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THE MAKING OF MANCHESTER'S TECHNICAL COLLEGES

(1954-1964)

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The Making of Manchester's Technical Colleges (1954-1964)

A thesis submitted in fulfilment of the degree of MA by Research

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Abstract

The post-war era witnessed the construction of numerous technical colleges in towns and cities across Britain. Despite - or perhaps because of - their ubiquity, these colleges are mostly absent from contemporary architectural press reports whilst there is a dearth of scholarly study on the matter. In considering the circumstances which gave rise to their creation, this thesis provides a brief national overview of Britain's post-war technical colleges before focussing upon the city of Manchester to provide detailed case study examples. In doing so, it challenges the typical narratives of twentieth-century architecture which tend to privilege certain architects and buildings, and widens the debate to include the social, economic and political factors that can influence the design process. It is argued that Britain's post-war technical colleges were the product of national prescription and local need; the interplay between the two was central to their creation. In establishing the post-war technical college as a distinct twentieth-century building type, this thesis calls for a reassessment of their architectural legacy in the hope that those remaining may be afforded greater protection in the future.

Contents

List of Illustrations

Chapter One

Chapter Two

Chapter Three

Case Study 1

Case Study 2

Case Study 3

Case Study 4

Chapter Four

List of Abbreviations

A&B Branch	Architects & Building Branch
BB No. 5	Building Bulletin No. 5: New Colleges of Further Education
CDTC	Camouflage Development and Training Centre
CPO	Compulsory Purchase Order
GPO	General Post Office
LEA	Local Education Authority
LSA	Liverpool School of Architecture
LPSA	Lancashire Public Schools Association
MMU	Manchester Metropolitan University
MOMA	Museum of Modern Art, New York
MBLC	Mill Beaumont Leavey Channon
NPSA	National Public Schools Association
HORSA	Hutting Operation for Raising of the School-leaving Age
MoE	Ministry of Education
UGD	University Grants Commission

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A special mention must be given to Derek Hill and family. Derek was the project architect for the Domestic and Trades College (1960) and John Dalton College of Technology (1964). As well as providing architectural drawings, he kept me entertained with his anecdotes of his time working in the Manchester City Architect's Department. His colleague, Imre Burjan, also provided some fascinating background information on the Domestic and Trades College, Fallowfield.

I would also like to thank Jack Hale of the Manchester Modernist Society. If not for the year-long creative residency at the Toastrack, it is unlikely that this thesis would have been written. Keep up the good work.

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Introduction

In November 2012, the Manchester Modernist Society, an arts and heritage collective focusing on the twentieth-century built environment of Manchester, requested the assistance of a volunteer researcher to help with their latest project. As Manchester Metropolitan University (MMU) prepared to vacate the Hollings Campus in Fallowfield, the society proposed to document the history of its central building, a Grade-II listed structure known locally as the Toastrack, through a series of online blogs drawing together the testimony of staff and students both past and present. Their approach was to be informal, irreverent, and celebratory. Having applied for the role, it soon became clear just how informal this approach was.

Lacking a specific brief, I determined that my contribution would be to contextualise the design of the Toastrack within the wider work of its architect - generally acknowledged to be Leonard Cecil Howitt, Manchester's City Architect (1946-61). A catalogue of Howitt's other work was produced and yet, in doing so, the Toastrack seemed more anomalous than ever. The collated buildings lacked commonality in form, structure, and style, and although this was perhaps evidence of an extremely versatile architect at work, it seemed more probable that convention dictated all buildings produced by Manchester City Architect's Department at that time were credited to Howitt regardless of his actual input. True attribution most likely belonged to the many unspecified project architects who passed through the department's drawing offices, thus explaining the diversity of its output.[1]

Whilst my initial approach was flawed, raising questions more generally about design attribution in architectural history, it nonetheless lead to a better understanding of the structure of the Manchester City Architect's Department which, under Howitt's tenure, was split into three distinct divisions: No.1 office, responsible for all major civic building projects; housing; and education. The latter division, overseen by the Deputy City Architect Sidney George Besant-Roberts, was responsible for designing all Manchester Corporation's new schools and colleges including the Toastrack.[2] But what had inspired the unusual form of the building?

[1] Staff numbers were thought to be around 300 by 1961. See 'Manchester City Architect's Department: Management and Planning Following Reorganisation', *The Builder*, 1965, pp. 1187–88.

[2] This overview was provided by Derek Hill, project architect for the Domestic and Trades College and John Dalton College of Technology, and coheres with details included in an unpublished memoir of L.C. Howitt by John H.G. Archer dated 31st July 1996.

Although opened three years after Howitt had retired as City Architect, and therefore not included in my initial scoping exercise, I became intrigued by the similarities between John Dalton Faculty, another MMU building located close to its All Saints Campus in the city-centre, and the Toastrack. The disposition of workshop and teaching block was identical in both buildings whilst the form of the workshop roof lights created a unifying leitmotif. Was this work of the same architect, and did other similar buildings exist elsewhere in Manchester? Broadening my timeline, I discovered that several such buildings were erected in the city, albeit some since demolished. Established between 1954 and 1964, these buildings were Manchester's post-war technical colleges, the Toastrack itself being the former Domestic and Trades College.

The circumstance that gave rise to the creation of these buildings, and the reasons behind the similarities in their spatial arrangement, however, remained a puzzle. Moreover, given that numerous examples of post-war technical colleges existed, and continue to exist, in cities across Britain, they appeared collectively to represent a distinct twentieth-century building type. Yet the architectural press has typically paid them cursory attention, unlike university campus buildings for example, and there is a conspicuous absence of academic literature on the matter.[3] This raised a specific set of questions regarding where the colleges were located, for what reason, and what determined their specific function. Further, how were they planned and constructed? And why, thus far, have they been largely absent from narratives of post-war architecture in Britain? These are some of the question this thesis will attempt to answer.

The aim of this research project, therefore, was to investigate the making of Manchester's technical colleges (1954-64). Set against the background of an emerging new architecture in interwar Europe and America and the necessary fusing together of industry, technology and educational reform in the immediate post-war years, this thesis considers the legislative and social contexts, both nationally and locally, that gave rise to the requirement for the post-war technical college. In doing so, it will be identified as a historically and culturally significant building type, and a basis provided for a further national study.

[3] For example, a search of the RIBA British Architectural Library catalogue for the period defined in this thesis – 1954 to 1964 - returned just seven articles relating to new British technical colleges in the Architectural Review and a mere two in the RIBA Journal. There is greater coverage in other trade press publications, such as The Builder, although these are often concerned with practical details, and do not offer insights into the social, economic, and political circumstances which gave rise to the creation of a given building or the impact of such circumstances upon the design.

Research Approach

The research was conducted in three phases. Initially, to understand why the post-war technical college has been largely absent from architectural narratives of post-war Britain, it was necessary to critically reflect on existing texts and to understand the context in which they were produced and why. Through mechanisation and prefabrication, modern architecture is often considered as a logical development of the Industrial Revolution, thus the next phase sought to position the post-war technical college within this context along with providing a better understanding of the relationship between technical education and industry. Finally, a brief national overview was conducted to provide the key themes to be interrogated in the case study buildings, an approach adopted given that a comprehensive national survey was impractical given the scale of a task and constraints on time and resources. Such an approach is often applied in studies of the built environment and allows for a detailed analysis of the chosen buildings.[4]

The case studies chosen were determined by two factors. Firstly, the 1956 White Paper on Technical Education, which outlined a five year building programme later extended by three years, delimits the time period to include those colleges built up until 1964.[5] Secondly, by focussing on a given region, namely Manchester, it was possible to trace the development of the building type to discern changes across the period. Those buildings included are: Openshaw Technical College (1956), Manchester College of Building (1957), Wythenshawe College of Further Education (1958), Domestic and Trades College (1960), and John Dalton College of Technology (1964). Although opened in 1956, construction of Openshaw technical College actually commenced in 1954 thus accounting for the ten year period in the thesis title. Excluded from the study is Moston Technical College (1962): erected in a suburban location, the circumstances surrounding its creation were deemed too similar to Wythenshawe College of Technology to warrant inclusion.

Research Materials

The research draws on a variety of visual resources including architectural drawings, sketches, photographs and text. In most cases, a comprehensive set of architectural drawings was

[4] Linda N. Groat and David Wang, *Architectural Research Methods* (Hoboken, NJ: John Wiley & Sons, 2013), pp. 415–449; Robert K. Yin, *Case Study Research: Design and Methods* (Thousand Oaks, CA: Sage Publications, 2009).
[5] White Paper on Technical Education (London: H.M.S.O., 1956)

unavailable: materials held at The National Archives only covered formative planning stages, and whilst searches of local Planning and Building Control records proved fruitless, it is possible that architectural drawings have survived but are, as yet, uncatalogued. Available drawings, therefore, included sketches submitted by Manchester's Local Education Authority (LEA) to the Ministry of Education (MoE) as part an initial approval process; drawings retained by estate managers for building maintenance purposes - often diagrammatic only; or those which featured in trade press articles. Only in the instance of the Domestic and Trades College was a complete set of drawings available. In all instances, the 'as-built' status of the drawings could not be guaranteed.

Combining available drawings with text documents held in The National Archives, such as approved Schedules of Accommodations, along with photographic evidence from a variety of sources, it was possible, however, to construct an accurate account of the case study buildings. Analysis of the MoE guidance document, *Building Bulletin No.5: New Colleges of Further Education* (BB No.5), for example, allowed for an intuitive reading of the available photographs. In many cases, technical colleges, including those in Manchester, were built in phases known as 'instalments': by tracing the discussions between the MoE and LEA, it was possible to understand the construction sequence of the case study buildings, and thereby produce new drawings for the reader. These are included within each case study.

In certain circumstances, the testimony of designers and users of the buildings was used for clarification: this evidence has been used sparingly and where possible corroborated by other sources. It is important to remember that the case study buildings were constructed between 1954 and 1964. Many of those involved in their design and construction are either deceased or of advanced age. This is not to question the veracity, or indeed remarkable vitality, of those who contributed, merely to acknowledge the inherent problems associated with oral history. The creative residency of the Manchester Modernist Society generated much oral testimony, and will prove a rich resource for social history scholars. This thesis, however, maintains an architectural focus.

Archives consulted were: The National Archives; The RIBA British Architectural Library; National Museums Liverpool Photographic Archive; Glasgow City Council Archives; Manchester Archives and Local Studies Libraries at Manchester Central Library; University of Manchester Archives; Visual Resources Library and Special Collections at Manchester Metropolitan University; Estate and Facilities Archives at Manchester Metropolitan University; the Guardian and Observer Digital Archive; and Historic Hansard.

Chapter Structure

Chapter One provides an examination of existing studies of twentieth-century architecture and considers why such narratives are dominated by accounts of the British Modern Movement emergent in the interwar years; this is despite the fact that Modernist architecture represented just a small percentage of those buildings erected in the period, most of which were located in the south of England.[6] This narrow focus means that interwar buildings erected in cities such as Manchester were often dismissed as stylistically regressive and insignificant.[7] In order to re-appraise these building, the concept of *regionality,* which permits local specificities to be considered in evaluating buildings, will be introduced.

Chapter Two covers the individuals, institutions and legislation that gave rise to the post-war technical college. The historical relationship between industry and education is considered alongside contemporary economic concerns to show that the post-war technical college was the result of interplay between the local and national. In drawing together the main characteristics of the paradigmatic post-war technical college, as outlined in the MoE document, BB No.5, it is proposed that they represent a distinct twentieth century building type, one best understood through the aforementioned concept of regionality.

Having charted the development of technical education in Britain, and the need for post-war technical colleges, Chapter Three will briefly demonstrate the commonality between those technical colleges built throughout Britain, and their relationship to local industry, before moving on to introduce the findings of four of the case study buildings. The final chapter will return to the building which prompted the initial research interest, the Domestic and Trades College. The evolution of the building type in Manchester will be shown to have reached its zenith with the Domestic and Trades College, and as the city's only post-war technical college to survive largely in its original form, its architectural significance will be demonstrated.

[6] Lionel Esher, *A Broken Wave: The Rebuilding of England, 1940-1980* (London: Allen Lane, 1981), p. 20; Alan Powers, 'Exhibition 58: Modern Architecture in England, Museum of Modern Art, 1937', *Architectural History*, 56 (2013), pp. 277–98.

[7] See, for example: Julian Holder, *Emmanuel Vincent Harris and the Survival of Classicismin Inter-war Manchester* in: Clare Hartwell, Terry Wyke and John H. G. Archer, *Making Manchester: Aspects of The History of Architecture in The City and Region since 1800* (Manchester: Lancashire & Cheshire Antiquarian Society, 2007), pp. 133–156.

PART I

Chapter One: Concepts of Modern Architecture

Throughout Britain, although predominantly within inner-city and city-centre confines, there exists a much under-researched building type. Variously referred to as technical colleges, colleges of further education or simply F.E. Colleges, the distinction between these terms is often unclear. For consistency, here they will be simply termed as technical colleges unless their anointed title otherwise dictates. These buildings first began to appear in 1952; St. Albans College of Further Education being one of four colleges built in Hertfordshire.[1] Many more examples followed from Harlow Technical College in the south to Glasgow's College of Building and Printing in the north.[2] In Manchester, Openshaw Technical College (1956) was one of the first new buildings erected in the city in the post-war era.[3] Later, this college was joined by Manchester College of Building (1957), Wythenshawe College of Further Education (1958), Domestic and Trades College (1960), Moston Technical College (1962), and John Dalton College of Technology (1964).[4] How these colleges came to exist, and their significance within the canon of Britain's post-war architecture, has been little explored and is, consequently, poorly understood.

In this chapter, we will attempt to discover why these buildings are largely absent from studies of twentieth-century architecture and post-war reconstruction. In doing so, we will consider the prism through which post-war reconstruction in Britain is generally viewed, namely that of Modernism, and give wider thought as to why the Modern Movement has come to dominate twentieth-century architectural history. We will consider the writing of influential individuals such as the architectural historians and critics, Nikolaus Pevsner, Henry Hitchcock, and James Maude Richards, and attempt to position their ideas within a contemporaneous social, economic and political context. Further, we will explore the local specificities in the case of Manchester, and their impact upon the architectural developments in that city, to account for inconsistencies with the national narrative. In providing a better understanding of the circumstances in which these key texts were written, and indeed why they were written, their influence upon our understanding of modern architecture in Britain throughout much of the twentieth century will be revealed.

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[1] Karl Otto, *School Buildings 2: Technical Schools, Training Colleges and Colleges of Higher Education* (London: Iliffe Books, 1966), p. 124. The college was designed by Geoffrey Charles Fardell, Hertfordshire County Architect.

[2] Designed by Frederick Gibberd (1957) and Wylie, Shanks & Underwood (1964) respectively.

[3] The first phase was designed by Halliday & Agate (1954), under the supervision of Leonard Cecil Howitt, Manchester's City Architect. Later phases were undertaken by Manchester's City Architect's Department.

[4] All designed by Manchester's City Architect's Department.

A Golden Age of Security

> *'Today, now that the great storm has long since smashed it, we finally know that the world of security was naught but a castle of dreams; my parents lived in it as if it had been a house of stone.'*[5]

So wrote the Austrian-born Jew Stefan Zweig recollecting what he termed the 'Golden Age of Security', an age violently ended by the events which occurred between 1914 and 1918. In the aftermath of the First World War , the decline of the old European empires ushered in a period of great uncertainty. Following the Paris Peace Conference of 1919, an attempt was made to unite old and new nation-states under the banner of the League of Nations.[6] This inter-governmental organisation, established to promote dialogue between existing and emergent nations, was emblematic of a *zeitgeist* for the universal; a safeguard against the new age of insecurity.

For architecture, Johnson and Hitchcock's book *The International Style* represented the discipline's own manifesto of the universal.[7] Published to accompany the *Modern Architecture: International Exhibition* held at the Museum of Modern Art (MOMA) in New York, the authors identified the three fundamental principles of the new architecture. Firstly, volumes bounded by an external skin were preferred to the static mass of historic architectural styles. Secondly, this was to be achieved through the regularistion of the underlying structure. Finally, superfluous decorative features were to be dispensed with.[8] The 'individualists [who] decried submission to fixed aesthetic principles as the imposition of a dead hand upon the living material of architecture' were declared the masters of the new style.[9] Accordingly, the main section of the 1932 exhibition included works by the architects Walter Gropius, Ludwig Mies Van der Rohe, and Le Corbusier. Designs for the Bauhaus School in Dessau, La Villa Savoye in Poissy-sur-Seine, and Tugendhat Haus in Brno were amongst those buildings featured.[10] [Figs.1.01-1.03]

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[5] Stefan Zweig, *The World of Yesterday: An Autobiography* (Lincoln, NE: University of Nebraska Press, 1964), p. 5.
[6] Charles Howard Ellis, *The Origin, Structure & Working of the League of Nations* (Clark, NJ: The Lawbook Exchange, Ltd., 2003), pp. 54–59.
[7] Henry Hitchcock, Jr and Philip Johnson, *The International Style: Architecture Since 1922* (New York, NY: W.M. Norton, 1932); rev. repr. as *The International Style* (New York, NY: W.M. Norton, 1997).
[8] Ibid, pp. 51–89.
[9] Ibid, p. 35.
[10] Designed by Walter Gropius (1926), Le Corbusier (1930), and Ludwig Mies van der Rohe (1930) respectively.

Fig.1.01. Bauhaus School, Dessau (1926) by Walter Gropius

[Source: Photograph by Lucia Moholy-Nagy. Copyright of Bauhaus Museum.]

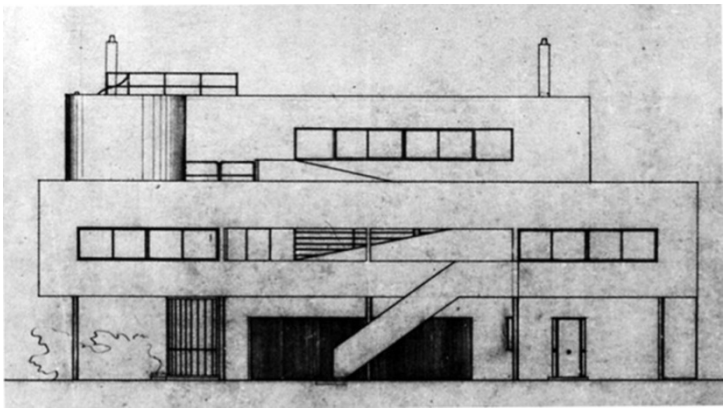

Fig.1.02. Elevation of La Villa Savoye, Poissy-sur-Seine (1930) by Le Corbusier

[Source: Image copyright of Fondation Le Corbusier.]

Fig.1.03. Tugendhat Haus, Brno (1930) by Ludwig Mies Van der Rohe

[Source: Photograph by Rudolf de Sandalo. Copyright of Graham Foundation.]

