three storeys high and is split into thirteen bays. Large windows maximise natural light where classrooms were primarily located. A central corridor runs across the full length of the building with staircases on each side. Offices for staff and the Principal were located at the ground level. A Great Hall could seat 600 students and the overall building accommodated 2,300 people at a time (The Victorian Society, 2018c). The College's 1945 *Prospectus* featured a building plan [Figure 15], the layout and style reflecting a European typography and poster design.

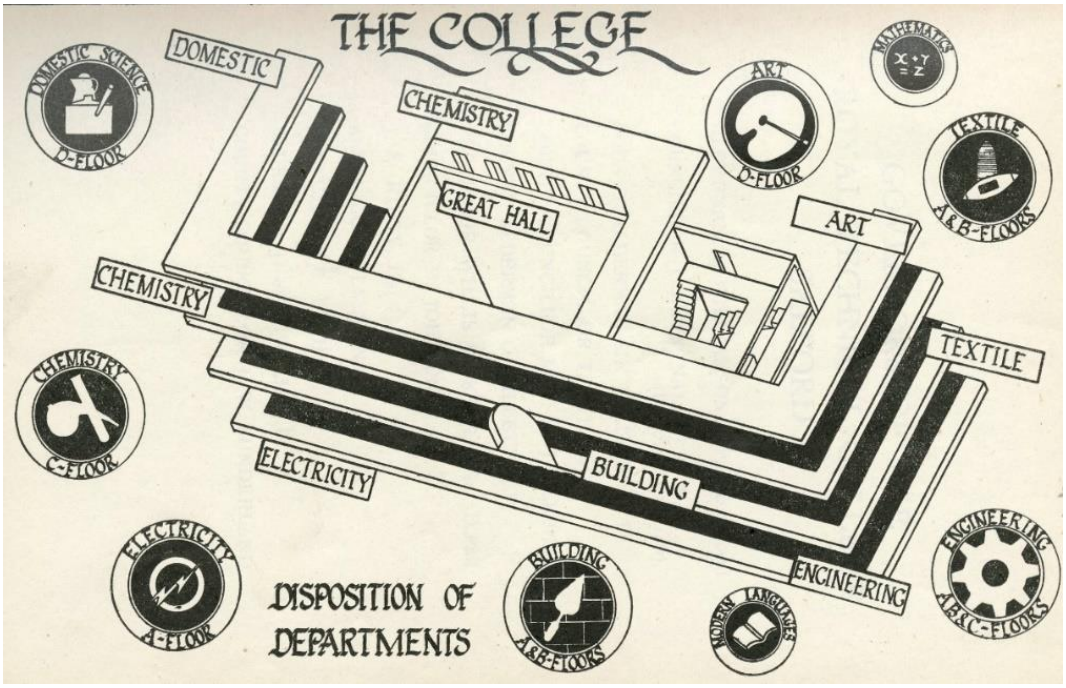


Figure 15: Peel Building plan (Royal Technical College Salford, 1945, p. 1).

The building was officially renamed in 1969 after Robert Peel (1750-1830), an industrialist and first baronet who entered the House of Commons in 1802 and, his son, Sir Robert Peel (1788-1850) who became the Prime Minister from 1841-1846 and is associated with the creation of London's Metropolitan Police Force. Since construction, little has changed to the building located on the former Marlborough Square, adjoining Peel Park

and on land originally acquired by Salford City Council from the Earl of Derby in 1890. The building's design and construction cost approximately £70,000. Architecturally, Lord was responsible for other notable local buildings, including the John Pendlebury Extension at Pendleton Royal Hospital, completed in 1885; John Street Board School completed in 1862 and since demolished; the Working Class Movement Library, a former Salford Royal Nurses' Home completed in 1901; Salford Lads' Club completed in 1904; and the Municipal Secondary School for Boys in Leaf Square completed in 1912, and since demolished (The Victorian Society, 2018a). The latter is where today's Allerton Building was built to house the Peel Park Technical College in 1967 (Chapter 7). Like the Maxwell Building, the Allerton's architecture represented a contemporaneous vision for education and differed to many of the other larger buildings in the vicinity which were more closely aligned to the Peel Building.

During the 1940s, the College was impacted by legislation aiming to create a more equitable educational system. The *Education Act* (1944) affected the United Kingdom's economic development through a national "a wave of idealism" (Argles, 1964, p. 83). This created a welfare state with support of further publications including *The Beveridge Report* (1942). This *Report*, crafted a blueprint for social services, including the creation of the National Health Service, a building programme of national council houses, pension and benefit increases, and extended the country's educational obligations (Hickson & Williams, 2022). The *Education Act* (1944), produced in response to many of *The Beveridge Report* (1942) recommendations, addressed the inequalities that existed between Grammar, Modern, and Technical Schools to ensure students had access to high-quality education regardless of their background (Harwood, 2010). *The Act,* described by *The Times* as "one of the most important and far-reaching reform measures" (Lord Butler, 1982), was instrumental with rebuilding the sector and was "symptomatic of a profoundly changing society" (Argles, 1964, p. 58). Schools were redeveloped and built as the government

invested in construction to accommodate rising student numbers. For technical education, there were recommendations to construct new colleges as the government acknowledged the importance of a skilled workforce. The aim was to increase opportunities for people to acquire new skills and knowledge, so they were able to contribute to economic growth. The scale of the national building programme continued in to the 1960s, and as much as large parts of the *Act* were refashioned, Gordon (1975, p. 126) claimed the aspirations were still admired by Salford's staff and "modern educational innovators."

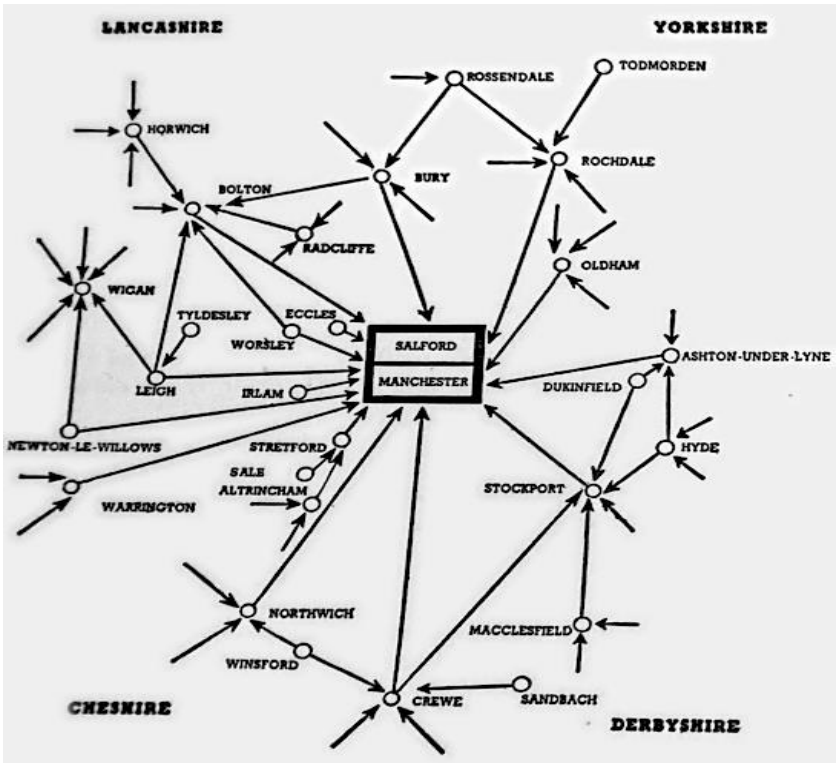


Figure 16: Diagrammatic map (Venables, 1954, p. 11). Student navigation of technical colleges across the northwest of England.

From 1945-1950, the country's student admissions were in a robust position with growth mainly seen in the number of science and technical studies students. The country's broader aim for a larger scientific and technologically minded workforce became more aligned with the vision

of a progressive society that manufactured products for a worldwide capitalist community (Argles, 1964). To support this, the University Grants Commission reinforced numerous reports and proposals by organisations such as the Parliamentary and Scientific Committee, the British Association, and the Association of University Teachers. Each paid attention to the sector's scale, specifically the role of universities and argued for continued financial support. In particular, the *Percy Report on Higher Technological Education* (1945) gained sector wide attention by analysing the function, character, and responsibility of skills providers.

The *Percy Report* (1945) outlined new proposals, and while many recommendations were successfully passed, with their chain of effect seen in the following years, others were not as successful. The report's impact might be said to accountable for the slow changes that the Royal Technical College, Salford, experienced until 1956 and the issuing of the *White Paper on Technical Education* (1956). Gordon (1975, p. 128) re-iterates, "true its recommendations were in the long run accepted, but it took over ten years for the designation of advanced colleges and for the creation of a Diploma in Technology award." One successful outcome was the development of the Regional Advisory Councils which played a crucial role in scrutinising and advising on matters related to Salford. However, as Price (1959, p. 25) noted, confirming ideas around more complex courses were not as effective. By this point, Salford was well-established and regularly providing operational and behavioural information to the Advisory Council. The continued growth necessitated the acquisition for more space and campus expansion.

To advocate the *Percy Report's* ideas around expansion, equipment inventories were supplied to the Ministry of Education to highlight deficiencies and determine the needs for additional supplies for specific courses, such as electrical installation and woodwork. Other courses, including mechanical engineering and physics, were unaffected by a lack

of equipment as they operated at the optimum levels imposed by the Ministry. Similar activities helped to support and grow stability across the College's departments. As the College strengthened industrial links by creating new courses with national companies such as Metropolitan-Vickers and Maconochie Bros of Stockport (Gordon, 1975), more locally based organisations increased their confidence in the value of vocational skills and the College's role in delivering these types of education to their emerging workforces. The School of Podiatry is an example of flexibility in responding to the demands of both industry and society. The School lacked primary equipment and space that led to a brief period using Peel Park's Superintendent's house. After shortages in construction materials forced them to use facilities in Ancoats, Manchester, and then on Salford Crescent (Salford, 1949), they continued to adapt before finally moving to a permanent home in the Allerton Building.

The University of Salford's Golden Jubilee (50-years established) in 1946 marked an occasion to celebrate the College's achievements and promote future plans. Departments produced brochures, arranged open days for prospective students and invited senior dignitaries to attend, including the Labour Minister for Education, Miss Ellen Wilkinson, MP (1891-1947). Principal, Sir Eric Richardson (1905-2006), highlighted the institution's outlook and ambition. At the start of World War II, the Board of Education urged the Governors to expand due to the inability to accommodate a growing student population. A decade later, the College had progressed considerably, Gordon (1975, p. 118) elaborates, "how much more, therefore, might the ministry be expected to support the College in its ardent desire to expand physically." The Peel Building operated at maximum capacity for a total population of 4,370 students (full and part time), a record compared with 2,818 students in 1938. Courses, diplomas, higher national certificates, and degrees all grew, as did student successes and memberships with professional bodies. A knock-on effect of these positives ultimately impinged future admissions; the space limitations

hindered prospective students with a potential need to decline new applicants. Figure 17 highlights some of the temporary accommodation and spaces used by the College. These facilities were mainly “found in widely scattered, unsuitable premises” (Stewart, 1960, p. 13). When accessible, facilities on the Crescent opposite the campus served as a solution. These were later demolished to make way for Salford’s new Police Station in 1957.

Figure 17: Salford Crescent *(Royal Technical College Salford, c1920)*.

Richardson left in 1947 and was succeeded by Sir Peter Venables (1904-1979). Gordon (1975, p. 131) witnessed a new “Principal whose academic abilities were formidable, whose organising ability was excellent and whose capacity for concentrated work was prodigious.” Administrative staff held a similar view of Venables describing “a man of vision” (Wolfendale and Ward in Gray & Hayes, 1992, p. 70). However, the ongoing problems ensued with student numbers doubling, theory classes held in laboratories, a cloakroom served as a classroom and the canteen

accommodating different classes at a time (Gordon, 1975, p. 133). The new Principal was immediately aware of the challenges, and within a month, he had collected enough evidence to convince the Governors concerning the main problems associated with teaching and accommodation. Rapid expansion occurred from 1947-1950, particularly through science and technology-based courses and the introduction of sandwich courses. The Department of Building and Civil Engineering launched new three-year courses and developed Higher National Certificates. The Department of Pure and Applied Physics' two laboratories were used almost continuously after they became a separate entity, having previously been part of the Department of Electrical Engineering. The change in status also recognised the Department's development from solely providing service work to organising their own independent academic courses with Ordinary National Certificates. The Department of Electrical Engineering continued to flourish. While far from ideal, securing external facilities in Gardner, Woodbine, Mount and Hankinson Street was detrimental to new classes, "otherwise expansion would have been extremely difficult" (Gordon, 1975, p. 133). Similar issues affected the Department of Chemistry upon the release of their part-time day courses. Their success meant overflow courses were at Stretford Technical College, Manchester.

Nevertheless, the lack of space encountered by the science and technology-related departments did not deter student marketing. An example is Royal Technical College Salford (1951). An exhibition that encouraged future student admissions as part of regional events for the national 1951 Festival of Britain. The School of Art collaborated with the city's Mayoral Department to design educational displays, with the final exhibition held at Salford's Museum and Art Gallery. Festival of Britain organiser, Sir Gerald Barry (1898-1968) said the directive was a "contribution to civilisation, past, present and future, in the arts, science and technology, and industrial design" (Barry, 1961, p. 504). Like the

College, the objective was to acknowledge the past while incentivising the future.

As well as students, growth continued across the College because teaching staff ensured admissions and enquiries were met. Infrastructure, such as telephone facilities to provide three external lines, twenty extensions and a switchboard installation was improved (Wolfendale & Ward in Gray & Hayes, 1992, p. 72). As the student population grew, the focus shifted from evening classes to sandwich courses which continued to affect space and a shortage of suitable accommodation. Until the Maxwell Building started to admit students from 1959, external venues across the city, as well as the adjacent Museum and Art Gallery, were critical to the course delivery and overall operation.

The situation was far from desirable and unsatisfactory conditions finally led the Governing Body to initiate conversations with the Lancashire County Council Architect's Department in 1947. The meetings discussed future expansion and what this meant to the Peel Park campus. Venables led the dialogue with the first architect to the Governors, George Noel Hill (1893-1985). The Governors and the County Architect's initial ideas to immediately expand north of the Peel Building proved unsuccessful, due to unsatisfactory site surveys and ground borings tests in 1948. The results meant that along with the city's minimal land availability, planned architectural work in Peel Park was in abeyance, "pending the acquisition of an alternative site in the city" (Hill, 1959, p. 2).

A year later, Salford City Council put forward a proposal to use an entirely different and externally disconnected site, separated from the immediate Peel Building. Positioned where Salford Crescent intersects Chapel Street, at the crossroad with Adelphi Street and Oldfield Road, the plot was situated behind the former Transport and General Workers Union offices (an art deco inspired curved building completed in 1937 and demolished in

c1996), opposite the former Adelphi Girls Grammar School, known today as Adelphi House. Figure 18 is captured from Adelphi House, a large Georgian building which is today owned by the University. In the image, the view extends towards the River Irwell, showing a newly developing and landscaped Crescent Meadow. In the far distance is Pendleton. Centre of the image is the neoclassical limestone façade of Helmsley House, a feature which remains today. In the background, the former Christ Church at Acton Square, completed in 1832 and demolished in 1958 (History, 2014). Prior to its re-routing and infilling, the Manchester, Bolton and Bury Canal passed behind this area. Despite Acton Square being earmarked for redevelopment by the University and Council, most of the buildings were retained, resulting in minimal demolition.

Figure 18: Adelphi Girls Grammar School (Royal Technical College Salford, c1954a).

5.1. Planning the initial modernist building, 1949-1955

Salford City Council's proposed plot of land measured 8.75 acres and was deemed more than suitable for the construction of a new building for the Royal Technical College, Salford [Figure 19]. However, the County Architect, George Noel Hill was against the idea put forward by the Council's City Engineer. In addition to challenges in obtaining the land which involved costly compensation for licensed premises and rehousing tenants, Hill's immediate concern was noise pollution as the plot was bounded on three sides by bus and tram routes, and a goods railway siding. More importantly were his reservations regarding future growth opportunities (Hill, 1949; Hill, 1949a; Minutes 7 September, 1949). This subchapter explores the early architectural planning process for the Maxwell Building and the relationship between the College and the County Architect's Department.

Figure 19: Proposed site (Britain from Above, 1951). Top right, the Council's proposed site. Centre: Adelphi Iron Works; bottom left: Adelphi Building.

Due to the city's limited land availability, Hill (1949a) believed that an altogether different site was more effective. However, when the County Architect's proposed expansion beyond the city's immediate boundaries, he encountered serious objections. This led to a reconsideration of the immediate areas around the Peel Building, and the first suggestion to build in Peel Park (Hill, 1959, p. 2). Just before 1950 commenced, architectural sketches were developed in conjunction with the Governing Body and subsequently presented to the Council's Parks and Cemeteries Committee. Hill's team developed ideas for the park's south side, east of the Museum and Art Gallery and fronting onto Salford's Crescent Road (A6), where there was space and the possibility "to erect five-storey buildings on this site" (Royal Technical College Salford, 1949b). These ideas were dependent on ground suitability reports which assessed the land condition and the overall appropriateness for large construction. The new location covered approximately 19,045 square metres and was more than the Principal's initial request of 14,214 square metres. This selected location, secured through an Act of Parliament obtained by the Governors, reflects the University's earliest vision with ideas to cultivate a close-knit campus.

As a municipal park, similar to Manchester's Phillips Park and Queens Park, Peel Park was purchased from the Lark Hill Estate by public subscription, opening in 1846. In 1849, Salford City Council authorised the use of the estate's mansion house for an educational facility which became the city's Royal Museum and Public Library in 1850 (Salford Museum and Art Gallery 2018). This building exemplifies architecture of a revivalist and classical style. Also located on the plot was the former Park Keeper Superintendent's house, designed by architect John Edgar Gregan (1813-1855) and completed in 1849 (The Victorian Society, 2018d). This building displayed classic Victorian architecture with paired chimneys and a pitched hipped roof (The Victorian Society, 2018b). Figure 20 illustrates the Salford Museum and Art Gallery (and Langworthy Gallery, completed

in 1878 to architectural designs by Henry Lord) with the location of the Peel Park Superintendent's house.

Figure 20: Peel Park Superintendent's house (Royal Technical College Salford, c1950a).

The County Architect's Department carefully considered the new location and the broader infrastructure, prior to conducting ground investigations and presenting their final architectural plans to the Parks and Cemeteries Commission. In December 1949, a meeting of the Governors necessitated the creation of an architectural scale model for the proposed project, aiming to understand the surrounding area and to facilitate further assessment (Hill, 1959, p. 2). Venables was confident of the design proposals and the final architectural model that Hill, and his team created. On behalf of the Governors, he expressed the College's full support to the local authorities. The plans were instrumental in bringing the proposed expansion to fruition by carefully assessing how well the site fit with the surrounding infrastructure. This ensured that all the individuals and organisations involved could evaluate how the buildings harmonised with the existing topography.

Hill's first model was impressive, grand, imposing (almost austere) as the design retained a similar aesthetic to the neighbouring buildings by utilising brick and stone. Amid the modest ground floor appearance, the main entrance on the Crescent, comprised an additional west entrance, and a covered arch walkway adjacent to the River Irwell. Aside from the modernist circular atrium corresponding stairwell above the formal ground floor block that exuded a distinct European design aesthetic, Hill's modelling embodied civic municipal traditionality and conformity. Figure 21 shows the County Architect's Department initial scale model for the extension of the Royal Technical College, Salford and how it differed to subsequent architectural plans which followed from 1952. The Council's Parks and Cemeteries Committee agreed to the site on 25 January 1950 (Hill, 1959, p. 2).

Figure 21: First architectural model (Royal Technical College Salford, 1950a).

After the unsuccessful attempt to build immediately next to the Peel Building, news of the College's recent desires to expand quickly spread. The *Manchester Evening News* (1950) reported, "Technical College may sandwich Art Gallery," a reference to the Peel Building and the new construction proposals opposite. Before an agreement was reached on

the location, Salford City Council imposed three stipulations. First: the submission of final architectural drawings and floor plans; second: a need for satisfactory financial arrangements; and third: suitable provisions for the relocation of the park's Superintendent house (Royal Technical College Salford, 1950d).

To understand the magnitude of the new building and the architectural ideals, meetings took place between the Principal, Governors, senior education officers and the County Architect's Department. Hill's team were given the go-ahead to initiate the process of sinking boreholes for a thorough evaluation of the ground's appropriateness and load bearing qualities [Figure 22].

Figure 22: Peel Park site boring (Royal Technical College Salford, 1950e).

The boreholes took approximately nine months to undertake and were completed in 1951. At the time, further sketch plans were prepared, followed by 12-18 months to produce detailed working drawings, and to arrange construction tenders. Hill believed the scale of the project meant

the building work was impossible to start before 1953. Additionally, local private architectural firms were no better positioned to undertake the scheme due to the size and complexity (Royal Technical College Salford, 1950c). If the Ministry of Education requested a phased construction approach, then the overall completion would be affected and unable to become “a reality before the end of 1956” (Royal Technical College Salford, 1950c), or much later. As a result, the decision to proceed in stages led to the architectural design and construction to be undertaken in three phases. Phase I, II and III caused ripple effects on the overall planning process.

The County Architect’s Department benefited from the Principal’s Schedules of Accommodation that aligned with the projections from 1948, and were in agreement with necessary consultations with the Ministry of Education (Royal Technical College Salford, 1950c). However, as the Maxwell Building was a new construction project in a completely different area of the campus, revisions were inevitable. These had to be quickly turned around in the hope of meeting the Ministry’s building programme and receiving appropriate financing for 1953-1954. Conversely, the Ministry and National Advisory Council changing requirements meant there were further ongoing adjustments. One sector-wide circular, *Education for Industry and Commerce* (1950), had “implications and possible repercussions” (Royal Technical College Salford, 1950b) if not promptly addressed. All of this meant the Principal had to effectively communicate curriculum changes to the County Architect. This close working relationship between the two was crucial in meeting the official shifts in guidance issued from the government. This constructive partnership ensured that plans and estimates were submitted in a timely manner.

The architectural plans in 1952, different to Hill’s previous modelling, are a result of the work and submissions to the Ministry of Education from October 1950 to September 1951. This secured the Maxwell Building’s

progress (Hill, 1959, p. 3). The changes from the Ministry and National Advisory Council led to architectural designs that are more aligned with the building today (discussed further in Chapter 7). In addition to the main teaching block, Governors were keen to increase the social and recreational facilities, changes that mainly affected the hall. As well as student use, the intentions were for the public and local community to benefit from the hall's facilities outside of the College's core hours. Venables (1954, p. 20), believed this was a "considerable addition to the amenities of the City." New plans were submitted for final approval at the start of 1953. The Parks and Cemeteries Committee agreed to the scheme on the condition that a protruding gymnasium [Figure 23] was re-sited due to concerns regarding the open public space.

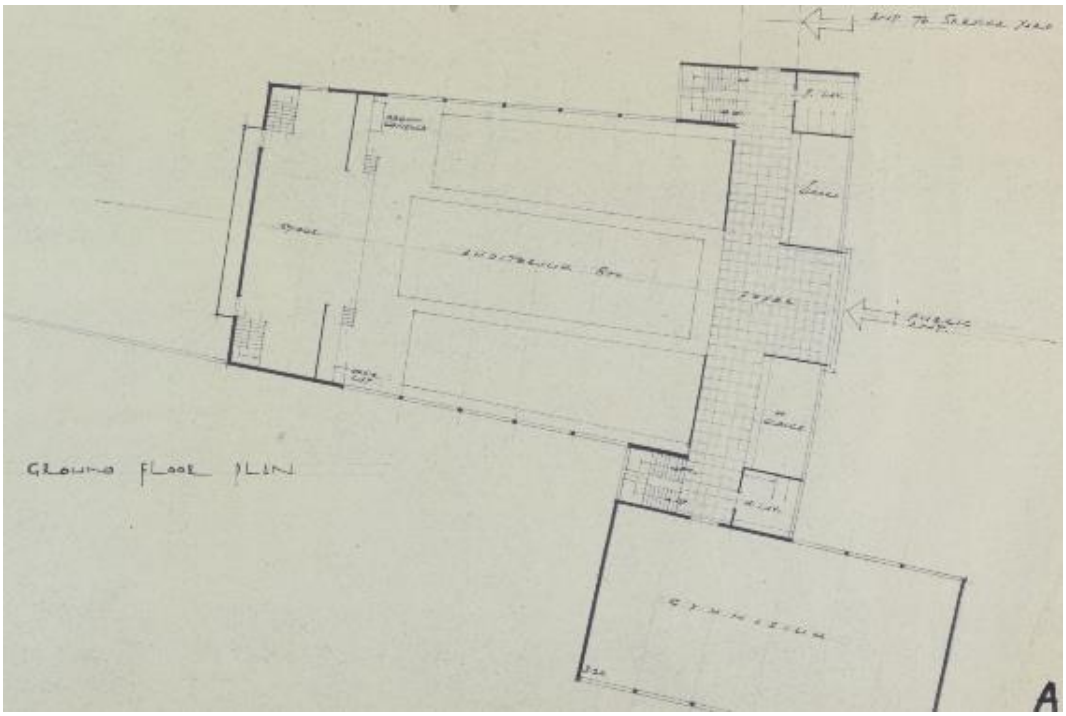


Figure 23: Detail: Maxwell Hall gymnasium (Lancashire County Council, 1952a).

The Ministry of Education authorised Phase I of the construction schedule in 1953. This included work to the building's foundations, the pilings, the sub-basement levels and the smaller five-storey block facing Peel Park. Further demands from the Ministry, such as *Bulletin No. 5*, and *Ministry of*

Education Circular 245, led to continued modifications. Some of these changes included the need to remove bakery rooms to create more space for science related courses. The Ministry's narrative focused on science and technological courses that led to regular space reconfiguration to accommodate more progressive disciplines, including electrical engineering, mechanical engineering and physics (Royal Technical College Salford, 1952). These adjustments affected the architectural design process with amendments to workshops, laboratories, studios, classrooms, lecture rooms, and social facilities. The County Architect and Principal regularly engaged in ongoing dialogue with the Ministry's architectural team, making estimations and modifications to meet their standards. This dynamic nature and relationships, influenced by evolving legislation, highlight the meticulous attention given to the architectural process to meet the College's future vision [Figure 24].

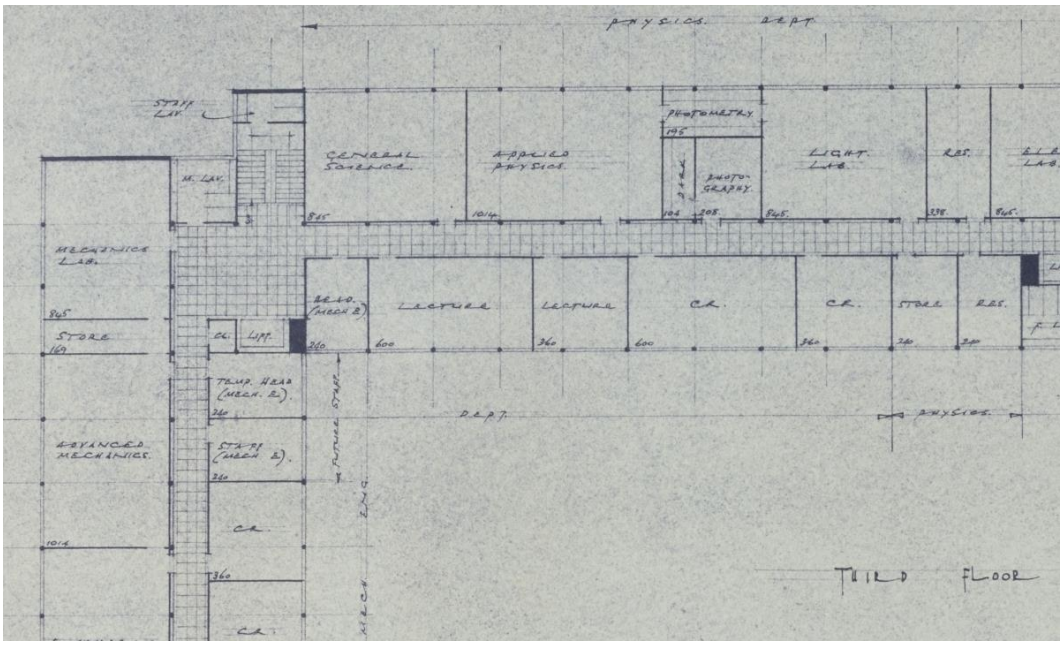


Figure 24: Third floor detail: Departments of Mechanics and Physics (Lancashire County Council, 1952b).

The Ministry of Education's announcements regarding the expansion plans garnered considerable press coverage. The *Salford City Reporter*

(Plans Delight, 1952, p. 1) announced that "Technical College Plans Delight the Council," praising the County Architect and his team and commending their submitted designs to the city's councillors as a striking architectural scheme. An architectural sketch of the proposed building was featured, which showed the Hall's protruding gymnasium prior to the redesign [Figure 25]. The article emphasised how pleased the Council was with the modernist architectural form and aesthetic exhibiting an unexpected richness. The College's architectural vision was believed to be a meaningful contribution to supporting the city's future development.

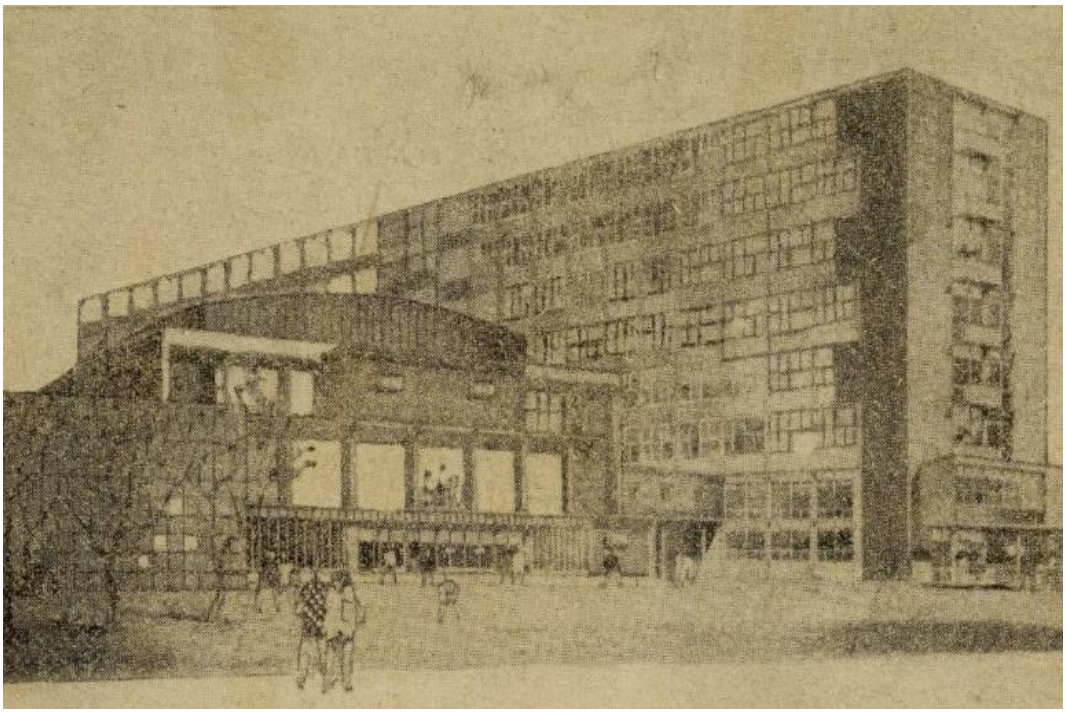


Figure 25: Architectural sketch (Plans Delight, 1952, p. 1).

In addition to the role of serving as an educational centre, the new hall extended to the Crescent to facilitate broader public functions in proximity to Pendleton. The *Reporter* specifically highlighted the hall's design and expressed how the completed building fulfilled one of Salford's greatest needs i.e., to create a new civic amenity that placed "the city in the centre of the political and social map" (Plans Delight, 1952, p. 1).

All of this indicated the expected positive impact of using modern architecture and planning. The new building plans accommodated a total population of 6,000 students at varying levels of study and participation, reflecting an expanding capacity and the ability to serve a larger catchment area across the northwest of England. The press coverage portrayed the architectural designs as a great achievement and accentuated the Council's optimistic reception of the College's expansion and construction intensions. A year later, in 1953 (Royal Technical College Salford, 1953a), Salford City Council were considering relocation proposals for Peel Park's statues that paid tribute to Joseph Brotherton (1783-1857), Richard Cobden (1804-1865), and Sir Robert Peel (1788-1850). Ideas included high footfall areas near Broad Street and Oldfield Road.

Figure 26: Pre-construction site (Royal Technical College Salford, c1950b).

The Ministry of Education's preference for phased construction based on funding allocations meant the Schedules of Accommodation had to consider the largest school departments first. This determined their specific requirements for bulky equipment, needs for hard-standing surfaces, and specialist workshops that were mainly spread across the

lower floors. This staggered process affected courses in the Departments of Building and Civil Engineering, Electrical Engineering, and Mechanical Engineering. Until 1956, the Ministry's funding was primarily for essential engineering-related industries, with smaller amounts allocated to non-essential facilities. The financial backing was given for the 1954 building programme (Royal Technical College Salford, 1953b), but only after further objections by Salford City Fire Department had been resolved (Hill, 1959, p. 3). Salford City Council agreed to the construction to commence from 1 April 1954, a date that signalled the start of larger educational ambitions and physical development to the campus. The Ministry's approach to phased funding and construction, and the necessary approvals from relevant authorities were critical to this period.

The County Architect worried about the transition between subsequent stages, believing that a smooth progression would be more beneficial and achieved by working with the same contractor for Phase I, II and III. Using the same contractor was a solution to a smoother construction process and was more efficient in regard of time and minimising potential setbacks that could arise from different companies (Royal Technical College Salford, 1953c). A sole contractor was ultimately commissioned. The Governors accepted a tendering proposal from John Turner and Sons (Preston) Limited after considering ten companies who presented their proposals to both local authorities. The selection process was a crucial step in moving the construction project forward with the County Architect ensuring a seamless progression throughout the three building stages. The subsequent phases were confirmed as part of the Ministry of Education's' 1955-1966 building programme. The architectural planning and design process for Phase I and II by County Architect's Department was acknowledged by the Governors at the start of 1954 *(Royal Technical College Salford, 1954c)* as "excellent work."

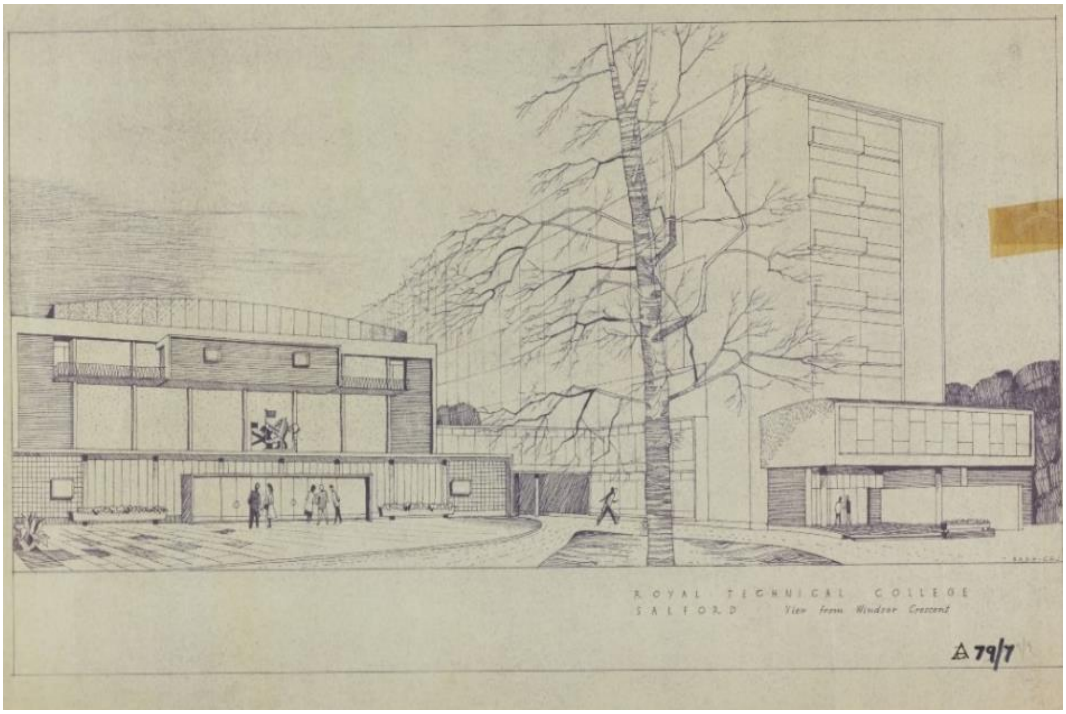


Figure 27: Architectural sketch (Lancashire County Council, 1953). Maxwell Building and Hall from Windsor Crescent with redesigned pedestrian concourse.

In addition to the new building and addressing ongoing circulars, such as the Ministry of Education's *Circular 283,* the Governing Body voiced their concerns to the Parks and Cemeteries Committee about the external car park and for parking to cease in the immediate area at the front of the campus (Royal Technical College Salford, 1954b). As part of Phase II and to support Phase III, the County Architect's Department produced car park designs to incorporate 200 bicycles (sheltered), 110 motorcycles, and 120 cars. From 1958 the plans supported the City Engineer (Lancashire County Council, 1954) in designing the newly founded Peel Park Technical College (see Allerton Building, Chapter 7). In the *Report on the Proposed College Extensions* (Venables, 1954), Venables outlined the progress and reviewed the ongoing Schedule of Accommodation. The report highlighted the challenges associated with temporary accommodation that most Department's experienced and reinforced the construction as a solution to the shortages in teaching space. The Ministry had grand expectations for Salford in meeting the requirements of the rapidly advancing technical

education sector, at both local and national levels. They stressed the importance of providing high standards with new equipment and accommodation, along with highly qualified teachers who had the autonomy to effectively plan the curriculum. The report expressed the future intentions in stating that expansion would “proceed as smoothly and as quickly as possible to enable the college to fulfil its function as a thoroughly modern, regional College of Advanced Technology” (Venables, 1954, p. 26). The endeavour was to construct new buildings grouped together and create a clearly defined campus that reflected increased capabilities and up to date facilities. A collaborative effort and shared vision between of all the parties involved was instrumental to navigating the highly changeable environment imposed by the Ministry.

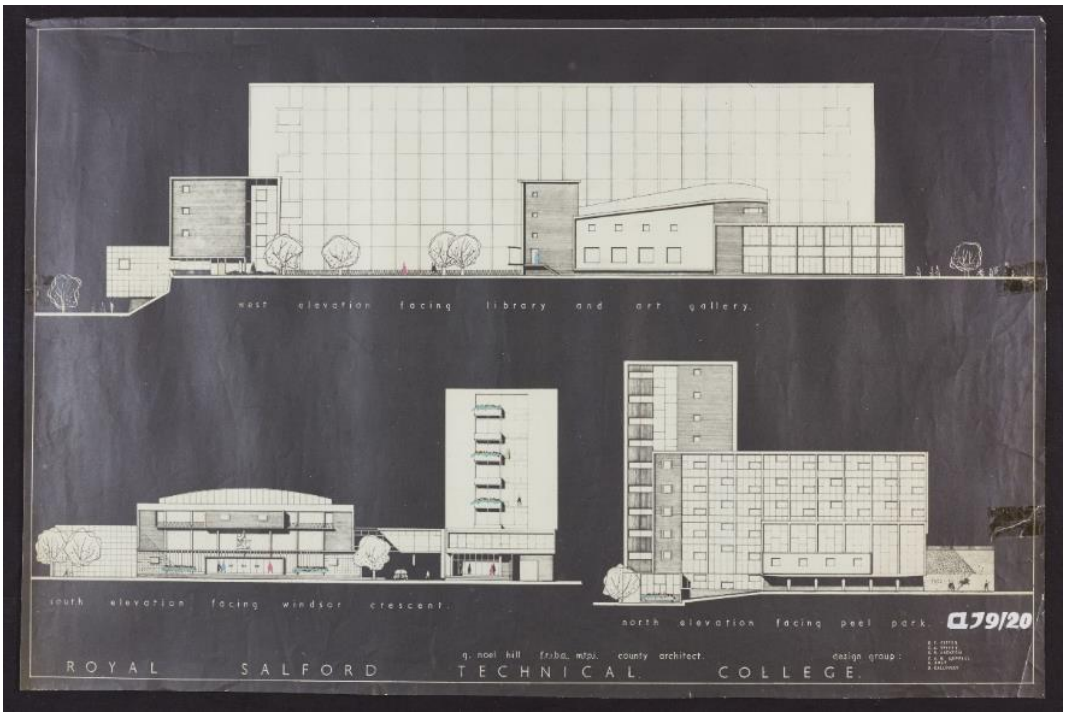


Figure 28: Architectural elevations (Lancashire County Council, c1954). Maxwell Building and Hall.

On 27 February 1955, a major setback occurred, and construction ceased due to a potential alteration in the College’s status [Figure 29]. Following the government’s directions, the Governors conveyed instructions to the

County Architect, rendering many of the completed drawings and schedules obsolete. Hill said: “the impact of this decision on the job was very far reaching and the work of three Architects, two Engineers, and a Furnishing Specialist over a period of 12-months was rendered abortive” (Hill, 1959, p. 3). This turn of events necessitated the need for completely new drawings, particularly for the complex courses for physics and chemical engineering introduced in subsequent years. Specific rooms now had to accommodate specialist materials and equipment, including a potential Cobalt Bomb; a radioactive weapon obtained from the Atomic Energy Commission. The impact of introducing highly advanced courses profoundly impacted the overall architectural process, with construction delays to Phase II and the detailed designs in Phase III. This period, associated with the incoming *White Paper on Technical Education* (1956), was supported by the County Architect's ability to swiftly adapted and restart their technical drawings to accommodate larger unforeseen institutional changes.

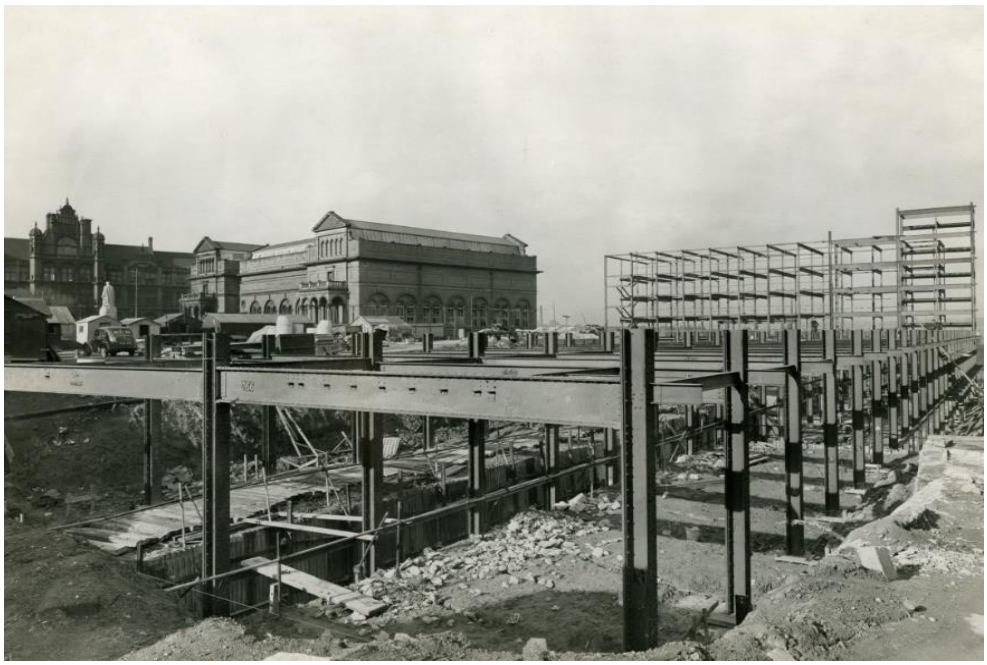


Figure 29: Construction site (Royal Technical College Salford, c1954b). Prior to the pause.

6.0. Transitional education and modernist architecture, 1956-1964

From 1956 to 1964, the Royal Technical College, Salford, experienced momentous changes as the curriculum diversified, student numbers continued to rise, and there was a continued demand for architectural planning. The *White Paper on Technical Education* (1956) claimed if the pace of industrial change did not increase, then "British industry may fall behind in the race" (Minister of Education and Secretary of State for Scotland, 1956, p. 211). The urgent need for technical education was evident, driven by the imperatives of competitiveness and modernisation as promoted by the Robbins Committee Report (1963). Chapter 6 focuses on the impact of these reports and how the College responded to their stipulations, by implementing systematic growth through the design of the first architectural masterplans.

Figure 30: Maxwell Building construction (Royal College of Advanced Technology Salford, c1956). Phase I. Background: Salford Crescent.

6.1. The Impact of the *White Paper on Technical Education* (1956)

According to Venables (1978, p. 7), the Royal Technical College, Salford adhered to a wider sector undergoing a “substantial and far-reaching” transition. As well as a skilled workforce in science and technology, engineering played a crucial role in the country's economic position and similar to other colleges, Salford’s designation to a College of Advanced Technology led to major changes to this and other disciplines.

In 1955, under the Conservative leadership of Anthony Eden (1897-1977), the government decided to expand the scope of university-level work across selected colleges. The Lancashire County Council Architect’s Department responded to the Ministry of Education's fluctuating guidelines by implementing the necessary architectural adjustments to ensure that these were met. *The Guardian’s* architectural critic looked back at this period and humorously remarked on the architectural confusion with the Maxwell Building. Henry Lord, the predecessor to George Noel Hill, had faced many logistical and architectural design challenges. However, these were minor compared to the task of accommodating the College’s advancement to create an entirely different institution during the ongoing architectural commission (Stewart, 1960, p. 13). The Ministry’s sudden announcement created disturbance to the detailed designs and construction plans for Phase III. As a result, physical features from the alteration are evident today. These include the large rectangular unit projecting above the southwest reception, a kitchen unit requirement after the original scheme was agreed. The County Architect, Principal, and Governing Body worked in combined effect to address the modifications and made vital revisions to align the developing building design with specialist university-level work as advised by the Government. While these architectural changes no doubt involved uncertainty between the client, architect, and contractor, they were inevitable given the sudden swings of change in educational policy.

When the Maxwell Building admitted small student numbers from 1959, Stewart (1960) remarked on the campus working as a system akin to Parkinson's Law. By this point the County Architect's Department were already working on the design proposals for the first masterplan, their results published a year later in *Comprehensive Development Plan* (1961).

The effects of the *White Paper on Technical Education* (1956) led to a hierarchical redivision with the newly forming institutions. The paper identified vocational training and applied sciences across the colleges, and science and research conducted at universities. Salford received funding from a £70 million construction initiative the Ministry of Education had developed for buildings, facilities, and equipment for colleges divided in to local, area, regional and advanced colleges (Argles, 1964). By 1956, college's in England and Wales had approximately 18,000 full-time students in science and 11,000 in applied science (Department for Education and Science, 1964). Similar to other transitioning institutions, Salford experienced comparable growth to more specialised courses, both full and part-time.

The "increasing complexity of modern technologies" continued to impose strains on educating and developing the required student numbers (Department for Education and Science, 1964, p. 2). The Ministry's five-year programme remedied an increase in advanced courses from 9,500 to 15,000, by promoting full-time and sandwich courses and changes to funding so the newly formed colleges received 75% of government grants. As a result of this, Salford was fast-tracked to focus exclusively on university level work and had to institutionally segregate and shed the less advanced courses.

A new separate entity formed in 1958 which was the Peel Park Technical College. This former college provided for students who undertook non-technological courses such as catering, art, and craft courses (e.g.,

carpentry, joinery). Other colleges, such as Bradford Technical College and Loughborough Technical College operated similarly whereby they became two separate institutions - a College of Advanced Technology and a more localised area college (Department for Education and Science, 1964, p. 3). When Salford split, the County Architect's Department designed a series of block plans to consider the expansion of both Colleges (by 15,050 sqm and 6,689 sqm) and housing them together under one roof. The preferred location fell under Phase III and focused on the Wallness Road site. Final construction to the Maxwell Building and Hall commenced in 1958.

Discussions between the Lancashire County Council and Salford City Council in 1959, led to nine architectural block plan proposals, based on "the demolition of the Peel Building and the siting of Phase III of the Royal Technical College and Peel Park Technical College" (Royal College of Advanced Technology Salford, 1959a). However, the older residential houses within the Wallness Road area put constraints on the potential scheme, due to their exemption from the Council's immediate demolition schemes. Further ground suitability reports meant acquiring the land in and around the site had to be phased, based on the outcome of each report. These reports then required the Council to issue compulsory purchase orders and systematically re-house residents (Royal College of Advanced Technology Salford, 1958). Figure 31 demonstrates the County Architect's block plans. These were designed by considering multiple configurations to house both the Royal Technical College, Salford, and the newly formed Peel Park Technical College. Each plan utilised the enclosed space to satisfy the requirements of the Ministry of Education.

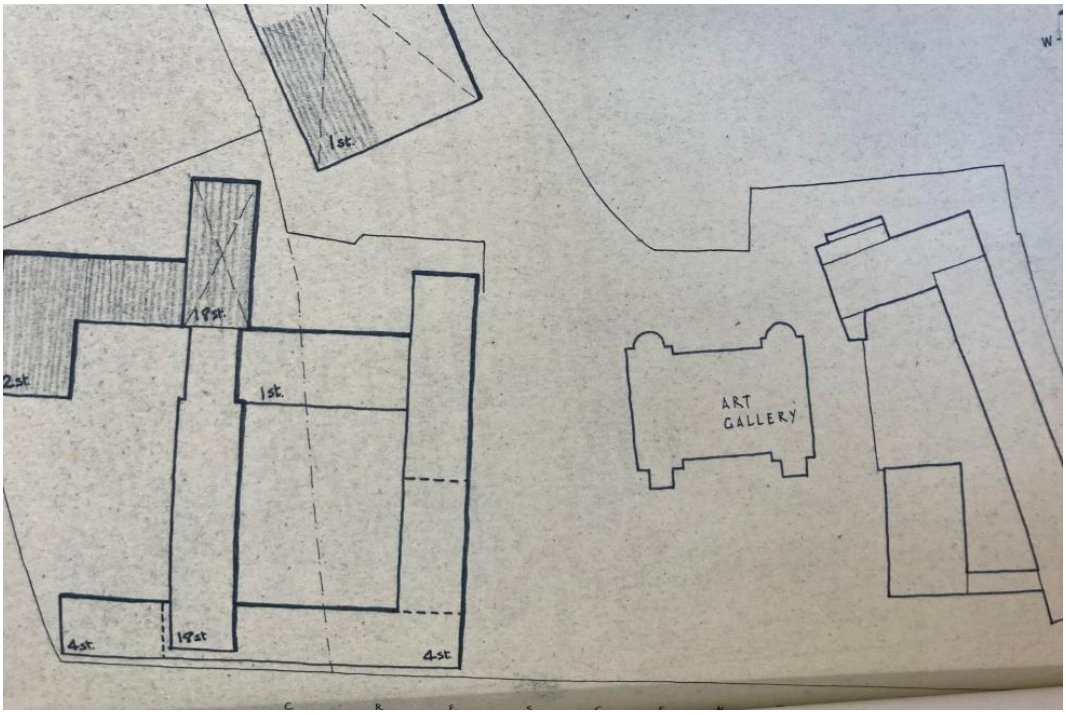


Figure 31: Detail: block plan (Lancashire County Council, 1959).

Shortly after the joint scheme gained momentum, the new Governing Body of the Peel Park Technical College had approved, subject to certain reservations, an altogether new plot of land at the nearby Leaf Square (Royal College of Advanced Technology Salford, 1959b). This sudden change of location was based on the Ministry of Education's further stipulations which advised the Royal Technical College, Salford, to continue expanding the campus from 15,050 sqm to 41,620 sqm, an upsurge of two and half times the current size (Simmons, 1961). The need to increase the scale and the sourcing of an alternative site for the Peel Park Technical College ensured that Phase III could progress smoothly and accommodate a full-time population of 2,500 students, with a further 50% expansion as requested by the Ministry (The Royal College of Advanced Technology Salford, 1962). However, Peel Park Technical College continued in the Peel Building until 1967, due to delays in the architectural planning and construction at the new site.

On the 2 November 1956, the Ministry of Education made a formal announcement to a series of administrative changes at the College. By 1958, Salford and seven other institutions were publicly announced as Colleges of Advanced Technologies. These included:

1. Battersea College of Technology (today the University of Surrey)
2. Birmingham College of Advanced Technology (Aston University)
3. Bradford Institute of Technology (University of Bradford)
4. Chelsea College of Science of Technology (part of Kings College London)
5. Loughborough College of Technology (Loughborough University)
6. Northampton College of Advanced Technology (University of London)
7. The Welsh College of Advanced Technology (Cardiff University).

In 1960, Bristol College of Science and Technology (University of Bath) and Brunel College (Brunel University) were also accelerated to Colleges of Advanced Technologies.

By May 1961, the relocation of equipment and staff from the Peel Building and transition to the Maxwell Building was altogether complete. The institution was fully operational as the Royal College of Advanced Technology, Salford within a new and fully modernised building.

In an interesting twist of events, there is an acknowledgement of the foundation stone for the Maxwell Building, positioned at the Peel Park entrance referencing the Royal Technical College, Salford, and the college extensions. The inscription, carved in Westmorland Greenstone featuring incised and gilt-finished lettering, was approved by the Governors in March 1956 at an estimated cost of £144 (Royal Technical College Salford, 1956b). The stone was carved, finished, and laid on 29 May 1956 by John Brentnall, Salford City Council Alderman (and later City Mayor 1947-1949) prior to the building's architectural modifications and the finalised details

regarding the change in status. By this point, the Governors were aware of the incoming changes to the institutional status [Figure 32].

Figure 32: Maxwell Building foundation stone (Royal Technical College Salford, 1956a).

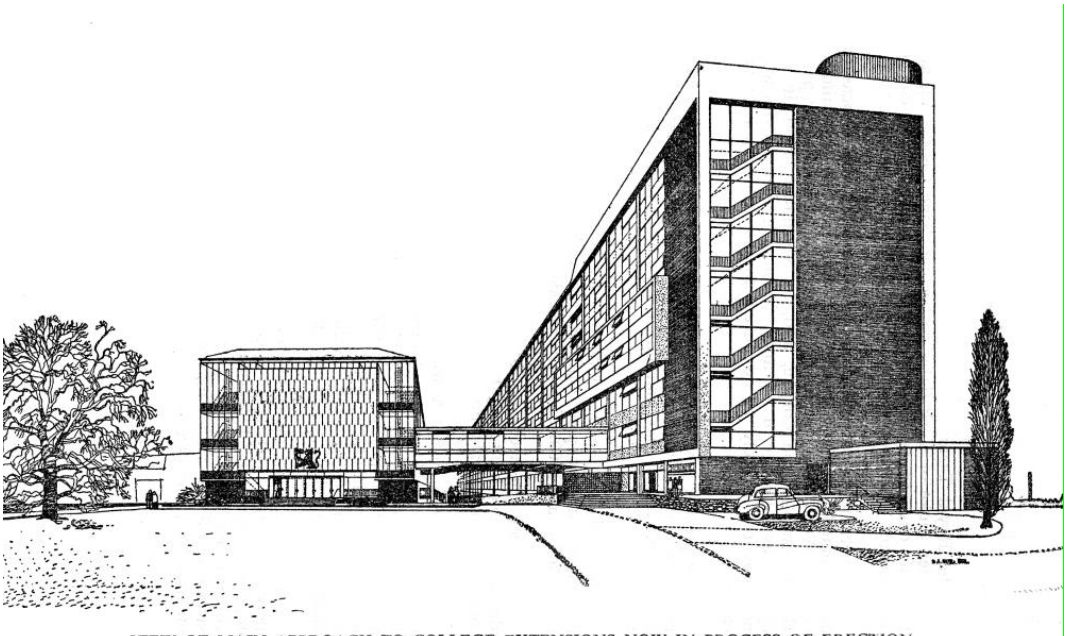
The College's new home (later renamed as the Maxwell Building and Hall), was constructed within the Ministry of Education's funding allocation of £10 million for the advanced colleges from 1956-1961. By 1963, £5.8 million was spent, with a further £4.7 million announced for 1964-1965 and 1965-1966. The allocation was doubled for 1963-1964 (Department for Education and Science, 1964). In the lead-up to the *Robbins Committee Report* (1963), the architectural requirements increased with the need for more buildings to meet changing requirements. The architectural plans commenced in 1961, but the construction of most new buildings required additional land which did not quickly materialise. Also, the University Grants Commission put additional pressure on the advancing colleges to house significant student numbers in residential halls ("Technical College Hostel Plans," 1958). Salford's aim to accommodate 500 students made

“serious demands on the city’s limited resources of land” (Much Land, 1958, p. 10). The planning applications were ultimately granted by Salford City Council and guaranteed the immediate Wallness Road plot, a site further away at Oaklands Road that became the location for the very first halls of residence, and public playing fields at Littleton Road. The latter two areas ran alongside the *Comprehensive Development Plan* (1961), requiring their own architectural schemes.

In 1956, the Principal, Sir Peter Venables left his post (Perry, 1979). Salford Education Committee praised his remarkable contribution during his tenure from 1947, acknowledging the invaluable role he played in establishing strong industry connections and promoting then modern pedagogy and technical education (From Salford to Birmingham, 1956, p. 12). Most notably, Venables formulated the Schedules of Accommodation that were central to the Maxwell Building’s architectural planning, in addition to his leadership and the introduction of sandwich courses.

In 1958, shortly after Venables’ departure, the County Architect Hill, retired. Hill was pivotal with Phase I and II of the Maxwell Building, from the initial design stage to construction. Charles Howard Simmons (1909-1962) succeeded Hill serving from 1958 until his untimely death in 1962. Simmons is credited with the final construction of Phase II and the completion of the main building and Hall in Phase III. Moreover, his legacy is recognised for his collaboration with Whitworth in designing the first architectural masterplan that continued Phase III. The *Comprehensive Development Plan* (1961) set a new architectural tone for the decade ahead, with the Maxwell Building and Hall central to this progress [Figure 33]. Figure 34 characterises the intent with the empty space clearly visible where the Museum and Art Gallery should be, signalling the intention to demolish older buildings and expand the campus from east to northwest.

Figure 33: Maxwell Building near completion (Royal College of Advanced Technology Salford, c1959)



VIEW OF MAIN APPROACH TO COLLEGE EXTENSIONS NOW IN PROCESS OF ERECTION

Figure 34: Sketch drawing (Royal College of Advanced Technology Salford, 1957, p. 2).

6.2. The *Comprehensive Development Plan* (1961)

By 1961, the Royal College of Advanced Technology, Salford was “responsible for all the branches of technology to a university degree and postgraduate level" (The Municipal Journal, 1961, p. 3056). The Maxwell Building housed seven teaching departments: Building and Civil Engineering, Chemistry and Applied Chemistry and, Electrical Engineering, Mathematics, Mechanical Engineering, Pure and Applied Physics, and the recently formed Liberal Studies (Royal College of Advanced Technology Salford, 1960c, p. 1; Sheldon in Whitworth, 1963, p. 972). This new building was intrinsic to Phase III, and was a major component within the *Comprehensive Development Plan* (1961) and subsequent *Major Development Plan* (1964) (Royal College of Advanced Technology Salford, 1960a)). Redeveloping the immediate land was vital to growth. Phase III could then successfully fulfil the College’s goal of attracting 4,000 students by 1970, 2,875 being undergraduates.

Figure 35: Sketch (Simmons, 1961, p. 10). *Comprehensive Development Plan* (1961). The Chemistry Block sunken courtyard.

Formally published in September 1961, the *Comprehensive Development Plan* (1961) considered the College's future strategy through a series of schematic designs created by the County Architect, Charles Simmons. Simmons worked in close cooperation with the Governing Body from 1960 analysing individual departments so he could understand their academic needs and ensure that the best architectural design could be produced by his team. His design process included visits to other institutions including Imperial College, London, the Universities of Birmingham and Liverpool, Aston University (formerly Birmingham Municipal Technical School) and the Atomic Energy Research Laboratory.

Figure 36: Sketch (Simmons, 1961, p. 12). Looking east toward the Chemistry Tower and lecture theatres.

More spaces were needed than originally anticipated, due to the recurring requests for more self-contained areas, additional floor space to accommodate specialist equipment and an altogether separate building

for the newly emerging nuclear sciences courses. As well as the future growth of departments, the plans included landscaping and revised the infrastructure such as car parking. Contemporary building materials included glass curtain walling and raw concreate for the main lecture theatre. Simmons (1961, p. 2) said the expectation for Phase III was for the College to "be equal in size to the new universities." This would meet the University Grants Commission's stipulations that universities should operate on sites of at least 200 acres in size. These plans aspired to this.