For Johnson and Hitchcock, these buildings represented an architecture that was progressive and modern; by implication, historic styles were non-progressive and unmodern. Such ideas were not entirely original however. In 1905, Hermann Muthesius had called for a new aesthetic which 'paid attention to utility, material and other purely practical considerations'.[11] Similarly, in 1908, Adolf Loos had decried ornamentation as a sign of degeneracy.[12] However, it was the political context that made *The International Style* significant. In 1931, Russia held a competition to design a Palace of the Soviets, attracting architects from all over the world including both Gropius and Le Corbusier.[13] The winning entry by Boris Iofan was designed in the state's officially adopted monumental style. With Russia excluded from the League of Nations, its Communst government deemed undemocratic, Iofan's design, had it been built, would have stood as a clear riposte to the new architecture.[14] [Fig.1.04] Hitchcock and Johnson's publication, therefore, was a timely reassertion of its universal appeal.

Fig.1.04. Boris Iofan's unbuilt Palace of The Soviet: a 'riposte' to the new architecture

[Source: Mechanix Illustrated, September 1939 [Fawcett Publications], p.34. Courtesy of www.modernmechanix.com.]

[11] Hermann Muthesius, *Das Englische Haus* (Berlin: Ernst Wasmuth Verlag, 1904); tr. Janet Seligman and Stewart Spencer in rev. repr. as *The English House* (London: Frances Lincoln, 2007), p. 100.
[12] Adolf Loos, *Ornament and Crime* in Les Cahiers d'aujoud'hui (Paris: G. Crès et Cie., 1913); tr. Michael Mitchell in *Ornament and Crime: Selected Essays* (Riverside, CA: Ariadne Press, 1998), p. 175.
[13] Kenneth Frampton, *Modern Architecture: A Critical History* (Oxford: Oxford University Press, 1980), p. 213. Neither architect's entry was well received. Le Corbusier's was being described by the judges as indulging 'in a too pronounced cult of machinism and aestheticization'.
[14] Ibid.

The 'International Style' did not enjoy the dominance with which it is often suggested however. Weissenhofsiedlung in Stuttgart, built for the 1927 Deutscher Werkbund exhibition and decribed by Johnson as 'the highpoint' of the style, was constructed in the same decade which gave rise to other modern styles such as Modernized Classicism, decorative Modernism, and Streamline Moderne.[15] Along with the multiple modern styles of the period, we may legitimately conclude that there existed multiple notions of modernity.

Multiple Modernities

Since the nineteenth century, Western civilization has associated progress both technologically and socially with notions of modernity. Prior to the 1870s, British studies of modernity tended to focus upon the economic impact of industrialisation on society.[16] Only later, would modernity be considered in a wider range of contexts. As such, the dichotomy of what it means to be modern and, in turn, unmodern has been much contested in academia, highlighting a multiplicity of temporal, sometimes contradictory, definitions.[17] The concept of modernity has been no-less controversial in the field of architecture whereby social, political, economic, and cultural factors can be seen to have influenced architectural historiography. Traditionally, the discipline of architectural history has drawn upon the methods of the fine arts in describing external appearance, and ascribing category according to visual style. However, the Modern Movement emergent in the early-twentieth century, like the Arts and Crafts Movement of the nineteenth century, declared itself to be an attitude and not a style.[18] Unlike the Arts and Crafts Movement whose 'spirit was anti-industrial, anti-urban', the Modern Movement sought to embrace the industrial processes of the machine age.[19]

Not all architects of were united in this opinion however. Howard Robertson, for example, held the view that industrial processes should be considered as merely one aspect of modern architectural design; the architects' artistic sensibility should combine to produce 'the sort of

[15] Philip Johnson interviewed in: *The Shock of the New*. Episode 4, Trouble in Utopia. BBC TV (1980)
[16] Martin Daunton and Bernhard Rieger, *Meanings of Modernity: Britain from the Late-Victorian Era to World War II* (Oxford: Berg Publishers, 2001), p. 2.
[17] Ibid, p. 3.
[18] See, for example, Le Corbusier, *Vers une architecture* (Paris: G. Crès et Cie, 1923); Walter Gropius, *The New Architecture and the Bauhaus* (Faber and Faber, Ltd, 1935).
[19] Joseph Mordaunt Crook, *The Dilemma of Style: Architectural Ideas from the Picturesque to the Post-Modern* (London: John Murray, 1989), p. 229.

perfection which pervades…the Parthenon'.[20] In abandoning 'the styles of our ancestors' Robertson warned, 'a vast fund of friendly and familiar motifs in design [will be] temporarily liquidated, and it may be a matter of years before the new architectural language develops a familiar idiom of its own'.[21] Fearing that the role of the architect would be reduced to that of a mere 'planner and arranger of engineering requirements', Robertson's comments highlighted the division between architecture and engineering that existed in the early part of the twentieth century, partly derived from the hostility towards mechanisation.[22]

By the end of the 1930s the 'International Style' was in crisis as the world political scene shifted once again. Japan's invasion of the Manchurian region on the 19th September 1931 came ahead of their withdrawal from the League of Nations when faced with opposition from fellow member states. Germany's exit that same year came consequent to Adolf Hitler's rise to power.[23] Architecture was not immune to these geopolitical manoeuvrings, and initial misgivings towards the new mechanised architecture gave way to concerns regarding national identity.

'Beware of a style called Modernism'[24]

The re-armament programme embarked upon by Britain in the interwar years, although intended for defence, was lent greater importance with the re-emergence of political tensions across Europe. Germany, having withdrawn from the League of Nations in 1932, defaulted on its reparation payments, and began to invest heavily in its own rearmament program. The immediate effect of this action was to render Allied nations such as France and Italy unable to service their debts to the United States and Great Britain: protectionist policies were pursued, and international trade all but ceased.[25] The spirit of co-operation promoted by the League of Nations, and made manifest in *The Internatonal Style*, ebbed away. In Italy and Germany, fascism, 'an ideology or movement that exalt[ed] the nation above the individual' took hold.[26] Yet in Britain, despite the domestic economic problems which had culminated in the General Strike of 1926,

[20] Howard Robertson, *Modern Architectural Design* (London: Architectural Press, 1932), p. 17. Robertson later became President of the Royal Institute of British Architects (1952-1954).
[21] Ibid.
[22] Robertson, p. 19. The tension between architecture and engineering is discussed more broadly in Mark Crinson and Jules Lubbock, *Architecture - Art or Profession? Three Hundred Years of Architectural Education in Britain* (Manchester: Manchester University Press, 1994).
[23] Bob Reinalda, *Routledge History of International Organizations: From 1815 to the Present Day* (London: Routledge, 2009), p. 215.
[24] William Lethaby as quoted in: Crook, p. 236.
[25] Walter Consuelo Langsam and Otis C. Mitchell, *The World Since 1919* (London: Macmillan, 1971), p. 39.
[26] Jackson Spielvogel, *Western Civilization: A Brief History* (Stamford, CT: Cengage Learning, 2010), p. 679.

'there was little pressure…for revolutionary change', England being neither fascist nor communist.[27]

Such ambivalence did not extend to the new architecture however. Public perception held that the origins of the Modern Movement lay in continental Europe and Germany - problematic for a nation seemingly destined for conflict with the latter.[28] Reginald Blomfield, architect, declared, '[s]ince the [First World War]…Modernism, or 'Modernismus', as it should be called on the German precedent, has invaded this country like an epidemic.'[29] Nikolaus Pevsner, architectural historian, sought to overcome this difficulty and assuage fears of foreign influence by arguing that the new architecture, with its formal arrangements and honesty of material and construction, represented the continuity of an essentially English design philosophy; one which could be traced back to the Arts and Crafts movement and, even earlier, to a period of late Georgian architecture.[30] By contrast, in describing the competition to design the Foreign and Commonwealth Office in London, Pevsner highlighted what he believed to be the foreignness of much Victorian architecture with its many borrowed styles.[31] [Fig.1.05]

Fig.1.05. Foreign and Commonwealth Office (1868) by Sir George Gilbert Scott

[Source: Photograph available under Creative Commons Licence. Courtesy of Leonard Bentley.]

[27] Asa Briggs, *A Social History of England* (London: Penguin Books, 1991), p. 308.
[28] William Whyte, 'The Englishness of English Architecture: Modernism and the Making of a National International Style, 1927–1957', *Journal of British Studies*, 48 (2009), 441–65.
[29] As quoted in: Whyte, p. 450. Blomfield was President of Royal Institute of British Architects (1912-1914).
[30] Nikolaus Pevsner, *Pioneers of Modern Design from William Morris to Walter Gropius* (London: Penguin Books, 1936).
[31] Ibid, p. 19. The winning entry by Sir George Gilbert Scott 'ran much more upon the French…[but] did, however, aim at gathering a few hints from Italy'.

Rallying against the arbitrariness of Victorian design, he called upon the words of William Morris to condemn those who 'wrap themselves up in dreams of Greece and Italy'.[32] Pevsner lamented that English designers had failed to pick up where Morris had left off, and pointed to a select group of foreign architects who 'from the outset stood for machine art': Otto Wagner, Adolf Loos, Louis Sullivan, Frank Lloyd Wright, and Henri van de Velde.[33] [Fig.1.06] All but Sullivan, declared Pevsner, 'were decisively stimulated in their thoughts by England.'[34] And whilst the dissemination of the new architecture was 'undeniably the merit' of German architects such as Peter Behrens and Walter Gropius, Hermann Muthesius was singled out as the link between these Teutonic prophets and the earlier English tradition.[35] According to Pevsner, Muthesius recognised the 'perfect and pure utility' of early twentieth-century English domestic architecture.[36] Pevsner's conclusion, therefore, was that modern architecture may have evolved elsewhere in Europe, but its ideas originated in England.

Fig.1.06. Steiner House, Vienna (1910) by Adolf Loos

[Source: Pevsner N. 1960 (Third Edition). Pioneers of Modern Design [Penguin Books] p.201.]

[32] Morris as quoted in: Pevsner, p. 22.
[33] Pevsner, p. 26. Although Pevsner admired Morris' attempt to revive craftsmanship in Britain, he considered Charles Robert Ashbee, one of Morris' disciples, to be a more original thinker for denouning Morris' rejection of modern production methods.
[34] Ibid, p. 27.
[35] Ibid, p. 32.
[36] Ibid.

National International

In 1937, Pevsner's attempt to reposition modern architecture within a tradition of English design was reinforced when the exhibition *Modern Architecture in England* was held at MOMA. Hitchcock contributed two essays to the publication which accompanied the exhibition: 'The British Nineteenth-Century and Modern Architecture'and 'Modern Architecture in England'. The first essay clearly signalled the tone and content of the exhibition. Directly referencing Pevsner, Hitchcock declared that '[t]he new Continental modern architecture [had]…extremely important English roots'.[37] For Hitchcock, Joseph Paxton's Crystal Palace was not the first modern building, rather it marked a hiatus in the development of English architecture as the Victorian Gothic Revival took hold: the impetus for a new architecture had shifted to France and Germany, thus explaining a lack of English buildings in the previous MOMA exhibition of 1932. Since then, according to Hitchcock, 'something of a revolution had taken place in English architecture'.[38] In his second essay, emerging building types, the use of colour, and an application of native materials were identified as being representative of a national interpretation of the earlier International Style.[39] Alongside residential developments such as R.E. Sassoon House in Peckham, the Isokon Flats in Hampstead, and Pullman Court in Streatham, other buildings featured included Regents Park's Penguin Pool and the De La Warr Pavilion in Bexhill-on-Sea.[40] [Figs.1.07 & 1.08]

[37] Henry Hitchcock, Jr and Catherine Bauer Wurster, *Modern Architecture in England* (Santa Barbara, CA: Greenwood Publishing Group, 1937), p. 10.
[38] Ibid.
[39] Ibid, p. 30. Hitchcock acknowleged the paradox of national variants, but with Russian, Canadian, and German architects well represented in the exhibition, he observed that the term 'International Style' was one peculiarly descriptive of the English scene.
[40] Designed by Denby & Fry (1934), Wells Coates (1934), Frederick Gibberd (1936) Berthold Lubetkin (1933), and Mendelsohn & Chermayeff (1935) respectively.

Fig.1.07. Isokon Flats, Hampstead (1934) by Wells Coates

[Source: Author's own image.]

Fig.1.08. De La Warr Pavilion, Bexhill-on-Sea (1935) by Mendelsohn & Chermayeff

[Source: Postcard from the Collection of Mr & Mrs D Wright [Excel Series] Ref.29.

Courtesy of Bexhill Old Town Preservation Society.]

Whereas Pevsner had argued that the new architecture originated in England, Hitchcock claimed that these recent developments represented something particular to that nation. Moreover, it was 'not only in England that the possibility of such development[s]' existed.[41] Modern architecture, it was suggested, could provide the means to signify national identity. Once again, the new architecture was re-conceptualised and redefined, the International Style replaced with a modern vernacular. This was the concept known as *regionalism*.

Defined as 'the sense of identity that persons have with [the land] which they inhabit', regionalism had become an American preoccupation throughout the Great Depression.[42] It was precieved that identity had become eroded by an 'increasingly unpredictable and impersonal urban-industrial society'.[43] The crisis had partly arose from the economic difficulties of the time, but was exasberated by the sheer size of the country. A search for 'regional order, certainty, and security in the indigenous' resulted.[44] The matter was widely discussed amongst architects, engineers and planners, and led to the spate of publications.[45] Hitchcock's rallying call for American architects to follow the English example in creating a modern vernacular can be viewed as his contribution to the debate. Although regionalism in the American context was largely concerned with regional identity, in European, especially England, the threat of a new world war meant that the concept was applied on national terms. However, the buildings featured in the 1937 *Modern Architecture in England* exhibition were not wholly representative of the country, and relied heavily upon those private residences built in the south-east. Elsewhere in England, and indeed Britain, the interwar years witnessed an architecture scene of much greater diversity.

[41] Hitchcock, Jr and Wurster, p. 41.
[42] Michael C. Steiner, 'Regionalism in the Great Depression', *Geographical Review*, 73 (1983), 430–46 (p. 430).
[43] Ibid, pp. 422 & 433.
[44] Ibid, p. 434.
[45] See, for example, Lewis Mumford, *Technics and Civilization* (San Diego, CA: Harcourt, 1934); *The Culture of Cities* (San Diego, CA: Harcourt, 1938).

Diversity in British Architecture

To understand the type of buildings being erected throughout Britain during the 1930s, a nuanced reading of regional architecture is required; one that acknowledges the interplay between local and national concerns. It is not possible to provide a comprehensive survey of national developments in this thesis, but a brief overview of Britain's major cities demonstrates the architectural diversity existing contemporaneously with those private residencies of Highgate, Hampstead, and Peckham. In Birmingham, Viceroy Close - the city's first high-rise block of flats - was erected in 1937, and was followed one year later by the Queen Elizabeth Hospital; the latter influenced by the work of the Dutch architect Willem Marinus Dudok.[46] In Glasgow, the Art Deco-styled Beresford Hotel opened in 1938, one year before the classical rotunda of the city's University Reading Room.[47] Meanwhile, in Liverpool, the similarly Dudok-influenced Philharmonic Hall opened in 1939.[48] [Figs.1.09 & 1.10]

Fig.1.09. Beresford Hotel, Glasgow (1938) by William Beresford Inglis

[Source: Photograph copyright of Glasgow City Council Archives, Ref: D-CA8/2962-C7104.]

[46] Designed Mitchell & Bridgwater (1937) and Lanchester & Lodge (1938) respectively.
[47] Designed by William Beresford Inglis (1938) and Hughes & Waugh (1939) respectively.
[48] Designed by Herbert Rowse (1939).

Fig.1.10. Liverpool Philharmonic Hall (1939) by Herbert Rowse

[Source: Photograph copyright of National Museums Liverpool, Photographic Archives Ref: 39474.]

Although several of these buildings could be described as modernistic, none conformed to the stringencies of the Hitchock's conceptualised modern architecture. Similarly anomalous were those buildings erected in the city of Manchester: Lee House drew inspiration from the American high-rise whilst the neo-classical styling of the Midland Bank contrasted sharply with the Victorian Gothic buildings found elsewhere in the city.[49] Meanwhile, Manchester Corporation commissioned the classically-styled Central Library and the Gothic-influenced Town Hall Extension.[50] And before the onset of the Second World War, Kendal-Milne department store, designed in a stripped-down classical style, was joined by the Streamline Moderne of the Daily Express Building.[51] [Figs.1.11-1.13]

[49] Lee house was designed by H.S. Fairhurst & Son with J.H. Sellers (1931). Originally envisgased as a seventeen-storey skyscraper, only the first phase was completed. See Dennis Sharp, *Manchester* (London: Studio Vista, 1969), p. 33. The Midland Bank, designed by Edwin Lutyens (1935). The building made use of the architect's self-devised Delhi Order. See Clare Hartwell, *Manchester* (London: Yale University Press, 2002), p. 167.

[50] Central Library (1934) and the Town Hall Extension (1938) were designed by Emmanuel Vincent Harris.

[51] Kendal Milne department store was designed by J.S. Beaumont (1939), although it is alledged the building was designed by a German émigré working in the offices of Beaumont. See Hartwell, p. 245. The Daily Express Building (1939) was designed by Sir Owen Williams. The building is similar in appearance to its sister

Fig.1.11 Lee House, Manchester (1931) by H.S. Fairhurst & Son with J.H. Sellers

[Source: Photograph copyright of Fairhurst Design Group Archive.]

Fig.1.12. Midland Bank, Manchester (1935) by Edwin Lutyens

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m56498.]

buildings in London (1932) and Glasgow (1936). Streamline Moderne was the name given to a style of late-Art Deco architecture which rejected excessive ornamenation.

Fig.1.13. Daily Express Building, Manchester (1939) by Sir Owen Williams

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m56213.]

Given such variations in the national picture, it is apparent that the Modern Movement did not, as has been suggested, experience a 'cultural hegemony' prior to the outbreak of the Second World War.[52] If such a hegemony did existed, the buildings exhibited at the 1937 *Modern Architecture in England* suggest it was geographically limited.[53] Should those buildings highlighted above be considered as behind the times, or were such variations simply a reflection of differing regional circumstances? If regional circumstances are acknowledged, the European conception of regionalism, defined along nationalistic terms, is invalid. The valorization of national governance, for example, ignores the role of municipal authorites as agents, rather than passive recipients, of change. To overcome these difficulties, and to account for regional circumstances, the term *regionality*, as opposed to regionalism is proposed. In the next section, we will consider further the city of Manchester to elucidate upon this concept.

[52] Elizabeth Darling, *Re-Forming Britain: Narratives of Modernity Before Reconstruction* (London: Routledge, 2007), p. 3.

[53] Excluding Owen Williams' Boots Factory, Nottingham (1932), the most northerly building to feature in the exhibition was Christopher Nicholson's London Gliding Club Hangar and Clubhouse, Dunstable (1935) - just thirty-one miles north of London. See Powers, 'Exhibition 58: Modern Architecture in England, Museum of Modern Art, 1937'.