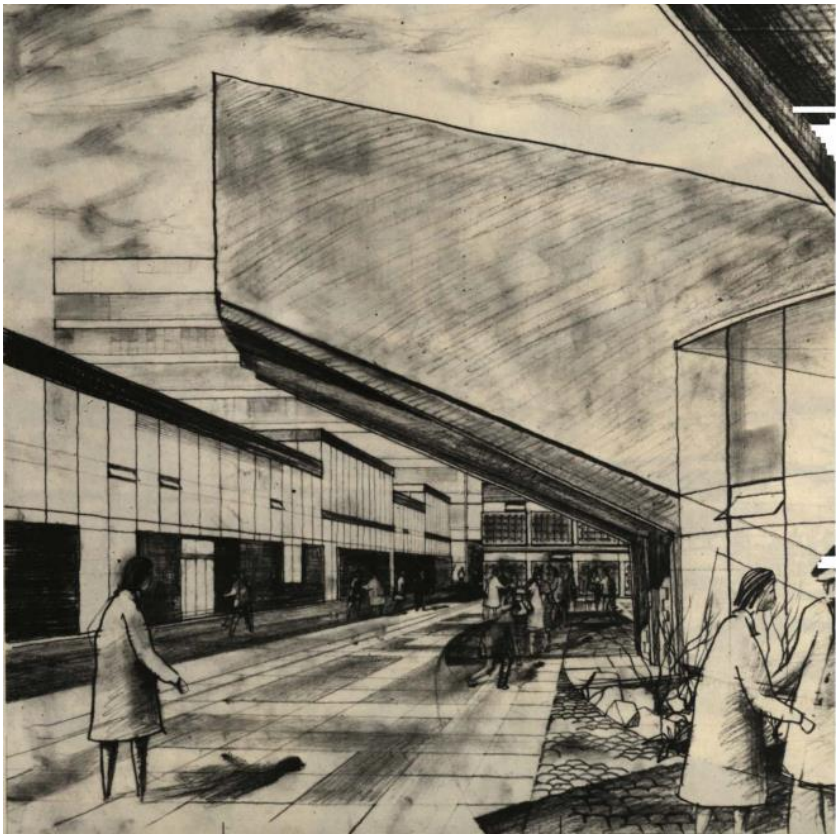


Figure 37: Sketch (Simmons, 1961, p. 11). Lecture theatre precinct.

Simmons incorporated a variety of growth sites at varying points of progress, potential and expectation [Figure 38]. The main areas identified for expansion included the northwest area of the Peel Building, the Wallness Road residential site; northwest of Salford Crescent Railway Station towards the former Leaf Square, and Statham and Withington

Street [Figure 39] area. Leaf Square was once the location of Belle Vue House (as painted by the artist Laurence Stephen Lowry (1887-1976), Belle Vue House, Leaf Square, Salford, 1925) on a corner plot of Frederick Road and Broad Street where today the Allerton Building is located. This former area comprised Georgian houses with buildings facing the square and their backs to Frederick Road. Leaf Square was one of several squares located near the Crescent. Other than a few buildings that remain on Broad Street, the Square was demolished and redeveloped as part of the *Ellor Street Redevelopment Plan* (1963). The Acton Square and Christ Church sites, south of today's Working Class Movement Library; the former Meadow Road campus that was northeast of the River Irwell and where the Brindley, Telford and Smeaton Buildings were located (Chapter 7); and the site of Kirkham and Ashtons Timber Yard, where today, the Chapman Building (Chapter 7), New Adelphi, and the School of Science, Engineering and Environment Buildings are. As well as the demolition of older buildings and infrastructure, the Bolton and Salford Canal was infilled between Acton Square and Salford Crescent railway station, running aside the campus.

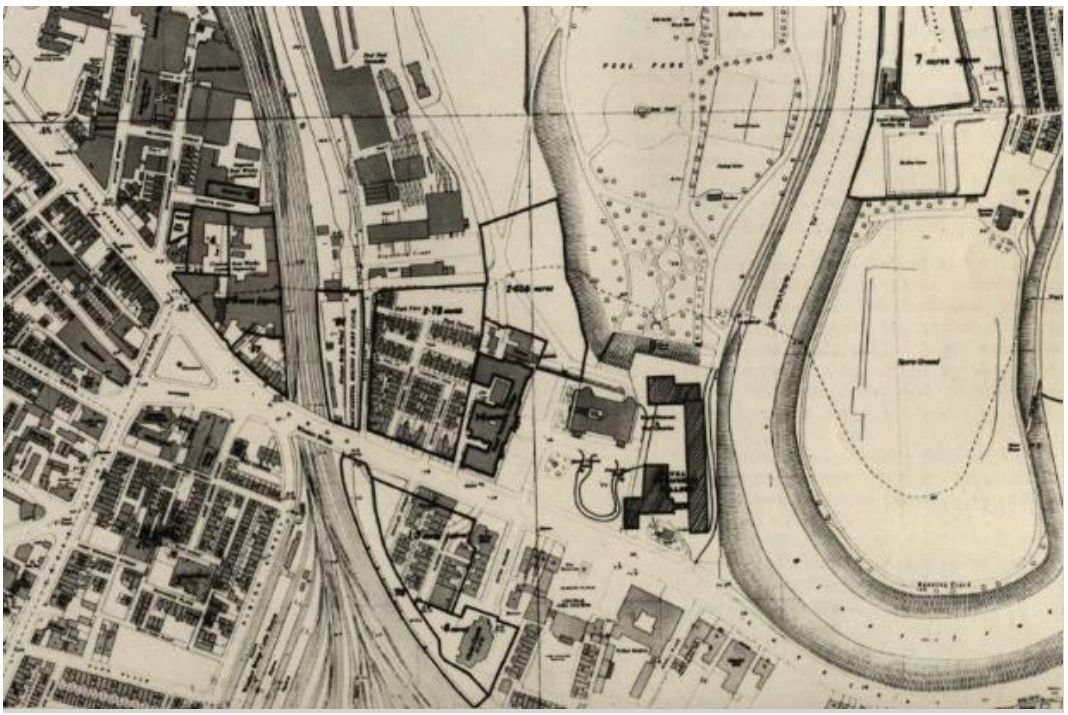


Figure 38: Proposed growth sites (Simmons, 1961, p. 6). *Comprehensive Development Plan* (1961).

Figure 39: Former Leaf Square (Britain from Above, 1949a). Ariel view: northeast from Pendleton toward Peel Park and Manchester.

Until further information was established concerning specific site requirements, the architectural planning for the Departments of Aeronautical, Mechanical Engineering, and Civil Engineering was deferred. Civil Engineering moved to the Meadow Road site in 1968, and Aeronautical and Mechanical Engineering remained in the Adelphi Building until 1976, when they finally moved to the Newton Building (Chapter 7). The projected availability for most sites was 1964-1965, apart from the Peel Building and the Museum and Art Gallery which were due to be completed in 1966. This was in accordance with Salford City Council's plans to construct a new art gallery in the centre of Pendleton, which did not materialise. Architecturally, the Chemistry Tower, Nuclear Sciences Block, and Staff House (each featured in Chapter 7) were the first buildings to undergo detailed design and construction, their anticipated completion for 1965-1966. These buildings were established on plots

already freely available, albeit based on the acquisition and demolition of the Museum and Art Gallery and Peel Building. The completion date for the remainder of buildings was 1969. Simmons (1961, p. 2) claimed the architectural masterplan helped to understand the magnitude of the proposed construction projects by acknowledging the College's location in a densely built-up area that presented "difficulties of acquisition of suitable land." The success of the plan, aimed at creating a cohesive building arrangement of various heights and shapes extending to a new campus core [Figure 40], depended heavily on an ongoing dialogue with the Council's Planning and Development Committee. This involved considerations of compulsory purchase orders, development intentions, and most importantly, a strategy to relocate the city's art collection in order to redevelop Leaf Square, paving the way for the release (and subsequent demolition) of the Peel Building

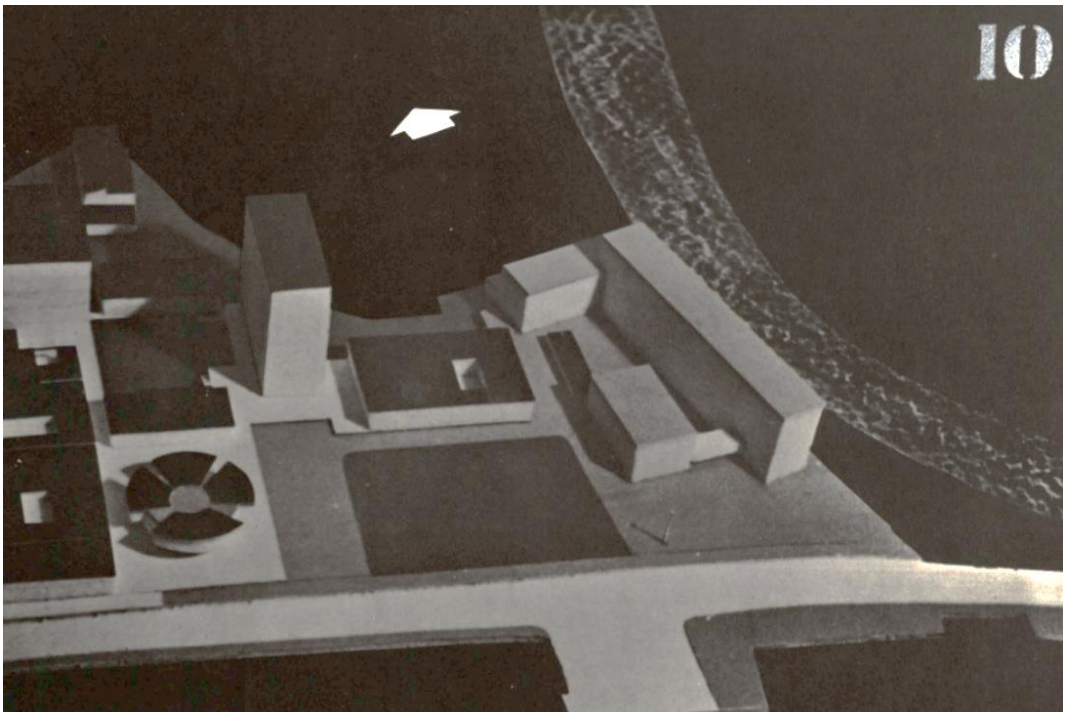


Figure 40: Detail: architectural model (Simmons, 1961, p. 15). *Comprehensive Development Plan* (1961).

The plan was designed on four principal considerations. First, the relationship of Phase III to Phases I and II. A communal area with dining rooms, swimming pool, a central library, and circular lecture theatre block were planned on the demolition sites (Peel Building and the Museum and Art Gallery). A new Computer Centre (Chapter 7) was designed simultaneously and completed shortly after Phase II. These buildings acted as a continuation for Phase III, linked by landscaping and pedestrian walkways. Proposals for the Department of Chemistry to move into a 14-storey tower also enabled space for the Departments of Mathematics' and Liberal Studies. At this stage, the architectural plans were not finalised for the Department of Building and Civil Engineering. Second, the form and character of new buildings was dictated by the functions and site requirements of individual departments and courses. Some of these included solid floors for heavy equipment, large laboratory spaces for specialist apparatus, vehicle access, noise and vibration considerations, and light requirements that affected the positioning within low or high levels of multi-storey blocks. The Nuclear Sciences Block was housed in a standalone building and required the support of a specialist consultancy due to the nature of the courses and equipment proposed by the Ministry of Education. Each of these elements determined the shape and position of separate departments. A central library facility was planned at the front of the campus, a departure from previous practice where most libraries were part of individual departments. The cloverleaf lecture theatre block and precinct area formed a prominent and visually striking feature from Salford Crescent. However, to demonstrate construction cost controls, Simmons designed an alternative plan to accommodate sliding budgets and restrictions. Considerations three and four was the nature and space between the proposed buildings with an allowance for 50% expansion. Buildings faced each other, with the plan's south elevation free from construction. A grass lawn created a welcoming open space from the main arrival points [Figures 41 and 42].

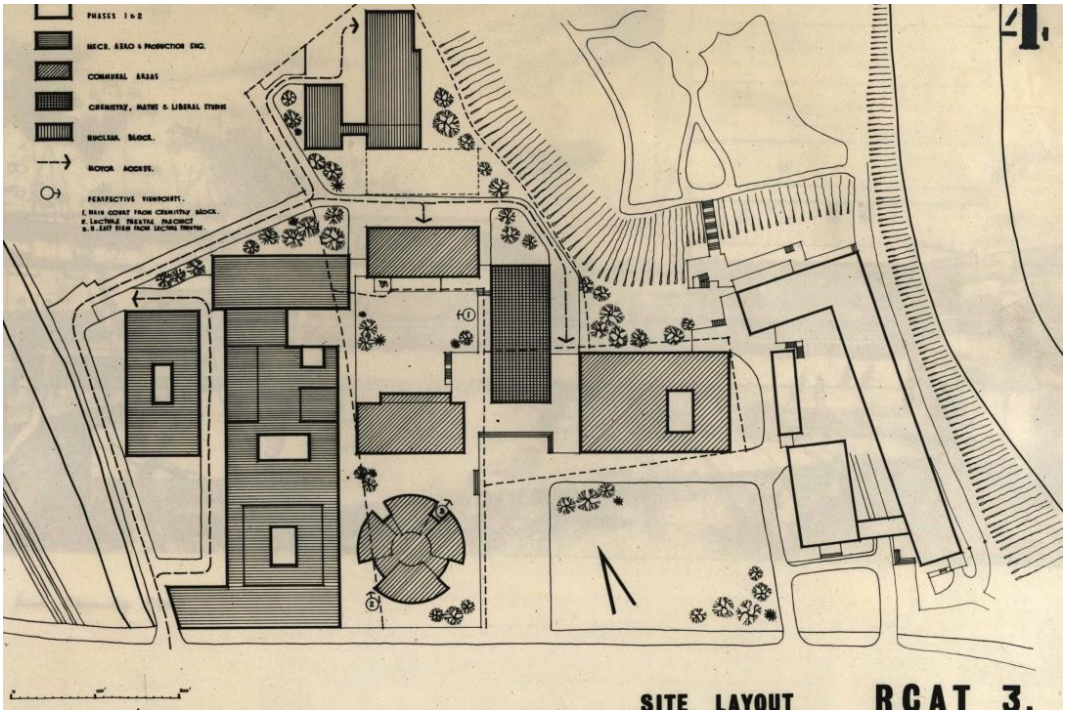


Figure 41: Block plan (Simmons, 1961). A streamlined design assists understanding of the scheme. *Comprehensive Development Plan* (1961).

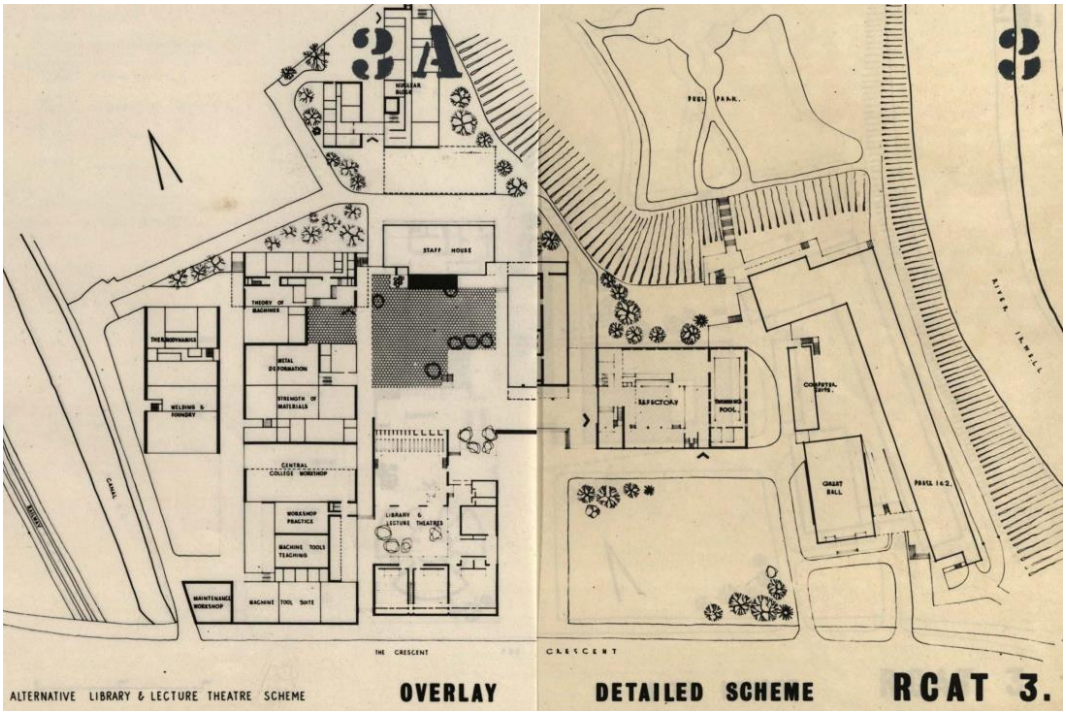


Figure 42: Block plan alternative (Simmons, 1961). Secondary proposal with different lecture theatre and central library facility.

Unlike the new universities that received funding from the University Grants Commission based on facility types and cost allowances per square footage, Salford relied on funding from the local authorities and the Ministry of Education's building programme. Even when direct funding was provided by the government a year later in 1962, a similar framework meant a phased approach to construction continued until the end of the decade, placing noticeable demands on architectural planning and processes. Despite these constraints, the County Architect's Department designed their masterplans, demonstrating a collegiate approach that aimed to create a campus atmosphere through "groups of buildings around a series of pedestrian courts" (The Municipal Journal, 1961, p. 3056). This architectural approach shares resemblances to both civic and new universities by adopting rectangular planning, a result of clearly defined buildings with central squares. At the time, architectural campus planner and author, Richard Dober (1928-2014) envisioned the perfect university to comprise an urban infilling strategy, whereby buildings were dispersed across a city in a specific pattern (Dober, 1965, p. 17). Salford's architectural ambitions were concentrated in and around the Maxwell Building which mitigated against a scattered city-wide architectural arrangement. Instead, it embraced a more compact and unified approach to the use of the available land. These early architectural masterplans emphasised the importance of establishing reliable linkages between departments and facilities. All of this aligns with the goal of creating a connected and interactive academic community, a vision architect, Michael Brawne (1970, p. 252) claimed that new universities shared and aimed toward.

The Governing Body preferred rapid expansion by acquiring land as close as possible to the newly emerging campus core. This planning allowed for individual departments to have their own dedicated buildings through the demolition of older buildings to make way for updated alternatives. Architecturally, the design principles aimed to create a structured,

efficient, and clean plan emphasising modernity and a commitment to establishing a state-of-the-art environment conducive to scientific and technological advancement.

While not all of Salford's original and individual building plans have been uncovered in this research project, Simmons' very first masterplan laid the foundation for harmony, fostering union, diversity, and clarity, while simultaneously avoiding congestion or confusion. Interconnected pedestrian concourses, corridors, and car segregation facilitated movement and created opportunities for social interaction, all influenced by wider national urban planning trends. The separation of vehicles and pedestrians created a car-free campus, consolidating the buildings into single conglomerates (Muthesius, 2001, p. 92). Unlike other universities who often chose elevated systems of movement, Salford's walkways and service roads were mainly at ground level, or slightly raised from the ground. The concept of multi-level traffic separation was not new and similar concepts had crossed over from urban planning and recommendations produced for the 1963 *Buchanan Report* (Brawne, 1967, p. 9). The County Architect applied these wider architectural techniques.

At the core of plan were public spaces that were landscaped to enhance communality and supported by internal courtyards, for example with the Mechanical, Aeronautical, and Production Engineering building. The main communal area intended to replace the Museum and Art Gallery comprised a large rectangular structure with four proposed common spaces. These shared spaces were envisioned to act as vibrant hubs that fostered student alliances and encouraged socialisation. The masterplan's proposals for new architecture aimed to leave a lasting impression on the Royal College of Advanced Technology, Salford, portraying the organisation as a progressive institution.

6.3. Preparing for the *Robbins Committee Report on Higher Education* (1963)

In April 1962, the Royal College of Advanced Technology, Salford's autonomous Governing Body assumed control following the Minister of Education's proposal that advanced colleges become national institutions and receive direct grants. The government's urgency with meeting these priorities led to the formation of a Committee under the Chair of Lord Lionel Charles Robbins (1898-1984). The *Robbins Committee Report on Higher Education* was published on 23 October 1963, and acknowledged the widening of the technical sector and endorsed the transition of the more advanced colleges into technological universities. This integration effectively eliminated the separate role of more specialist colleges and universities. Throughout this transition, the College kept to the aims of setting high academic standards, creating appropriate staff conditions and services, developing research opportunities, and forming a vibrant campus life for students (Whitworth, 1967, 1968). Architecturally, Salford was now embracing modernist principles with building proposals reflecting a new future direction, as seen in Figure 43. These proposals were vastly different aesthetically, characterised by their use of modern materials and construction techniques that embraced new scales and height. For example, the Chemistry Tower (14 storeys) and the proposed Mechanical Engineering Block (10 storeys)

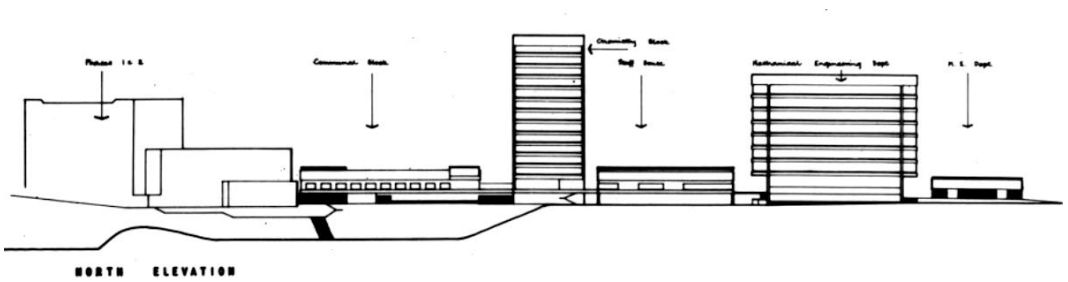


Figure 43: Architectural elevation (Simmons, 1961).

The government immediately supported the *Robbins Committee Report* (1963) vision and recommendations, and swiftly made efforts to implement them. When the University Grants Commission assessed the sector a year later in a report titled, *University Development 1957-1962* (Department for Education and Science, 1964), student numbers were rising and the advanced colleges had more than doubled in size since 1957. From 1961-1962 there were 28,676 full-time students in science and 17,232 in technology, totalling 45,908. Providing the trends continued, projections doubled by 1970. Strategically placing the technological universities within the higher educational system was crucial during the Conservative guidance of Harold Macmillan from 1957-1963, and later under the Labour government until 1970, with Alec Douglas-Home until 1964 and Harold Wilson until 1970. For Salford to meet the University Grants Commission stipulations, the masterplans had to anticipate more than double the current student population.

Salford's Governors considered a new architectural strategy ahead of the official release of the *Robbins Committee Report* (1963), and in response to the changes that shook the County Architect's Department after the death of Simmons in March 1962 . As part of their decision making for continuing Phase III, discussions revolved around the appointment of a well-known architectural practice as well as locally based companies. Initially, the idea to approach a larger consultant architectural planner arose, and Professor Sir Robert Matthew emerged as a natural choice due his work with Salford City Council, not to mention the commission of his practice at the University of York, where lead architects Robert Derbyshire and Stirratt Johnson-Marshall (1912-1981) had worked on the campus masterplan from 1961 (Muthesius, 2001 p. 130; University of York, 1965). This was proposed in accordance with them overseeing the work of a smaller company. The selection process included local practices: Harry J. Fairhurst and Son, and Tom Mellor and Partners (Royal College of Advanced Technology Salford, 1963b). However, a private practice based

in Coventry, Courtaulds Technical Services, were awarded the contract. Courtaulds had already been involved with the specialist services for the design of the Chemistry Tower, in conjunction with the County Architect's Department. Their enthusiasm to continue working on the campus masterplan, coupled with their insight and knowledge had put them in a favourable position (Royal College of Advanced Technology Salford, 1962c). The team was led by Director and Chief Architect, Mr W. F. Johnson, and by 1968, the company was known as W. F. Johnson and Partners. Incidentally, by this stage, Sir Harry Pilkington (1905-1983), an influential figure in glass manufacturing had joined the Governing Body. When Courtaulds officially took over the contract from Lancashire County Council in 1963, the siting of the Nuclear Sciences Block (Cockcroft Building) was fixed. The design drawings for the Chemistry Tower and Staff House were also at advanced stages. Figures 44 and 45 show the construction site and illustrate Pendleton's high-rise developments in contrast with older factories such as former Agecroft Power Station.

Figure 44: Cockcroft Building site (Royal College of Advanced Technology Salford, c1964a).

Figure 45: Site clearance *(Royal College of Advanced Technology Salford, c1964b)*.

Other than the Cockcroft Building, designed in conjunction with specialist contractor W.S. Atkins, and Partners, Courtaulds made key revisions in line with the Governors and the Ministry of Education, and responded to the recommendations outlined in the *Robbins Committee Report* (1963), before formally presenting their brand-new masterplan in November 1964. Whereas Simmons' previously based his plan on 2,500 full-time students with built-in expansion areas to add future capacity, the Ministry now required Salford (and the other advanced colleges) to increase the fulltime population to 4,000 students by 1970, and 5,000 students by 1974. This major uplift in student numbers was aimed to align the colleges with new universities. As a result, Courtaulds architectural planning had to consider much larger variation. These significant changes impacted the construction work that continued well into the 1970s and was much later than the College Governors had anticipated. In their preparation of the *Major Development Plan* (1964), Courtaulds worked with the County Architect's Department to define areas with the intention to acquire land by 1974. Figure 46 highlights these areas. 2, 3, 4, 5, 6, 7: Salford Museum

and Library, Peel Building, Wallness Road /canal area and extending north of Peel Park Saw Mill toward the playing fields; 7, 10, 11: Acton Square and Aldred Street site; 8, 9: Leaf Square, Statham and Withington Streets; and 12: Meadow Road area.

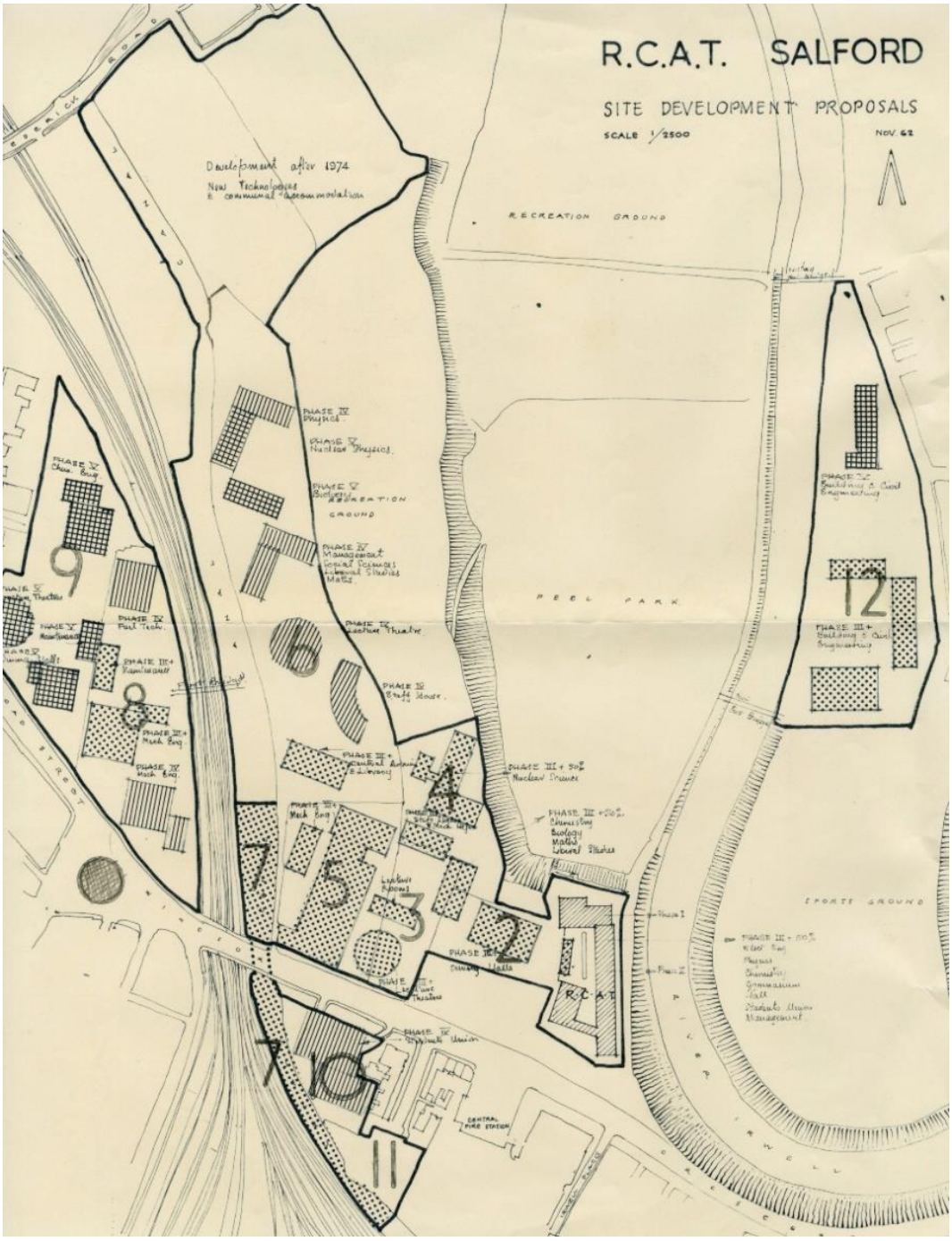


Figure 46: 12 development sites (Lancashire County Council, 1962).

Courtaulds prioritised the immediate designs within Phase III including the construction of the Cockcroft Building and Chemistry Tower and continued technical plans for Staff House. Working with W.S. Atkins and Partners, the architectural plans highlighted the compactness and spatial limitations of the campus (Courtaulds Technical Services, 1963). The Chemistry Block's quadrangle was continued from former plans (Simmons, 1961) to serve as the central core and was demonstrated through the more intricate detailed arrangement of hexagonal paving, with a planned canteen occupying approximately one-quarter of the communal space on the court's northern side [Figures 47 and 48]. Steps situated along the edges indicated a sunken enclosure which served as a communal area for users to access the Tower's main entrance and the two entrances to Staff House. Staff House was subsequently built north of the Cockcroft Building and completed in 1972, becoming known as University House (Chapter 7). Each of the buildings faced away from Peel Park towards their newfound intended central zone. Atkins and Partners (1964) architectural plan for the Nuclear Sciences Block' showed the Superintendents' House which was well demolished by this point [Figure 49]. The location map was probably printed in bulk during the 1950s, but still served a purpose to demonstrate the College's proposals a decade later. The overlay was annotated to highlight access roads, entrances to the Park, boundary lines, drains and safety fencing.

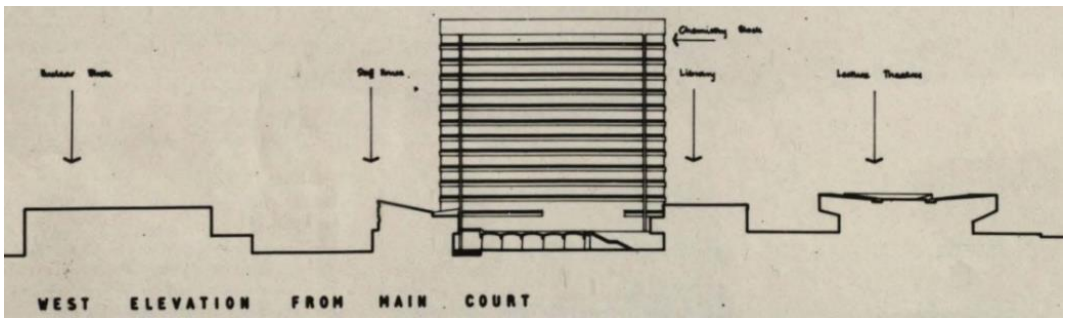


Figure 47: Detail: Architectural sketch (Simmons, 1961, p. 10). Looking toward the Chemistry Block from the sunken courtyard.

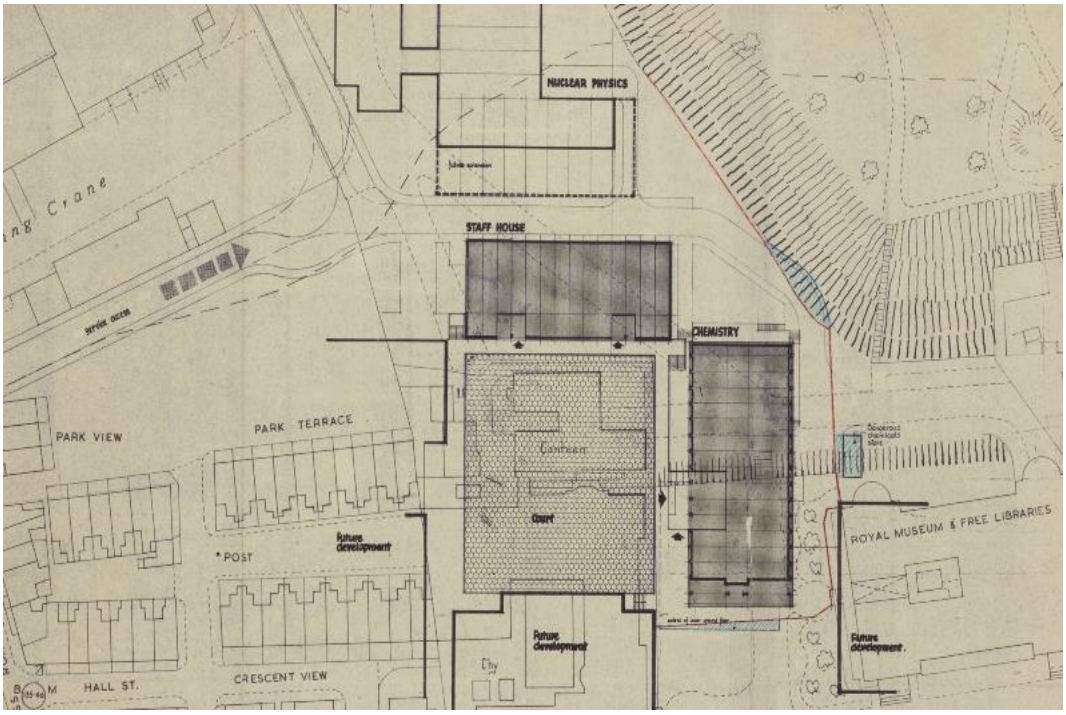


Figure 48: Detail: site plan (Courtaulds Technical Services, 1963). Phase III: Chemistry Block and Staff House.

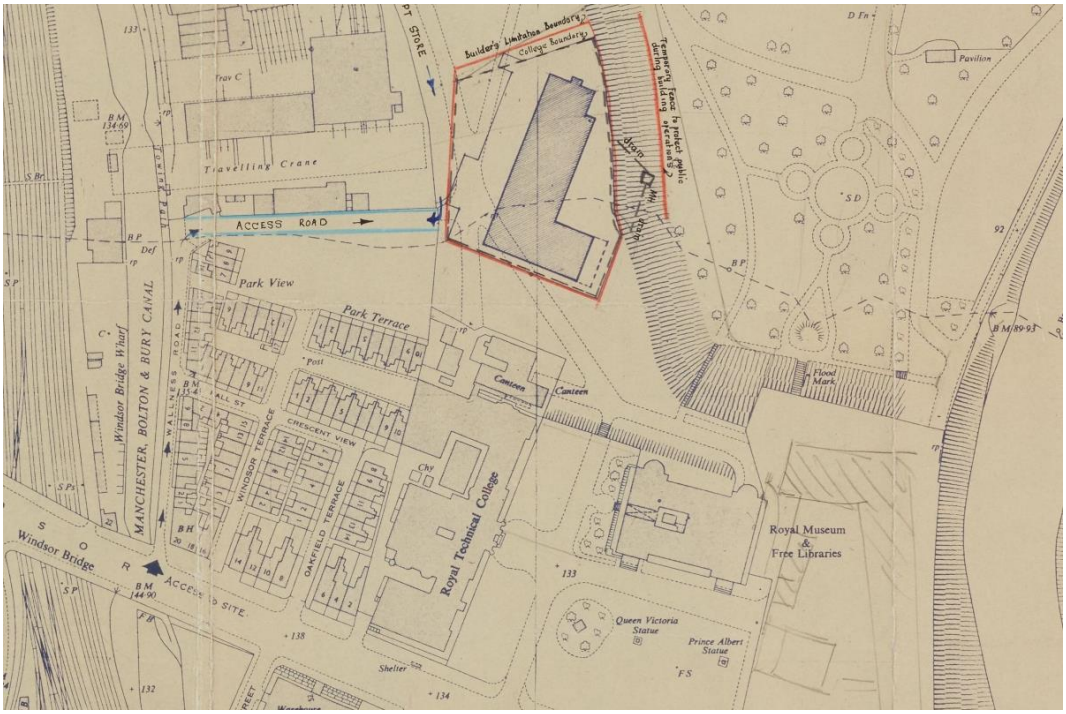


Figure 49: Detail: Nuclear block plan (Atkins & Partners, 1964).

6.4. The *Major Development Plan* (1964)

In March 1963, the Governors of the Royal College of Advanced Technology, Salford made a crucial decision to commission a fresh campus masterplan, aligning the future growth ambitions in accordance with the *Robbins Committee Report* (1963). Courtaulds Technical Services architectural designs for the *Major Development Plan* (1964) surpassed all existing ideas, providing a highly modernised architectural blueprint for the decade ahead. To understand the College's ongoing progression, the University Grants Commission actively visited the campus to form an impression of the institution advancing toward university status (Whitworth, 1967, p. 13). The primary concern of the Governors and Academic Board was student enrolment, especially as temporary facilities were still in use. The new masterplans, now accommodating 3,500 students by September 1967, were duly approved [Figure 50].

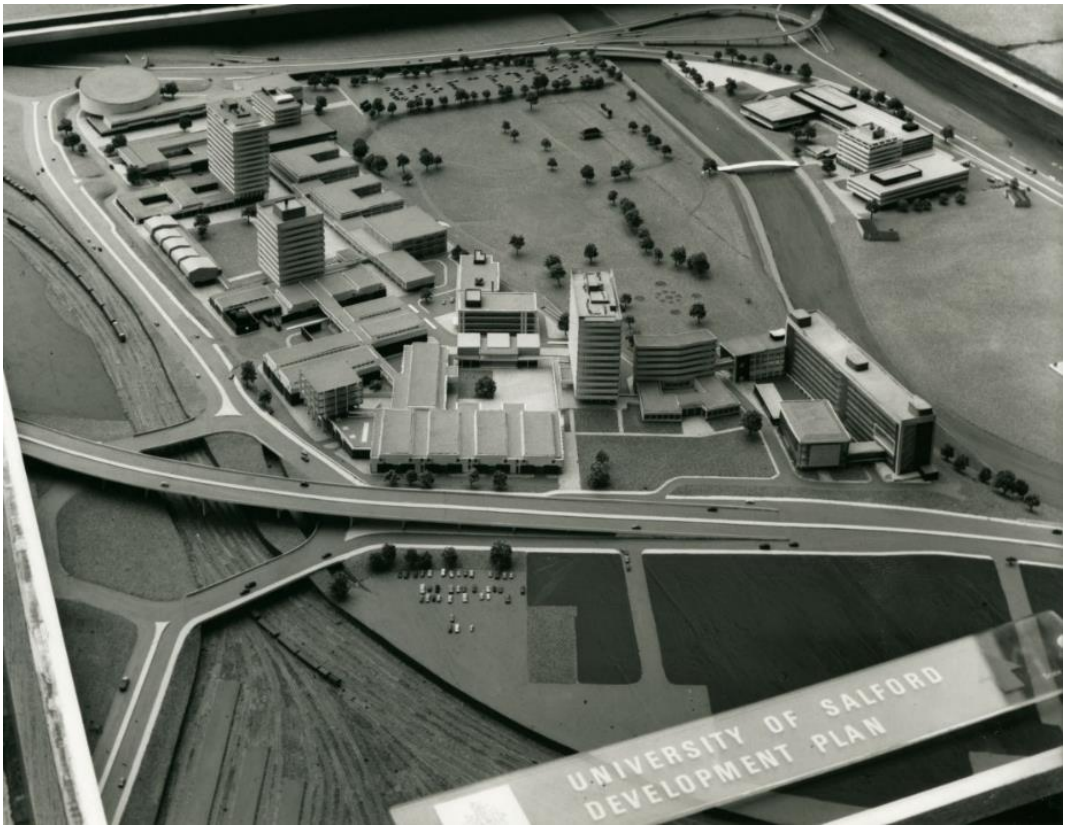


Figure 50: The *Major Development Plan* (Courtaulds Technical Services, 1964d).

After thirteen years in power, the Conservative government tenure concluded in 1963, leading to the replacement of the Ministry of Education with the Department of Education and Science. During this period, the College actively pursued an interest with the recently closed Manchester Racecourse which had been in operation from 1902. A decade later, areas around the former track were transformed into the Castle Irwell Halls of Residence. For the main Peel Park campus, the *Major Development Plan* (1963) was a bold statement of intent. Courtaulds Technical Services detailed architectural model demonstrated the future intentions of the land. For their proposals to fully materialise, the Governors' expectations were based on three factors: government approval, adequate financing and the availability of skilled construction labour. As much as the initial prospects seemed promising, the first two conditions were problematic as much as their approval was given in September 1963 for the acquisition of the Meadow Road site, adjacent to the River Irwell [Figure 51].

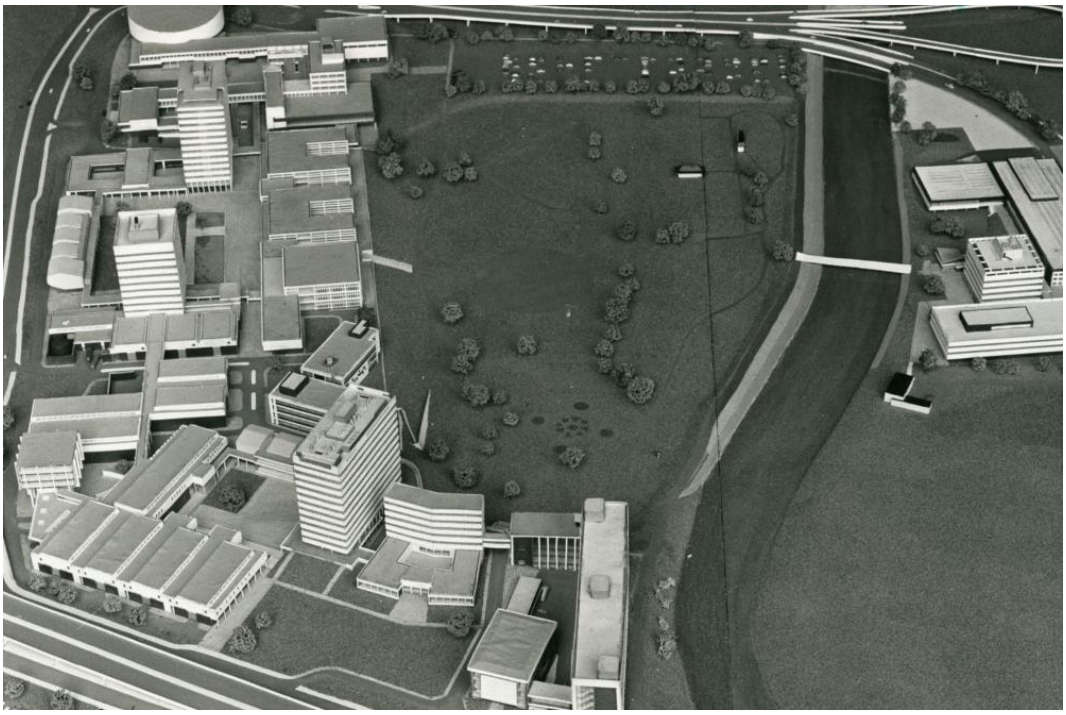


Figure 51: Detail: architectural model (Courtaulds Technical Services, 1964c). *The Major Development Plan* (1964).

The *Major Development Plan* (1963) garnered rigorous attention from Salford City Council, and they provided constructive feedback on the proposals. One notable suggestion from the Council was the offer of land adjacent to the Park, designated as public playing fields and in exchange for plots of land near to the Acton Square site, west of the railway. This new location appealed to the College due to the proximity with the immediate Maxwell Building, and the comfortable navigation and extended route from the new central core. The proposals were initially accepted on a tentative basis, contingent upon the availability of the land. The architectural planning for this location within Phase III+, built on ideas previously put forward by the County Architect. Proposed building blocks, such as the siting for the Cockcroft Building, the new Department of Liberal Studies, and Mechanical Engineering block, continued the collegiate environment. Early architectural sketch plans from the *Major Development Plan* (1964), along with individual facility designs, illustrate the proximity of proposed buildings with contemporary design arrangements facing newly created courtyards and public spaces aimed at stimulating new communities [Figures 52 and 53].

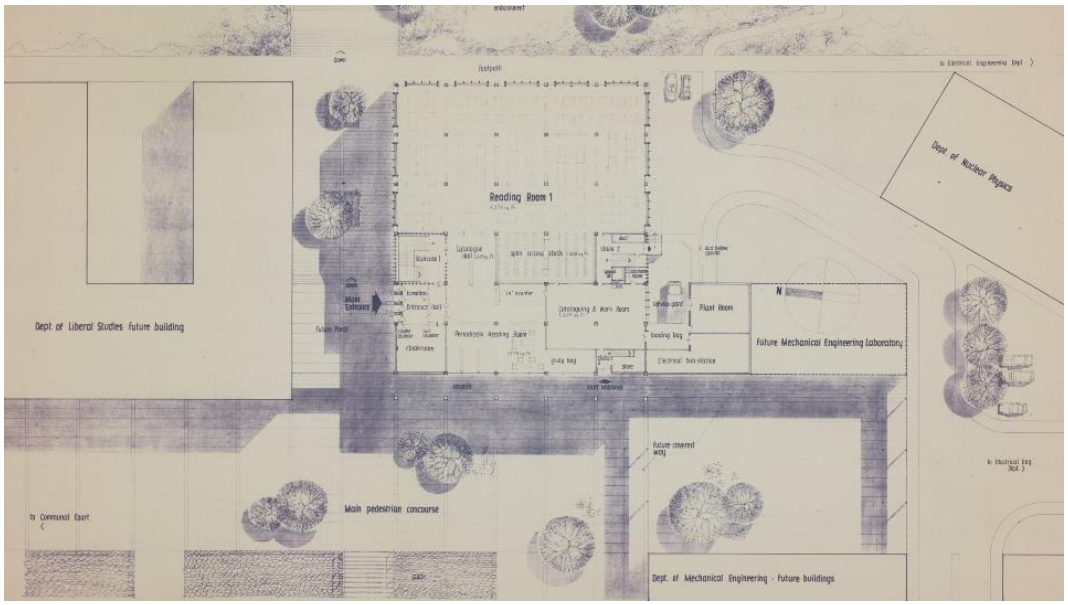


Figure 52: Detail: *Central Library Design Report* (Courtaulds Technical Services, 1965).

Figure 53: Plan detail (Courtaulds Technical Services, 1964e).

By October 1964, Governors reached an agreement that areas would be exchanged for the playing fields, 15 acres in total (Whitworth, 1967, p. 22). This decision was deemed beneficial for both parties, serving the College's interests while providing advantages to the Council's redevelopment schemes. However, in addition to these land agreements, the Governors acknowledged that the success of the masterplan really relied on the government's approval in securing the necessary finances to meet their expectations concerning construction and the future aspiration set out in the masterplan [Figure 54].

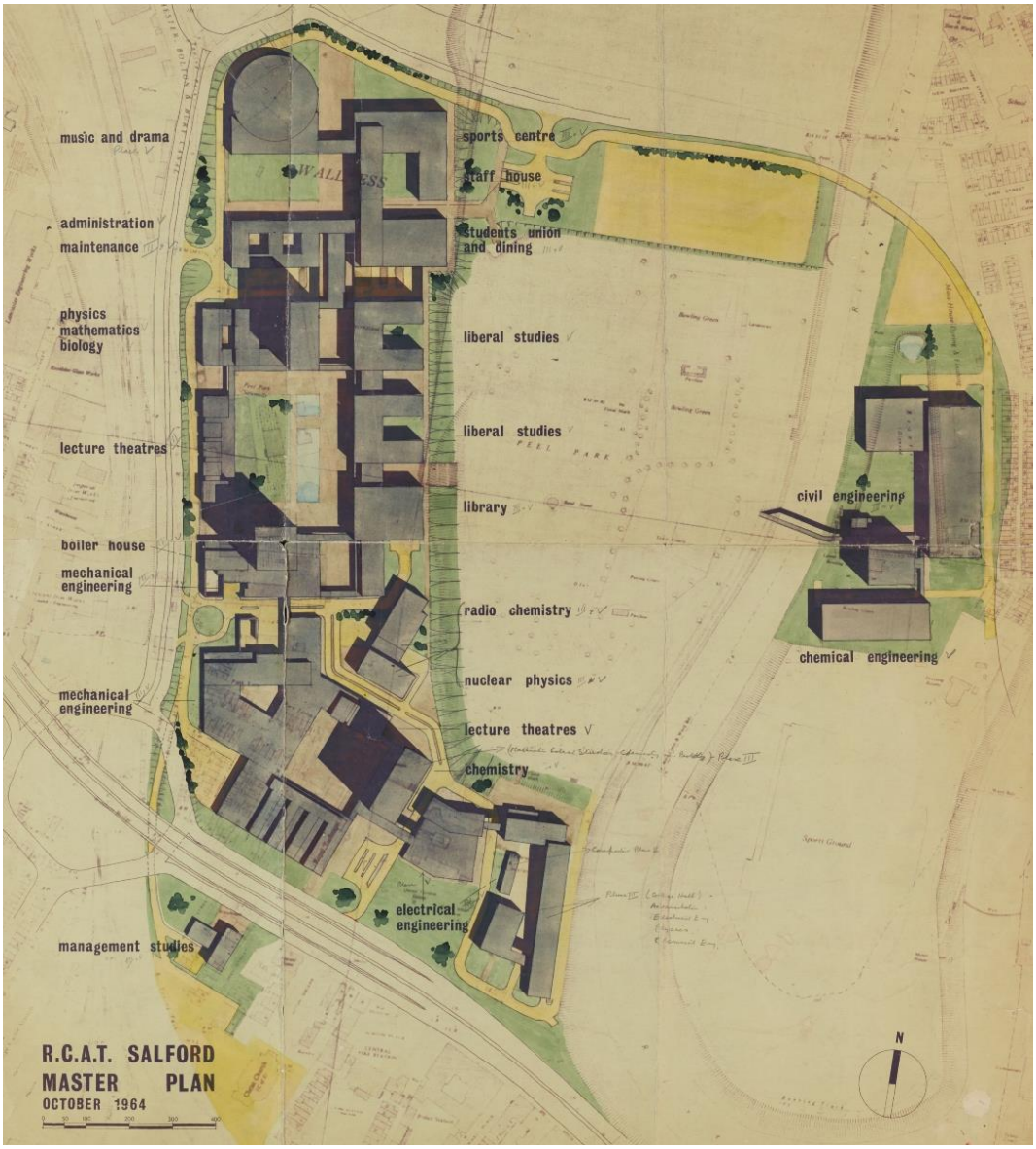


Figure 54: Masterplan, October 1964 (Courtaulds Technical Services, 1964f).

At the start of 1964, the importance of a Central Boiler House for the Chemistry Tower and Nuclear Sciences Block (Cockcroft Building) was intensified. Initially, the building programme progressed well but encountered a setback when the Finance Sub-Committee reviewed the official response to the capital estimates for 1965. The College's Governing Body requested approximately £600,000 for land and property acquisition and just over £1 million for building work. However, the Ministry of Education and Science approved £490,000 for the construction, leaving a sizable shortfall (Whitworth, 1967, p. 24). This

difference emphasised the government's cautious approach to allocating finances, diverging from the optimistic outlook presented in the *Robbin Committee Report* (1963) and the architectural designs that correlated with Courtaulds masterplan.

Governors submitted capital estimates for 1965-1966 at just over £4 million. The Department of Education and Science approved the construction of the Meadow Road campus, along with the Central Library and Staff House (Chapter 7), the latter which was initially planned to be included within the original formation of blocks that housed the Departments of Chemistry, Mathematics, and Liberal Studies. This decision reflected the government's recognition of the University's plans and the need to construct key infrastructure. The Finance Committee approved plans to commence construction of several building projects from 1966-1967 for the Departments of Mechanical Engineering and Management Studies, as well as maintenance workshops and residence halls. However, the University Grants Commission which by this point had assumed responsibility, delivered disappointing news. The government's allocation of £33 million to the Commission to disseminate nationally for new universities and advancing colleges, meant the recent masterplan was impossible to approve everything immediately. Subsequently, the Department of Education and Science conveyed their decision to provide £1,750,000 out of the requested £4 million for the College's 1965-1966 budget. This funding was deemed sufficient to cover the construction of the Meadow Road campus, the Central Library, and the Communal Block which became known as University House. Despite the ambitious plans for additional projects, the financial constraints imposed by the government limited the scope of the masterplan and necessitated a prioritisation of key architectural developments across the campus. The College prioritised critical resources and infrastructure as part of a commitment to prudent resource management. Detailed architectural plans focused on specific parts of the campus, demonstrating the ideal

vision juxtaposed with the realities of progress. Dark shading often indicated demolition, while realised buildings were labelled and the outlines of proposed buildings left blank [Figure 55].

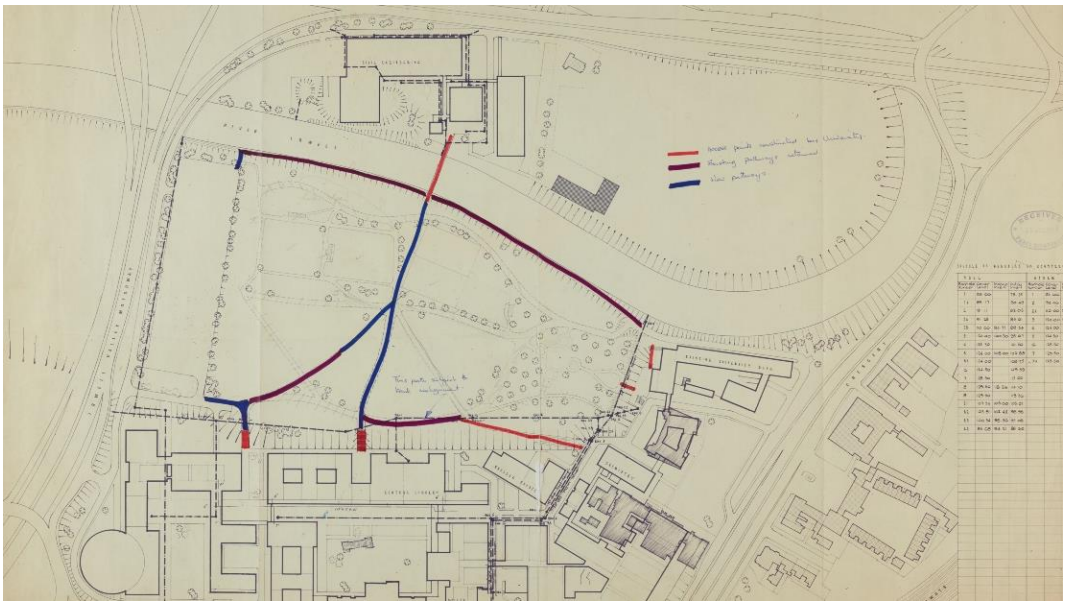


Figure 55: Plan of campus (Salford City Council, 1969). Pathways and manholes.

In spring 1965, the Governors reassessed the proposals by the University Grants Commission outlining priorities for 1967-1968 and 1968-1969. Certain adjustments were necessary to accommodate financial constraints and evolving requirements. This included an additional £50,000 for new roads and water mains for the Chemistry Tower and Cockcroft Building. These infrastructural enhancements were considered essential to support the wider facilities and their functionality. Furthermore, as costs increased with the Central Library and the Meadow Road campus, both budgets were re-evaluated. As a result, approximately £340,000 remained available for the construction of a large lecture theatre which became the Chapman Building and University House. However, faced with financial limitations, phased construction allowed for a gradual completion within the available budgets.

By 1964, the changes in government did not produce a fundamental shift in the cautious financial policy within the Department of Education and Science as they continued to exercise caution. In addition, the College's hopes of completing several building projects by the end of 1965 were met with resistance as local residents in the Wallness Road area who voiced their concerns regarding noise and the scale of construction (Stepped Up, 1965). The expected completion of the Cockcroft Building was January 1966, followed by the Chemistry Building which included the decant and move for the Departments of Mathematics and Liberal Studies, by July 1966. The Department of Civil Engineering was due to move in to Meadow Road campus in July 1967 (Whitworth, 1967, p. 26). Furthermore, architectural plans were in place to commence construction on the Central Library in September 1965, with an estimated completion in 1967. The phased development of University House was to start in March 1966 (Whitworth, 1968, p. 19).

However, all the architectural processes and plans were abruptly disrupted in 1965 when the Chancellor of the Exchequer announced spending reductions, resulting in a deferment of start dates for new university buildings by at least six months. This unexpected setback dealt a severe blow to Royal College of Advanced Technology, Salford, hindering the expansion efforts to meet the growing demands placed upon the institution, especially by the University Grants Commission. The postponement in construction ultimately delayed the completion of the planned buildings which formed a substantial majority within the architectural masterplans and institutional intentions to be achieved by 1967 [Figure 56]. In turn, this impacted the ability to accommodate the increasing student numbers and provide the necessary infrastructure to deliver newly emerging and forecasted academic programmes. The setback highlights the challenges the College faced with balancing progressive growth aspirations with the financial realism of the government.

Figure 56: Detail: Masterplan 1967 (University of Salford, 1967d).

Part 3. Chapter 7. The Buildings

This Chapter provides a formal analysis of each modernist building constructed because of the 1961 and 1964 architectural masterplans, with reference to modernist works outside of each plan. Figures 57 and 58 follow the trajectory set by the *Major Development Plan* (1964) and demonstrate the ambition for Peel Park versus the reality. Figure 57 illustrates the realised buildings by the mid-1970s, darkly shaded. These include: the Maxwell Building and Hall (15, 16), the Gilbert Rooms (14), the Davy, Joule, and Faraday Halls of Residence (off plan), Sports Pavilion (off plan), the Chemistry Tower (13), Central Boiler Plant (below 4), the Cockcroft Building (9), the Brindley, Smeaton and Telford Buildings (6, 7), the Clifford Whitworth Library (5), Chapman Building (4) and University House (2). Figure 58 shows the intended future layout of the campus in 1967. The buildings which materialised are highlighted.

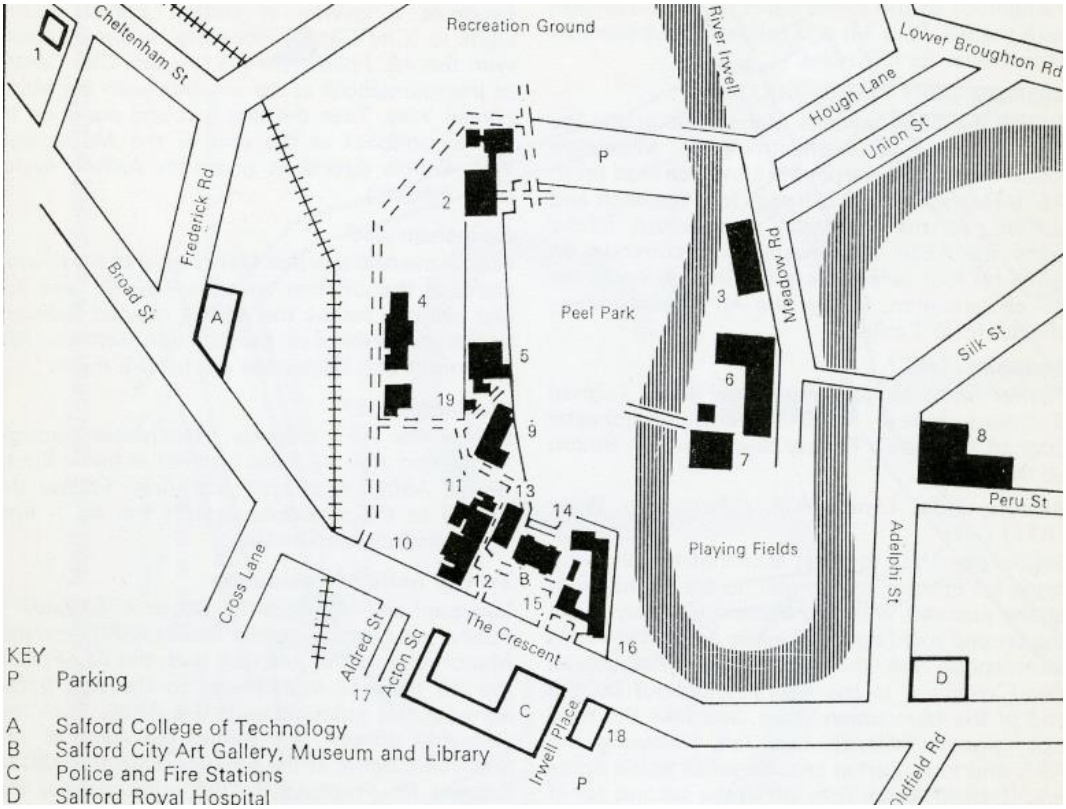


Figure 57: Campus guide (University of Salford, 1974, p. 131).