Regionality in Manchester

Throughout the nineteenth-century, technological progress throughout Europe led to the rapid mechanisation of manufacturing industries. Manchester, an early and enthusiastic adopter of these new technologies, underwent huge transformations to become the 'shock city' of the age.[54] Other cities such as Glasgow and Birmingham followed, but only Manchester 'made contemporaries speak of an industrial revolution'.[55] Mechanisation of the city's cotton industry was hugely significant in increasing manufacturing output but, at the same time, reduced the demand for labour.[56] New employment opportunities arose, however, in the machine-making businesses which served the cotton industry, hence mechanical engineering became of equal importance to the city's economy.[57] Yet, although Manchester's manufacturing industry undoubtedly supplied the wealth upon which the city thrived, 'it was Manchester's trade with the world that counted…Manchester was a market first and a centre of industry second.'[58] From Bengal Street and Portugal Street in the Ancoats district north of city-centre to the Edwardian-baroque of India House and Canada House, Manchester's international status was self-evident.[59] This status enabled the city to become influential domestically, lobbying the government for reform on issues ranging from tax, education, health and housing.[60] In 1838, having been granted a Charter of Incorporation, Manchester found that powers bestowed under the 1835 Municipal Corporations Act were 'wholly inadequate' as it aimed to improve the overcrowded and insanitary living conditions in the Borough; in terms of population of Manchester was second only to London.[61] Exerting its domestic influence, Manchester promoted 125 Acts of Parliament in the first 100 years of its incorporation.[62] This is important in understanding how Manchester perceived itself at the beginning of the twentieth-century. As the historian Alan Kidd notes: 'Manchester entered the political arena as the voice of the provinces against London'.[63]

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[54] Asa Briggs, *Victorian Cities* (Oakland, CA: University of California Press, 1965), p. 116.
[55] Alan J. Kidd, *Manchester* (Edinburgh: Edinburgh University Press, 2002), p. 28.
[56] Ibid, p. 109.
[57] Ibid, pp. 22–24. Local firms, such as Nasmyth's, Whitworth's and Sharp Robert's made Manchester 'the centre of the British machine-tool industry'.
[58] Ibid, pp. 19 & 28.
[59] Designed by H.S. Fairhurst & Son (1906) and W. & G. Higginbotham (1909) respectively.
[60] Philip B. Dingle, 'Manchester...A Pioneer in Local Act Powers', *The Municipal Journal*, 1954, pp. 1733–34. Dingle, the City Town Clerk, observed, 'From the outset the borough council found itself forced into the forefront as pioneers in the sphere of local government largely because the industrial revolution arrived in Manchester several decades before it arrived in other large centres of population.'
[61] Ibid, p. 1733. By 1838, out of c.182,000 people living in the Borough, 142,000 were contained within the 1.646 acres of the old township of Manchester.
[62] Ibid, p. 1734. These included the *Water Clauses Act of 1847*, the *Public Health Act of 1848*, and the *Local Government Act of 1858*.
[63] Kidd, p. 22.

As discussed earlier in this chapter, the decline of the imperial powers in Europe prompted individual nations to adopt protectionist policies badly affecting Britain's trade-based economy. Although it is generally accepted that Lancashire's cotton industry was in serious decline by the 1920s, the perception of Manchester as a Victorian industrial powerhouse thus made impotent has been overstated. This vew ignores the diversification of the city's economy in the previous century which, in addtion to the rise of its engineering industry, saw Trafford Park Industrial Estate become the focus of major investment from American firms such as Westinghouse Electric and the Ford Motor Company.[64] That Manchester should look west to the colonial territories of the British Empire and the United States rather than Europe for architectural inspiration is, therefore, unsurprising. Both Lee House and the Midland Bank should be considered in this context.

Furthermore, it has been suggested that along with the economic difficulties of the 1920s came a decline in the powerful municipal culture, established in the Victorian period, as towns and cities were abandoned by the middle classes.[65] However, in cities such as Manchester, economic uncertainty allied with the introduction of mass democracy meant that local government moved towards 'a more demotic and inclusive civic culture'.[66] At a meeting of Manchester's Town Planning Special Committee the need to 'create a greater sense of citizenship' was explicitly acknowledged.[67] It is in this context of civic-pride that Central Library and the Town Hall Extension, along with designs for an unbuilt Civic Hall, should be evaluated.[68] James Maude Richards, architectural critic, later acknowledged that in the case of buildings for 'official purposes – town halls, public libraries, and so on…modern architecture [was] too new' to express the necessary dignity for such buildings.[69] Thus, local and national economic and political factors can be seen to have played a role in the type of architecture that pervaded Manchester in the 1930s.

[64] John J. Parkinson-Bailey, *Manchester: An Architectural History* (Manchester: Manchester University Press, 2000), pp. 127–28. Trafford Park Industrial Estate was established in 1896 subsequent to the opening of the Manchester Ship Canal two years earlier.
[65] See, for example, Robert J. Morris, *Structure, Culture and Society in British Towns* (Cambridge: Cambridge University Press, 2001); Peter Shapely, 'Civic Pride and Redevelopment in the Post-War British City', *Urban History*, 39 (2012), 310–28.
[66] Charlotte Wildman, 'Urban Transformations in Liverpool and Manchester, 1918-1939', *The Historical Journal*, 55 (2012), 119–43 (p. 122).
[67] As quoted in Wildman, p. 124.
[68] The unbuilt Civic Hall (1934) was designed by the City Architect George Noel Hill, and described as 'an expression of civic dignity and pride'. See Rowland Nicholas, *1945 City of Manchester Plan* (Norwich: Jarrold & Sons, 1947), p. 101.
[69] James M. Richards, *An Introduction to Modern Architecture* (London: Penguin Books, 1940), pp. 97–98. Richards was editor of the Architectural Review (1937-71).

The implication of acknowedging factors such as those described above is that, beyond the architect, agents both human and non-human should be recognised as influencing the creation of buildings. In this instance, alongside the afforementioned economic and political factors, the networks fostered within the architectural community of the north-west can also be seen to have contributed to the regionality of its architecture. This is evidenced by the connections that existed between Manchester and the Liverpool School of Architecture.

Manchester and the Liverpool School of Architecture

> *'I have always felt privately that Mr [Maxwell] Fry was one of the few British architects who are completely masters of this treacherous modern business. I now suspect that Liverpool has something to do with it: even that Professor Reilly may be behind it all.'* [70]

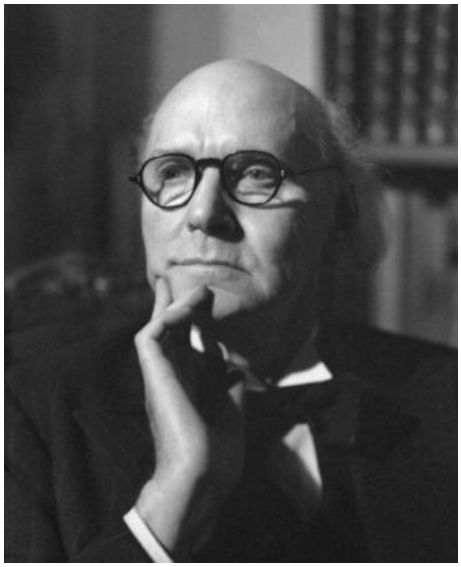

Fig.1.14. Portrait of Professor Charles Herbert Reilly:
Head of Liverpool School Architecture (1904-33)
[Source: Photograph by Howard Coster. Copyright of The National Portrait Gallery.]

[70] Reginald Blomfield as quoted in: Peter Richmond, *Marketing Modernisms: The Architecture and Influence of Charles Reilly* (Liverpool: Liverpool University Press, 2001), p. 161.

The heterogeneity of the British architecture scene in the 1930s suggests that the influence of the Modern Movement beyond London and its outer suburbs was limited. Modern architecture was not only a minority taste, it represented just a small fraction of buildings realised throughout Britain in that decade.[71] Although there was an increasing awareness in Britain's architectural schools of the ideas being formulated in the Bauhaus, under Howard Robertson the Architectural Association continued to teach a curriculum based on the principles of the Beaux-Arts.[72] At the Liverpool School of Architecture (LSA), however, Professor Charles Herbert Reilly was quietly effecting a change. [Fig.1.14]

Before the outbreak of the First World War, an overseas study trip to America inspired Reilly to formalise town planning as an academic discipline.[73] Reilly did not share Robertson's reservations towards industrialised architecture and along with Patrick Abercrombie - then employed as a junior lecturer and studio instructor at the school - promoted the standardisation of house-building in the architectural press.[74] Whilst Reilly proved an influential figure for Abercrombie, his teachings also inspired a new generation of architects. LSA alumni from this period include Herbert Rowse, Maxwell Fry and, significant here, Leonard Cecil Howitt who, being 'one of Reilly's boys', was appointed as deputy to George Noel Hill, City Architect of Manchester.[75] With Hill too being a former LSA student, the close ties that existed between Manchester and the LSA are evident. However, the influence of the school stretched even further; the future City Architects of Birmingham, Newcastle, and Southampton also graduated from the LSA under Reilly.[76] More importantly, with regards to the creation of Britain's post-war technical colleges, was its influence on the career of Stirrat Johnson-Marshall, another Reilly protégé and future Chief Architect at the Ministry of Education (1948-56). [Fig.1.15]

[71] See Esher, p. 20; Alan Powers, *Britain* (London: Reaktion Books, 2007), p. 63.
[72] Darling, p. 182. The Beaux-Arts system was based on the culmative inheritance of cultural knowledge.
[73] The Department of Civic Design at the LSA, established by Reilly in 1909, was the world's first planning school. See <www.liv.ac.uk/aesop2009/CivicDesign.htm> [accessed 01/08/14]
[74] Christine Wall, *An Architecture of Parts: Architects, Building Workers, and Industrialization in Britain 1940-1970* (London: Routledge, 2013), pp. 19–22.
[75] 'Personal Profile: Mr. L.C. Howitt', *Evening Chronicle*, 11 January 1960. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections) Howitt replaced Hill as City Architect in 1946.
[76] Respectively these were A.G. Shepherd Fiddle, George Kenyon, and Leon Berger. See Peter Richmond, p. 179.

Fig.1.15. Portrait of Stirrat Johnson-Marshall:

Chief Architect of the Ministry of Education (1948-56)

[Source: Saint A. 1987. Towards a Social Architecture [Yale University Press] inside jacket.]

In 1930, Johnson-Marshall met Reilly on a train destined for Manchester and was invited to study architecture at the LSA.[77] Accepting Reilly's invitation, it was at the LSA that Johnson-Marshall attended a lecture given by Walter Gropius on mass production in architecture. Gropius described the danger of monotony inherent with mass-produced buildings, but predicted that the next generation of architects would adopt and refine the new architecture. The ability to manufacture component parts, rather than entire structures, meant that buildings could be assembled to meet the needs of the individual.[78] Thus, the concept of systematised building was introduced to Johnson-Marshall. His brother Percy, later recollected: 'Gropius gave us what we thought was the clue to the problem that had been eluding us, and the secret lay perhaps in two areas of thought. One was that the fallacy of the styles continued from the battles of the previous century…and the second was the need to come to terms with the Industrial Revolution and learn the secrets of its methods and techniques'.[79] The new architecture, therefore, was based on neither conceptualised notions of modernity nor a desire to signify nationhood; it was simply one that sought to utilise modern technologies. The outbreak of the Second World War, and the austerity that followed, provided the impetus for architects to embrace such technologies.

[77] Joseph Sharples, Alan Powers and Michael Shippobottom, *Charles Reilly And The Liverpool School Of Architecture, 1904-1933* (University of Chicago Press, 1996), p. 25.
[78] 'New Architecture: Individuality by Mass Production', *The Manchester Guardian*, 18 May 1934, p. 6. Gropius later expanded upon these ideas is this book, *The New Architecture and the Bauhaus* (London: Faber and Faber, Ltd, 1935).
[79] Percy Stirrat-Marshall as quoted in: Andrew Saint, *Towards a Social Architecture: The Role of School-Building in Post-War England* (London: Yale University Press, 1987), p. 7.

Technology and Expediency

> *'In September 1939 all the blinds came down and civil building stopped dead. For six years the participants in the movement of the thirties were absorbed in this or that part of the war machine.'* [80]

On the 1st September 1939, Germany invaded Poland marking the onset of the Second World War. As the above quotation suggests, for some this marked a hiatus in the development of twentieth-century architecture. Consequently, historical accounts have tended to 'omit the war years or consider them only in the light of reconstruction of destroyed cities'.[81] However, during the war, architects were called upon for their organisational and technical expertise, and were engaged in activites ranging from planning and logistics to the protection of historic monuments. Whereas architectural debates of the interwar years had been concerned with conceptualised notions of modernity and nationhood, now 'architecture was put to test…with its ideals, its procedures, its fundamental structures called into question.'[82] With economic and material constraints, architects were required to consider the processes involved in the manufacture of their designs and identify efficiencies. Hence, due to wartime exigency, not stylistic concerns, architects adopted the methods and techniques of the Industrial Revolution. A period of significant innovation followed: concrete, plywood, aluminium, and plastic replaced the scarcer and more expensive steel and glass; new materials, such as synthetic rubber, were developed in direct response to shortages; and factory-made components allowed for portable, temporary military stuctures.[83]

In 1943, Johnson-Marshall, having initally served with the Royal Engineers in Singapore, returned to England and was posted to the Camouflage Development and Training Centre (CDTC) at Farnham Castle, Surrey. The CDTC at this time was mainly concerned with the production of dummy tanks and landing-craft ahead of D-Day, but it was here that Johnson-Marshall began to formalise his thoughts on the potential implications for post-war reconstruction that technical

[80] John Summerson as quoted in: Trevor Dannatt, *Modern Architecture in Britain: Selected Examples of Recent Building* (London: B. T. Batsford, 1959), p. 18.
[81] Jean-Louis Cohen, *Architecture in Uniform: Designing and Building for the Second World War* (Montreal: Canadian Centre for Architecture, 2011), p. 12.
[82] Ibid, p. 11.
[83] The synthetic rubber, Ameripol, was developed in direct response to shortages in natural rubber wrought by the Japanese military's control of much of the Asian continent. See 'Goodrich Offers First Synthetic Rubber Tire For America's Cars!', *LIFE*, 21 October 1940, p. 5.

innovations such as those mentioned above might hold. A future was envisaged whereby light-weight, flexible, prefabricated buildings would be produced in large quantities, with manufacturers working in close collaboration with designers, users and policy makers.[84] For Johnson-Marshall, the rebuilding of Britain's towns and cities would be determined neither by a conceptually-fluctuating modern architectural style nor the will of individual architects: localised collaborative processes, along with the technical innovations developed as part of the war effort, informed his vision of post-war Britain.

Despite the possibilties for post-war reconstruction brought by wartime innovation, the idea of a modern architectural vernacular peristed. Regionalism continued to be promoted by both architect and critic alike.[85] Although Richards had acknowledged that modern architecture was too new to the acquire the temporal associations of the historic styles, he believed that a nation could cultivate an individual interpretation of the new architecture to reflect differing climate, locally available materials, and national culture: 'This process of re-nationalization of a common architectural idiom…should be described as regionalism rather than nationalism'.[86] This was an architecture, he insisted, that was 'international in scope, [but] ignoring the very distinctions nationalism tries to emphasize'.[87] Contempory to Richards, however, was the Swiss architectural historian Sigfried Giedeon, for whom the new architecture remained simply a logical response to industrialisation: where industrialisation occurred, the new architecture would follow, standardised and without reference to national identity. As such the work of architect Alvar Aalto, which referenced the Finnish vernacular through the use of local materials, was excluded from early editions of Giedeon's seminal book, *Space, Time and Architecture.*[88] [Fig.1.16] Regionalism had yet to dominate the architectural discourse.

[84] Saint, p. 244.
[85] See, for example: Neville Conder, *An Introduction to Modern Architecture* (London: Shenval Press, 1949).
[86] Richards, p. 104.
[87] Ibid, p. 86.
[88] Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition* (Cambridge, MA: Harvard University Press, 1941). Aalto's exclusion by Giedeon is discussed in: Liane Lefaivre and Alexander Tzonis, *Architecture of Regionalism in the Age of Globalization: Peaks and Valleys in the Flat World* (London: Routledge, 2012), p. 151.

Fig.1.16. Villa Mairea, Noormarkku (1939) by Alvar Aalto: referenced the Finnish vernacular

[Source: Louna L. 2004. Aalto [Taschen] p.42.]

Prefabrication and the New Britain

In aftermath of the Second World War, substantial programmes of rebuilding were embarked upon by Britain's Local Authorities. From the first wave of the New Towns to the wholesale remodelling of cities such as Coventry and Plymouth, the urban landscape in Britain was in flux.[89] Housing shortages, along with inadequate health and educational facilities, dictated what could be built in the initial years of reconstruction. Those buildings that were constructed were done so within the constraints of finance, labour and material availability. Yet, despite a chronic lack of resources, it was recognised that a nationwide building programme for new schools was required.[90] The 1944 Education Act had made available free secondary education for all children upon reaching the age of eleven whilst raising the school leaving age to fifteen.[91] However, the suitability and number of existing schools was woefully inadequate; rising birth-rates would only exacerbated the problem in the future. The solution appeared to lie in the prefabricated building systems which had evolved during the war.[92] This led to the establishment of the Hutting Operation for Raising the School Leaving Age (HORSA) which by December 1948 had resulted in

[89] Designated under the New Town Act of 1946, Stevenage was the first of such towns. Intended to alleviate the housing shortage of the immediate post-war years many more followed.
[90] Saint, p. 35.
[91] 1944 Education Act (London: H.M.S.O., 1944)
[92] In West Sussex, for example, the County Architect Cecil George Stillman adapted a cold-formed steel system developed in the construction of caravans for use as transportable classrooms. See Saint, p. 53.

the erection of 3,583 concrete-framed classrooms and 1,629 workrooms.[93] However, a more proprietary approach was to emerge from the architects' offices of Hertfordshire County Council.

After the war had ended, Johnson-Marshall had become Deputy County Architect of Hertfordshire County Council, and was joined there by his former-CDTC colleague David Medd and Medd's future wife, Mary Crowley. Together they set about refining a system developed by the glazing firm Hills and Company of West Bromwich which, comprising of lightweight steel frames, could be configured in any direction allowing for non-linear designs. The addition of precast concrete cladding panels meant that it was possible to build an entire school using the system.[94] These were the light-weight, flexible, prefabricated buildings that Gropius had urged the students of the LSA to develop, and subsequently envisaged by Johnson-Marshall during his time at the CDTC. First used for Burleigh Primary and Infants School in Cheshunt, the Hills system was adopted for a succession of projects, and greatly influenced the approach to school building elsewhere in the country.[95] [Fig.1.17]

Fig.1.17 Burleigh Primary and Infants School, Cheshunt (1946-47) by Hertfordshire County Council

[Source: Saint A. 1987. Towards a Social Architecture [Yale University Press] p.70.]

[93] Kate Darian-Smith and Carla Pascoe, *Children, Childhood and Cultural Heritage* (London: Routledge, 2012), p. 193.
[94] Ibid, p. 194.
[95] Catherine Burke, *A Life in Education and Architecture: Mary Beaumount Medd* (Farnham: Ashgate, 2012), p. 82. As project architects, the design of Burleigh Primary and Infants School has been widely credited to David Medd, Mary Crowley and Bruce Martin. However, the ethos of the Hetfordshire Architects' Department, in keeping with Johnson-Marshall's desire for a collaborative approach to design, was that of teamwork.