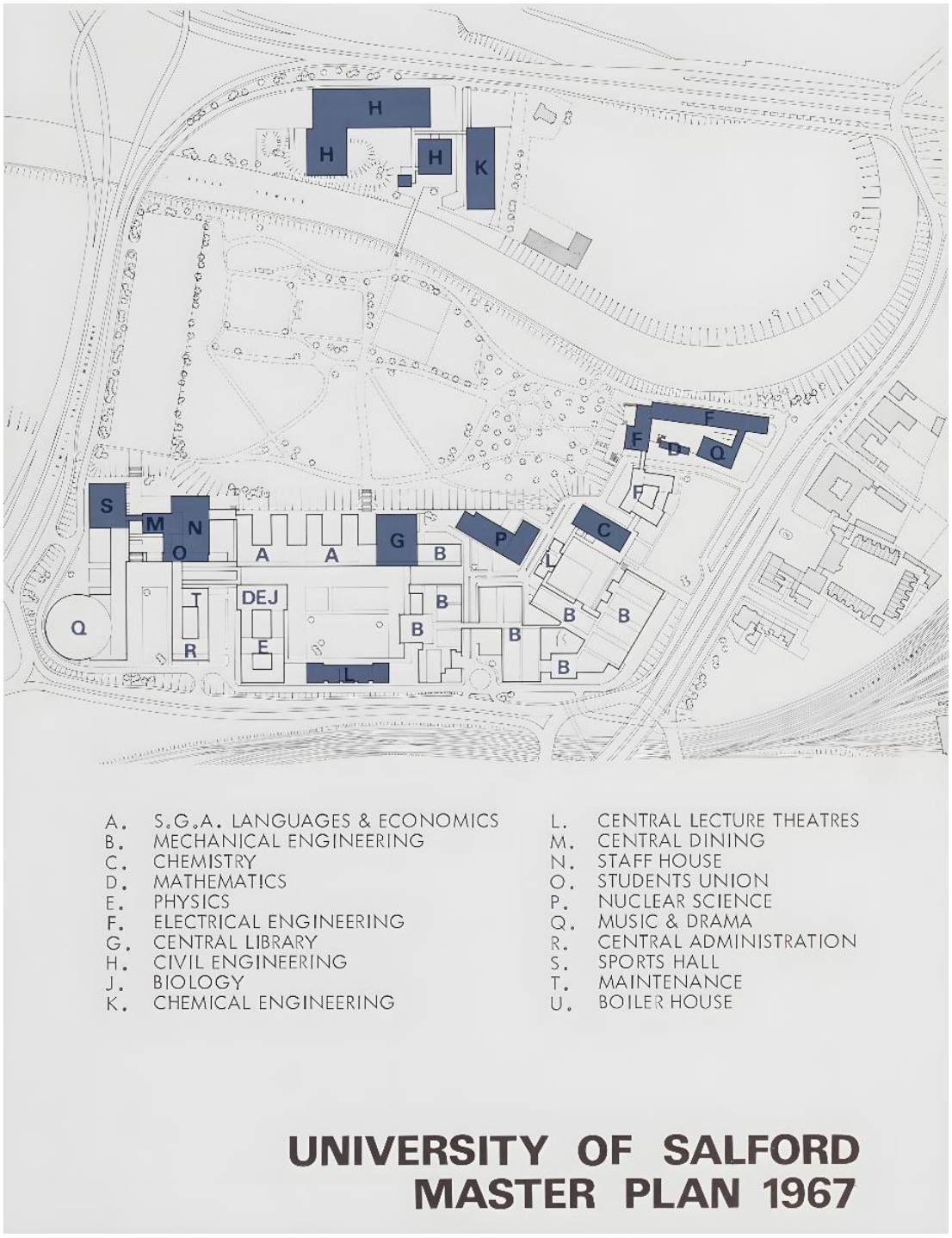


Figure 58: Detail: Masterplan 1967 (University of Salford, 1967d).

7.1. The Maxwell Building and Hall, 1954-1961

The Maxwell Building and Hall are the University of Salford's first buildings designed and constructed in the modernist architectural form and style. In contrast to the original Peel Building completed in the nineteenth century, these structures were planned and built to meet the evolving demands of technical education and to alleviate the mounting pressures faced by the Royal Technical College, Salford, during the first half of the twentieth century. Shortly after their construction had started, the College was advanced in status. Queen Elizabeth II (1926-2022) and His Royal Highness, Prince Philip Duke of Edinburgh (1921-2021) officially opened the buildings on 24 May 1961. This marked the beginning of a new and ambitious era for the institution, following the newly appointed status as the Royal College of Advanced Technology, Salford [Figure 59].

Figure 59: The Maxwell Building and Hall (Royal College of Advanced Technology Salford, c1960c).

After the advanced College was granted the Royal Charter to operate as new university in 1967, the building and hall were renamed after the Scottish physicist, James Clerk Maxwell (1831-1879). The scheme was financed by Lancashire County Council and Salford City Council as part of the national government's higher education building programme from 1957-1961. The Ministry of Education's phased approach to funding was staggered across Phase I, II and III, influencing the construction. Students attended from 1959 dependent on the completion of certain areas. The building and hall cost more than £1.5 million and were intrinsic to further proposals under Phase III of the *Comprehensive Development Plan* (1961), estimated at £5 million.

When completed, The Municipal Journal (1961, p. 3057) described the building arrangement as a "superstructure" that provided users with versatile and multi-functional spaces. Prominent superstructures from this era, such as Cumbernauld Town Centre completed in 1967, and London's Brunswick Centre completed in 1972, were thought to contribute to "urban concentration" (Gold, 2006, p. 113) through their consolidation of multiple functions and environments. The Maxwell Building and Hall emulated this idea. The Lancashire County Council Architect's Department worked closely with the College's Principals to meet the architectural brief as determined in their Schedule of Accommodation. This close working relationship was central to the building design to compound academic and non-academic facilities.

The building's location is within a compact and urban area, rather than an open setting. The main building and hall were strategically constructed close to Salford's newly forming city centre in Pendleton. From their elevated plateau on the escarpment edge of the River Irwell, they face west to the City of Salford, north to Peel Park, and east to Manchester. The advantage of a reduced location is that teaching takes place across multiple storeys in a heightened environment. The Maxwell Building

comprises two blocks. The main building block has a distinct height. Where they both meet, they form an 'L' shape configuration (with a shorter and longer leg). The shorter five storey leg is positioned east of the Museum and Art Gallery and south of the park. The extended leg has nine storeys and connects to this on the eastern side. While the two blocks appear to be at a right angle, their formation is, in fact oblique (The Municipal Journal, 1961). Due to their location on municipal parkland, an Act of Parliament was required before construction could start. The building's larger block follows the river to finish at Salford Crescent, a section of the national A6 highway. The Hall, located on flat land adjacent to the main building, is an assembly room designed to accommodate approximately 1,000 people. An internal covered pedestrian bridge connects the hall to the larger block.

The County Architect's architectural plans were approved in 1953 by the Minister of Education, Baroness Florence Horsbrugh (1889-1969) who served under Prime Minister Winston Churchill (1874-1965). Phases I and II of the design and construction were under the supervision by the County Architect, George Noel Hill (1893-1985). Charles Howard Simmons (1909-1962) managed Phase III, including the design of the College's initial *Comprehensive Development Plan* (1961), that emerged in response to the ongoing requirements for expansion and compliance with changing government legislation since 1956. John Turner and Son Ltd of Preston served as the building contractor for each phase.

Phase I started in 1954 with construction to the foundations, basement, sub-basement for both blocks and completion of the smaller five-storey section. As the larger block was constructed on land liable to slippage, a prerequisite was to pile drive the foundations extensively into clay (609 piles down to a depth of 12 metres). These foundations support a steel frame with precast floor (four metres in depth) and hollow beam units covered in sand and cement and a layer of cork. The basement was

asphalted. The ceilings contained Asbestolux placed on timber frames (most of which have since been removed). The buildings were heated using a central oil system (The Municipal Journal, 1961). Phase I was completed in 1958.

Phase II included construction above the base level as well as the initial foundation work to the assembly hall. The larger block housed various facilities such as laboratories, workshops, drawing offices and staff work rooms. More industrial Departments had power and machine laboratories as well as a specialist workshops and drawing rooms. The lower levels and basements were designed for heavier workshops for Departments such as Civil and Mechanical Engineering. A variety of classrooms and a six-tiered lecture theatre were available to all departments. Amenities included common rooms and catering areas for student activities, spaces for conferences and meetings for up to 150 people, a library, staff rooms, and a large self-service dining hall. The staff spaces and offices, referred to as the "college administration" (Whitworth, 1963, p. 963) were well-appointed and equally located throughout. Price (1959, p. 56) was clear that newly designed college communal areas had to be well considered as they set a tone for the building. The more architecturally designed the space, the greater their contribution to the student experience, fostering a deeper affiliation. Four staircases and three lifts mitigated the ease of movement and to meet timetabling demands.

Phase III mainly focussed on the Hall’s construction to the main auditorium. The space was equipped with a stage and set to accommodate film and dramatic presentations, a projection room, gymnasium and a games room. A public address system, cinema equipment, and a pipe organ (previously located in the Peel Building, dismantled, repositioned, and rebuilt) were installed. The organ was originally presented to the institution by Sir Lees Knowles (1857-1928), a Salford resident and philanthropist. Maxwell Hall was designed to

incorporate examinations, graduations, presentations, exhibitions, and musical concerts to promote a sense of occasion and corporate life (Whitworth, 1963). Price (1959, p. 48) believed that colleges were cultural buildings “just as much as libraries, museums and civic theatres.” The strategic placement of these buildings near Salford’s newly developing city centre in Pendleton, and particularly Manchester, influenced the architectural design to cater for educational and social needs benefitting both students and nearby communities [Figure 60].

Figure 60: The Maxwell Building and Hall *(University of Salford, c1970g).* A cultural hub.

The Maxwell Building and Hall are typical of mid-twentieth century modernist architecture. There is a distinctive design aesthetic in contrast with other nearby buildings. Within the immediate area a prevailing and cohesive architectural visual language had occurred. The buildings aligned themselves to more traditional architectural forms and followed a similar trajectory to the Peel Building. They include the Working-Class Movement Library, an attractive former nursing home designed by Henry Lord completed 1901, the redbrick terracotta former Salford Fire Station,

designed by Henry Kirkley (1860-1927) completed in 1902, and the Neo-Georgian brick and Portland stone former Salford Police Station, designed by Bradshaw, Gass & Hope completed in 1957 (Hartwell et al., 2004). *The City of Salford Official Guide* (1965, p. 28) described the Police Station as quietly dignified and "fully modern," paying tribute to Georgian influences. This influenced the Maxwell Building's earliest architectural brief when the Governing Body expressed a keen interest in pursuing a new design that acknowledged a neo-classical style, in keeping with the Police Station and older Museum and Art Gallery. During the initial design stages, the County Architect raised his concerns regarding these design ideas. The Governor's preference to incorporate a similar material palette, mainly using Portland Stone contrasted his team's forward-thinking ideas. In addition, Hill believed (Royal Technical College Salford, 1954a) that placing a stained-glass window (donated to the College by Salford City Council's Art Galleries and Library Committee) was "quite out of character" with the modernist architectural style his team were engaging with. To set realistic expectations, every effort was made to ensure that their design acknowledged the existing buildings with a "token harmony" (Royal Technical College Salford, 1954a). Given the more traditional characteristics of existing structures, achieving complete harmony with the Maxwell Building and Hall was always going to be unlikely and not the intended or desired outcome.

The physical characteristics of the building and hall were described by *The Guardian* (Stewart, 1960, p. 14) as a reflection of the time and the vision of the architects. In their view, the College's subsequent expansion would continue to "presumably reflect the architectural mannerisms of the time to come." Modernist architecture had clearly influenced the County Architect's Department and they no doubt took their inspiration from prominent figures. Internationally with Le Corbusier and closer to home with Frederick Gibberd, Jane Drew (1911-1996) and Maxwell Fry. Additionally, the creative atmosphere had flourished through the 1951

Festival of Britain (Banham & Hillier, 1976) with designers and artists including Barbara Hepworth (1903-1975), Misha Black (1910-1977) and Victor Passmore (1908-1998).

Their architectural plans addressed the Maxwell Building's form by understanding the individual teaching requirements and by doing so, they incorporated contemporary design principles and aesthetics to represent the larger institutional vision. Construction materials included pre-cast concrete panelling, red brick, and glass. The window fenestration followed a horizontal pattern, consisting of vertical panes and with intermittent protruding windows interspersed to create a subtle arrangement. The use of system panelling extended throughout the building and integrated with the grid like windows. Earlier international modernist architecture inspiration is evident. The concrete piloti columns partially support the structure in the internal service yard, while protruding reinforced concrete columns create additional stability along the river's edge. The concrete staircase on the south elevation is not merely functional, but also serves as an expressive design feature that transcends the entire height and is visible from afar. Similarly with Maxwell Hall, two smaller, restrained staircases visible through the curtain walling flank the building and create a border for a central and ornamental tiled mural. A variety of other decorative materials including stone, quartzite, mosaic, pebble dash and timber also enhanced the exterior. Stewart (1960, p. 14) felt that the "architect had tried to offer altogether too much in too little." A notion that too many different materials had potentially been used. Despite this, the Maxwell Building and Hall were both functional and aesthetically stylish, embodying the typical materials and construction methods associated with the 1950s. So much so that they featured in a top ten round-up of modernist buildings by the *Manchester Evening News* (Evans, 1960) who praised them as "a good, simple, clean block."

7.2. The Gilbert Rooms, 1962-1964

The University of Salford's Gilbert Rooms were completed in 1964 to architectural designs by the Lancashire County Council Architect's Department, under Charles Howard Simmons. Originally designed as a computer centre [Figure 61], the building was constructed immediately after the Maxwell Hall, as part of Phase III, and symbolised the Royal College of Advanced Technology, Salford's foray into modern-day computing systems and software. By 1965, Salford was one of seven British universities to receive funding from the Atomic Energy Authority to progress computer studies. Other universities included Birmingham, Glasgow, Leeds, Liverpool, Nottingham, and Oxford ("University Computer Expansion," 1966).

Figure 61: Computer Centre (Digital Salford, c1966). Known today as the Gilbert Rooms, the image is taken from the Maxwell Building's internal service yard and car park.

Reconfigured in c1990, the Gilbert Rooms hold “historic importance” (Linge, n.d, p. 1) as they housed the first computer, an Electric KDF9, which was popular for scientific and mathematical programming before decommissioning in 1980. The computer centre remained in operation until 1974, when the facilities were moved to the Bridgewater Building (now demolished), a fourth building constructed on the Meadow Road campus. The Gilbert Rooms are named firstly after William Gilbert (1544-1603), physician and scientist; and secondly, John Gilbert (1724-1795), engineer for the Bridgewater Canal. The final architectural designs accommodated a computer room with air conditioning and acoustic wall panels, editing rooms, storage space, and a staff room.

Architecturally, the building is characterised as an understated and self-contained rectangular box structure, the almost flat roof and concrete piloti columns exuding a restrained elegance reminiscent of much earlier twentieth-century international modernist design. The modest single storey used a reduced material palette. Apart from the original steel window frames, the vertical glass panes and concrete pebble dash panels are still evident (though updated) and are laid out in a larger horizontal fenestration. Aesthetically, there was a subtle style and sophistication through the simple building arrangement. Located to the west side of the Maxwell Building’s central sunken service yard, the Gilbert Rooms are south of the smaller five storey block and north of the Hall. The piloti columns raise the building gracefully above the lower ground with storage areas neatly concealed underneath. The concrete treads on the cantilever staircase create the illusion of a free-floating flight of steps. On the eastern side, where the main entrance is located, circular concrete planter’s add ornamental touches [Figures 62 and 63].

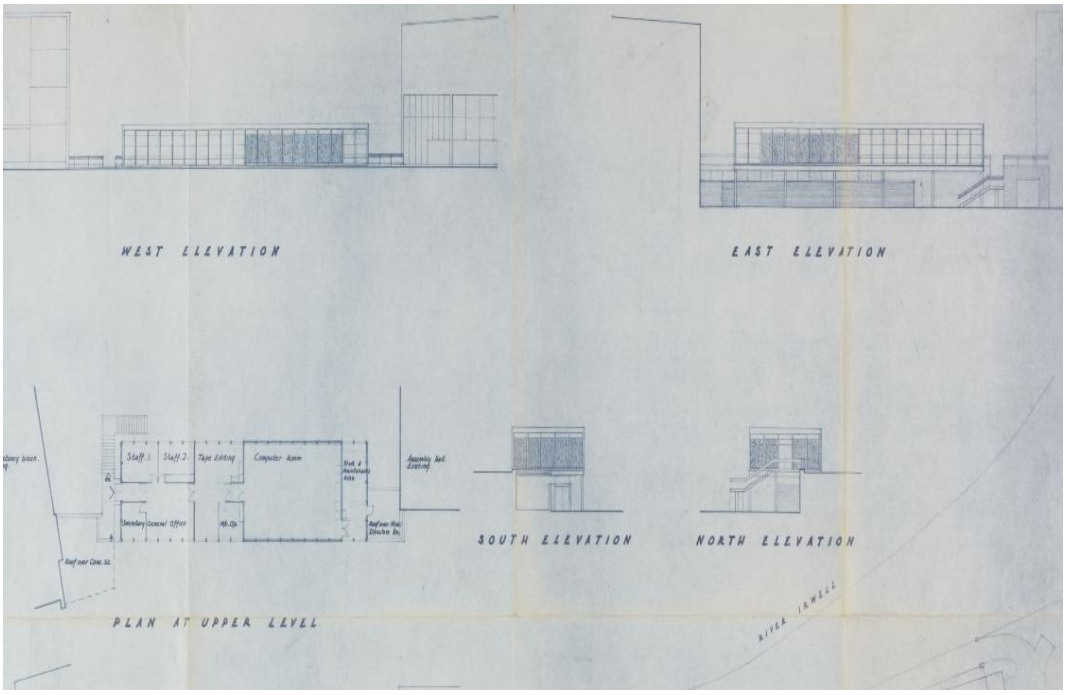


Figure 62: Detail: Computer block (Lancashire County Council, 1961). Final architectural drawing demonstrating building elevations, and upper and lower levels.

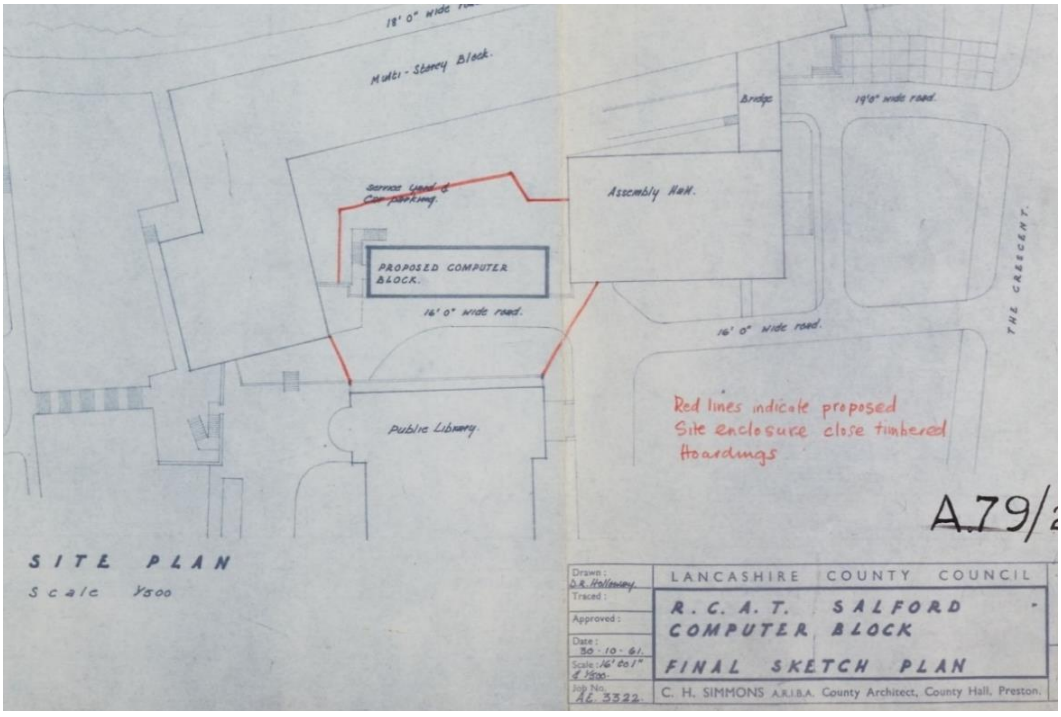


Figure 63: Detail: Computer Block (Lancashire County Council, 1961). Sketch showing relationship to the Maxwell Building.

7.3. The Davy, Joule, and Faraday Halls of Residence, 1962-1964. Demolished c1997

By the mid-1960s around 25 percent of Britain's student population resided in residential accommodation, a figure that had remained relatively constant since the 1930s (Dober, 1965, p. 11). In 1958, the Ministry of Education advised the advancing colleges to accommodate significant numbers of their full-time students. These requests reflected the sector's consensus that universities should strive to provide traditional collegiate student experiences. In response to this perspective, the construction of the Davy, Joule, and Faraday Halls of Residence at Oaklands Road demonstrated the Royal College of Advanced Technology, Salford's commitment to accommodating growing student numbers and nurturing new communities. The Halls of Residence materialised through the commissioning of a private architectural practice, Tom Mellor and Partners, with structural consultants, Ove Arup and Partners [Figure 64].

Figure 64: The Davy, Joule, and Faraday Halls of Residence (University of Salford, c1970h). North elevation.

Architectural historian Dennis Sharp (1933-2010) surveyed Oaklands Road (and the Allerton Building) in *Manchester* (Sharp, 1969, p. 68), noting how the site was used to the "fullest benefit." When constructed, the residence halls signified the College's growth ambition at the start of Phase III, accommodating 500 students in single study bedrooms. The Oldfield Road plot is where Lower Kersal meets Kersal, northwest of the Peel Park campus and west of the River Irwell and Kersal Wetlands. Land scarcity meant the Governors had to consider disconnected areas from Peel Park; the commutable relationship from the Maxwell Building was approximately two and half miles ("40 minutes on foot" *I Survived Oaklands Halls!,* 2008). The College acquired the site in 1958, construction started in 1962 and the project was officially handed over in 1964. This period marked the start of larger attempts to source land for rising residential and recreational needs. At the same time, the emphasis was on nurturing new and exciting collegiate atmospheres with interconnected buildings around courtyards and open spaces [Figure 65].

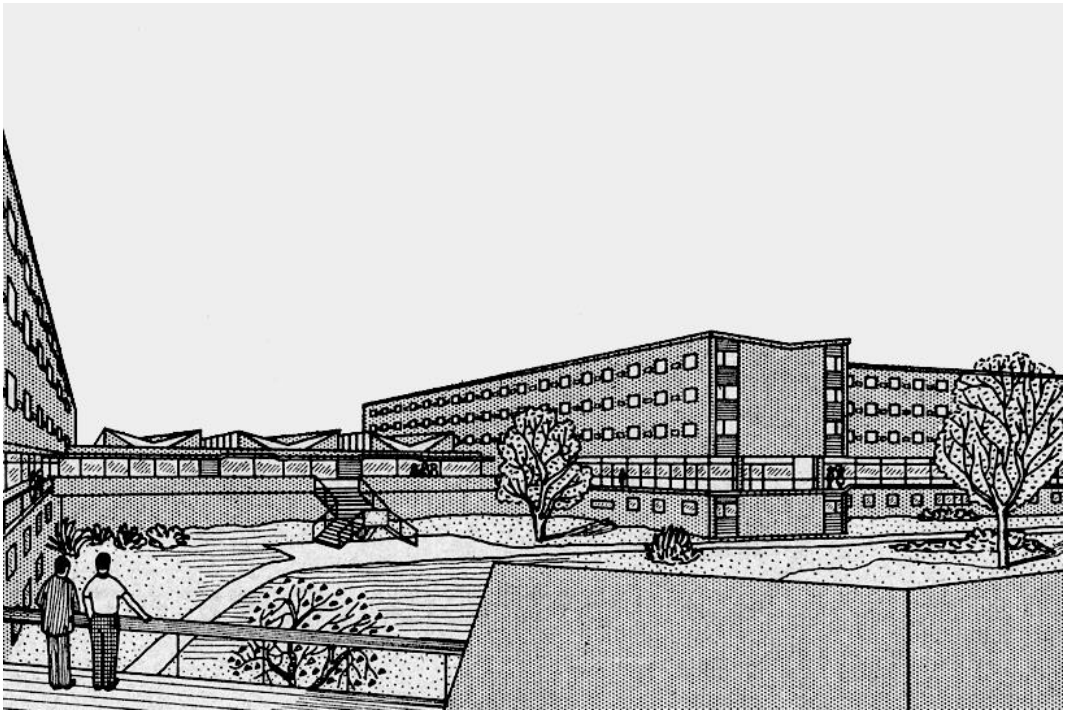


Figure 65: Sketch drawing: Oaklands Road residence halls (The Municipal Journal, 1961, p. 3057).

Mellor's architectural planning meant the residence halls were designed and constructed in response to their location, a steep sloping hillside with views toward Salford and Manchester. The overall design was created as three separate halls as much as they might look to be one building. The Ministry of Education funded the scheme, costing around £726,000 excluding furniture and equipment. The hall's location on the River Irwell's escarpment was perceived as dramatic by Architecture North West (1965, p. 21) who judged the building materials and finishes as providing an "informal and pleasant environment." The individual buildings were named after Humphry Davy (1778-1829), chemist and inventor, James Prescott Joule (1818-11 1889), physicist, mathematician and brewer originally from Salford, and Michael Faraday (1791-1867), scientist involved with electromagnetism. The Davy (1) and Joule Hall (3) formed an L shape, joined together by corridors. In contrast, the Faraday Hall (2) configured to the south, was open and almost linear [Figures 66 and 67].

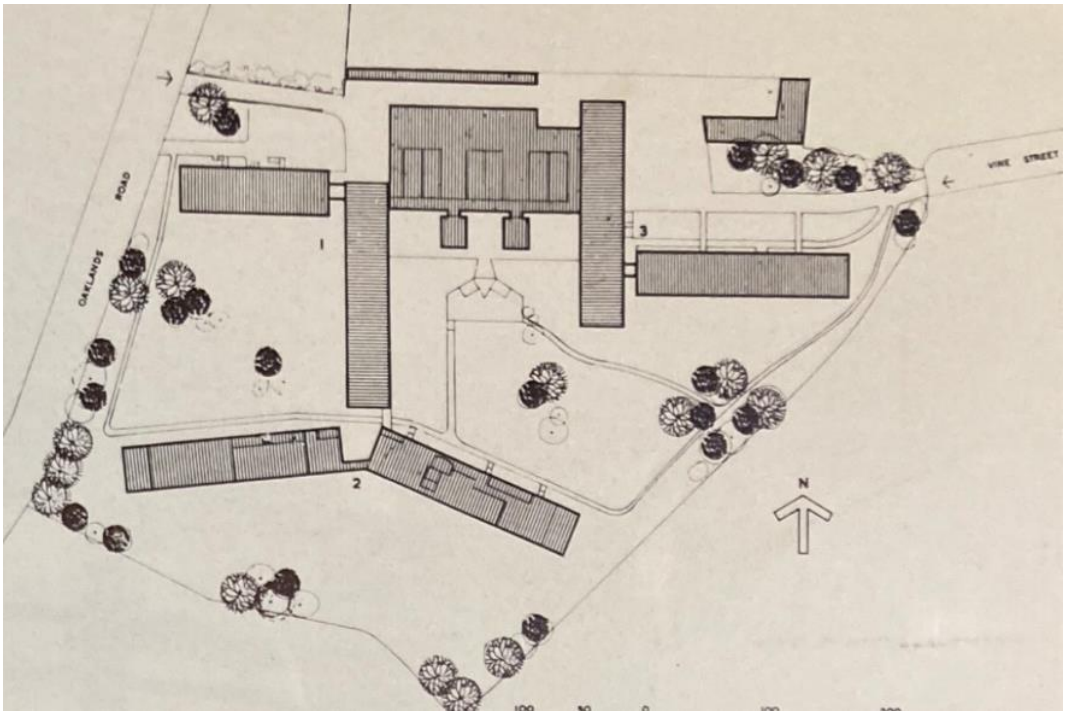


Figure 66: Site layout (Architecture North West, 1965, p. 21).

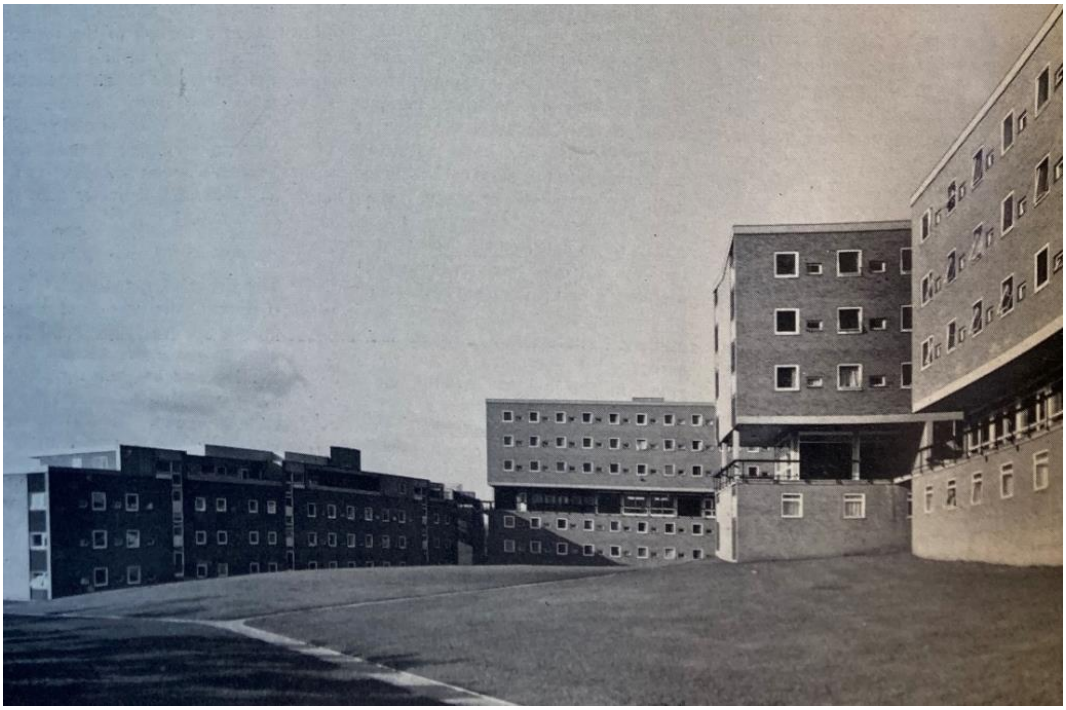


Figure 67: Faraday Hall (Architecture North West, 1965, p. 20).

Visits to other university residential facilities inspired the architectural planning and designs. At Liverpool, Mellor witnessed building scale and solidity, and at Loughborough, a corresponding caravan quality in the accommodation offer. With Salford, they aspired for a modest and domestic accommodation solution enabling students to feel part of a larger “corporate body living in a permanent and dignified building” (Royal College of Advanced Technology Salford, 1960a). Each hall had common rooms, a library, and staff accommodation. The residential blocks were constructed using pile foundations, brick cross-wall construction and concrete floors. Steel foundations were in place for dining and kitchen blocks. The roofs incorporated timber joists with a three-layer bituminous finish on wood-wool slabs. The blocks external walls were in-facing brick apart from the access level, which included extensive use of a timber framed glazed and boarded panel system. Heating was through a central boiler house with an oil-fired boiler. Radiators heated study bedrooms with each block incorporating separate metered electric fires and top-up heating, and some communal areas with under-floor heating.

Figure 68: Oaklands Road residence halls (Royal College of Advanced Technology Salford, 1960b). Construction.

The dining halls were sited at the highest point of the plot. Common rooms featured sliding partitions enabling the spaces to be reconfigured for social events including “large dances and concerts” (Royal College of Advanced Technology Salford, 1960a). A sizable kitchen facility serviced all three halls. The students, staff, and facilities entrance on Oaklands Road met a continuous pedestrian concourse that allowed access to all three blocks where communal and administrative accommodations were also accessed. The individual study bedrooms were mainly above the main pedestrian access point but were also below the walkway as the valley's topography changed, in case of the Davy and Faraday halls. The accommodation blocks comprised groups of nine study bedrooms with staircase access, a pantry, bathrooms, toilet facilities, showers, and storage. Each bedroom had built-in wardrobes and washing facilities [Figures 69 and 70].

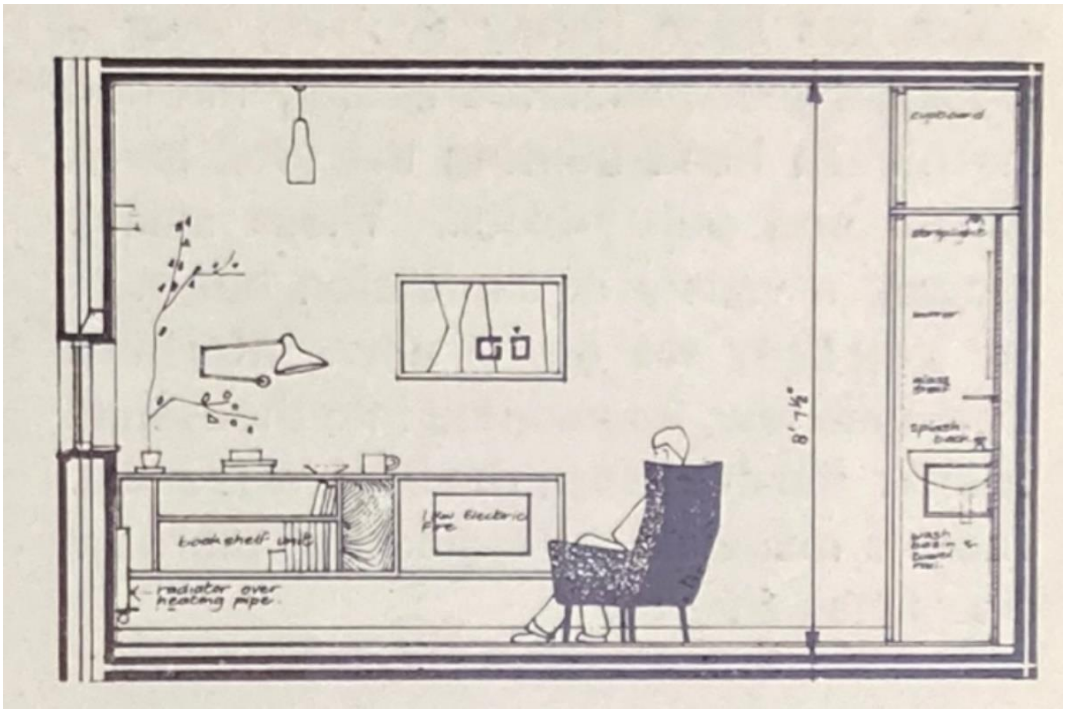


Figure 69: Study bedroom (Architecture North West, 1965, p. 23).

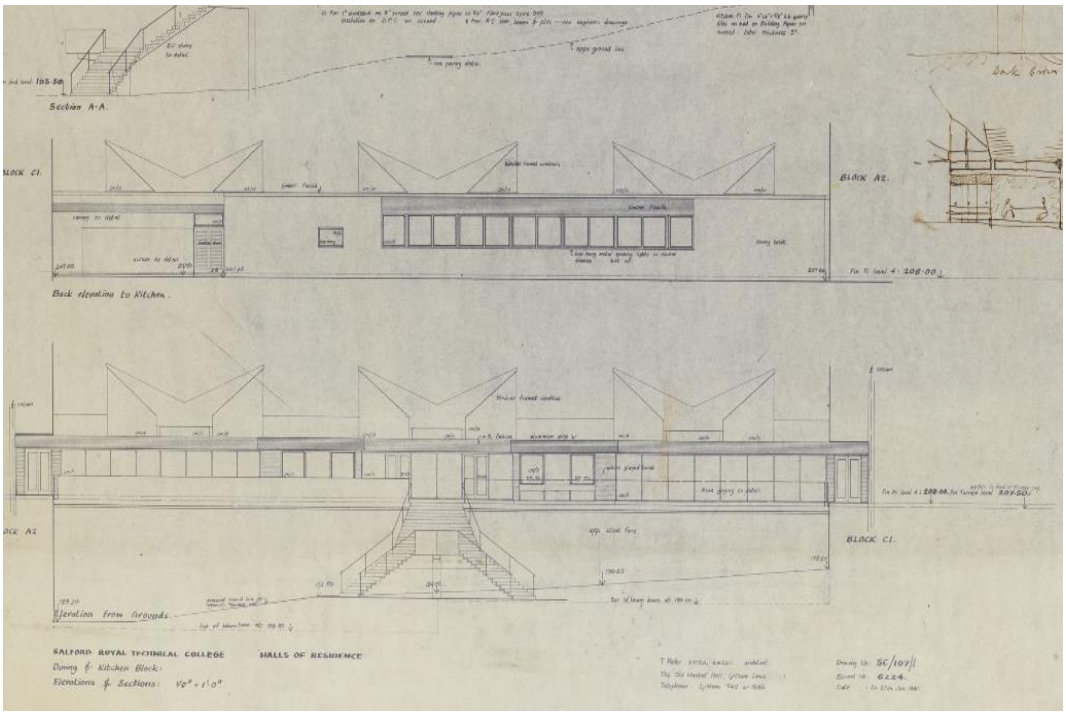


Figure 70: Detail: architectural drawing (Mellor, 1961). Drawing shows ground elevations of dining block and kitchen facilities.

Tom Mellor and Partners designs demonstrated a complete totality in a “large and tightly planned complex” (Architecture North West, 1965, p. 21). By designing the layout of all three halls, Mellor added minor elements to reduce the scale of individual buildings and create exciting spaces and multiple viewpoints of the campus and skyline. Terraces were positioned across the main access level and in view of common and dining rooms, with buildings interspersed with angularly pitched skylights and ceiling windows to change residents’ perceptions depending on where they stood or moved. To enhance pleasurable student experiences, decorative murals were incorporated adding playful and colourful details. The use of public art, described by Rosenberg and Cork (1992, p. 34) became more popular during the early 1960s, with local authorities quickly embracing art and sculpture in educational settings. This trend can be viewed as a continuation of earlier artists’ contributions including Henry Moore (1898-1986) and Barbara Hepworth, who produced work for Britain’s schools and new towns from 1950 [Figure 71].

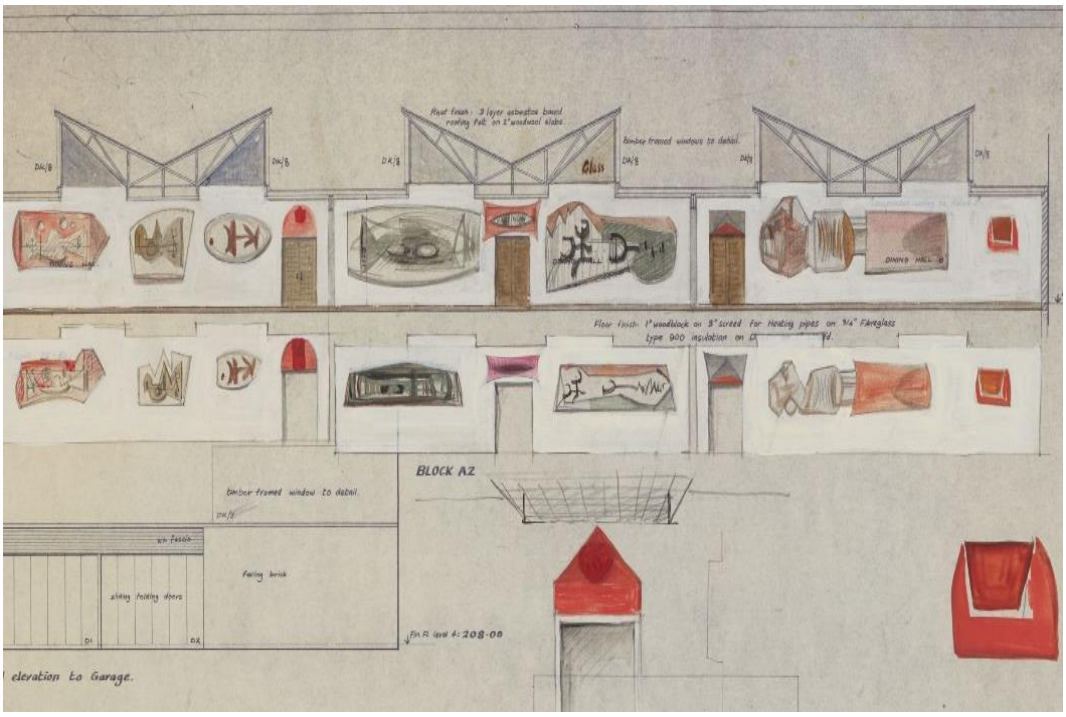


Figure 71: Detail: architectural drawing (Mellor, 1961). Drawing produced on 27 January 1961 shows the dining and kitchen blocks with colourful and decorative murals.

7.4. Sports Pavilion, 1963-1964

The Sports Pavilion is located at the former Littleton Road playing fields, on land Salford City Council sold to the Royal College of Advanced Technology, Salford in 1961. The site was planned from 1958 and repurposed to meet the evolving sports and recreation needs of students. The facilities were central to a programme of sports supporting the Physical Education Section and the Students' Union (Much Land, 1958). The Pavilion [Figure 72] demonstrates the College's flexibility with meeting changing legislation toward physical activity and accommodating a growing student population. Today, the Pavilion and Littleton Road playing fields are owned by the football club, Manchester United. When the University of Salford sold the land in 1988, the money was used to develop new facilities, mainly with the Castle Irwell Halls of Residence, that became the University's largest student community (University of Salford, 1986b, p. 6)].

Figure 72: Sports Pavilion (University of Salford, c1970j). Littleton Road playing fields.

At the start of the 1960s, the site met the College's immediate expansion needs, but were deemed inadequate by 1970. In comparison, the University of Manchester's playing fields were 100 acres for 7,000 students. Salford aimed to expand to approximately 70 acres to meet c4,500 full time students, and 5,000 students by 1974 (The Royal College of Advanced Technology Salford, 1962). While the Ministry of Education's approval was gained to redevelop further plots of land from the mid-1960s, "amounting to some 60-80 acres (Royal College of Advanced Technology Salford, 1963a), Littleton Road predates the Castle Irwell project. Due to land availability, locations much further away from campus were considered, such as Drinkwater Park, approximately four miles away in Prestwich (Royal College of Advanced Technology Salford, 1962a). Littleton Road was a solution for the nearby Halls of Residence and main campus, both just over a mile a half away. Alongside the Davy, Joule, and Faraday Halls of Residence, the Pavilion was built to architectural designs by Tom Mellor and Partners who proposed modernist changing facilities for the students using the grounds. Mellor's team designed the 19-acre site, and given the challenging topography with the River Irwell, managed to accommodate two rugby pitches, two football pitches, a hockey pitch, a cricket square, six tennis courts, and jumping pits. Sketch plans were submitted to the Governors in 1959 and were inspired by other facilities across Greater Manchester (Royal College of Advanced Technology Salford, 1959b). The final designs were simple and functional, acknowledging other contemporary pavilions designed and constructed for cricket, tennis, and crown green bowls.

Elevated above the ground, the Pavilion's rear and side walls are constructed using load-bearing brick. The ground level main entrance is covered with a small, cantilevered roof. Frontage toward the playing fields incorporated wood weather boarding set back from the protruding balcony, while white paint finishes gave a uniform feel. A first-floor function room originally allowed for refreshments and catering while

storage was across the ground floor. The main space is separated from the external viewing platform by floor to ceiling glass windows, their vertical panes split by thin steel frames in a horizontal fenestration. The balcony is open on three sides with access from the main room, and by an external ground floor staircase. The almost floating flight of concrete stairs projects away from the building and returns. The continuous oak handrail created a subtle safety barrier that traversed the entire edge of the cantilevered terrace. Twelve thin steel columns intersperse the balcony holding the canopy above the spectators to intensify the open setting. The original design included a self-contained caretaker flat. An almost flat, slightly sloping roof covers the structure. Figure 73 shows a student rugby match taking place at Littleton Road playing fields. The Sports Pavilion is right, with the Davy, Joule, and Faraday Halls of Residence background left. Centre background is the Lower Kersal Housing Estate (Royal College of Advanced Technology Salford, c1960b), constructed to alleviate housing shortages in Pendleton.

Figure 73: Sports Pavilion (University of Salford, c1970k).

7.5. Chemistry Tower, 1963-1971. Demolished 1993

The Royal College of Advanced Technology, Salford, was “located at the centre of a varied and extensive chemical industry” Ramage (in Whitworth, 1963, p. 964). To move with the times, the Chemistry Tower [Figure 74] was initially designed under the Lancashire County Council Architect’s Department, with consultant architects Courtaulds Technical Services managing the detailed design and construction. The contract was valued at approximately £1.5 million and included a new Boiler Plant and the Civil Engineering Block at the Meadow Road campus. Architecturally, the objective was to construct “the most modern and comprehensive facilities” (Unkown, c1963) with state-of-the-art facilities to strengthen the College’s position in the industrial supply of highly skilled technologists and scientists. In June 1971, the tower was fully handed over to the University (Whitworth, 1971, p. 16), creating a stark contrast with the neighbouring topography.

Figure 74: The Chemistry Tower (University of Salford, c1970b)..

At 14 storeys (51 metres), the intention for the Tower was to introduce a new era of modernist design aesthetics and construction across the campus to display the progressive courses in Chemistry, Mathematics and Liberal Studies. The Tower's strategic location and construction was approximately 10 metres between the Peel Building and the Museum and Art Gallery, both intended to be demolished [Figure 75].

Figure 75: Chemistry Tower (Royal College of Advanced Technology Salford, c1963c). Left: the Maxwell Building smaller five story block.

Courtaulds used and combined many new types of materials to showcase their architectural innovation in the field. The Tower's central core was made of reinforced concrete to house lifts, stairways, ventilation and service shafts. For the external walls, continuous bands of windows and precast concrete panels were used. The panels were adorned with glass mosaic, a self-cleansing and light colourful material that was characteristic of this period. Additionally, small sections of brickwork at the ground and first floor levels were incorporated to balance materials

and give the “building poise” (Unkown, c1963). The original plan included a courtyard that would connect the larger outer communal quadrangle, but this vision did not materialise due to the non-demolition of neighbouring buildings. Nonetheless, the proposed central space aimed to create a new campus nucleus facilitating pedestrian movement across a series of walkways around the perimeter. Verticality through design and construction was used to counteract space limitations. A similar strategy was seen in nearby construction across Pendleton [Figures 76 and 77].

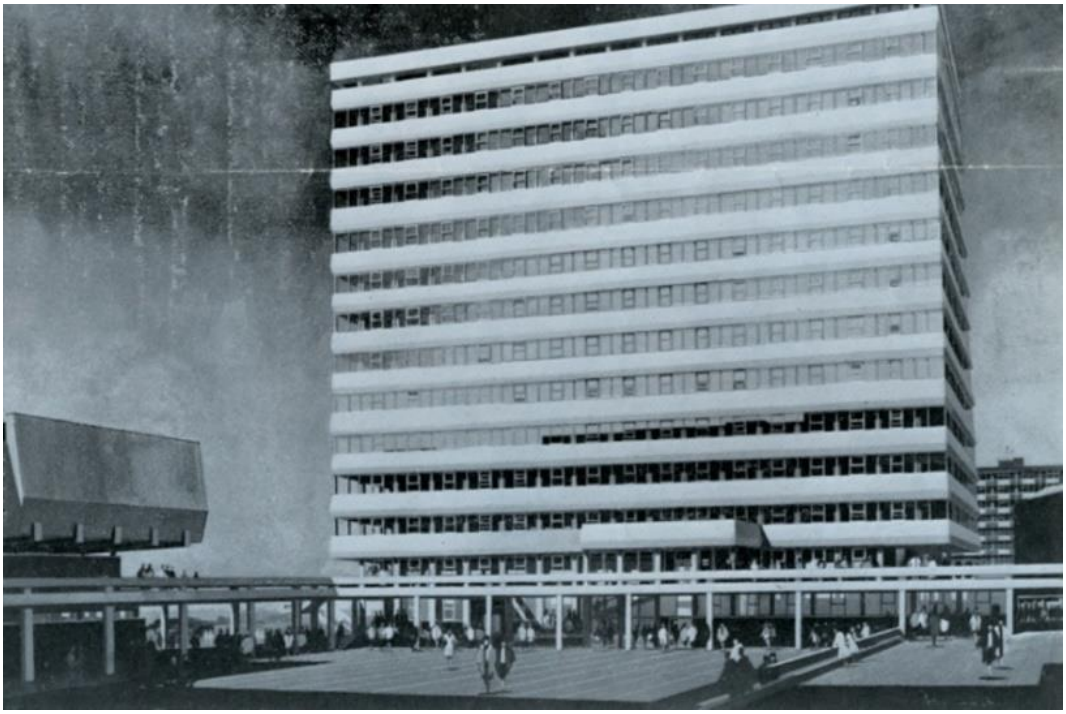


Figure 76: Architectural sketch (Unkown, c1963). Chemistry Tower.

The Chemistry Tower was equipped and serviced with a twenty-four car Paternoster lift which continuously moved and was designed to cope with heavy student traffic. Complementing the Paternoster arrangement was a high-speed staff and goods lifts. To ensure a comfortable environment, a ventilation system provided electrostatically filtered warm air inducted at ceiling levels and extracted through a well-balanced system. To address heat loss, hot water convector heaters were strategically installed below

levels to balance the building's temperatures. In addition to the standard water and electrical services, the Tower was also equipped with steam, vacuum, gas and compressed air pipelines, extending to the appropriate laboratory benches. Special attention was given to specific areas to limit vibration and sound, as well as to control the temperature and humidity where delicate instruments were housed.

Figure 77: Chemistry Tower (Royal College of Advanced Technology Salford, c1963b)..

At the court level, the Tower housed dedicated laboratories with metallurgical, anti-vibration, X-ray and specialised instruments alongside general-purpose laboratories. This level also housed facilities such as a liquid nitrogen storage area, a central storage space, maintenance workshops and staff rooms. Upon entering the Tower through the main entrance at the ground floor level, visitors encountered a series of interconnected lecture theatres. Classrooms were spread across the first floor, accompanied by a dyehouse, an applied chemistry laboratory, and additional staff rooms. The second floor housed teaching and research laboratories for physical chemistry, theoretical chemistry, spectroscopy

and instrument analysis. The third floor was dedicated to teaching and included inorganic and analytical chemistry research laboratories. Organic chemistry facilities, including areas for hydrogenation and chromatography occupied the fourth and fifth floors. The sixth floor held various subjects such as physiology, pharmacology, zoology, biology, histology and microbiology. The Departments of Mathematics and Liberal Studies extended across the seventh to the eleventh floor and included teaching and research spaces. Finally, the twelfth floor consisted of a snack bar and a roof terrace that offered panoramic views of the surroundings. Figure 78 illustrates the Chemistry Tower's proximity to the surrounding buildings. To the left, the Cockcroft Building's southwest elevation is visible, with the Maxwell Building in the distance. Adjacent to the Peel Building were prefabricated teaching and catering structures. These temporary buildings were used to meet ongoing demands from student admissions.

Figure 78: Chemistry Tower (Cruikshank and Seward, Unknown-b).

7.6. Central Boiler Plant, 1963-1967. Demolished unknown

The Central Boiler Plant House exemplified architectural functionalism through brick construction and raft foundation. The Plant's purpose was to support the Royal College of Advanced Technology, Salford's developing campus infrastructure, mainly by housing two John Thompson boilers to supply power to the Chemistry Tower, the Nuclear Sciences Block (Cockcroft Building) and the Civil Engineering Buildings on the Meadow Road campus. Pivotal in supporting the infrastructure associated with these earliest buildings within the *Major Development Plan* (1964), Courtaulds Technical Services' architectural design included essential components such as an electrical distribution room, a pump room, oil storage tanks, and necessary equipment for operational control. A self-supportive steel chimney removed the boiler gasses (Unkown, c1963), with further boilers added by the end of the decade (Whitworth, 1970, p. 17). The plot was situated where today's New Adelphi Building is located.

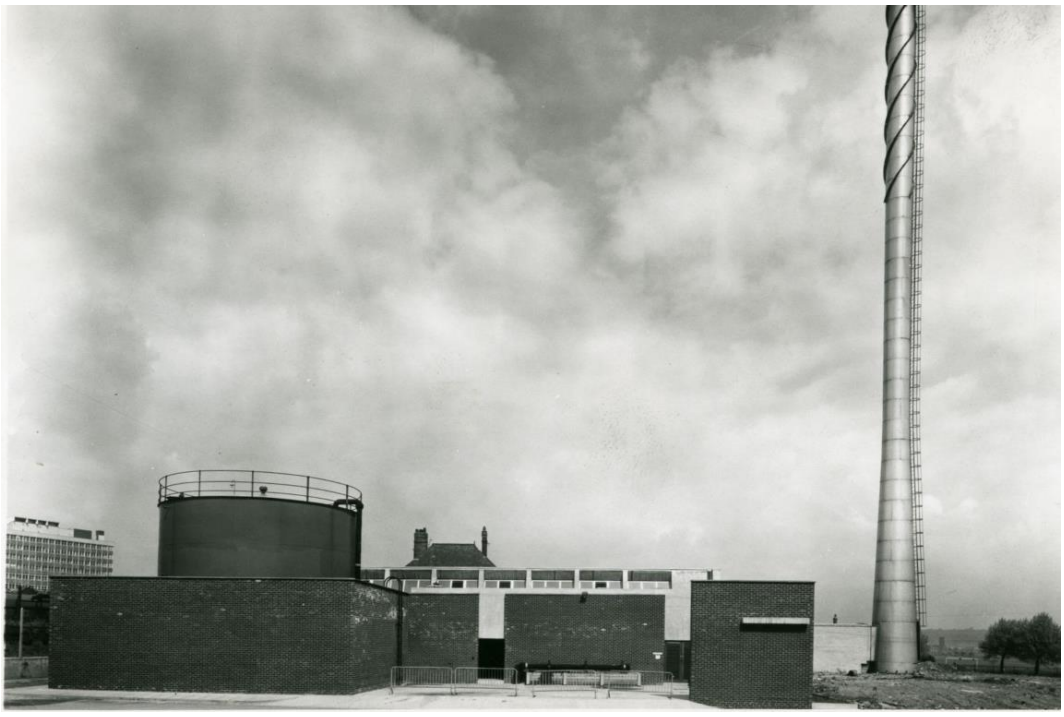


Figure 79: Central Boiler Plant House (University of Salford, c1967).

Figure 80: Central Boiler Plant House (Royal College of Advanced Technology Salford, c1963a). East elevation.

Figure 81: Construction of Cockcroft Building (Royal College of Advanced Technology Salford, 1965). Middle: Central Boiler Plant House. Far left: the Allerton Building under construction.

7.7. Cockcroft Building, 1964-1966

The modernist Nuclear Sciences Block symbolised the Royal College of Advanced Technology, Salford's commitment to nuclear sciences and served as a testament to the dedication of cutting-edge research and innovation in nuclear physics. At the time, the building represented the substantial progress achieved by the Departments of Pure and Applied Physics, as well as Chemistry and Applied Chemistry, since their occupancy in the Maxwell Building from 1960. Later renamed in honour of Sir John Cockcroft (1897-1968), a Noble Prize winner and nuclear physics pioneer, the Cockcroft Building provided highly specialised capabilities for the management of radioactive substances and ionising radiations. An advancing campus was now beginning to contrast with an older city. Figure 82 offers a glimpse into the history and development of both the city and University, showing the modern Cockcroft Building with the Central Boiler Plant's metal chimney juxtaposed against older Victorian factories and brick chimneys.

Figure 82: Cockcroft Building (University of Salford, c1970d).

Architecturally, the Lancashire County Council Architect's Department considered building a Nuclear Sciences Block from 1955, after the College was informed about the introduction of more specialist courses in line with the Atomic Energy Commission. While the building was initially part of *the Comprehensive Masterplan* (1961), the complexities associated with the building's infrastructure and the inclusion of dedicated equipment, necessitated additional specialist architectural support to meet the Commission's new and evolving requirements. W.S. Atkins and Partners were commissioned to progress the County Architect's ideas and, when Courtaulds Technical Services took over the contracts from 1963, they worked together on the detailed design and construction. Shortly after completion, the *Salford City Reporter (Varsity nuclear, 1967, p. 1)* declared "Varsity nuclear block swings in to action" and that a world of computers was now at the centre of the city. They wrote that the use of contemporary machines and specialist and hazardous raw materials was similar to "television thrillers and science fiction stories" [Figure 83].

Figure 83: Cockcroft Building (University of Salford, c1970e).

The Cockcroft Building is technically two main building blocks: a four storey block and three-story block interconnected by lower corridors and a facilities area forming an irregular 'L' shaped arrangement. Constructed with dark grey construction brick and stone, a ribbon of vertical windowpanes wraps around the building. A once colourful painted mural on the east elevation softened the building's functionality.

Upon completion, the nuclear sciences facility was one of a few university buildings in the United Kingdom designed to safely handle radioactive materials, as well as the co-ordination of innovative research equipment and teaching. The building opened in 1966 and was used by the Departments of Biology, Chemistry and Physics. Figure 86 shows the building from the former Meadow Road campus (left to right: Maxwell Building, Chemistry Tower, Cockcroft Building and the Central Boiler Plant House). The internal facilities were divided into a hot section to manage highly radioactive materials and a cold section for lecture theatres, offices, workshops and laboratories (Whitworth, 1967, p. 29). The success of the Departments was highlighted in *The Chemistry and Industry Journal* (Yates in Whitworth, 1963, p. 970). The College's collaborative relationship with the Harwell Reactor School since 1958 created new and advanced courses in Nuclear Power Technology. In addition, Physics enjoyed several successful industrial relationships with specialised firms including the Atomic Energy Authority, General Electric Co. Ltd., The Safety in Mines Research Establishment, and the Northwestern Gas Board.

The Cockcroft Building [Figure 84] housed both general-purpose laboratories and specialist facilities. The optics and spectroscopy laboratories held Michelson and Fabry-Perot interferometers, a Rayleigh refractometer, various spectrometers for infrared, ultraviolet, and visible spectroscopy, micro-densitometers and other precision instruments for research and teaching. Additional laboratories focused on heat, general

properties, electricity, applied physics, X-rays, gamma-radiography, radiation measurements and electron microscopy. The radiation work apparatus included a 10-curie polonium-beryllium neutron source, a gamma-ray spectrometer, a reactor simulator, sub-critical assembly and counting equipment. The building had three X-ray crystallographic units including a single crystal automatic scanning goniometer. For radiography, a 250 kV X-ray unit and a 500 millicurie cobalt-60 unit were available. Two electron microscopes were used for research and teaching. Laboratories had equipment for noise analysis, strain benches for photo-elastic measurements and high-vacuum lines (Whitworth, 1963)

Figure 84: Peel Park campus (University of Salford, c1970i). Right: Cockcroft Building.

7.8. The Brindley, Telford, and Smeaton Buildings, 1965-1969. Demolished c2006

The Department of Civil Engineering was central to the architectural development within the *Major Development Plan* (1964). The *Civil Engineering Buildings Design Report* outlined the building division as part of Phase III+. The design included three buildings across 50,000 square metres to accommodate 600 students east of the River Irwell, on the newly created Meadow Road campus. Including equipment, the scheme cost approximately £6 million. The buildings were opened on 3 June 1969 by Dr J.H Hellet, the President of the Institution of Civil Engineers (Whitworth, 1969, p. 34). They were later named the Brindley, Telford, and Smeaton Buildings, and symbolised the University's dedication and commitment to research and technical skills within the field of civil engineering [Figure 85].

Figure 85: The Telford and Brindley Building (Whitworth, 1968). Main entrance.

Figure 86 demonstrates the building configuration for the Meadow Road campus. Building A, Telford was named after Thomas Telford (1757-1834), first president of the Institution of Civil Engineers; B, Brindley was named after James Brindley (1716-1762), canal builder involved with Worsley and Manchester canal; and C, Smeaton, was named after John Smeaton (1724-1792), engineer for Eddystone Lighthouse (Whitworth, 1970).