Fundamental to the success of the Hertfordshire schools was the collaborative approach to design encouraged Johnson-Marshall: the educationists, having established the broad requirements of teaching staff, would convey these to the design team as guiding principles. Detailes were worked out through an ongoing dialogue between the architects and the education staff.[96] This collaborative process extended to dealings with the fabricator who would annually undertake 'meticulous, exhaustive revisions of the steel frame [system]' based upon feedback from the design team.[97] Having established the necessary processes to successfully design and fabricate school buildings, Johnson-Marshall was keen to apply his philosophy elsewhere. And so, in 1948, he left Hertfordshire County Council to become Chief Architect at the Ministry of Education (MoE).[98] The remaining team members continued to contribute to the national debate about the ways and means of building schools: Medd later reflected, 'in Herts…we were closer to fulfilling Bauhaus ideals than Gropius'.[99]

Johnson-Marshall's arrival at the MoE coincided with a major shift in emphasis regarding education provision. In response to the 1944 Education Act, the focus of the immediate post-war years had been upon school building. However, from 1948 to 1952 Europe witnessed the fastest economic growth in its history, and Britain faced increased competition from overseas competitors in a resurgent manufacturing industry.[100] To remain competetive, Britain had to emphasise its technical credentials. The 1951 Festival of Britain was considered the perfect vehicle to re-cast national identity and re-assert the nation internationally.[101]

[96] Saint, p. 80.
[97] Ibid, p. 81.
[98] Ibid, p. 95.
[99] David Medd as quoted in: Burke, p. 82.
[100] The implementation of the Marshall Plan on April 3, 1948, granted $5 billion in aid to 16 European nations. This, combined with the loss of colonial territories in India and Burma, threatened Britain's economy.
[101] Becky Conekin, *The Autobiography of a Nation: The 1951 Festival of Britain* (Manchester: Manchester University Press, 2003), p. 5.

A New Age of Insecurity

> *'If 'nationalism…engenders nations', then nations aspire to be nation-states, these require nation-signifying buildings, which in turn manifest the nation.'*[102]

The ability of modern architecture to express national identity has engaged both historian and architectural commentator alike in recent years. For some, the very concept of nationhood is itself problematic with borders and territories in constant-flux.[103] Nonetheless, it has been argued that a confluence of circumstances can produce an architecture unique to a given country.[104] The architecture of the 1951 Festival of Britain is often portrayed thus.

Even before the end of the war, an event to celebrate the 100th anniversary of the 1851 Great Exhibition had been muted. As the harsh economic realities of the post-war era came to pass, the idea of a festival as 'a great Trade and Cultural exhibition' took hold. The Ramsden Committee, set up in 1945 to investigate ways to boost Britain's export trade, concluded that 'a first category international exhibition should be held in London at the first practicable date to demonstrate to the world the recovery of the United Kingdom from the effect of war in moral, cultural, spiritual and material fields'.[105] By 1948 however, as the British Government pursued its policy of decolonisation, withdrawing from India, Burma and Ceylon, political unrest in the remaining colonies created the perception of a nation in decline: Empire could no longer be the anchor for national identity.[106] Instead, the festival set out to celebrate, define even, the diversity and character of its island people, and was to be a 'tonic for the nation'; an antidote to the dreariness of enforced rationing and cities which continued to resemble bombsites.[107]

Whilst the event was intended to be celebratory, it also sought to emphasise Britain's industrial prowess. The exhibitions 'Minerals of the Island' and 'Power and Production' combined to present a picture of a self-sufficient manufacturing industry whilst the 'Transport' exhibition highlighted moves to integrate road and rail for the better transportation of goods. Designs for a

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[102] Mark Crinson quoted in Mark Crinson, 'The Building Without a Shadow', in *Raymond Quek and Darren Deane, editors. Nationalism and Architecture* (Farnham: Ashgate, 2012), pp. 115–33 (p. 116).
[103] Ibid.
[104] Hitchcock, Jr and Wurster, p. 41; Richards, p. 104.
[105] As quoted in: Conekin, p. 28.
[106] Conekin, p. 30.
[107] Mary Banham and Bevis Hillier, *A Tonic to the Nation: The Festival of Britain 1951* (London: Thames and Hudson, 1976).

new airport being constructed in London, capable of handling 'large quantities of freight', were showcased.[108] Further, communication technologies such as telephone, telegraph, radio and radar were exhibited; part of 'an essential service for all modern transport'.[109] Certainly, the exhibitions and buildings contained in the 27-acre site, such as the Skylon and the Dome of Discovery, were unlike anything Britain had seen before. For much of the general public, it would have been their first experience of the new architecture, hitherto largely the preserve of wealthy individuals. However, presented as the face of a New Britain, just how original were these buildings?

It has been asserted that after the Second World War 'the general ideological climate of the West was hostile to any kind of monumentality' in architecture: nations such as Germany and Italy who had nurtured such an approach were considered 'anathema'.[110] However, as Richards had identified during the war, issues pertaining to representation and national identity in the new architecture were already beginning to emerge, something he had then termed regionalism after the American debate of the interwar years. In 1947, and contrary to the architectural dogma of Giedeon and others, Richards called for an architecture that could be understood by the general public. But how could national identity be expressed with an architecture so pared down and functional? Richards offered the example of Sweden where he had observed functional buildings that had been 'humanized' through the use of traditional building materials. [111] Combining modern forms with the vernacular was common in Scandinavian and Nordic countries and could be observed in the interwar architecture of those such as Aalto and Gunnar Asplund. The 1930 Stockholm Exhibition, which Aalto described as 'propagat[ing] a healthy and unpretentious lifestyle based on economic realities', exemplified this approach. [112] With Britain facing its own economic realities, one might suggest this was the perfect template for the Festival of Britain. [Figs.1.18 & 1.19] Aalto, previously dismissed for his vernacular style, now found himself viewed as a pioneer of the new architecture as Giedeon performed a volte-face: the inclusion of Aalto's work in later editions of Giedeon's *Space, Time and Architecture* was indicative of a shift in attitudes, one which saw regionalism come to dominate the post-war architectural discourse in Europe.

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[108] Ian Herbert Cox, *The South Bank Exhibition: A Guide To The Story It Tells* (London: H.M.S.O., 1951), pp. 20–39.
[109] Cox, pp. 20–39.
[110] Frampton, p. 222.
[111] See Eric Paul Mumford, *The CIAM Discourse on Urbanism, 1928-1960* (Cambridge, MA: MIT Press, 2002), pp. 163–168. Richards now termed this approach to design as The New Empiricism.
[112] Alvar Aalto quoted in Richard Weston, *Twentieth-Century Residential Architecture* (New York, NY: Abbeville Press, 2002), p. 171. The buildings of the 1930 Stockholm Exhibition were designed by Gunnar Asplund and Sigurd Lewerentz.

Fig.1.18. The Paradiset Café, Stockholm Exhibition (1930) by Asplund & Lewerentz

[Source: Press photograph available under Creative Commons Licence. Courtesy of Holger Ellgaard.]

Fig.1.19. Royal Festival Hall, London (1951) by Martin, Matthews & Moro:

built for the Festival of Britain

[Source: Photograph courtesy of Visual Resources Library, Manchester Metropolitan University.]

But even while such debates were taking place, so too was the reconstruction of Britain's cities. A new social infrastructure had to be built to meet the needs of the nascent Welfare State: new housing, new schools, and new hospitals. Such utilitarian buildings, generally ignored or considered as 'developments in construction, rather than presented as central contributions to…architectural debate' were, however, essential elements of that reconstruction.[113] Further, with manufacturing seen as key to Britain's economic prospects, technical innovation and the need to improve technical education would figure greatly in the decades ahead. Alongside the national school building programme, new technical colleges would be required to deliver that education. This task fell to the MoE and Johnson-Marshall.

Summary

The concept of modernity, in architecture, has held different meanings through time whilst scholarship has been dominated by conceptualised notions of modernity: the work of its key writers can only be understood when the circumstances in which those texts were written are considered. In this chapter, we have revealed how the new architecture was far from a homogenous and all-encompassing attitude or style. There wasn't a single modern architecture but, rather, many modern architectures, each dependent on a confluence of factors: technical, social, political and economic.

The Industrial Revolution saw architecture and engineering dichotimised; architecture as art, engineering as mere construction. However, the hostility to mechanisation in the production of buildings began to ebb in the interwar years as economic realities coming to the fore. The outbreak of the Second World War necessitated the adoption of industrial methods, but Pevsner's interpretation of the new architecture, underplaying its Germanic credentials, significantly influenced architectural historiography, and resulted in certain buildings and architects being privileged whilst relegating other circumstances to mere footnotes. Only recently have the complex relationships formed between the client, client, and building user, typically overlooked in the production of architecture, been considered. We have seen that the interplay between national and local legislature can be equally important in the creation of building types. Nationalisation may have begun to erode municipality at the beginning of the twentieth century, but in cities such as Manchester a strong sense of civic pride and identity persisted. Manchester,

[113] Nicholas Bullock, *Building the Post-War World: Modern Architecture and Reconstruction in Britain* (London: Routledge, 2002), p. 83.

whilst not immune to the impact of national legislature, can be seen to have effectively created such legislature through the promotion of Local Bills. The pioneering spirit of the city, was in turn reflected in its architecture of that period, a product of local civic pride and aspiration not a prevalent national style.

Indeed, the diversity of architecture styles observable, not just in Manchester but throughout Britain, calls into question the perceived dominance of a modern idiom in the years prior to the outbreak of the Second World War and, consequently, the notion that post-war reconstruction was informed by a conceptualised architecture named Modernism. The architecture of regionalism, exemplified by the 1951 Festival of Britain, did not establish a blueprint for post-war reconstruction any more than the interwar buildings of the International Style did. Only by taking a closer look at the interplay between local circumstance and national prescription - an approach termed regionality - can we begin understand the architecture of post-war Britain; only then can we properly assess those twentieth-century buildings currently deemed anomolous or unworthy of attention. In the next chapter, we will take a closer look at the how this interplay between local and national concerns resulted in the creation of one such overlooked building type - the post-war technical college.

Chapter Two: Technology, Industry and the Ministry of Education

Conceptual notions of modernity have dominated twentieth-century architectural discourse whilst accounts of post-war reconstruction in Britain typically begin with the Modern Movement which emerged in the 1920s. However, the heterogeneity of Britain's interwar buildings can only be explained by considering the interplay between local circumstance and national prescription – defined in Chapter One as regionality. Privileging conceptual narratives has resulted in significant architectural developments being largely overlooked: this is particularly true in the instance of educational buildings. Schools and colleges, along with social housing and churches, accounted for much of the building work carried out in the immediate post-war period. In this chapter we will explore the expansion of the education system in post-war Britain, and consider the national and local tensions which influenced its outcomes. In doing so, an under-researched building type will emerge, one defined by this local national interplay: these buildings were Britain's post-war technical college.

Why Technical Education?

In order to understand why technical colleges became central to educational concerns in the post-war period, we must first consider the historical context. In the early-nineteenth century, provision of youth education in Britain was largely the preserve of the Church of England through its National Society whilst institutions such as Mechanics' Institutes provided adult instruction to the working classes; accommodation was typically improvised, or reliant upon local benefactors. Although the Mechanics' Institutes are generally considered as the forerunners of technical education in Britain, contemporary observers were critical of teaching standards, and observed that they too were influenced by religious concerns.[1] Not until the late 1840s did the Church's domination begin to ebb as calls for secular schools came from the wealthy middle-classes and '[i]ndustrialism cut across all the known traditions and beliefs'.[2] Mostly funded by philanthropic

[1] Michael Argles, *South Kensington to Robbins: An Account of English Technical and Scientific Education Since 1851* (London: Longmans, 1964), pp. 7–8.
[2] William Kenneth Richmond, *Education in England* (London: Penguin Books, 1945), p. 62.

industrialists, these schools aimed to go beyond the teaching of reading, writing and arithmetic, and to provide scientific and technical instruction alongside the traditional curriculum.[3]

As early as 1837, the Manchester Society for Promoting National Education recognised that educational advances in America, France, and Prussia had left Britain lagging behind its manufacturing competitors.[4] However, the 1851 Great Exhibition proved to be a turning point and has been identified as the beginning of organised scientific and technical education in Britain.[5] As the nation sought to establish itself as a world industrial leader, the exhibition provided the impetus for further reforms in manufacturing methods. Manchester, the foremost city of the Industrial Revolution, played a key role in bringing about the attendent reforms in technical education. In 1868, Manchester-born engineer Joseph Whitworth, a key exhibitor at the exhibition, outlined his desire to 'promote the engineering and mechanical industry of this country by founding thirty scholarships of the value of £100 each'.[6] Duly established, these scholarships marked the beginning of Whitworth's enduring association with technical education in Manchester.

In keeping with its established tradition of pioneering new legislation, Manchester laid the foundations for the passing of the 1870 Elementary Education Act.[7] This Act not only established an administrative system of national undertaking, but foreshadowed the 1889 Technical Instruction Act whereby County Councils were instructed to form committees aimed at developing technical education.[8] Additional monies, generated through the taxation of alcohol, allowed these committees to spend the sum of one penny in the pound on technical and manual

[3] See, for example, Harold Silver, *English Education and the Radicals, 1780-1850* (London: Routledge & Kegan Paul, 1975), p. 114. In 1848, William Ellis opened the first of his 'Birkbeck' schools on the premises of the former-London Mechanics Institute. Meanwhile, in Manchester, Richard Cobden campaigned for the establishment of a system of national education through the National Public Schools Association (NPSA) – this organisation having replaced the earlier Lancashire Public Schools Association (LSPA).

[4] Samuel Edwin Maltby, *Manchester and the Movement for National Elementary Education* (Manchester: Manchester University Press, 1918), p. 52.

[5] See, for example, Argles, p. 13; Barbara Price, *Technical Colleges and Colleges of Further Education* (London: B. T. Batsford, 1959), p. 20; Penny Summerfield and Eric J. Evans, *Technical Education and the State Since 1850: Historical and Contemporary Perspectives* (Manchester: Manchester University Press, 1990), p. 1.

[6] Whitworth announced his intentions in a letter to then-Prime Minister Benjamin Disraeli, 18th March, 1868. See 'Sir Joseph Whitworth', *The Manchester Guardian*, 24 January 1887, p. 5.

[7] 1870 Elementary Education Act (London: H.M.S.O., 1870). See Maltby, p. 67. It is claimed that 'almost every argument and debate of 1870, 1902 and 1906 may be found in the annals of the LPSA and the NPSA between 1848 and 1851.'

[8] County Councils were established under the 1888 Local Government Act - see: John Plowright, *The Routledge Dictionary of Modern British History* (London: Routledge, 2006), p. 180.

instruction. This was recognition that state support for technical education in Britain was essential to remain competitive with other manufacturing nations.[9]

With the means to develop a system of technical education established, the last decade of the nineteenth-century witnessed the construction of several technical colleges, mostly in the industrial towns and cities of the north. These colleges, typical of civic architecture of the period and, therefore, distinct from the post-war technical colleges in their design and construction, were aimed solely at the provision of vocational training for adults.[10] [Fig.2.01]

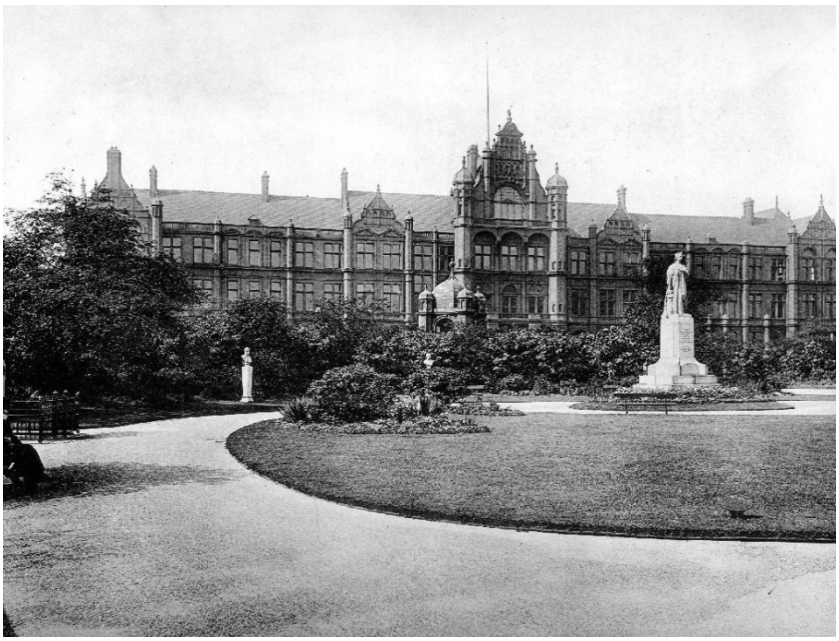

Fig.2.01. Salford Royal Technical Institute (1896) by Henry Lord: a 19th century technical college

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m64182]

State or Municipal Control?

The next century began with moves to further strengthen state control over the education system. The 1902 Education Act abolished locally-elected School Boards and in their place Local Education Authorities (LEAs) were created.[11] However, under the new system the focus shifted

[9] The industrial capacity of both Germany and the United States was outstripping Britain as early as 1875. See Argles, p. 15.
[10] Price, p. 21.
[11] 1902 Education Act (London: H.M.S.O., 1902). Under the 1902 Education Act, LEAs were granted powers to establish new secondary and technical schools as well as developing the existing system of elementary education. For more information, see: Derek Gillard, 'Chapter 4 : 1900-1944 Taking shape' (Education in England: A Brief History, 2011)

away from advancing technical instruction with greater attention being afforded to the development of secondary schools.[12] Only with the outbreak of World War One pending was the relationship between technical education and industry forged anew. Innovations in manufacturing processes demanded a technically-competent workforce, and so a new category of school, the Junior Technical School, was established to prepare adolescents for employment in industry.[13] In Manchester, a Junior Technical School was opened in 1915, occupying the existing Openshaw Municipal Buildings on Ashton Old Road. Facilities included a workshop and laboratory with the neighbouring Crossley Lad's Club providing space for classrooms. [Fig.2.02] Although the product of national prescription, it is worth noting that both of these buildings were erected and given over to the Manchester Education Committee through the generosity of local benefactors, not the state.[14] Whilst this demonstrates the existence of a strong local will that national legislation could not satisfy, it also provides further evidence that to fully understand buildings a nuanced reading of local circumstances must be undertaken.

Fig.2.02. Openshaw Municipal Buildings (1894) by J.W. Beaumont:
temporary home to Openshaw Junior Technical School from 1915 to 1931
[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m12602]

Available at: <www.educationengland.org.uk/history/chapter04.html> [accessed 01/09/14]
[12] Price, p. 21.
[13] Summerfield and Evans, p. 103.The schools were established by the Board of Education, the previous incarnation of the Ministry of Education, in accordance with the 1913 Regulations for Junior Technical Schools.
[14] Openshaw Municipal Buildings and the Crossley Lad's Club were financed by the legatees of Joseph Whitworth and William John Crossley respectively.

The interwar years represent something of a hiatus in the development of technical education in Britain, although the 1926 Hadow Report later proved influential in the wider reform of the education system.[15] As such, when the war ended, it was considered that the existing Junior Technical Schools did not adequately prepare students for a higher level of technical training; rather they catered for 'those boys proceeding to local industries'.[16] The 1918 Education Act sought to address this shortcoming by placing the responsibility for educational reform back with the LEAs.[17] The key aims of the Act were to set the school leaving age at fourteen and make onward vocational training through day continuation schools compulsory.[18] The Act seemingly pointed to a brighter future for technical education. However, resistance came from within industry to employees attending the day continuation schools, and there was a general failure to enforce the initiative.[19] As such, only a small number of new buildings for technical education were erected.