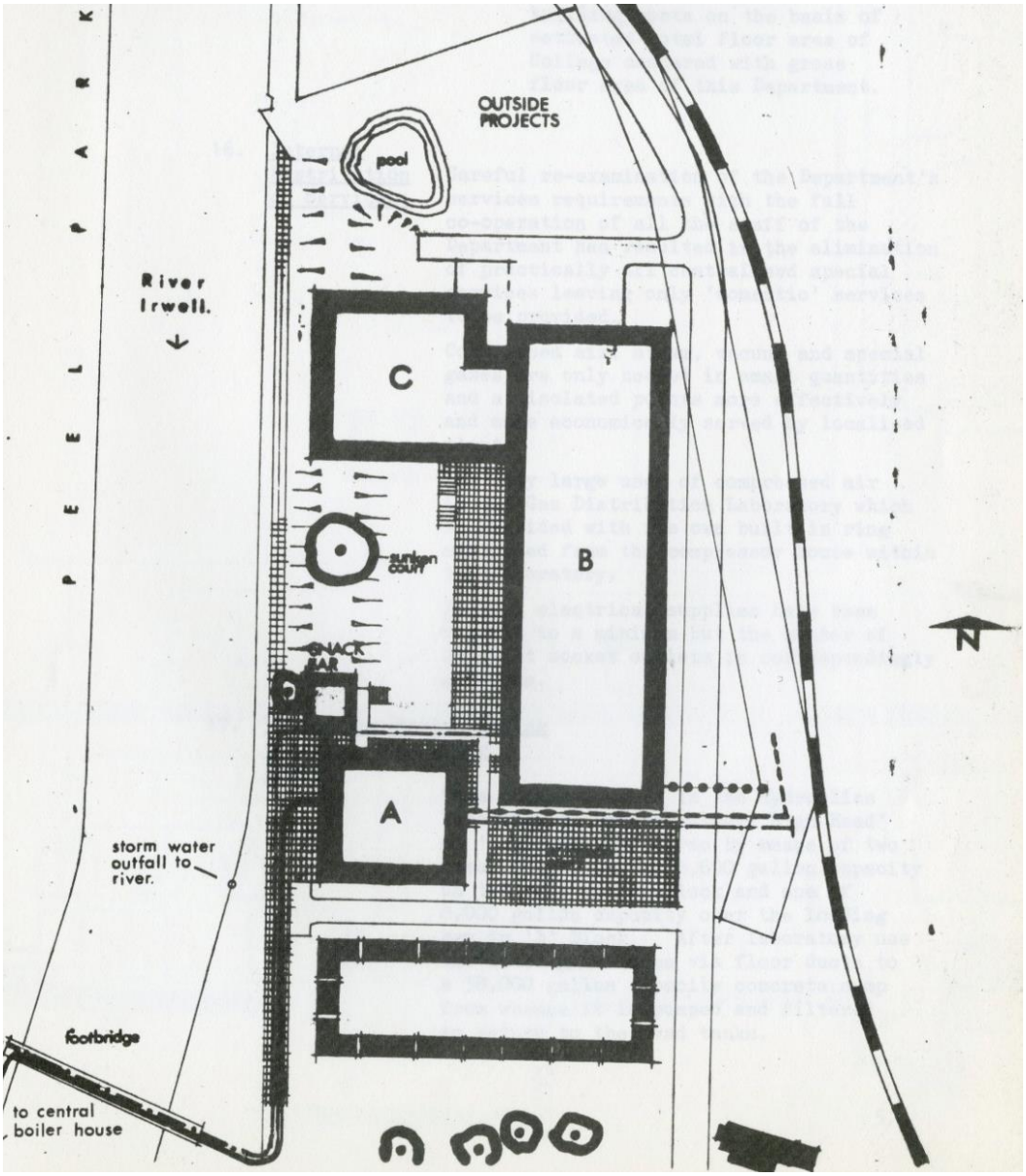


Figure 86: The Civil Engineering Buildings (Courtaulds Technical Services, 1964b).

The Telford Building (A) was a six-storey block constructed with reinforced concrete, built for administration, lecture theatres, and laboratories. The Brindley Building (B) east and north elevations were imposing in scale, a complex steel-framed structure with multiple levels and functions featuring a unique honeycomb arrangement of workrooms and laboratories. They accommodated hydraulics laboratories, machine shops, structures laboratories and gas engineering laboratories. The west elevation, aligned with the design of the multi-storey building, housed smaller-scale laboratories. The Smeaton Building (C) was a single-storey wing constructed with a steel frame and extended over a sunken court. Research and laboratories focused on engineering materials and soil mechanics. An external courtyard created a screening effect for research concerning the weathering of construction materials including concrete and timber (Courtaulds Technical Services, 1964b). Aesthetically, each building used a similar material palette to the Chemistry Tower. Adjacent to the river was a timber constructed refreshment bar for staff and students to socialise in. The Café Bar's hyperbolic paraboloid roof structure was reminiscent of American modernist design [Figure 87].

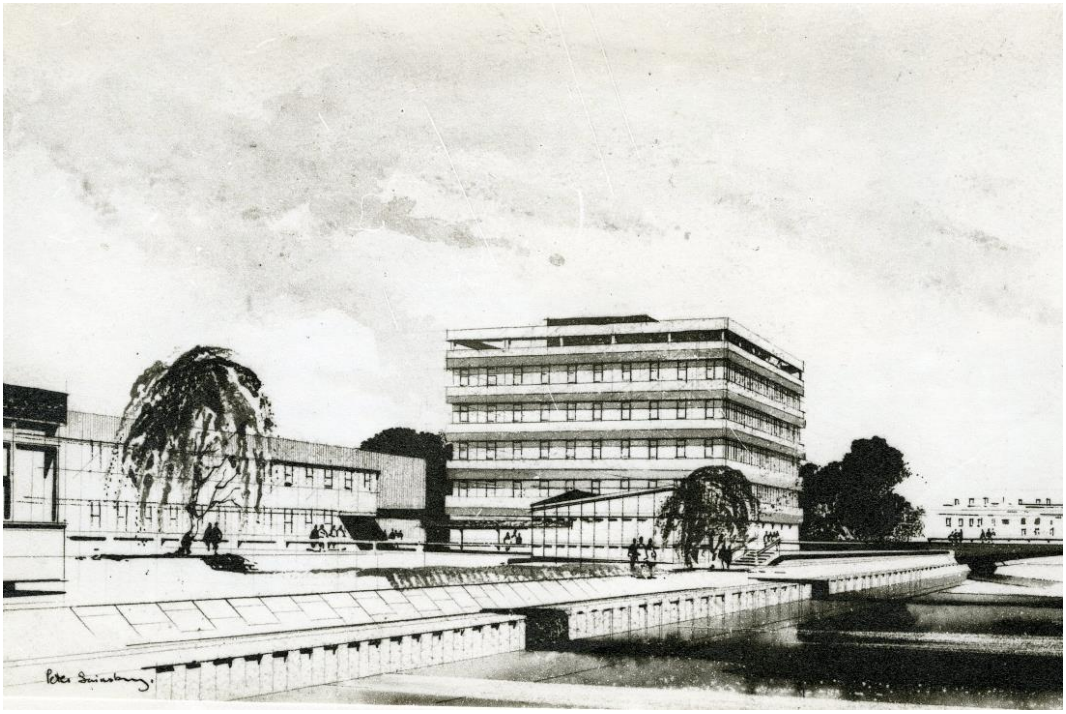


Figure 87: Sketch: Civil Engineering Buildings (Courtaulds Technical Services, 1964b).

Unique features enhanced the buildings functionality. Laboratories had stiffened floors with jacking points to support 50 tonnes. An electric overhead crane had a five-tonne capacity and nine-metre headroom. Laboratories were well-equipped with various straining frames, testing machines, and pulsators enabling complex research projects. Ancillary laboratories catered to material technology, strength and photoelasticity. Gas engineering laboratories were designed for high-pressure distribution. A hydraulics laboratory allowed modelling work for water resources. An analogue computer was dedicated to pipe networks, while other laboratories supported geology, soil mechanics, road materials, surveying, and transport (Courtaulds Technical Services, 1964b). Two bridges were designed to connect the campus across the River Irwell. An unrealised northern vehicular bridge and a southern pedestrian bridge which is used today [Figure 88].

Figure 88: Meadow Road campus (Whitworth, 1968)..

7.9. Clifford Whitworth Library, 1966-1971

A central library component was integral to both architectural masterplans and reflected the sector's expectation for new universities. Courtaulds Technical Services managed the planning from 1965 with construction starting the following year under the Ministry of Education and Science's building programme. However, an intricate design process delayed construction with building work continuing into the 1970s. The University Grants Commission stipulated 100,000 books which increased due to the growth of social sciences and liberal studies. The University of Salford accommodated the increases to meet the projected student population, 4,300 by 1972 (Royal College of Advanced Technology Salford, 1966). His Royal Highness Prince Philip, the Duke of Edinburgh officially opened the Library in 1971, which was renamed in honour of the first Vice Chancellor. This marked a commitment to then modern resources with 210,000 books for 700 readers and eventually 1,250 readers (Whitworth, 1969). Figure 89 depicts the Library which became central to the newly forming campus spine with pedestrian walkways.

Figure 89: Clifford Whitworth Library (University of Salford, 1971).

By 1968 Courtaulds were known as W. F. Johnson and Partners. The *Central Library Design Report* (Courtaulds Technical Services, 1965) was informed by an analysis of individual departments. Their research established a preferred central location, away from noise, and pleasant views for the reading rooms. The proposal served all of the University's Departments with extended opening times, unlike other communal facilities primarily accessed at recreational periods. Quiet conditions meant the architectural planning avoided main roads and nearby railway tracks that required sound insulation. The chosen plot near Peel Park's embankment is adjacent to the Cockcroft Building, enabling easy access from the campus' extended pedestrian concourse, and the former Meadow Road campus. Figure 90 illustrates an earlier architectural sketch showcasing the Library and a proposed sunken courtyard from the Mechanical Engineering Block. Background, the proposed Liberal Studies Block. Figure 91 (1965) is from Peel Park showing an elevated pedestrian bridge connecting the Library to the Liberal Studies Block. The plans for this block, bridge and Mechanical Engineering Block in the distance were unrealised schemes.

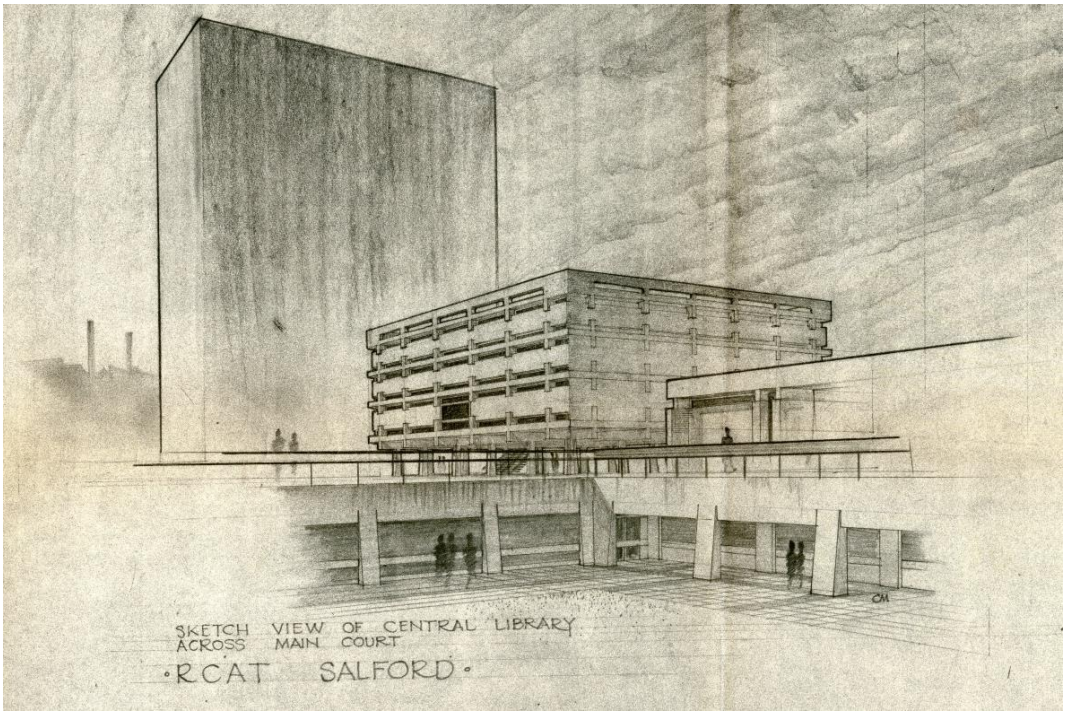


Figure 90: Architectural sketch (Lancashire County Council, c1961).

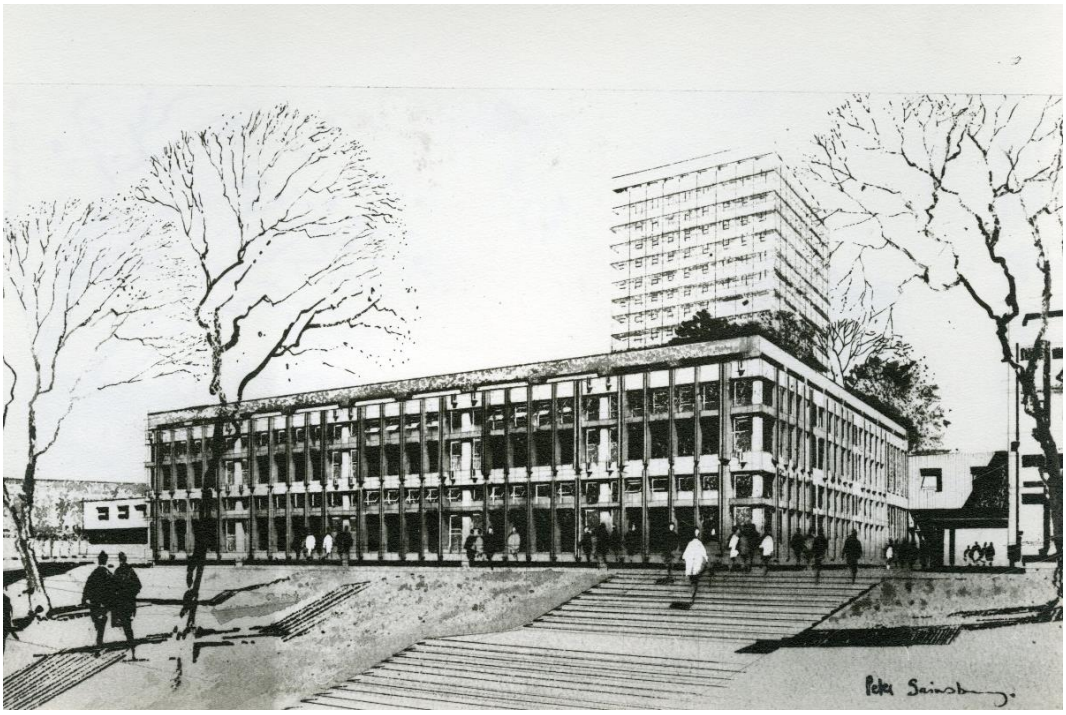


Figure 91: Architectural sketch: Central Library (Courtaulds Technical Services, 1965).

The scale of accommodation was based on recommendations made by the Ministry of Education, the Governing Body, and Principal. Their proposals were in response to the University Grants Commission who produced a study of university library requirements. After becoming Vice Chancellor, Whitworth (1969, p. 22) was clear about the intentions for the new facility. Until this point libraries had rarely been large enough or sufficiently adaptable to meet unforeseen demands after their completion. He said, “Salford does not claim to have the final answer to this problem but has attempted to ensure that the Library’s functions can be easily changed, that resources are readily accessible to all readers, and the staff can serve the needs of readers easily and efficiently.” The accommodation was divided with a portion allocated to specific departmental libraries and the rest assigned to the central facility. There were three categories: reading areas, book storage areas, and ancillary spaces. Two equal-sized reading rooms were constructed due to the site’s dimensions which hampered the ability to build a single floor. Books were

divided into open and restricted access (Courtaulds Technical Services, 1965) [Figure 92].

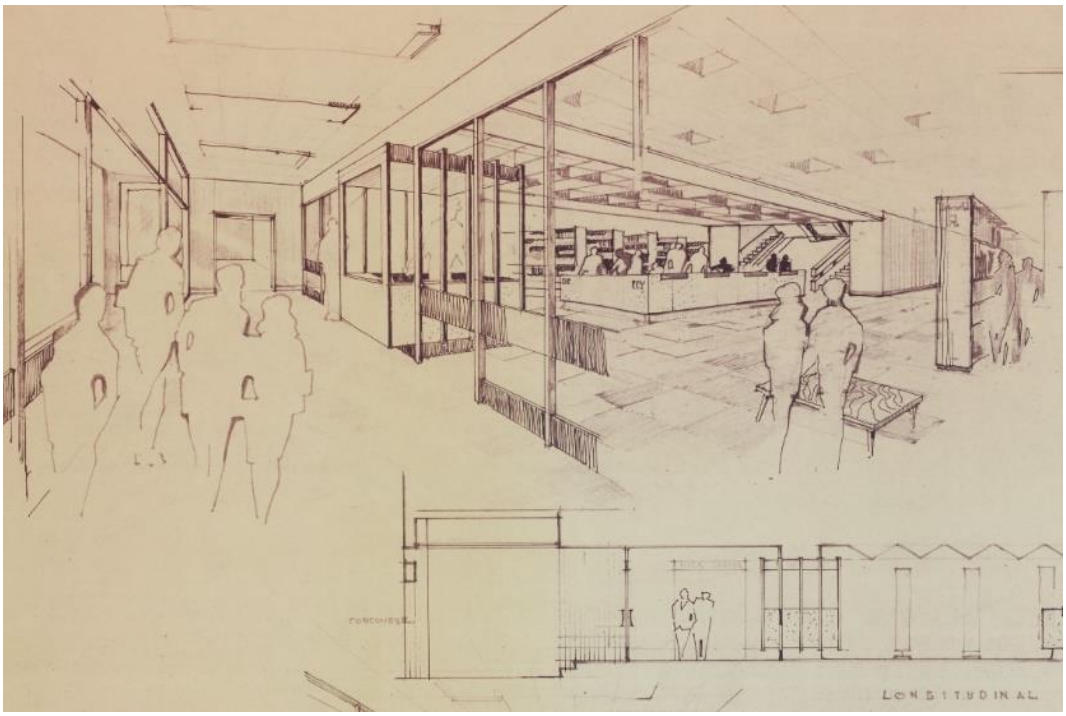


Figure 92: Architectural sketch (Johnson & Partners, 1967). Library main counter and longitudinal section for the main hall and offices.

To ensure high-quality construction of the Library within the allocated budget, Courtaulds adopted an economical and straightforward layout with the designs emphasising repetitive units across each of the two floors. The eastern section was dedicated to the main reading rooms with scenic views of the park. The western section comprised offices and other ancillary areas, while the central portion housed the book storage facilities (Courtaulds Technical Services, 1965). The main entrance faced the future location of the proposed multi-storey building for the Department of Liberal Studies. The intention was for the entrance to be accessible under cover from most areas of the campus [Figure 93].

Figure 93: Architectural sketch: Central Library (Courtaulds Technical Services, 1965). Right: Chemistry Tower.

The City of Salford's poor air quality led to careful consideration of external materials. The structural materials featured impervious finishes that resisted surface staining and were light in colour, creating a visual contrast with the precast non-structural framework and balustrading. The wall panels were made of natural concrete with a vertically ribbed surface which gradually darkened over time. The infill panels were constructed using black sand faced brick. The reinforced concrete and slab construction is brick clad with the external elevations faced with white tiles (*The Crown Journal*, 1971, p. 5). The windows were anodised aluminium. Internally, the furniture and fittings were chosen for their robustness. Simple finishes contributed to a cohesive aesthetic. To ensure optimal sound conditions, areas were equipped with suspended ceilings. Floors were finished with flexible vinyl tiles; their resilient backing was durable and comfortable. Reading rooms used strip carpeting for pedestrian routes to reduce noise and enhance acoustics (Courtaulds

Technical Services, 1965). By incorporating these design elements and material choices, the Library aspired to a conducive study and research environment. This aim can be seen in Figure 94 (one of several architectural sketches housed in the University's Archives and Special Collections, created by architectural artist, Peter Sainsbury) and Figure 95.

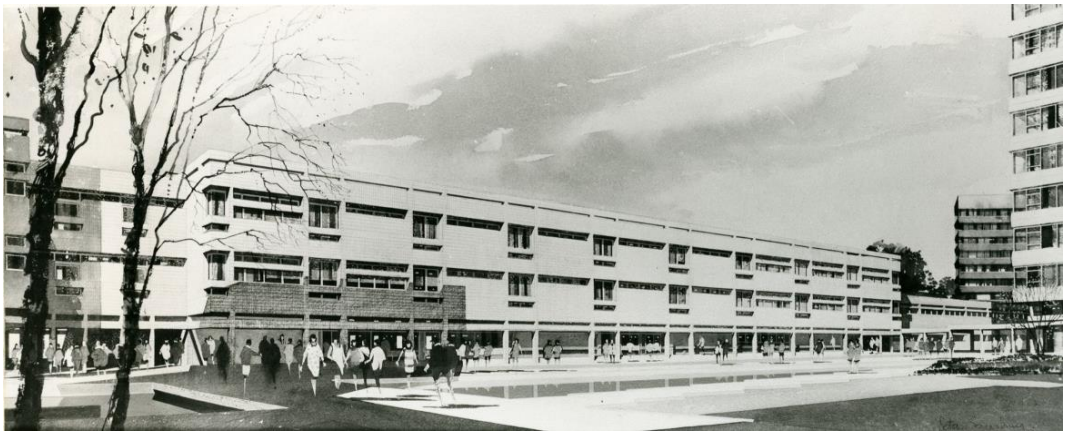


Figure 94: Artist impression: Clifford Whitworth Library (University of Salford, c1970a).

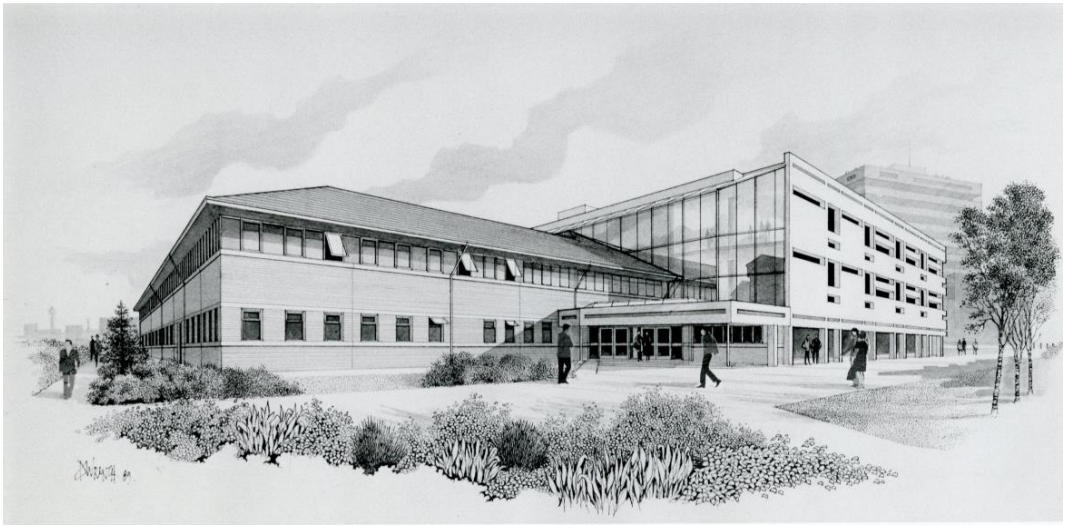


Figure 95: Architectural sketch: Central Library extension (Cruikshank and Seward, Unknown-a).

7.10. Chapman Building, 1969-1972

The University of Salford's Chapman Building was designed as a multiple purpose Lecture Theatre Block and formed a major component within Phase III+. The building programme was planned for 18-months with funding from the University Grants Commission in 1969. Preliminary discussions with the Development and Planning Committee at Salford City Council were approved before final meetings took place with the Commission, who took an active interest with the architectural process. Today, "this latter day piece of brutalism is buried within the campus" (Brook, 2017, p. 73). At the time, Pevsner described the building as exemplifying a "Southbank look" (Hartwell et al., 2004, p. 623). This description referred to the predominantly windowless grey concrete façade, similar to the complex of buildings at London's Southbank Centre, designed by the London County Council Architect's Department under Norman Engleback (1927-2015) (Smith, 2020)). Figure 96 shows the Chapman Building with Pendleton's residential point block towers.

Figure 96: The Chapman Building (University of Salford, 1973).

The building's scale meant its logical position was to be as central as possible to the main student areas. Minimal windows meant views of Peel Park were not a priority. The building was finally constructed on the site of the Saw Mill and Timber Yard (Kirkham and Ashtons Ltd). The entire plot is elevated, on a plateau created during the early twentieth century from landfill. Due to the proximity to the canal, the ground varied in depth and required piled foundations (Courtaulds Technical Services, 1968). However, emerging architectural research at the time led to the use of a new technique called vibroflotation, eliminating some of the expensive costs linked with large-bore piling (Whitworth, 1969, p. 22).

The internal planning to the elongated form was dictated by the masterplan. Five lecture theatres accommodated 150-500 students and were directly accessible from the pedestrian link between the proposed Mechanical Engineering Department and the Physics Department. Each theatre was designed as an independent unit to insure sound insulation. The two larger theatres were accessible from the first floor, while three smaller theatres were situated at ground-level. Each space was designed with wheelchair access, and staff could easily access teaching materials, equipment and stage sets. A cloakroom and toilet facility were situated off the main entrance hall along with a preparation room, equipped with a fume cupboard. The finishes for the floors, walls and ceilings were selected to offer economical and functional options that aligned with the interior's expression and aesthetic (Courtaulds Technical Services, 1968).

Externally, the design aimed to visually represent the diverse forms, sizes, and functions of the accommodation through a distinctively sculptured treatment. This cost-effective method resulted in consistent surface treatment that shaped the accommodation and led to a reinforced concrete structural system. Light-coloured aggregate with white cement broke up the expanse of concrete walls into panels of suitable proportions. The theatres were designed as un-fenestrated concrete

boxes to reflect the slope of the floor externally. The main staircase featured a glazed roof, the upper level had expansive panoramic views of the central court area. The block enclosed a courtyard area with the Cifford Whitworth Library and later Horlock Court, which was pivotal to a proposed covered pedestrian system across the campus (Courtaulds Technical Services, 1968) [Figure 97].

Figure 97: Looking toward the Chapman Building (University of Salford, 1986a).

7.11. University House, 1970-1972

In October 1969 the University Grants Commission agreed to increase the size of the University of Salford's administration accommodation, catering facilities, sports facilities and the Students' Union. The total cost of the building work was £515,000. Renamed, University House, the communal facilities were designed by Courtaulds Technical Services and were the outcome of earlier efforts to establish a dedicated staff facility as part of the *Comprehensive Development Plan* (1961). Cementation Ground Engineering were involved with the preliminary site preparation and foundations, and in March 1970 the building contract was awarded to H. Fairweather and Company for the completion of the build (Whitworth, 1970, p. 16). Aesthetically similar to the Chapman Building with the use of internal and external concrete, both buildings introduced an altogether different modernist form and style to the campus.

Figure 98: University House (University of Salford, c1970l). North car park.

7.12. Newton Building, 1972-1976

The Department of Aeronautical and Mechanical Engineering experienced rapid expansion during the mid-1960s before officially moving into the Newton Building in 1976. The University's need for an allocation of funds amounting to approximately £2 million to replace the older and temporary facilities in the Adelphi Building had been requested consistently since 1965 (Whitworth, 1968, p. 18). A purely functional design moved away from what had gone before. Phase one was handed over in March 1975, with the final phase completed in September 1976 (Horlock, 1976, p. 50). Named after the scientist and mathematician, Sir Isaac Newton (1642-1727), the building is the culmination of more than a decade of architectural planning and delays related to financing. This affected courses in mechanical, aeronautical, and production engineering. Envisioned in both the 1961 and 1964 masterplans, the original designs were predicated on the demolition of the Peel Building and Salford Art Gallery and Museum.

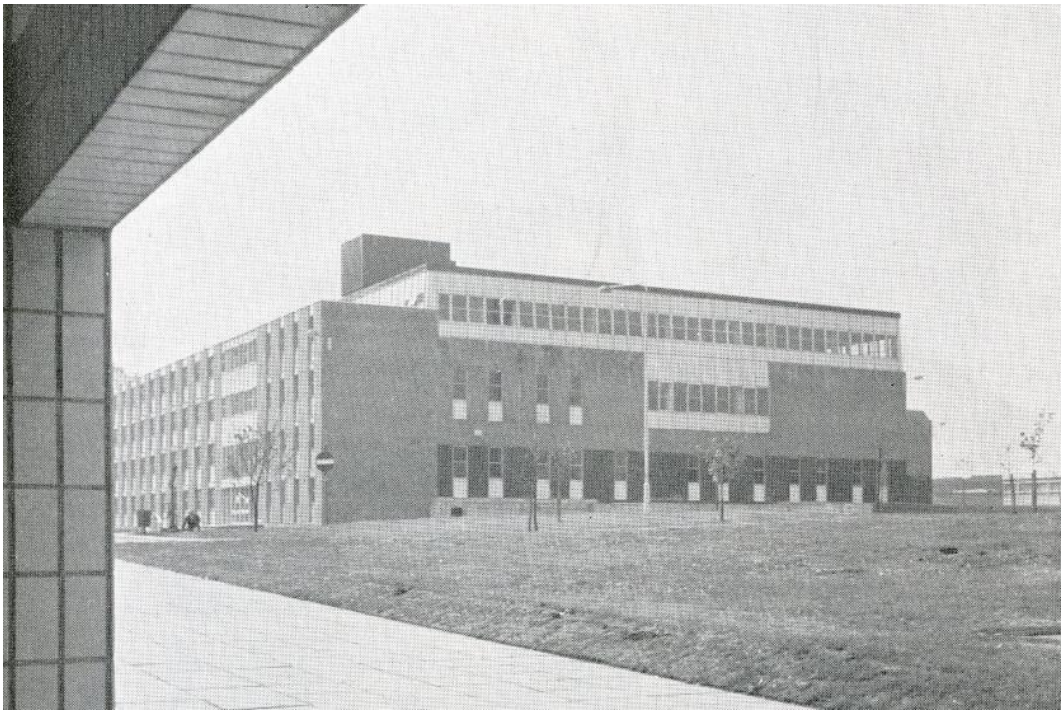


Figure 99: Newton Building (Horlock, 1976).

7.13. Separate works to the masterplans

Allerton Building, 1963-1967

In 1967*, the Guardian* (Darling, 1967, p. 12) claimed that the new Salford Technical College "will make a real contribution to the improving Salford environment." Adjacent to areas of mass redevelopment, the newspaper alleged that the newly constructed building showed a robust quality aligned with the nearby modernising city. The University of Salford's Allerton Building [Figure 100] was initially designed to accommodate Salford Technical College after the segregation of the Royal College of Advanced Technology, Salford in 1958. This involved the shedding of less advanced work and courses. Salford Education Committee authorised the scheme to accommodate 3,300 students and 1,000 teaching staff. Construction began in 1963 and the building was officially opened on 15 June 1967 by His Royal Highness Prince Philip, the Duke of Edinburgh.

Figure 100: Allerton Building (University of Salford, 1967a).