In the early 1930s, widespread economic depression ensured there was little pressure from within industry to advance technical expertise.[20] However, with rising tensions across Europe and fears of another war, this complacency began to dissipate. Germany and Japan increased military spending and Britain, in response, embarked upon a major rearmament programme of its own. Under the duress of war, the next six years proved to be a period of significant technical innovation and sociological change, creating in Britain the conditions under which it was possible to reappraise the role of technical education.

[15] William Henry Hadow, *Report of the Consultative Committee on the Education of the Adolescent* (London: H.M.S.O., 1926). The report recommended the establishment of primary and secondary schools with the break at age 11. The 1938 Spens Report later called for the tripartite system of grammar schools, technical schools and modern schools; the latter for those neither academic nor technically minded.
[16] Argles, p. 66. The report was prepared by the Thomson Committee, chaired by Sir Joseph John Thomson, to establish the role of science in the British education system.
[17] 1918 Education Act (London: H.M.S.O., 1918). See William Kenneth Richmond, p. 104. The shift of responsibility back towards the LEAs was partly in recognition that the State had been negligent in its responsibilities having assumed greater authority in 1902.
[18] Day continuation schools were established to provide part-time study for young apprentices.
[19] Price, p. 21. In 1922, the Government backed the recommendations of the Geddes Committee in suggesting that attendance of day continuance schools be made voluntary, counter to the 1918 Education Act.
[20] Argles, p. 70.

'Upon the education of the people of this country the fate of this country depends.'[21]

The prevalent sense of collectivism engendered by conflict underpinned much wartime policy, and heralded initiatives such as the Beveridge Report.[22] The need to plan on a national scale, coupled with a reinvigorated demand for technical education, resulted in the publication of the 1943 White Paper on Educational Reconstruction.[23] Drawing influence from the Hadow Report of 1926, the White Paper pointed to the fact that technical education had not been advanced sufficiently to meet the needs of an industrialised society. Standards of equipment and accommodation were described as 'deplorably low' in comparison with Britain's economic competitors and, whilst recognising the contribution of the technical colleges to the war effort, greater integration between educational institutes and industry was needed.[24]

When, in August 1944, a new Education Act was passed, the key criticisms of the 1943 White Paper were addressed.[25] Free secondary education was provided for all children upon reaching the age of eleven; the school leaving age was raised to fifteen; and the provision of further education - including technical instruction - was made an obligation of LEAs. Proposals on how each LEA intended to address the demands the Act had to be submitted to the MoE for ratification. A blueprint for the future of education was therefore determined: educational reconstruction would be locally determined, but considered within a national framework.

The drive for social reform which gained momentum during the Second World War saw the Labour Party win the general election of 1945, and assume responsibility for implementing the 1944 Education Act.[26] Cross-party consensus on educational reform, however, meant that LEAs had already begun to formulate plans with the publication of the 1943 White Paper. In Manchester, the proposed educational reforms were seen as an opportunity 'to ensure that a wide range of vocational instruction and training [was] maintained and developed', and for educational facilities in the city to be kept 'abreast of the requirements of the large population

[21] Benjamin Disraeli in: HC Deb 15 June 1874, vol. 219 cc.1589-1623. This quote appears at the beginning of: White Paper on Educational Reconstruction (London: H.M.S.O., 1943).
[22] See Jean Bocock and Richard Taylor, 'The Labour Party and Higher Education: 1945–51', *Higher Education Quarterly*, 57 (2003), 249–65 (p. 251). Generally known as the Beveridge Report after its author, William Henry Beveridge, *The Report of the Inter-Departmental Committee on Social Insurance and Allied* Services (London: H.M.S.O, 1942) outlined reforms to social and health-care provision, and formed the basis of the Welfare State in Britain.
[23] White Paper on Educational Reconstruction (London: H.M.S.O., 1943). This paper was authored by the then-President of the School Board, Richard Austen Butler.
[24] Ibid, p. 19.
[25] The 1944 Education Act (London: H.M.S.O., 1943): commonly referred to as Butler's Education Act after Richard Austen Butler who authored the 1943 White Paper upon which it was based.
[26] David Kynaston, *Austerity Britain, 1945-1951* (London: Bloomsbury, 2010), pp. 76–82.

engaged in industrial and commercial pursuits'.[27] Further, it was hoped that progress could be made on an extension to the existing Manchester Municipal College of Technology, started before the war but suspended at the request of the Government - its steel frame had become a rusting landmark within the city. [Fig.2.03]

Fig.2.03. Manchester Municipal College of Technology (1902) by Spalding and Cross: extension works by Bradshaw, Gass & Hope (1927-57)

[Source: Photograph copyright of <www.britainfromabove.org>, EAW022001 © English Heritage]

Finance, material, and labour availability would govern the amount the work the Manchester Corporation could carry out. According to the Emergency Sub-Committee, along with repair and maintenance work, the national interest would mostly likely be 'directed to the needs of the export trade and for consumption of goods' - matters to be 'borne in mind in formulating plans'.[28] These predictions proved correct. The 1945 Percy Report reiterated that Britain's role as a leading manufacturing nation could only be secured by addressing the lack of organised technical education. As such, the Government advocated the use of state resources to encourage economic and industrial modernisation with technical education seen as the key to success.[29]

[27] GB127.Council Minutes/ Post War Reconstruction Committee, vol. 1, 12th June 1943. p. 103.
[28] Ibid, p. 119.
[29] Lord Eustace Percy, *Higher Technological Education: Report of a Special Committee* (London: H.M.S.O., 1945).

Technical Education: Vocation or Avocation?

Despite the acknowledged importance of the work carried out by technical colleges during the war, a bias against technical professions persisted within Britain's public-schools and universities. The same was not true amongst Britain's manufacturing competitors, however, where university-educated managers were not uncommon.[30] The 1945 Percy Report sought to remedy this by recommending the establishment of a limited number of advanced technical colleges. These colleges would teach courses of a university-standard, but with awards to be distinct from a degree: this acknowledged the likely opposition from the universities.[31] Regional Advisory Councils would co-ordinate the work of colleges and universities, and be overseen by a national council whose aim was to emphasise and promote the importance of the technical professions. The MoE warned, 'our fortunes tomorrow depend upon the extent to which our plans for technical and commercial education are placed today'.[32] Still, progress with reform was slow: whilst the Percy Report had identified the deficiencies of the 'tangled arrangement of institutions that had grown up since the Industrial Revolution', it was deemed to lacked definitive solutions to the educational problems faced.[33] Nonetheless, by 1947 the proposed Regional Advisory Councils had been established. Their immediate objective was to align technical education with that of local industry.

Meanwhile, in accordance with the 1944 Education Act, the Government was focussed upon a major national programme of school building. Further education provision was, in effect, of secondary concern: although LEAs were initially instructed to submit their proposals for further education to the MoE by 31st March 1948, Manchester, for example, did not respond until 26th May, 1949. Each LEA proposal was known as a 'Scheme for Further Education Incorporating Plans for County Colleges'. Manchester's scheme outlined the problems with existing accommodation and the limited range of courses currently offered. Emphasis was placed upon the future role of the Municipal College of Technology and the urgent need to complete the aborted extension. It was envisaged that the Municipal College of Technology would concentrate on 'advanced study and research' with elementary courses being transferred to other institutions.[34] If, as was

[30] Summerfield and Evans, p. 122.
[31] The universities were 'strongly antipathetic to anything to vocational in character'. See Bocock and Taylor, pp. 253–258.
[32] Quoted in Argles, p. 85.
[33] Alan Fowler and Terry Wyke, *Many Arts, Many Skills: The Origins of the Manchester Metropolitan University* (Manchester: The Manchester Metropolitan University, 1993), p. 68. See also Summerfield and Evans, p. 123.
[34] Manchester City Corporation Education Committee, *Scheme of Further Education Incorporating Plan for County Colleges* (Manchester: The Committee, 1949), p. 127.

predicted, the demand for technical education continued to grow, additional colleges would be required. Four Central Colleges and ten County Colleges were proposed. [35] Of the four Central Colleges, so-named for their city-centre location, two would provide new premises for the existing College of Art and College of Commerce. A third was to be an adult learning college whilst the fourth was to be a domestic and trades college; the former satisfied a requirement of the 1944 Education Act that education beyond vocational study should be encouraged whilst the latter recognised that, aside from manufacturing, the service sector would be an important element of future economic growth.[36] Central Colleges would offer specialised curriculums whilst the outlying County Colleges would offer general studies alongside any specialism. It was intended that the County Colleges would provide for teenagers not in full time education and who, by law, would be compelled to attend on day release from their employer.[37]

Wider ambitions

The 1945 City of Manchester Plan envisaged a 'Centre of Culture and Education' stretching along Oxford Road: the proposed Central Colleges were part of that vision.[38] [Fig.2.04] Providing elementary technical education, these colleges would allow the Municipal College of Technology to establish itself as a seat of higher learning. But these were long-term plans. On the 18th July, 1951, the MoE wrote to Manchester's LEA informing them that '[w]hile the proposals made appear…to be generally satisfactory', details of short-term proposals were required.[39] Pending full implementation of the scheme, the MoE advised, 'it will be necessary to improve accommodation by measures applicable in the near future'.[40] Regarding the removal of elementary courses from the Municipal College of Technology, further details were requested outlining 'where…this work should be done'.[41]

[35] Ibid, p. 241.
[36] Ibid, pp. 44 & 125. During the war, many women were employed in manufacturing, jobs usually the preserve of men. The demand for technical education from women persisted in the post-war years thus influencing the types of technical colleges built.
[37] Although included in the 1944 Education Act, the initiative was never enforced. See, for example: William Richardson, 'In Search of the Further Education of Young People in Post-war England', *Journal of Vocational Education & Training*, 59 (2007), 385–418.
[38] Nicholas, pp. 101–102. The University Precinct Centre (1972) by Hugh Wilson & Lewis Womersley is a legacy of the 1945 City of Manchester Plan. See Hartwell, pp. 105–106.
[39] GB127.Council Minutes/Education Committee, vol.17b, 21st January 1952, p. 1901.
[40] Ibid.
[41] Ibid.

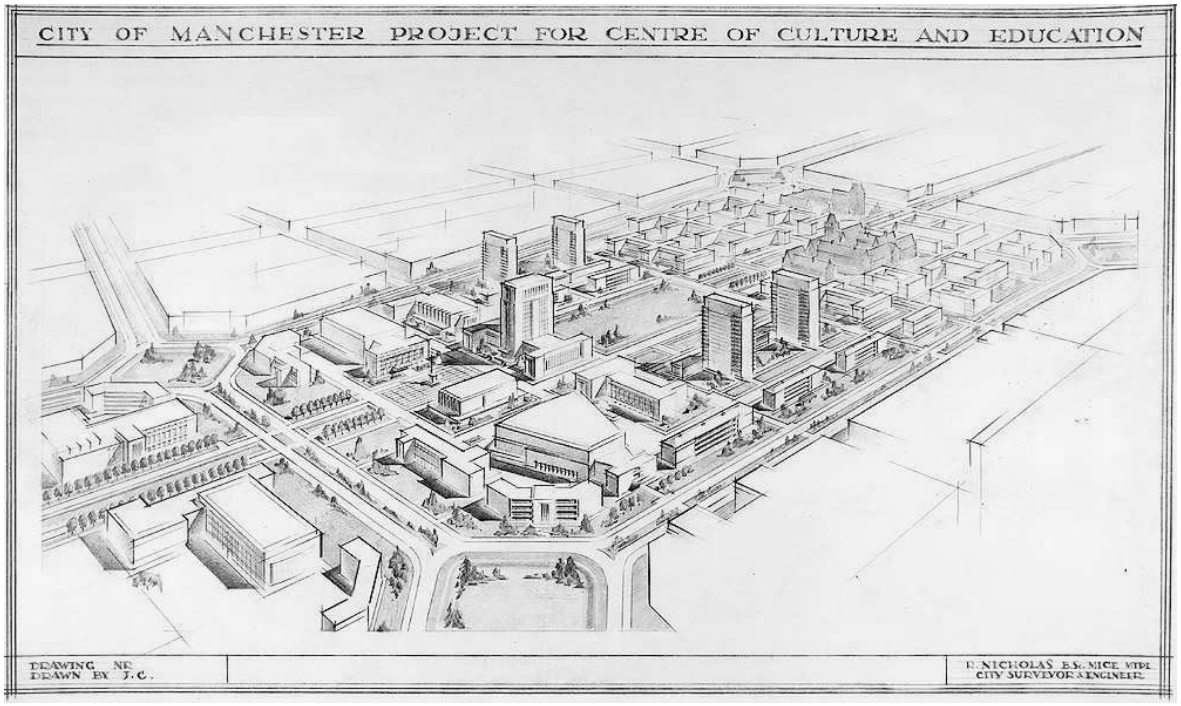

Fig.2.04. Proposals for a Centre of Culture and Education (1945):

part of the ambitious 1945 City of Manchester Plan

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m5075664]

On 21st January 1952, Manchester's Education Committee convened to formulate their response. Measures taken since the drafting of its scheme were outlined. Progress on the extension to the Municipal College of Technology was reported to be 'going on as fast as labour and materials [will] allow', whilst temporary accommodation had either been acquired or erected to ease cramped conditions elsewhere.[42] Improvement works to the existing Openshaw Technical College, formerly the Junior Technical School, were considered 'palliative' only, and work had already begun on a new building.[43] [Fig.2.05] A second college was planned for the Mayfield district of the city whilst a third college was being 'tentatively' considered for Wythenshawe, an area key to the city's rehousing programme.[44] Collectively, these colleges would ease the burden of the Municipal College of Technology, and assist in Manchester Corporation's greater ambition to see the college become the region's centre of advanced technical education.

[42] Ibid, pp. 1896-1897. No.5 Cavendish Street, a building adjacent to the School of Art, was purchased for £4,610 whilst house in Fallowfield, known as Birchfields, was purchased for £8,250 for the use by the Central Evening School of Domestic Economy.
[43] Ibid, pp. 1897-1898.
[44] Ibid, p. 1897.

Fig.2.05. Openshaw Technical College (1931):

originally opened as the permanent home of Openshaw Junior Technical School

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m24040]

Ministerial Guidance

In September 1948, having spent the previous three years as Deputy County Architect of Hertfordshire County Council, Stirrat Johnson-Marshall successfully applied to become Chief Architect at the MoE. As head of the MoE's newly-formed Architects & Building (A&B) Branch, Johnson-Marshall had ambitions to apply his systematic approach to building - fostered during his years in Hertfordshire - throughout the rest of the country.[45] His first task was to convince the MoE that the A&B Branch should be allowed to actively build, not merely advise on and vet the work of other architects. Concerns were raised by the Royal Institute of British Architects (RIBA) that such a move would deprive private architectural practices of much-needed work; building controls imposed by the Government in the immediate post-war years had already restricted the availability of commissions. Despite this, the MoE accepted Johnson-Marshall's request, and the Development Group was formed as a division within the A&B Branch.[46] Responsible for conducting research, developing theory, and putting it to the test through actual projects,

[45] Saint, p. 113.

[46] Ibid, p. 115. The issuing of Building Licenses by the Ministry of Works restricted private development. These controls ceased in 1954.

Johnson-Marshall invited former colleagues from Hertfordshire County Council to join his team.[47] With the backing of the MoE and the support of like-minded colleagues, Johnson-Marshall was well placed to influence the future direction of school and college building throughout Britain.

Meanwhile, debates regarding the future direction of technical education appeared to reach a conclusion in 1951. In the intervening six years since the publication of the Percy Report, discussions had centred upon its recommendation that a limited number of advanced technical colleges be established throughout the country. Despite support from the City and Guilds of London Institute, the MoE highlighted the advantage of 'local association with industry such as can be developed in technical colleges as they exist today'.[48] Accordingly, a White Paper was published supporting the creation of a single chartered College of Technologists to approve of courses and awards: existing colleges were to continue in their role as the primary institutes of technical education.[49]

Good Practice

Whilst the MoE offered advice on new building methods through the issue of circulars, LEAs continued to erect traditional brick buildings, a form of construction familiar to most labourers**.** In 1935, a Joint Committee Report cited convenient access by public transport; level sites with allowance for future extension; and detached single-storey workshops to minimise 'the transmission of sound and vibration' as important design considerations for new technical colleges.[50] Further, whilst '[t]echnical [c]olleges should not be devoid of architectural interest', the report recommended 'the judicious employment of modern materials, rather than…the more elaborate decorative forms associated with past architectural styles'.[51] The planning of the college should be 'simple and orderly', and a '"Unit" basis, which effects an economy in cost and…simplifies subsequent alteration' should be adopted.[52] In essence, the report advocated adopting the methods of industrialisation. Whilst these design principles broadly cohered with those of the A&B Branch architects, the buildings featured, and the subsequent work of one of the contributing committee member, architect Alan E. Munby, did not. [Figs.2.06 & 2.07]

[47] Ibid, p. 117. Former colleagues joining Johnson-Marshal included David and Mary Medd.
[48] As quoted in: Summerfield and Evans, p. 133.
[49] White Paper on Higher Technological Education (London: H.M.S.O., 1951).
[50] A Joint Committee Report, *Technical College Buildings, Their Planning and Equipment* (Edinburgh: The Association of Technical Institutes and the Association of Principals of Technical Institutes, 1935), p. 1.
[51] Ibid.
[52] Ibid.

Fig.2.06. Barnsley Mining and Technical College (1932) by Briggs and Thornley

[Source: Joint Committee Report, 1935. [*The Association of Technical Institutes], plate xii.*

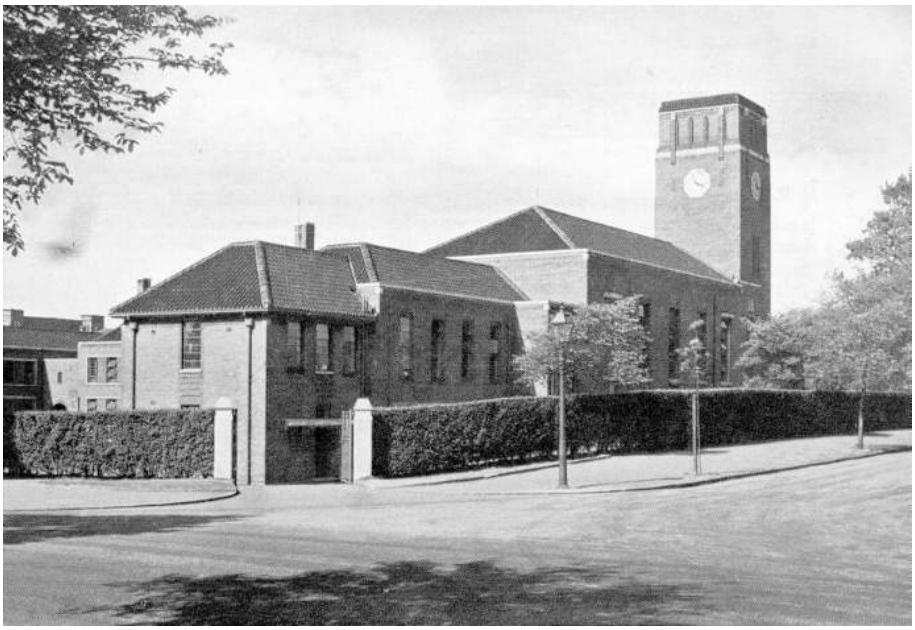

Fig.2.07. Wigan Grammar School (1937) by Alan E. Munby: 'an unresolved contrast of Moderne and Neo-Georgian'.[53]

[Source: Photograph courtesy ofBrian Elsey at <www.wiganworld.co.uk>.]