The Allerton Building is unmistakably modernist, and, despite considerable differences from the Maxwell Building and Hall, the design intention embodied the institution's future ambition. The architectural designs were by the Manchester-based private practice Halliday and Meecham, with consulting engineers C. S. Allott and Sons and S. I. Sealy and Associates, and the main contractor Gerrard and Sons. At the time, Graham Ashworth, Director of the Northwest Civic Trust praised the governors, education committees and architects for the final construction. Ashworth (in Darling, 1967, p. 14): "a good building has been completed in Salford."

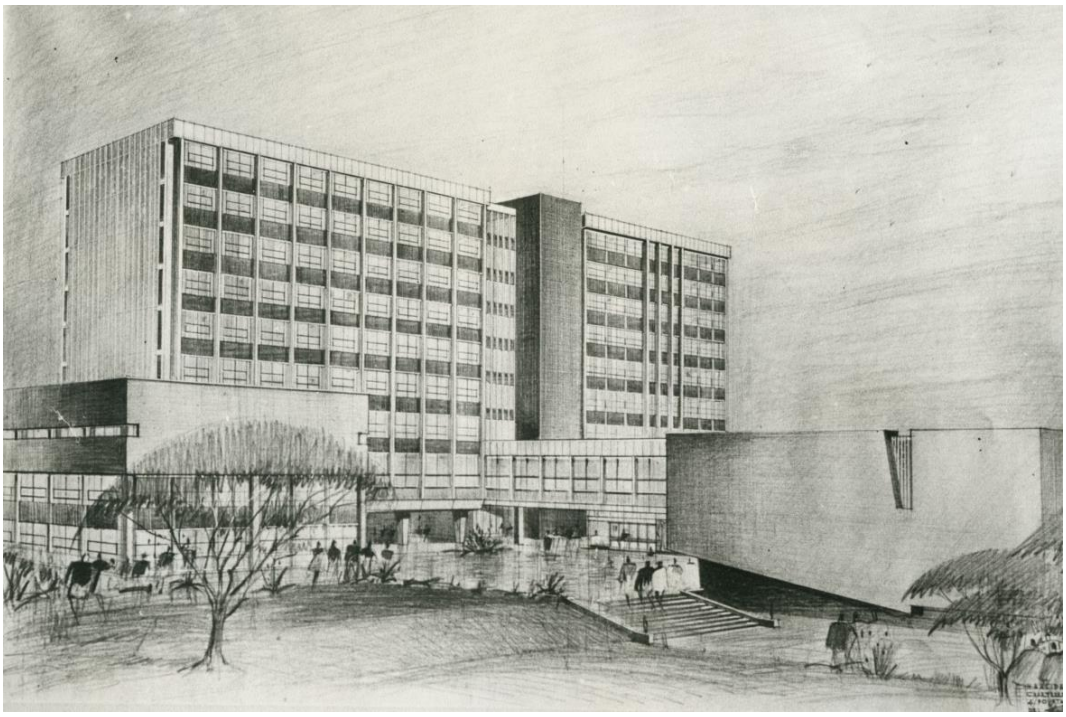


Figure 101: Artist impression: Salford Technical College (Royal College of Advanced Technology Salford, c1965).

Shortly after opening and fully operating, the College featured in a survey of Greater Manchester's newest and contemporaneous buildings, *Manchester* (1969). The architectural arrangement consists of two linked

slab blocks at nine storeys high. Originally, they held teaching rooms, laboratories, an arts and chiropody wing, administration, and communal student areas. Both blocks are grouped around two small courtyards and the taller parts look down over a paved square. On the other side of the square is a small lecture theatre designed for 250 people. The layout "enables these facilities, together with the lecture theatres which projects toward the main road, to be used separately if necessary for social and educational purposes" (Sharp, 1969, p. 73). Each block is raised on pilotti columns which enable access to a rear carpark. Material finishes across the building include precast concrete columns with Freetown aggregate. The spandrel panels between the columns and under the windows are also precast with an aggregate of Walley Flint and Shap granite. These panels are bolted to the columns and act as beams supporting the floor. Other in situ concrete is left untreated and smooth. The brickwork is a dark purple and brown. The windows were originally installed with a metal and timber subframe. Internally the building was lit throughout by a specially designed combination of fluorescent fittings incorporated into a suspended ceiling. Hardwood-faced doors, aluminium door furniture, and smooth painted walls gave a neat appearance (Darling, 1967).

The building's central courtyard is well known as the setting for the influential modernist sculpture by William Mitchell (1925-2020). *The Guardian*, Waterhouse (in Darling, 1967) perceived the concrete figures as evoking Victorian traditions and creating extravaganzas amidst former industrial landscapes. The sculptures created a visual bridge between the site's tough utilitarian northwest wing and the more artistically designed lecture theatre. The sculptures are visible from the main road (A6) and across multiple floors. Despite their substantial size and a nod to Florentine art, students interpreted them as the Three Aphrodites representing Urania (celestial), Genetrix (earth mother), and Porne (the embodiment of desire). Their decorative purpose was intricately woven into Halliday and Meecham's architectural plan; a vision for public art

coinciding with modernist architecture that also extended internally across the first-floor concourse [Figures 102 and 103].

Figure 102: Salford Technical College (University of Salford, 1967c).

Figure 103: Prince Philip greeting dignitaries (University of Salford, 1967b).

Horlock Court, 1978-1981. Demolished c2016

The first student residence halls constructed on the Peel Park campus was designed by the Manchester-based architects, Cruickshank and Seward. Horlock Court was named after Sir John Horlock (1928-2015), the University's second Vice-Chancellor from 1974-1990.

Figure 104: Horlock Court (University of Salford, 1981).

Figure 105: Architectural sketch: Horlock Court (University of Salford, 1978a).

Cromwell Road Secondary Modern School, 1962. Demolished c2011

Now demolished, the former Cromwell Secondary Modern School is remembered through a surviving north end wall, featuring a Grade II listed mural by the celebrated mid-century artist, Alan Boyson (1930-2018). Architecturally designed by Cruickshank and Seward, and constructed by W. Fearnley & Sons, the school officially opened in 1962, undergoing several name changes over the years (England, 2023). The University of Salford's Visual Arts Department used the facilities in 1992 before relocating to the Allerton Building Annexe in 2008, and later to the New Adelphi Building in 2015, where they are currently based.

Figure 106: Cromwell Secondary Modern School (Cruickshank and Seward, 1962).

Crescent House, 1961-1963

Crescent House [Figure 107] was ceded to the University of Salford in 1977 from Salford City Council. The building had originally marked a progressive step for the city's Public Health Service as a newly built office strategically located on the Crescent to accommodate the Council's modernising service. The scheme cost approximately £320,000 and was constructed to the architectural designs of the City Engineer, who responded to the former offices on Regent Road that were deemed unsuitable and outdated (Salford City Council, 1960, p. 320). The foundation stone was laid by Alderman Mrs. E. E. Mallinson, J.P., the Mayor of Salford in February 1962. Building work commenced in 1961 and opened at the start of 1963. *Salford City Reporter* (Bult Around, 1962) claimed the design aesthetic was intentional as the Council aimed to harmonise with the neighbouring Maxwell Building. After adaptation, the University's staff moved in from April 1979 (University of Salford, 1978b).

Figure 107: Crescent House (University of Salford, c1979).

Named after the street where the building is located, Crescent House has a distinctive quadrangular configuration characterised by a two-storey block and an imposing six-storey tower that was originally crowned with a caretaker's flat. At the centre of the architectural composition is a small garden that is intricately designed with paved pathways, grassy patches and an L-shaped pool water feature. The entrance is marked by an expansive open space with a split-level veranda that is adorned with tiled marble. The first floor was designated for committee rooms, a lecture hall, and the suite designated for the Medical Officer of Health. The second floor served as office space for the Mental Health Department. The six-storey structure [Figure 108] housed health visitors, midwifery, home nursing services, immunisation, financial and procurement, alongside the borough's school health services. Staff rooms and a canteen were on the sixth floor. Service lifts facilitated mobility throughout (University of Salford, 1978b).

Figure 108: Crescent House (University of Salford, 1968). From the Maxwell Building.

Faraday House, c1966-unknown

Initially commissioned to serve as a five-storey office block for the Amalgamated Engineering Union, later becoming the Amalgamated Union of Engineering and Foundry Workers, Faraday House was leased by the University of Salford in 1969. Situated directly opposite the Maxwell Building on the south elevation across Salford Crescent, the building was initially used to accommodate the Registrar's Department in a strategic move intended to optimise further teaching space. Over time, the Faraday Building housed the Accommodation Office and the Appointments Service (similar to today's Careers Services), as well as the Research and Graduate College in 1994. Shortly after the University's lease was confirmed the building was renamed after Michael Faraday (1791-1867), a scientist who specialised in electro-technology.

Figure 109: Faraday House (University of Salford, c1970f).

8.0 Conclusions

The story of the University of Salford's modernist campus is one of post-war optimism, modernisation and progress. Figure 110 depicts the physical environment symbolising new curricula, pedagogy, and growing student communities with a clear indication to evolve. Modernist architecture transcended traditional forms and popular Victorian and Edwardian designs, associated with the nineteenth and early twentieth centuries. Metaphorically, the campus and the City of Salford, akin to the 'Dirty Old Town' celebrated in the folk song by Broughton's renowned singer Ewan MacColl (1915-1989) in 1949, were destined to be left behind. The Governing Body made deliberate decisions to commission new architecture as part of a conscious effort to validate the expression of the physical environment and embrace the future. To justify this claim, four themes are discussed. First, the university and the city; second, the university's alignment with civic universities and a shift toward modernist architectural principles; third, the impact of new aspirations on the campus; and fourth, a juncture where ethics meets aesthetics, as the campus advances with innovative twists on form and style.

Figure 110: Peel Park campus (University of Salford, c1970c).

During the mid-twentieth century, when considering architectural development schemes implemented by towns and cities including the City of Salford, evidence arises that these initiatives were driven by good intentions. However, they were often accompanied by varying degrees of naivety and utopian aspirations, as noted by Dodge (in Wilkinson, 2023). Polarised perspectives and binary opposites of opinion were inevitable given the scale of construction and the impact on communities. Much of the discourse surrounding the changes to Salford makes for sober reading and, however one regards these development initiatives, past stories do suggest that Salford City Council was motivated by a genuine desire to improve the borough by renovating areas affected from declining socioeconomic conditions. The Council's embrace of new architecture served as a means of instilling hope and expressing optimism for a better future. While their aspiration was to build a more prosperous city the execution of the plan has since undergone changes in public perception and taste.

While modern architecture was believed to be the solution to the issues associated with inner-city suburbs similar to Pendleton, the demise of past communities, displacement, and the loss of well-known facilities is a sombre reminder of past life. Fletcher in Little Hulton Folk (2007, p. 9) recalled: “no one ever thought, that one day the sound of mill workers and mineworkers, on their way to and from work, would disappear forever.” The demolition of established amenities was more than just a blow to the city's cultural fabric. In agreement with Woodman (2022), social facilities such as cinemas and public houses played a significant role in bringing communities together and were considered cornerstones for many residents. This sense of support and community can be seen as a reflection of the paternalism of the time, carried over from the Victorian era. In the view of Allaun (1972), the Council's apparent lack of consultation with residents during the planning processes only exacerbated the situation.

By considering the physical environment and preserving a balanced mix of buildings, arguments exist that there may have been more effective methods to address social challenges without erasing history and identity. Urban theorist Jane Jacobs (1916-2006) strongly believed that cities could never encapsulate a purposefully constructed modernist environment crafted solely by planners and architects (Jacobs, 1965). She believed that the essence of an urban landscape was derived from people who lived in cities and created lives from the “chaotic, improvisational economies” (Zipp et al., 2021, p. 29). While there is agreement with Jacob’s sentiment, this study has established that, at the time, Modernism preceded over conservation.

Architecture's evolution since the mid-twentieth century has highlighted a shift in the recognition of the importance of preservation. In addition to today’s arguments concerning reuse and sustainability, buildings are widely acknowledged for their cultural significance and aside from being functional structures, they are believed to be valuable artifacts that offer insights into the past. As a result, present-day demolition regularly faces resistance, driven by the public's appreciation for historical protection and the desire to protect and promote heritage status. However, when contextualising past architectural forms and styles, one must acknowledge that they were influenced by the prevailing expectations of that era (McNerney, 2022, p. 6). Individuals and organisations were part of a wider society operating on past and present impulses (Carr, 1964). The rise of Modernism and the architecture generated put the emphasis on new construction. Many architects embraced an experimental spirit, representing a departure from the pre-war years. Research highlights that many of these ideas were seen in the 1951 Festival of Britain (Banham & Hillier, 1976; Harwood & Powers, 2001; The Festival of Britain, 1951), a national event and catalyst for change that led cities such as Salford, to embrace modern-day ideals with the hope of reshaping their post-industrial built environment.

As with societal changes and post 1949, the University tried to shake off the inherent links with the past. Both city and University were caught up in new beliefs and expectations. With a large degree of certainty, modernist architecture that swept across the Peel Park campus was an inevitable consequence of this larger systematic shift. When the University commenced construction on the first new building in 1954, the Royal Technical College, Salford benefitted from a higher educational tradition and continuity, meeting national demands for qualified scientific and technological professionals. The research demonstrates similarities between Salford's evolution and the more contemporary civic institutions, often referred to as Whitetile Universities. Salford's transition to an advanced college in 1955 and subsequent authorisation to award degrees reinforces this civic duality and affiliation.

However, when acknowledging the University of Salford's more established and almost civic corresponding departments, such as Mathematics which was one of the oldest in existence (Kerr in Whitworth, 1963, p. 971), the College started to exhibit traits similar to those of a new university. More specifically, it shared characteristics with the seven newly constructed universities collectively referred to as Plateglass Universities. Similarly, the College actively considered the future and exhibited agile leadership and decision-making toward teaching and curricula. For example, when the Governing Body agreed to integrate liberal studies in 1958 (Sheldon in Whitworth, 1963, p. 972), vocational courses became part of a diversified academic programme attracting different types of student. Beloff (1968) described how new universities aimed to educate students to empower them to bring about change in a changing society. The same principle applied to Salford, even arguably since the institution's founding.

The impact of newfound aspirations and educational philosophies influenced the spatial requirements, necessitating a greater need for

expansion. This reflected the sector's modernisation and evolving educational trends. Campus extensions went beyond the mere provision and delivery of specialist courses, aiming to create a modernist totality with innovative buildings that supported changing pedagogy. New building styles reinforced research and development, distinguishing the institution from others, while the ongoing goal to collaborate and strengthen industrial partnerships persisted. This commitment was evident at a University of Salford conference in 1969, which focused on industrial collaboration. Dr Sebastian de Ferranti (1927-2015), the Managing Director of Ferranti Limited, criticised the system for directing disproportionate numbers of graduates into highly specialised academic and professional pursuits, depriving many industries of key talent. However, his critique was not directed at Salford, where, in his words, the University had "a defined and determined policy of working closely with industry towards the end of producing graduates able and willing to participate in real engineering and commercial enterprises" (Ferranti in University of Salford, 1969, p. 5). The campus masterplans addressed an unfamiliar industrialised future with new architecture fusing innovative facilities and infrastructure to support economic diversity and growth.

By 1969, Salford had fully shed the college title and was a technological university. While the wider perceptions of this transition could warrant further research, there were displays of groundbreaking methods, thinking and teaching. Salford worked with driven architects who helped to realise the organisational models and embed them across the physical environment. Despite the physical challenges with nearby land and the newly forming university grounds, the masterplans were ambitious and aimed for an almost limitless expansion. Aspiring to create a contemporary campus acknowledged the sector's expectations, signified a commitment to remaining at the forefront of higher education and to be distinguished amongst other leading universities. The research has revealed a willingness to adapt and develop novel teaching ideologies

alongside high-quality architecture. This can be seen with the Cockcroft Building, designed for nuclear science.

Furthermore, the architectural vision applied collegiate design tendencies. Even though the first student accommodation, the Davy, Joule, and Faraday Halls of Residence were disconnected from Peel Park, overall, the campus plan extended from east to west to create a closely integrated physical building arrangement. The planning endeavour was to devise a new urban core adjacent to the Chemistry Tower. The halls of residence at Oaklands Road mirrored this idea too. They instilled a collegiate ideology with 500 students (all studying different subjects), and teaching staff, who lived together in smaller accommodation blocks. Each hall had dining rooms, common rooms, and library facilities. Tom Mellor and Partners aimed to design a totality where students felt part of a larger organisation, residing in a stable and prestigious building (Royal College of Advanced Technology Salford, 1960a). Wright (1974, p. 236) referred to the collegiate environment as one where students received substantial instruction and depended on social interactions and recreational activities. These relatable ideas were clearly embedded within the 1961 and 1964 masterplans.

With the inevitable need to grow, there is reasonable certainty that modernist architecture was bound to be used. By 1974, despite a lack of available land, the masterplans showcased an unwavering commitment to expansion and aimed to accommodate students on similar-sized campuses to the new universities. The interplay between the Governing Body and Lancashire County Council profoundly impacted this. The County Architect's Department was instrumental to pioneering solutions, seen with the Chemistry Tower, a vertical response to spatial constraints spread across 14 floors. The lift technology assisted mobility to meet changing timetabling requirements. Verticality was also applied to the proposals for the Departments of Mechanical Engineering and Liberal

Studies with both blocks upwards of nine storeys. Salford's tall buildings were a remedy to unique site conditions, an approach that responds to Chablo's ideas concerning modern-day urban planning tactics where methods challenged traditional practice.

However, amidst the drive for modernisation, traces of the past were evident. Efforts to break away from the older campus were faced with complexities and reliance on Salford City Council. Ultimately, the demolition of the Peel Building and the Salford Museum and Art Gallery never occurred. College Governors had to accept new designs that coexisted and were constructed close to more classical styles such as Georgian, Victorian, and mixed Renaissance Revival styles. This resulted in variation and juxtaposition of buildings, similar to many civics. This contrast created a palimpsest campus (Whyte, 2015). Nevertheless, the absence of an architectural blank slate can be seen as a blessing, proof that if a tabula rasa approach had been possible, the initial masterplans would have resulted in a vastly different campus that what is known today. Unlike the tide of architectural changes that changed the city by replacing the older built environment for a completely new one, today's campus stands as a testament to progress, demonstrating transitional education, institutional growth, and architectural character.

Research into past stories has shown that by 1954 the County Architect was optimistic in applying modernist architecture, recognising the representative role and effect. The Governors were no doubt aware of the form and visual appeal too, having witnessed emerging urban trends across both the county and the country. However, the key factor that more than likely convinced the Governing Body to embrace a completely brand new form of architecture, was the collaborative role between the architect and client. This synergy created a partnership where there was a careful balance in conveying the potential of widespread trends while meeting educational needs. Although the Governors weighed the benefits

of modernisation against maintaining the aesthetics of the older Museum and Art Gallery and neo-classical Police Station, this conclusion advocates that minimal persuasion was required to agree upon modernist architecture's use to represent the advancing institution.

Yet, the overarching attitudes and general optimism post-World War II played a part in all of this. This contributed to the rise of a new architectural form, style, and integration across the education sector. While maintaining traditional architecture might have synchronised with the surrounding buildings, this would have echoed the past. During the relatively tranquil early 1950s, Salford underwent readjustment, exploring ways to meet growth expectations and realign a new direction with different architectural possibilities. By the latter years of 1950s, decisions to change were confirmed. By the early 1960s, when Harry Pilkington (glass manufacturer and former Chairman of the National Advisory Council on Education for Industry and Commerce) was appointed to the Board of Governors, the College's commitment to modernist architecture was firmly established.

While a new architectural order flourished by the mid-1960s, acknowledging the years 1950-1952 is a must. This point was critical in distinguishing the Maxwell Building apart from every other campus building. Initially, the design was inspired by pre-war influences featuring an austere, neo-classical appearance, rather than a mid-twentieth century modernist appeal. Noticeable changes to form and style then occurred, and the design transcended to a more softened aesthetic quality. Given these historical shifts, every effort should be made to quantify, emphasise, and reinforce the architectural merit and legacy of the Maxwell Building. The innovation involved with the design and construction process are not only represented and associated with United Kingdom's values of the Modern Movement, but ideas around International Modernism and the International Style. The building's

significance is beyond utilitarian function, a testament to the technical sector's diversification. As a decade, the building's fabric captures the essence of the 1950s, whilst representing the future intentions of the College. The dominant spirit of the time is seen, which ultimately impacted the physical environment, the entire College, and the Governing Body's conscious decisions to engage innovative architecture to prove a commitment as a new university. This superstructure (The Municipal Journal, 1961, p. 3057) intended for learning and education serves as a modernist symbol, as once did the mills and factories to the Industrial Revolution, and to one of the most momentous transformations in higher education in modern history – the White Heat technological revolution.

The research highlights the ongoing discussions between the University and Salford City Council, and their shared reciprocal hopes that created a collaborative relationship and shared commitment to growth. The *Vice Chancellor Report 1961-1962* expressed this gratitude to the local education authorities and the Council's wider support of more than 60 years (Whitworth, 1962b). The alliance between the Principal, Sir Peter Venables and the County Architect, George Noel Hill, played a crucial role in this. As did the relationship between Dr Clifford Whitworth and Charles Howard Simmons. These relationships supported the Council's intentions to diversify their architecture to foster a growing sense of civic pride. As the city underwent rapid changes, this played a role in shaping civic pride, becoming intertwined with newly emerging meanings of place. The Council perceived the Maxwell Building as "striking" (Plans Delight, 1952, p. 1) and their enthusiasm reinforced their commitment to integrate innovative architecture into the cityscape. Crescent House exemplified this, designed to complement the newly forming campus. The College, County Architect and Council worked in tandem to align a vision that benefited town and gown relationships. In the words of Whitworth (1967, p. 8), "there was an obligation to complement the urban redevelopment of the City of Salford." Given this close association and the Council's

development agenda, did the College have any choice but to embrace modernist architecture?

The County Architect's Department used similar economic and planning strategies to their work on former colleges in Accrington, Ashton-under-Lyne, Lancaster, Morecombe, and Nelson, each constructed from 1951-c1953. Their architectural work aimed to meet the Ministry of Education's stipulations and reflected a keen awareness and proficiency in forward-thinking approaches and using new techniques. Together with Hertfordshire and London County Council, Lancashire County Council were recognised for their pioneering modernist architecture (Preview Colleges Lancashire, 1953). Until the major boundary changes brought about by the *Local Government Act* (1972), architectural historian Professor Richard Brook (2018, p. 131) pointed out that Lancashire County Council Architect's Department was involved in the largest post-war building programme after London. The country's local authorities and their architect departments played a clearly influential role in higher educational architecture.

In addition to widening municipal styles, within the British architectural press, architects were conscious of the broader implications of their work, recognising that progressive design could determine identity beyond sheer functionality. This realisation was complemented by further appreciation of international trends. Dober (1965, p. 9) acknowledged, "British architects working on new urban campuses were skilful at taking inspiration from transatlantic and continental influences." The Modern Movement and International Style were closely observed.

As Venables (1954, p. 26) highlighted the aims of progress and enabling the institution to fulfil the role of as a thoroughly modern-day regional college, optimism and confidence in using new architectural styles grew. By 1960, Simmons' initial work in the *Comprehensive Development Plan*

(Simmons, 1961) influenced the direction of the *Major Development Plan* produced by Courtaulds Technical Services (1964a). At that point, Courtaulds were commissioned with a singular objective to design modern comprehensive facilities (Unkown, c1963). These early intentions materialised in the physical transformation into the 1970s with buildings clearly attributed to these earlier masterplans.

This study's primary focus has examined the domino effect of the *White Paper on Technical Education* from 1955-1961, and then exploring actions as a response to the *Robbins Committee Report* (1963). These years highlighted the excellence of the client and architect relationship, as well as Modernism's further influence in shaping this dynamic. While the research methodology has not explicitly contributed to or questioned specific debates or discourses regarding modernist architecture in relation to utopian ideologies, the masterplans (particularly 1961) inherently demonstrated a form of utopian vision. At the very least, they showcased broader variables intrinsic to utopian thinking and ideas concerning the institution, education and communities. Whichever way these ideas are examined, the masterplans unveiled a profoundly idealistic vision.

When Courtaulds took over, their designs marked a clear departure from the mid-century style. The visuality of their masterplans were more aligned with the proposals seen in the Council's *City of Salford: Ellor Street Redevelopment Plan* (Matthew & Johnson-Marshall, 1963). The buildings exhibited similar materials and construction methods, being more contemporaneous than before. As Stewart (1960, p. 14) rightly noted, the future expansion would mirror the architecture of the time, where designs and construction ultimately reflected societal changes.

Considering Courtaulds progress, the Maxwell Building retained unique character and helped with the realisation of Phase III by creating a

framework and spatial composition for subsequent work in Phase III+. As much as the overall aims were to create an updated campus, even with the inability to demolish older buildings, is Courtaulds architectural design and output as exciting? By their time in post, they were purely tasked with modifying and fulfilling a predetermined vision. Are the buildings that followed as architecturally evocative? These comparisons gain merit when reflecting on the white-tiled Clifford Whitworth Library, or the distinctive architectural plan of the Chapman Building. In the case of the Chapman Building, Brook (2017, p. 73) claimed "there is something perversely attractive about the right essay in the wrong language." Similar to University House that followed, the Chapman Building is vastly different to the rest of the campus, catching Pevsner's attention (Hartwell et al., 2004) and drawing comparisons to established modernist buildings on London's Southbank.

Apart from Computer Centre (Simmons), and the Davy, Joule, and Faraday Halls of Residence (Tom Mellor and Partners), the overall conclusion points in the opposite direction. The buildings constructed from the mid-1960s onwards, played a supportive role in shaping the identity of the overall campus. Several factors contribute to this assessment. First and foremost: the Maxwell Building marked a pioneering milestone in mid-twentieth century modernist architecture, establishing a benchmark for subsequent developments. Second: the building represented a bold departure from nearby and conventional architectural styles by incorporating a range of materials with contrasting textures. Third: Courtaulds encountered mounting challenges related to funding, potentially limiting the scope of their architectural innovations. Last: these financial constraints led to the adoption of more cost-efficient architectural approaches, resulting in less expressive and captivating structures. In context to the Plateglass Universities, these factors determined a uniform campus design, possibly bordering on a homogenised aesthetic. Then again, many Plateglass Universities strived

to design their campuses with a continuous style to demonstrate a cohesion. Despite this, the architecture of Courtaulds moved with the times and was unmistakably progressive, reflecting the institution's aspirations.

Drawing to the final part of this conclusion, opinion exist that the University's use of modernist architecture indicates a form and style associated with the Brutalist Movement, but more specifically, the New Brutalism Movement. A term, synonymous with architectural critic Reyner Banham (1922-1988) and *The New Brutalism: Ethic or Aesthetic?* (1966); a revised perspective on the earliest Brutalist Movement where form was associated with the use of raw, exposed materials. The Maxwell Building can be argued to be an experimental structure that exemplifies this simplicity, authenticity, and plain expression characteristic of the Brutalism Movement. However, the buildings that followed arguably resemble New Brutalism.

The influence of Le Corbusier is evident in the Maxwell Building, with a similar form observed in his design of the Unité d'Habitation in Marseille. This marked a notable shift in architectural styles. Rougher expansive concrete and stonework replaced the clean lines and pristine shapes displayed in his earlier modernist work (Moore, 2023). To a high degree of certainty, the County Architect's Department embraced Le Corbusier's philosophies and bold architecture, translating the Swiss French avant-garde architect's progressive housing concepts into newfound realities for higher education. Their ideas were applied to new spaces moving away from the traditional and neo classical.

The University's subsequent buildings continued to exhibit aesthetic differences through concrete and original materials such as glass and steel. These buildings contributed to the overall campus and aligned with architectural progress witnessed by Chablo in 1987, and comparison with

the New Brutalism Movement. While debate exists about the decline of the movement, from c1967-1968, principles align with the ethos of this period of change. As architect and social commentator, Robin Boyd (1919-1971) wrote in *The Sad End of New Brutalism* (1967) rather than merely understanding building appearance, to understand New Brutalism requires "brute force" at the intellectual level (Boyd, 1967, p. 10). Banham (1966) aptly titled book, questioning ethic or aesthetic highlights the fundamental methods, namely materials that were architecturally basic, free from conscious aesthetics and focused primarily on functionality. Simplicity and functionality stand apart from the more conventional and ornate design (Stalder, 2017). Keeping this in mind, the evidence strongly suggests that the buildings from 1964 onwards aligned with this movement; with the Chemistry Tower heralding this change. Nevertheless, as is often the case with architectural interpretations, there will undoubtedly be differences of opinion associated with this claim.

To reach a collective consensus and in a similar vein to Muthesius (2001, p. 3), who emphasised the importance of the institution, education and communities, there is agreement with the belief of architect, Lionel Brett (1913-2004). In *The Architectural Review* (Brett, 1957, p. 242), argued that whichever type of university campus is considered, whether a continental great block, collegiate or non-collegiate, the urban, suburban, or isolated in the landscape, the ivory tower, or a town within-a-town, the common factor is a sense of community. This idea is highly relevant and meaningful. From whichever angle the University of Salford's campus is analysed and discussed, all lines of enquiry lead back to this – creating and nurturing a sense of community through the physical environment. Aspirations to achieve this idea are shared by all universities regardless of their architecture, be it the ancient, civic, Plateglass and so on, similar ideas endure. In the same year, Alison and Peter Smithson, architects closely linked to with New Brutalism (and influenced by Britain and Europe's much earlier modern architectural styles and methods), made a

fitting claim. Smithson and Smithson (1957, p. 113): “Brutalism tries to face up to a mass-production society and drag a rough poetry out of the confused and powerful forces which are at work.”

As part of the larger narrative surrounding the 1960s universities, Salford’s modernist campus was a deliberate expression driven by two visionary leaders, who embraced newly developing ideas and perspectives at the time. They intended to break away from the past and actively lead a modernisation programme with a clear determination for the College and University to build its own identity (Whitworth, 1967, p. 8). Rather than “an ivory tower set in the green fields, but in the heart of industry and its people, this is the kind of university Salford is” said Whitworth (1968, p. 12). In this poetic context, and echoing the evocative yet melancholic words of MacColl (1949), "I’m going to make a good sharp axe, shining steel tempered in the fire, we'll chop you down like an old dead tree."

Figure 111: Brochure cover (University of Salford, 1969). Taken from University of Salford’s conference: *The University in the Industrial World,* 12 December 1969.

8.1. Further research suggestions

- The impact of architectural modernisation on the gown and town relationships of the University of Salford.

- The architect and client relationship: an analysis of the technical colleges and new universities.

- The architect and client relationship: focusing on the dynamics between local authorities and their architects' departments versus those in private practice.

- The influence of regional architecture and trends on the modernist campus at the University of Salford.

- Developing the first student accommodation at the University of Salford.

- Mid-century to New Brutalism: the architectural design evolution of Courtaulds Technical Services and their impact at the University of Salford.

- The 1970s and 1980s, and the decline of modernist architectural ideals at the University of Salford.

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