[53] Wigan Grammar School was described by Pevsner as an 'unresolved contrast of Moderne and Neo-Georgian' - see Richard Pollard and Nikolaus Pevsner, *Lancashire: Liverpool and the Southwest* (London: Yale University Press, 2006), p. 99. Fellow committee member, Martin S. Briggs, was said to disapprove of modern architecture. See Lee Sorensen, 'Briggs, Martin S[haw]' (Dictionary of Art Historians, 2000). Available at: (<www.dictionaryofarthistorians.org/briggsm.htm> [accessed 22/05/14].

Considered slow to build and austere-looking, the A&B Branch aimed to change this through the publication of its Building Bulletins. Conceived as illustrated guidance booklets, the Bulletins were a compromise between the usual official directives and the technical literature more familiar to the architect.[54] With the school building programme being the national priority, the first two issues of Building Bulletin directly transposed the previous experiences of Johnson-Marshall and his former-Hertfordshire County Council colleagues onto paper.[55] However, in August 1951, the A&B Branch published *Building Bulletin No. 5: New Colleges of Further Education* (BB No. 5).[56] In accordance with Johnson-Marshall's design philosophy, BB. No5 encouraged the same systematised approach in planning and construction to be applied to the building of new colleges. This document therefore, may be considered as Johnson-Marshall's central contribution to the creation of the post-war technical college. [Fig 2.08]

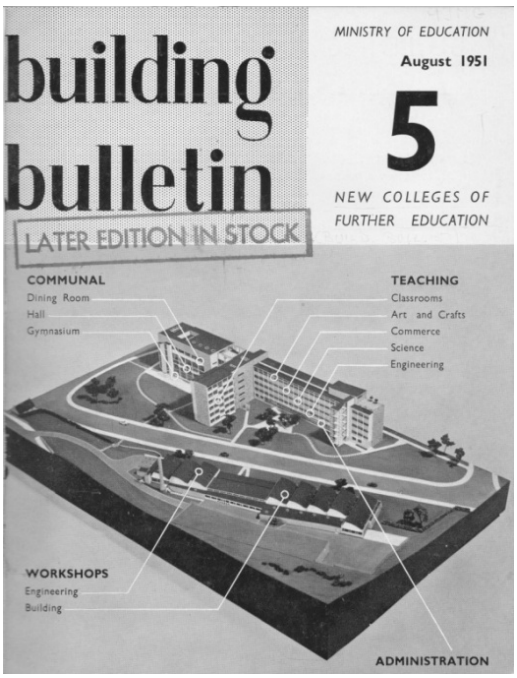

Fig.2.08. Front cover of Building Bulletin No.5: first edition published in August 1951

[Source: Building Bulletin No.5, August 1951. [H.M.S.O.] front cover.]

[54] Saint, pp. 125–126.

[55] Ministry of Education, *Building Bulletin 1: New Primary Schools* (London: H.M.S.O., 1949); Ministry of Education, *Building Bulletin 2: New Secondary Schools* (London: H.M.S.O., 1950).

[56] Ministry of Education, *Building Bulletin No.5: New Colleges of Further Education 1st Ed* (London: H.M.S.O., 1951). Revised editions of BB No. 5 were published in October 1955 and September 1959. Aside from typographic corrections and clarifications of intent, revisions were mainly concerned with updating the recommended schedules of accommodation. For example, in the second edition, storage facilities for libraries were made additional to the recommended space allowance, not inclusive.

According to the 1944 Education Act, further education was to be made available to any person over school age 'willing to profit by the use of these services', and ought to combine specialist vocational training with cultural and leisure activities.[57] Technical colleges, typically the provider of vocational training, previously tended to isolate individual subject areas within remote departments or even separate buildings. With the publication of BB No. 5, it was hoped that a more collegiate environment could be created amongst the students of new colleges. Further, it was hoped that this environment would extend beyond the confines of the college and into the community it served.[58] Two of the main problems identified in the document were the changing needs and requirements of college buildings and the cost of their construction. Large movements in population, from slum clearance and migration to New Towns, along with the development of new industries and the redistribution of old, called for 'buildings adaptable to changing circumstance'.[59] Comprehensive design solutions, however, would require buildings that were 'inevitably…large and costly'.[60] Therefore, a key element of BB No. 5 was to advocate the construction of new colleges in phases, referred to in the document as 'instalments'.[61] This allowed for better monitoring of shift in population and industry, and meant that colleges could be developed as finance, labour and building materials became available. As we will see, this systematic approach, along with other suggested design considerations contained within BB No. 5, contributed to the post-war technical college evolving into a distinct building type.

Acknowledging that it would often not be possible to build an entire college, BB No. 5 called for each instalment to act as a 'workable educational entity in itself'.[62] Detailed working drawings of proposed instalments had to be submitted to the MoE, along with a sketch plan of the whole scheme, for approval. In planning a whole scheme for a college, six general requirements were outlined in addition to the need to build in instalments. Firstly, the architect was required to consider the relationship between teaching, administrative, and communal areas, in order to encourage 'the development of the corporate life of a college'.[63] Secondly, the physical requirements of a given type of accommodation had to be considered. Differing floor loadings, service requirements, and acoustics qualities were given as examples. Thirdly, building orientation and the optimisation of daylight was highlighted along with a cautionary note that this be

[57] The 1944 Education Act, p. 33
[58] Ministry of Education, *Building Bulletin No.5: New Colleges of Further Education*, p. 4.
[59] Ibid, p. 5.
[60] Ibid.
[61] Ibid.
[62] Ibid.
[63] Ibid, p. 26.

considered 'from the start' of a project.[64] Building in instalments gave rise to the possibility that one instalment could be of later detriment to another. This point was reinforced by the fourth requirement. The architect had to appreciate that circumstances could change throughout the course of a project, and 'he must, therefore ensure that his plans are flexible'.[65] A fifth consideration concerned ongoing expansion. Even when a college was completed, further expansion might be needed, and this had to be possible without recourse to building separate accommodation. Finally, the need for compact planning was stressed as 'intercommunication between…classroom and laboratories, between departments and between teaching rooms and administrative and communal services' could not be achieved with disjointed, irrational plans.[66] With good public transport links and a relationship to local industry privileging urban and city-centre locations, available space would often be limited. On such sites, it was recommended that teaching accommodation be concentrated within a multi-storey block to reduce the building footprint. Even in rural or semi-rural locations, however, BB No.5 cautioned that there was 'no justification for a sprawling plan merely because the site permits it'.[67]

Diagrammatic examples of good practice were provided to encompass the six general requirements outlined above. Typical accommodation types were grouped into three categories: teaching, administration, and communal. Teaching accommodation included workshops, laboratories, classrooms and study rooms, whilst communal accommodation included gymnasia, dining rooms, lecture theatres and libraries. These various functions were positioned according to acoustic requirements; workshops and gymnasia remote from study rooms and libraries, with dining rooms and laboratories providing an acoustic buffer between the two extremities. All functions coalesced around the 'Focus' point, which was identified as the entrance hall.[68] [Fig.2.09] In contrast, an example of bad practice was provided whereby gymnasia and workshop were positioned at extremities creating two zones of noise: the mixing of teaching and communal accommodation restricted the possibility of quiet zones. Further, 'scattered' communal accommodation resulted in 'complex circulation'.[69] [Fig.2.10]

[64] Ibid.
[65] Ibid. Indicative of the era, the architect is generally assumed to be male despite female architects such as Barbara Price and Mary Medd being employed by the MoE.
[66] Ibid, p. 27.
[67] Ibid.
[68] Ibid, p. 30.
[69] Ibid, p. 33.

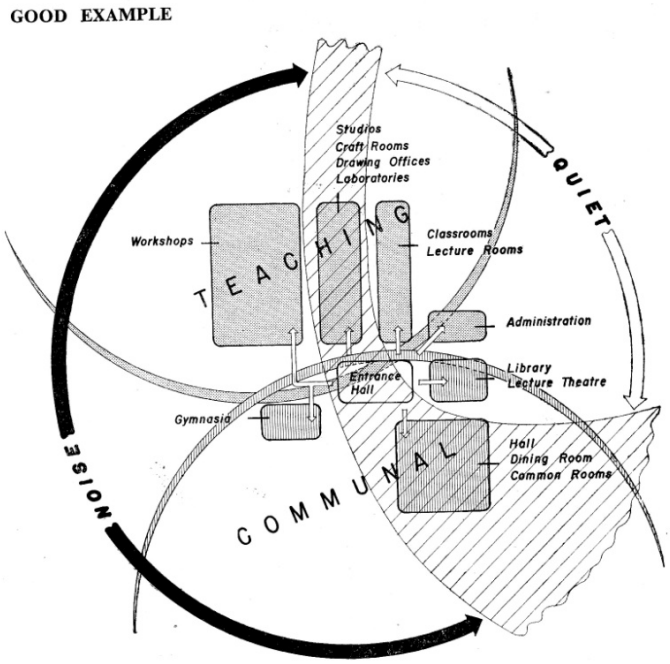

Fig.2.09. Example of a 'Good' zoning plan: elements are grouped by function, and with regard to acoustic needs

[Source: Building Bulletin No.5, August 1951. [H.M.S.O.] Diagram 2, p.30.]

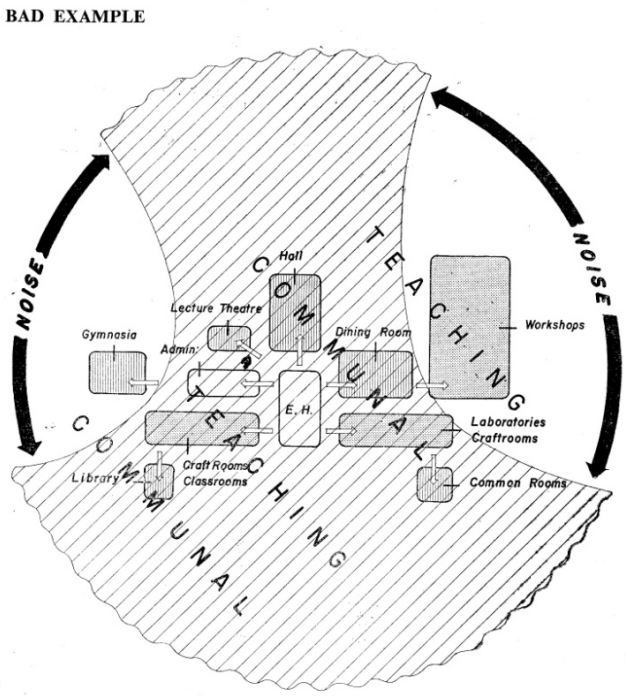

Fig.2.10. Example of a 'Bad' zoning plan: elements are dispersed ad hoc without regard to acoustic needs

[Source: Building Bulletin No.5, August 1951. [H.M.S.O.] Diagram 4, p.33.]

The paradigmatic solution, therefore, located the single-storey workshop block remotely from the multi-storey teaching block. Communal facilities and laboratories were accommodated on the lower levels of the multi-story block, acting as an acoustic buffer between the workshops and facilities such as the library and lecture theatre. Upper floors accommodated classrooms, satisfying the acoustic requirement of those spaces. The whole ensemble was arranged around a centrally located entrance hall, and orientated to make full use of natural daylight.

A separate section of BB No. 5 dealt with the issue of future growth. Two guiding principles were outlined: temporary building work must be kept to a minimum and improvisation in the use and design of rooms should be avoided. The document acknowledged that it would be impossible to eliminate temporary arrangements altogether. However, in recommending that individual instalments be built to their full height it was hoped that 'temporary roofing, re-erection of scaffold and the subsequent work in the extension of the structural frame' would not be necessary.[70] Should only the lower storeys be constructed, care had to be taken to eliminate structural bracing that may ultimately be redundant should further expansion not happen. Whilst this presented the architect with added difficulty, the alternative approach of separate buildings would, it was expected, result in 'extravagant and inconvenient circulation'.[71] [Fig.2.11]

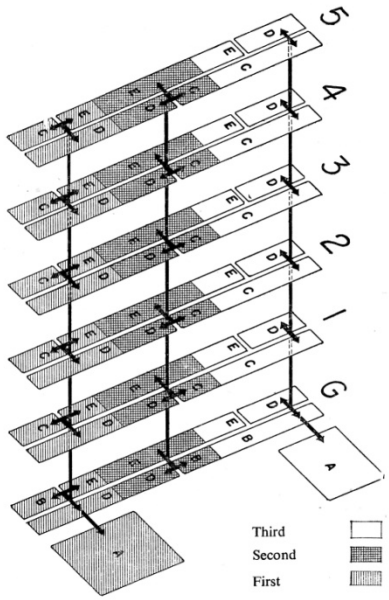

Fig.2.11. Future expansion of new colleges: to be sideways, not vertical

[Source: Building Bulletin No.5, August 1951. [H.M.S.O.] Diagram 8, p.38.]

[70] Ibid, p. 36.
[71] Ibid.

The enlargement of the single-storey workshops was considered to be easily achievable since the replacement of a temporary end-wall would be relatively inexpensive. Slightly more complicated was the expansion of the multi-storey teaching blocks. Rather than increasing the number of available floors, it was recommended that these should extend sideways. Therefore, each instalment of a teaching block had to provide adequate permanent vertical access for circulation and fire escape. Only on extremely restricted sites, and where the load-bearing capacity of the soil permitted it, were additional floors to be considered.[72]

Whilst BB No. 5 was generally concerned with the broader principles contingent in designing colleges, detailed schedules of accommodation were provided in the appendices based on the fictitious 'Blanktown College of Further Education'.[73] An LEA constructing a new college was required to submit a similar schedule along with sketch plans for the whole scheme to the MoE. By such means, it was possible for the MoE to properly assess the overall cost of a project and assign budgets accordingly. Thus, even at a formative planning stage, the post-war technical college can be viewed as the product of the interplay between national and local scales.

Policy Change

With the debate of higher technical education seemingly settled, and the creation of single charted College of Technologist was favoured to oversee its development, a change of Government in November 1951 saw matters under review once again. In 1952, the planned College of Technologists was abandoned whilst Imperial College of Science and Technology in London was university status. Disappointed with the decision, Manchester's LEA lobbied the MoE to consider granting similar status to its Municipal College of Technology. Unlike the universities, which received full-funding from the University Grants Commission (UGC), the Municipal College of Technology was still partially funded by Manchester Corporation. If the college was to act as regional centre for higher technical learning, the construction of more technical colleges was needed to facilitate the transfer of elementary courses. This required a greater investment in technical education than the Corporation alone could afford.[74]

[72] Ibid, p. 40.
[73] Ibid, pp. 53–64.
[74] Fowler and Wyke, p. 67.

However, by July 1953 Government policy had changed once again. Richard Austin Butler MP, author of the 1944 Education Act and now Chancellor of the Exchequer, invited the UGC to consider proposals 'for the development of higher technological education outside London'.[75] The UGC's subsequent report recommended institutions in Glasgow, Leeds and Birmingham be granted university status along with Manchester's Municipal College of Technology.[76] Accordingly, the college was granted its Royal charter in 1955 and became independent of Manchester Corporation the following year.[77] No longer a municipal provider of further education in Manchester, this responsibility passed to the city's other colleges.

One year later, and subsequent to the 1956 White Paper on Technical Education, the Government committed itself to a five-year building programme, later extended to eight years, for new technical colleges.[78] One House of Commons member commented: 'it was highly desirable that [these colleges] should not be designed on the lines of municipal-classical or neo-Georgian styles', but should utilise the 'modern materials so well developed by the excellent architects of the [A&B Branch]': the Minister of Education concurred.[79] Between 1956 and 1964, five new technical colleges were constructed in Manchester alone: Manchester College of Building, Wythenshawe College of Further Education, Domestic and Trades College, Moston Technical College, and John Dalton College of Technology. These colleges joined the already constructed Openshaw Technical College. Along with those constructed elsewhere in Britain, these colleges marked the introduction of a distinct building type to Britain's post-war urban landscape.

[75] HC Deb 13 July 1954, vol. 530 cc.284-287
[76] Ibid.
[77] 'Grant of Royal Charter to College of Technology: Changes Planned in Manchester', *The Manchester Guardian*, 1 August 1955, p. 8. See also, Fowler and Wyke, p. 69.
[78] Argles, p. 109.
[79] Austen Harry Albu MP as quoted in: HC Deb 14 June 1956 vol. 554 cc749-50

Summary

As a manufacturing nation, the significance of technical education in Britain can be traced back to the onset of the Industrial Revolution whilst Manchester, as the nation's pre-eminent industrial city, was at the forefront in bringing about the required educational reforms. Simply put, as a major manufacturing city, technical education had always mattered in Manchester, but the need for Britain to maintain a competitive advantage in the globalised manufacturing industry was made greater by the economic boom enjoyed across Europe and America in the 1950s. The 1951 Festival of Britain sought to showcase the nation's manufacturing credentials whilst subsequent legislation and committee recommendations aimed at improving technical education and manufacturing capability for the good of the nation's economy.

However, in making the provision of further education a post-war obligation of the LEAs, the 1944 Education Act ensured that the resulting municipal technical colleges were built within a context of material and labour scarcity; circumstances which called upon the experiences gained by those architects and engineers who were engaged in the war. At Hertfordshire County Council, Stirrat Johnson-Marshall had utilised prefabricated components as part of the county' school building programme, but the evolutionary aspect of his work was the systematised approach to the design process itself which allowed economic efficiencies to be achieved beyond the simple adoption of mechanised construction techniques. As Chief Architect at the MoE, Johnson-Marshall formalised this approach in the Building Bulletin guidance documents.

However as a guidance document, BB No.5 was mainly concerned with practical considerations, acknowledging that the architect would govern aesthetic choices. Unacknowledged was the fact that whilst BB No. 5 provided the blueprint for the post-war technical college, it was the LEAs who determined their specific function; this, in turn, was determined by the prevalent local industry. Therefore, Britain's post-war technical colleges can be viewed as the product of an interplay between national economic aspiration and local industry, and national prescription through the legislation and guidance documents mitigated by the local institutions - the concept of regionality providing a better means to understand them.

In Part II of this thesis, we will further explore further the creation of this building type beginning with a brief national survey of Britain's post-war technical colleges, before focussing upon the case study buildings.

PART II

Chapter Three: Manchester's Technical Colleges

Legislative Acts and policy documents such as the 1944 Education Act and 1956 White Paper on Technical Education were indicative of the shift to central planning in technical education which occurred in the post-war period in Britain. Centralisation offered the possibility of a more coherent approach to the design of technical colleges by effecting economies through judicious planning and construction methods; an approach formalised and embedded within the national planning framework with the publication of *Building Bulletin No.5: New Colleges of Further Education*. Counter to this was the decision-making processes afforded to LEAs. Local schemes for further education were influenced by the ambition of LEAs and by the requirements of local industry. The purpose and function of the subsequent technical colleges, therefore, whilst striving to meet the requirements of BB No.5 was to a degree locally determined. Conceived in a period of material and labour shortages, BB No. 5 encouraged the designers of these colleges to embrace the war-time ethos and utilise new technologies and industrial processes. At the MoE, the chief proponent of this approach, Stirrat Johnson-Marshall, drew inspiration from the interwar teachings of Walter Gropius. Yet, whilst links between Gropius' teachings and the Hertfordshire schools have been made, technical colleges continue to be considered only in utilitarian terms and sit outside of typical narrative of modern architecture.

In this chapter, we will first consider a sample of post-war technical colleges built throughout Britain. Relationships with local industry will be highlighted, along with characteristics arising from BB. No.5. A comprehensive national survey is not possible given the constraints on time and resource. However, through the provision of a brief national overview alongside a detailed study of Manchester's technical colleges, it is hoped that the post-war technical college will emerge as a distinct building type worthy of greater consideration. By focussing upon Manchester's technical colleges, observing the evolution of the type through time is made possible. The case studies in this chapter are presented in chronological order insofar as possible: there were overlaps owing to construction taking place in instalments. Manchester's first post-war technical college in Openshaw will be discussed along with Manchester College of Building and Wythenshawe College of Further Education. This chapter will conclude with a study of John Dalton College of Technology, the final college built as part of the expansion in technical education provision brought about by the 1956 White Paper.

Around Britain

Aptly, given the presence of Stirrat Johnson-Marshall as Chief Architect at the MoE, amongst the first tranche of post-war technical colleges to be built in Britain were those by Hertfordshire Country Council. Opening in 1952, Hatfield Technical College was built on land donated by the De Havilland Aircraft Company. The ambition was for the college to supply the region's aerospace industry with trained engineers and technicians along with skilled tradesmen. Courses were offered in subjects ranging from engineering and metallurgy to sheet metal welding.[1] The design was based on a grid system allowing for the standardisation and prefabrication of components. Mostly constructed from reinforced concrete, 'its finishes and specifications… [were] conceived on an austerity basis'.[2] A sloping site determined that the single-storey workshop block was placed at the rear and highest point of the site with a two-storey administration block facing onto a by-pass road at the front. Three teaching blocks were arranged on an east-west axis forming quadrangles in between to encourage interaction between students. Given the spacious non-urban setting, the teaching blocks were low-rise, unlike the multi-storey form recommended by BB No.5, and the college spread to cover a large portion of the available land. As such, it was more redolent of the Hertfordshire schools than those technical colleges later built in the tighter confines of the industrial city. [Figs. 1.16 & 3.01]

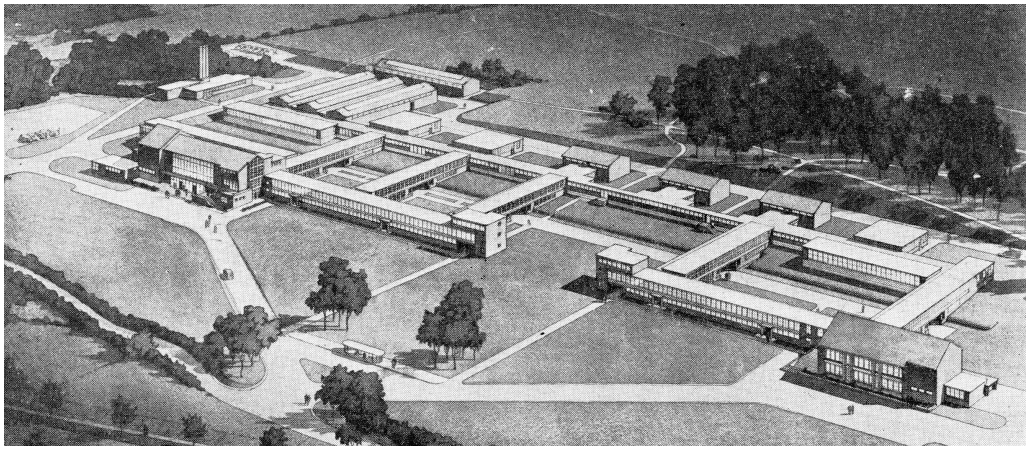

Fig.3.01. Illustration of Hatfield Technical College (1952) by Easton & Robertson

[Source: Architects' Journal, 12th February 1953, p218.]

[1] Designed by Easton & Robertson (1952). For further information, see Helen Tyler, 'History of the University of Hertfordshire' (Hertfordshire County Council, 2011). Available at: <www.ourhatfield.org.uk/page_id__308_path__0p128p129p.aspx> [accessed 10/06/14].

[2] 'Hatfield Technical College', *Architectural Review*, 1953, pp.78–87. Although 'conceived on an austerity basis', the college incorporated sculptural works by renowned artists such as Trevor Tennant and Barbara Hepworth.

Opening just one year later, Rutherford College of Technology in Newcastle occupied a much more restricted site.[3] With shipbuilding and engineering a major source of local employment, the college focused upon mechanical and electrical engineering and naval architecture.[4] A single-storey workshop block provided accommodation for teaching and practical work whilst a low-rise engineering block was added in 1955. Consequent to the college's status being elevated to that of a College of Advanced Technology in 1957, a third instalment, comprised of a seven-storey laboratory block, was constructed.[5] Whilst the distribution of these facilities broadly conformed with BB No.5, the design of the 'complete college', it can be conjectured that the layout of the college took account of other local considerations: the workshop block, positioned on the eastern extremity of the site, provided an acoustic buffer between the laboratory block and a ring road proposed as part of the city's wider post-war development plans.[6] [Figs.3.02 & 3.03]

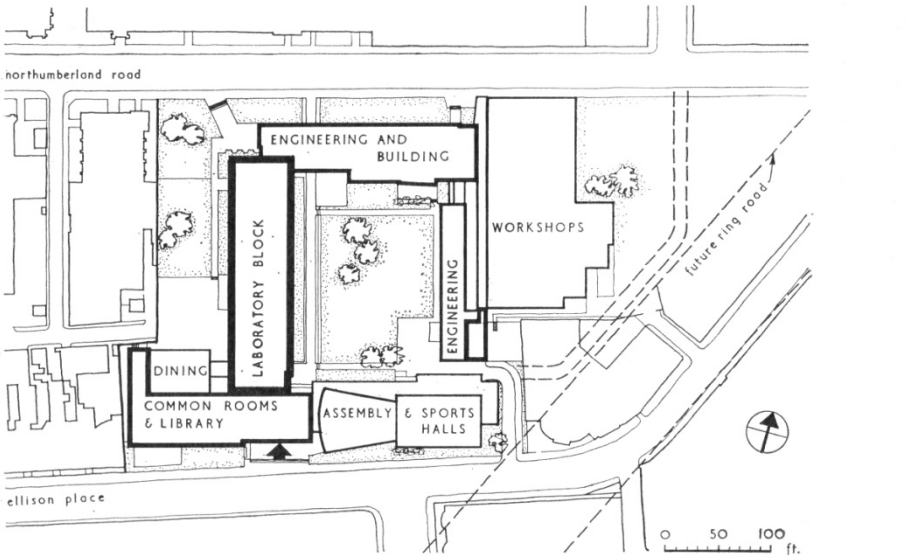

Fig.3.02. Site plan of Rutherford College of Technology, Newcastle (1953 onwards) by George Kenyon

[Source: Price B. 1959. Technical College and Colleges of Further Education [B.T. Batsford] p.89.]

[3] Designed by George Kenyon, Newcastle City Architect (constructed 1953 onward).

[4] Swan Hunter & Wigham Richardson, based in Wallsend, Tyne and Wear, supplied ships to both the Merchant navy and the Royal Navy. Prior to being nationalised in 1977, the company employed approximately 11,500 people across its various shipyards. For further information, see 'History' (Swan Hunter, 2010). Available at: <www.swanhunter.com/history.html> [accessed 10/06/14]

[5] Price, pp. 86–91. The college now forms part of Northumbria University.

[6] For further information on the proposed ring road, see: 'Plan of Newcastle-Upon-Tyne, 1945: Report of the Town Planning Sub-Committee' (Newcastle: Newcastle-Upon-Tyne, 1945).

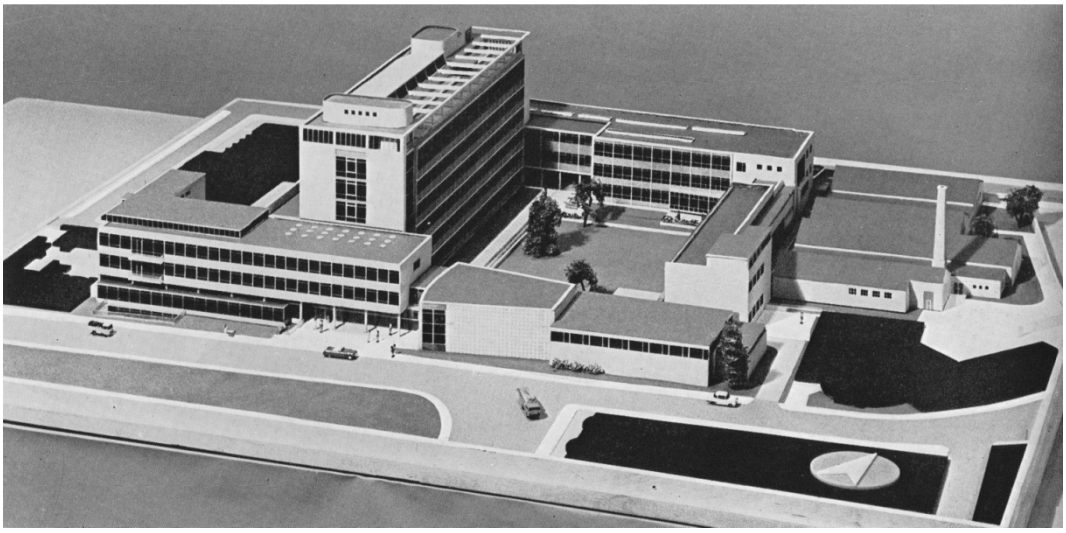

Fig.3.03. Model of Rutherford College of Technology, Newcastle (1953 onwards) by George Kenyon

[Source: Price B. 1959. Technical College and Colleges of Further Education [B.T. Batsford] p.87.]

Similarly, Sheffield College of Technology was planned to integrate with the city's plans for post-war reconstruction.[7] Reflecting the dominance of the local steel industry, the main departments of the college focussed on engineering, metallurgy and building. Completed in 1958, the first instalment included a workshop block with an adjoining eight-storey block containing laboratories.[8] Mindful of plans for a new bus station and the noise which this would generate, the southern portion of the site was reserved for the teaching block and communal facilities with the workshop block occupying the land in between.

The eleven-storey teaching block and assembly hall, built as part of the second instalment, was positioned in relation to a proposed inner-city ring road. Named the Civic Circle and intended to define the civic heart of the city, the ring road was only partially realised. Nonetheless, the siting of the assembly hall embedded the college within the civic heart, and connected the college with its wider community as encouraged in BB No.5.[9] [Figs.3.04 & 3.05]

[7] 'Sheffield Replanned' (Sheffield: Sheffield City Council, 1945), p. 23.

[8] Designed by Gollins Melvin Ward & Partners in association with Sheffield's City Architect, John Lewis Womersley (constructed 1958 onwards). See Price, pp.100–107.

[9] The inclusion of accommodation for 'Catering and Women's Subjects' in the second instalment of the college provides evidence of the increasing importance the service sector was seen to hold for future economic growth.

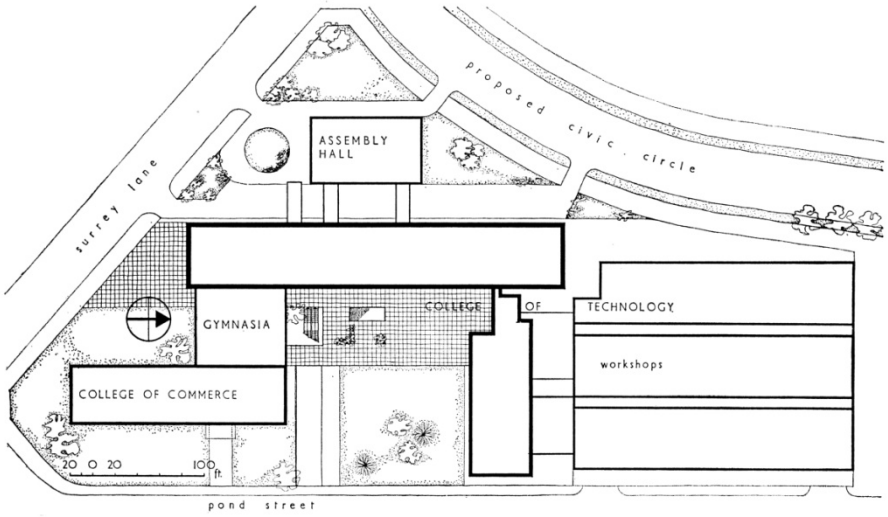

Fig.3.04. Site plan of Sheffield College of Technology (1958 onwards) by Gollins Melvin Ward & Partners

[Source: Price B. 1959. Technical College and Colleges of Further Education [B.T. Batsford] p.102.]

Fig.3.05. Model of Sheffield College of Technology (1958 onwards) by Gollins Melvin Ward & Partners

[Source: Price B. 1959. Technical College and Colleges of Further Education [B.T. Batsford] p.100.]

Elsewhere, the presence of Vauxhall Motors and the post-war rise in car ownership ensured that Luton and South Bedfordshire College of Further Education was biased towards automobile engineering; Huddersfield College of Technology included a large workshop dedicated to engineering and textiles; the interwar Barnsley Mining and Technical College was superseded by its post-war equivalent; and the Glasgow College of Nautical Studies was erected to provide courses in Naval Architecture and Marine Engineering, the Clyde region being internationally renowned for its ship building.[10] This is not to suggest that technical colleges with other specialisms did not exist in these cities; these are only a few examples of the many technical colleges built throughout Britain. However, despite the move towards centralised planning of technical colleges, local reconstruction plans and prevalent industries were demonstrably determining factors in their form and function. [Fig.3.06]

Fig.3.06. Barnsley Technical College (1957 onwards) by Lyons Israel Ellis:

built to replace its interwar counterpart - see also Fig.2.07.

[Source: Brown N. 1988. Lyons Israel Ellis Gray [Architectural Association] p.115.]

[10] Designed respectively by Norman and Dawbarn (constructed 1956 onward), Frederick Gibberd (constructed 1957 onward), Lyons Israel Ellis (constructed 1958 onward), and RMJM (constructed 1962 onwards). For more information, see: Elizabeth Williamson, Anne Riches and Malcolm Higgs, *Glasgow* (London: Yale University Press, 1990), p. 511; Neave Brown, *Lyons Israel Ellis Gray: Buildings and Projects 1932-1983* (London: Architectural Association, 1988), p. 110; Price, pp. 117 & 126.

Manchester's Needs

As with the examples of Newcastle and Sheffield, Manchester saw further education as an integral part of future planning noting that it could not be 'considered in isolation in planning reform'.[11] Closer relations between education and industry were desired.[12] Given the concentration of industry to the east of the city-centre, the LEA decided that this area would be the focus of its technical education provision. Accordingly, colleges were proposed for the Mayfield district of the city and Openshaw. With the transfer of the Municipal College of Technology to an independent governing body not yet envisaged, this institute was to continue as Manchester Corporation's provider of technical education within the city-centre.[13]

In addition to the proposed colleges mentioned above, a third was proposed for Wythenshawe. The city's interwar 'garden town' lacked further education provision and, being the focus for incoming slum clearance migration, the LEA determined that an increase in demand was inevitable and should be adequately supplied.[14] In the immediate post-war years, much attention was given to the dual problem of slum clearance and rehousing. Beyond new dwellings, and the schools and churches erected to serve these new communities, building activity in Manchester was severely limited: the reconstruction and re-opening of the Free Trade Hall to coincide with the 1951 Festival of Britain Exhibition being one of few exceptions. Perhaps indicative of the importance of technical education in Manchester, the construction of Openshaw Technical College soon began in 1954. We now turn our attention to the making of Manchester's post-war technical colleges. [Fig.3.07]

[11] GB127.Council Minutes/ Post War Reconstruction Committee, vol. 1, 12th June 1943, p. 103.
[12] Ibid.
[13] The National Archives (hereafter TNA): ED 168-1901. The initial intention of the LEA to focus its further education provision east of the city-centre is mentioned in the Schedule of Accommodation proposals (undated) for the third instalment of Openshaw Technical College.
[14] GB127.Council Minutes/Education Committee, vol. 17b, 21st January 1952, pp. 1897-1899.

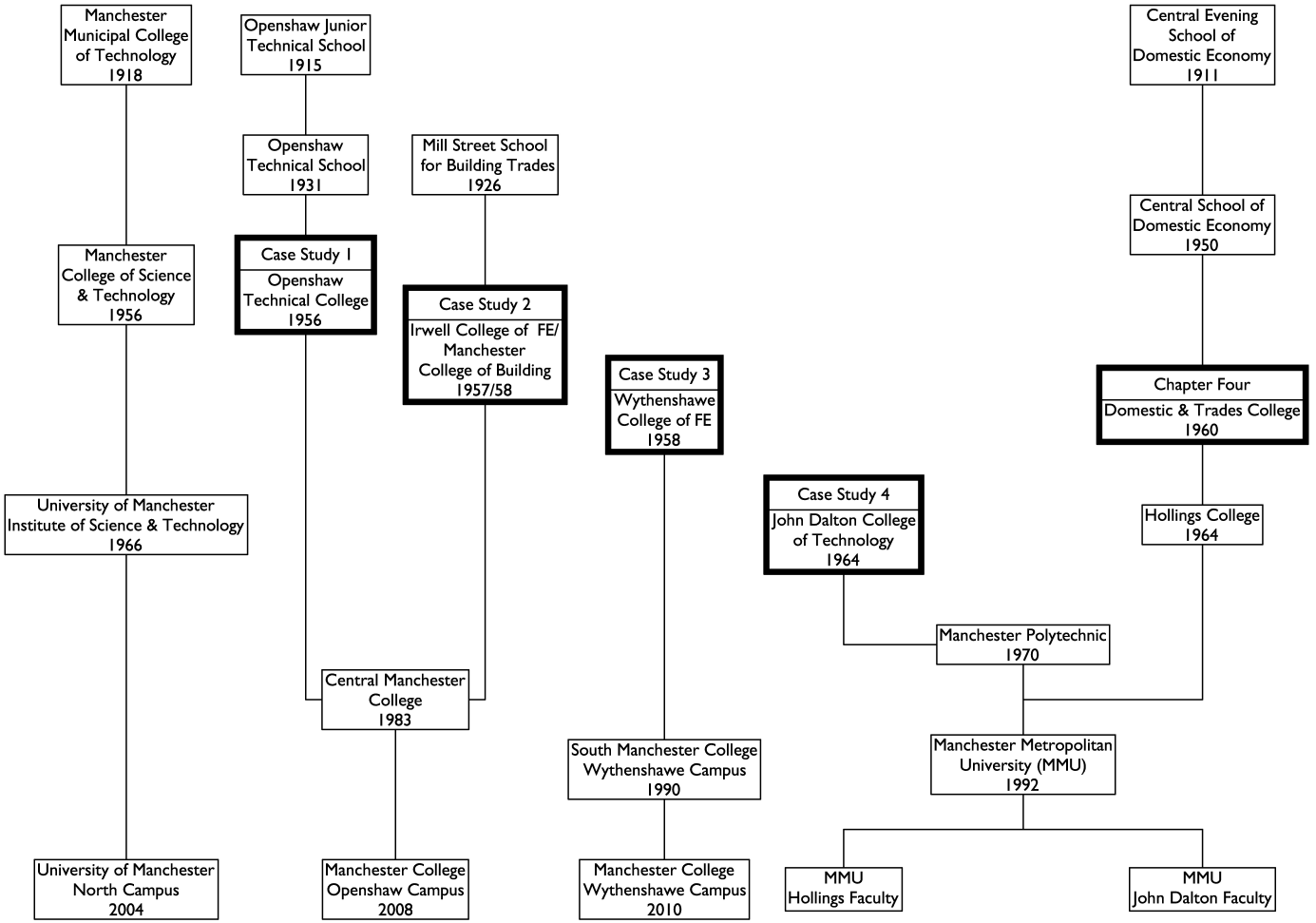

Fig.3.07. Diagram showing history of case study buildings

[Source: Author's own image.]

Case Study 1: Openshaw Technical College

To understand why Openshaw was chosen as the site of Manchester's first post-war technical college, one needs consider its recent history. When, on 22nd January 1887, the renowned engineer Sir Joseph Whitworth passed away, Stockport lost one of its most famous sons but Manchester gained a great benefactor. Whitworth earned a reputation as 'the Newton of mechanical construction' before establishing his firm as the foremost manufacturer of precision tools in Britain.[15] By the time his engineering works in Openshaw opened in 1880, Whitworth & Company was a major employer in Manchester and Openshaw an area dense with heavy engineering industry. After Whitworth's death in 1887, it was clear from the 'tenour [sic] of the will' that he wished his legatees to continue the 'promotion of technical and higher education' in Manchester.[16] Initially, this took the form of the Whitworth Institute of Art and Industry, a merger of the Manchester School of Art with the Manchester Technical School and Mechanics' Institute. However, with the passing of the 1889 Technical Instruction Act, the institute came under the control of Manchester Corporation eventually becoming the Municipal College of Technology.[17]

In 1891, Whitworth's legatees approached the Corporation with an offer to donate land and part-fund the construction of a library in Openshaw.[18] The offer was 'favourably entertained', and led to the appointment of the local architect J.W. Beaumont.[19] As well as a library, the building was to contain 'a large room…for public meetings… [and] accommodation for literary and scientific lectures and classes for technical instruction'.[20] Thus, on 7th July 1894, the Openshaw Municipal Buildings on Ashton Old Road were opened.[21] In 1915, according with recent legislation on technical schools, the LEA formally made it the home of Openshaw Junior Technical School.[22] [Fig.3.08]

[15] 'Sir Joseph Whitworth', *The Manchester Guardian*, 24 January 1887, p. 5.
[16] 'The Late Sir Joseph Whitworth's Will and Bequests', *The Manchester Guardian*, 15 March 1887, p. 5.
[17] Alan Fowler and Terry Wyke, *Many Arts, Many Skills: The Origins of the Manchester Metropolitan University* (Manchester: The Manchester Metropolitan University, 1993), pp. 17–18.
[18] The land donated was worth £2,200, whilst a contribution of £6,000 was made for building works. For more information, see: Manchester Libraries, Information and Archives, 'Openshaw Branch', GB127.m740/9/43.
[19] 'Manchester Free Libraries: A New Library and Institute for Openshaw', *The Manchester Guardian*, 1 January 1892, p. 6.
[20] Ibid.
[21] 'Openshaw Municipal Buildings: The Opening Ceremony', *The Manchester Guardian*, 9 July 1894, p. 7. Implicit in the adopted name was the central role it was hoped the building would have in municipal life; according to Mr Richard Copley Christie, one of the Whitworth's legatees, its users were 'not a mere fortuitous concourse of isolated individuals, but…they were citizens of Manchester'.
[22] 1913 Regulations for Junior Technical Schools - see Chapter Two pp. 39-40.

Fig.3.08. Openshaw Municipal Buildings (1894) by J.W. Beaumont: see also Fig.2.02.

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m12603.]

Facilities at the school included a workshop and laboratory, with the neighbouring Crossley Lads' Club providing additional space for classrooms. The curriculum, determined by an advisory committee made up of 'representative employers' from the area', included practical instruction together with elementary mechanics, physics and chemistry.[23] Working closely with local industry meant that appropriate employment could be found for school leavers: the demand for places was considerable such that, in 1931, a new purpose-built technical school was opened.[24] This building was located on the corner of Gorton Road and Pottery Lane and, following the outbreak of the Second World War, its workshops were used to provide practical training for female engineers working in the munition factories around Manchester.[25] This marked the beginning of adult instruction at the school. [Fig.3.09]

[23] 'Workshop Training: Boys' Technical School at Openshaw', *The Manchester Guardian*, 5 April 1917, p. 2.
[24] 'Pioneer of Science Teaching: A School in a Basement', *The Manchester Guardian*, 23 December 1937, p. 11.
[25] 'Help from Technical Colleges in Training Skilled Workers', *The Manchester Guardian*, 5 July 1940, p. 6.

Fig.3.09. Openshaw Junior Technical School (1931): pictured in 1972. See also Fig.2.05.

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m65914.]

A New Engineering College

One consequence of the war was the employment opportunities afforded to women. After the war, the 'demand for increased provision for scientific and technological education [was] particularly clamant' when combined with the introduction of compulsory further education provision for school leavers.[26] Thus, to help meet the increased demand in Openshaw, Manchester's LEA planned to erect an entirely new college. A five-and-a-half acre site adjacent to the former Whitworth & Company factory was identified, and its purchase sought.[27]

Openshaw Technical College was to be the first of ten County Colleges proposed in the LEA scheme. Architectural drawings, prepared by the Manchester-based architects Halliday & Agate, were discussed at the MoE in August 1949. The plans were criticised by the A&B Branch architects for a lack of flexibility, the workshops in particular considered unsuitable. All workshop activity had to be encompassed in a single enclosure, and partitioned internally as required: the plans required a 'complete change'.[28] [Fig.3.10]

[26] British Association for the Advancement of Science, *Manchester and Its Region: A Survey* (Manchester: Manchester University Press, 1962), p. 245.
[27] TNA: ED 168-1899. Letter from LEA to MoE, dated 11th August 1949.
[28] TNA: ED 168-1899. MoE Interview Memorandum, dated 24th August 1949. The meeting took place on the 23rd August 1949, but H.M. Inspectors were informed of the A & B Branch's criticisms in a letter from MoE, dated 20th August 1949.

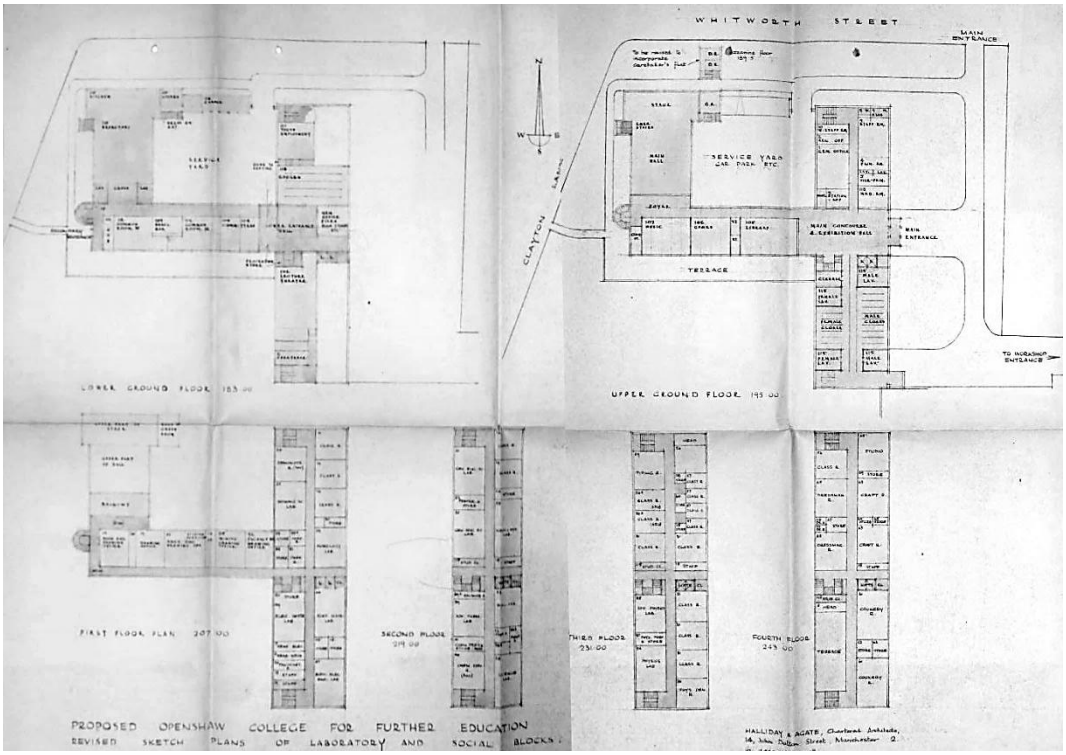

Fig.3.10. Sketch plans for Openshaw Technical College by Halliday & Agate

[Source: The National Archives: ED 168-1899.]

Meanwhile, attempts to purchase the site in Openshaw continued. The City Surveyor Rowland Nicholas had written to its owners, the Admiralty, but his letters had been ignored.[29] The proposed college was included in the MoE 1950 Building Programme, but could not proceed without the site being secured. With another party interested in acquiring the site, the MoE was asked to intervene.[30]

Funding allocations also posed problems for the LEA. The sum allocated to Openshaw Technical College in the 1950 Building Programme did not cover the estimated cost of the first instalment. To avoid building in two phases, considered impractical by the LEA, it was proposed to defer construction and apply for one lump sum to cover all costs the following year.[31] In making such a request, the MoE warned the LEA that it may 'end up with nothing'.[32] Fortunately, administrative restructuring meant that adequate funds were made available and the problem

[29] TNA: ED 168-1899. Letter from LEA to MoE, dated 20th October 1949. The Ministry of Labour and National Service wished to acquire the site.
[30] Ibid. The Ministry of Labour and National Service wished to acquire the site.
[31] TNA: ED 168-1899. The matter is discussed in a correspondence between the MoE and H.M. Inspectors, dated 2nd May 1950, and in a letter from MoE to LEA, dated 10th July 1950.
[32] Ibid.

was resolved.[33] However, such circumstances highlighted a problem with existing procedures, one addressed by the MoE in BB No.5: each college instalment had to function as a 'workable educational entity in itself', and not be phased in construction.[34]

In October 1950, the MoE confirmed, 'in the light of the recourses of capital, labour and materials available', Openshaw Technical College was to be included in the 1951/52 Building Programme.[35] Also included were proposals for a college in Wythenshawe. The LEA, however, wished to prioritise Openshaw and requested that Wythenshawe be deferred: by combining the budget allocation of both colleges, the first instalment of Openshaw Technical College could be completed under a single contract.[36] This request received the support of H.M. Inspectors who reported to the MoE: 'There is no other project in the NW where this unorthodox procedure will be proposed'.[37] Alluding to the fact that centralised planning was still in the process of being formalised, the report continued: 'the proposal from Manchester is a legacy from the past and it is very unlikely that similar dispensations will be requested in the future'.[38] Negotiations such as this demonstrate how local priorities could impact upon centralised decision making. In February 1951, despite tender reports indicating a further increase in costs, the request was approved with the stipulation that construction must commence before the end of March.[39] With negotiations on the purchase of the site concluded, W.J. Simms, Sons & Cooke of Nottingham was appointed general contractor and construction on the first instalment could begin.[40] [Fig.3.11]

[33] TNA: ED 168-1899. Letter from MoE to H.M. Inspectors, dated 20th July 1950. Administrative changes saw annual Building Programmes run on financial, rather than calendar, years. This allowed LEAs earlier access to funds allocated in the 1951/52 Building Programme.
[34] Ministry of Education, *Building Bulletin No.5: New Colleges of Further Education*, p. 5.
[35] TNA: ED 168-1899. Letter from MoE to LEA, dated 30th October 1950.
[36] TNA: ED 168-1899. The proposals of the LEA are outlined in H.M. Inspectors letter to MoE, dated 8th November 1950.
[37] Ibid.
[38] Ibid.
[39] TNA: ED 168-1900. See letter from LEA to MoE, dated 9th February 1951, and the MoE response, dated 22nd February 1951.
[40] I am grateful to Arthur Brown, former employee of Salford's City Architect Department, for confirming the identity of the main contractor.

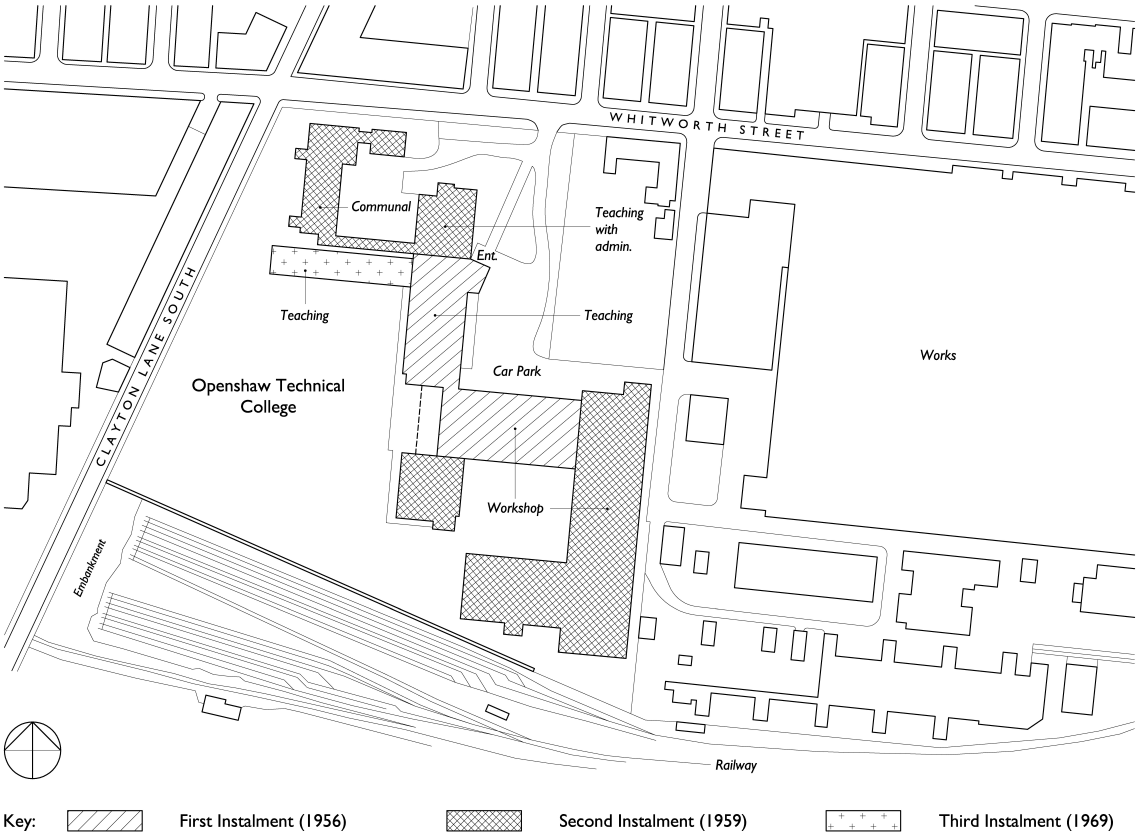

Fig.3.11. Openshaw Technical College: site plan of complete college

[Source: Author's own image.]

First Instalment

Although ground works commenced in 1951, it was discovered that the site had been infilled and compacted; such 'made' ground was unsuitable for building upon.[41] Further, underground springs were discovered. Substantial piling was required before above-ground construction could begin.[42] Work on the buildings finally began in 1954.The first instalment of the college involved the partial construction of both a workshop and teaching block.[43] The workshop element was arranged such that an acoustic buffer was formed between the teaching block and a railway line to the south. Contained within the workshop block were a sheet metal shop, a woodwork machine shop, a pattern shop, and a foundry. Externally, the walls were brickwork up to cill level with steel

[41] TNA: ED 168-1901. These delays were discussed at a meeting held at the MoE, and are contained within the meeting minutes, dated 7th July 1960.
[42] Ibid.
[43] TNA: ED 168-1900. Letter from LEA to MoE, dated 9th February 1951. The maximum student capacity was noted as 395, but the 'working capacity' was calculated at four-fifths of the maximum.

casement windows above despite shortages in the metal.[44] Internally, brickwork walls were unplastered with floor finishes generally of woodblock unless in an area with heavy wear; here, granolith, a compound of granite and cement, was specified - a matter of practicality rather than austerity. The structural frame was steel, supported on the west elevation by a concrete retaining wall to deal with a change in level. Glazed aluminium decking, pitched at an angle, formed north-facing roof lanterns either side of a central corridor.[45] [Figs.3.12 & 3.13]

Steel was also permitted for the structural frame of the teaching block. Built to its full height of six-storeys including a basement, external walls were of brickwork construction with 'artificial stone' window surrounds. [46] Internal walls were plastered, whilst various floor finishes were specified including woodblock, quarry tile, and vinyl tiles; staircase treads were finished in terrazzo with carborundum inlays.[47] The basement level contained the lecture theatre whilst at ground level laboratories for engineering science were provided off the main entrance. Upper-storeys housed laboratories for electric engineering at first floor, chemistry and biology at second floor and physics on the third floor. Drawing offices were placed on the top floor along with an external terrace.

The first instalment opened in 1956, although the lecture theatre remained unfinished: the sloping floor and seating had not yet been installed, and access was via a ladder with a drop of over three metres.[48] In the absence of communal facilities, the basement lecture theatre was to serve temporarily as a refectory. Whilst the first instalment strived to be a fully functioning college, combining workshops, teaching areas and communal facilities, in practise the lack of a lecture theatre - and its use as a refectory – was unsatisfactory. Such arrangements were not in accordance with BB No.5 and were, perhaps, only permitted owing to a lack of finance. [Figs.3.14 & 3.15]

[44] TNA: ED 168-1900. See 'Brief Specification Notes', dated February 1951. Although in short supply, steel was allocated in bulk to manufacturers of metal products. Unlike hardwood, authorisation for individual projects was not required - See TNA: ED 168-1878. Letter from MoE to LEA, dated 17th May 1949.
[45] TNA: ED 168-1900. See 'Brief Specification Notes', dated February 1951.
[46] Ibid.
[47] Ibid.
[48] Information provided by Ralph Bramwell, former student and staff member at Openshaw Technical College.

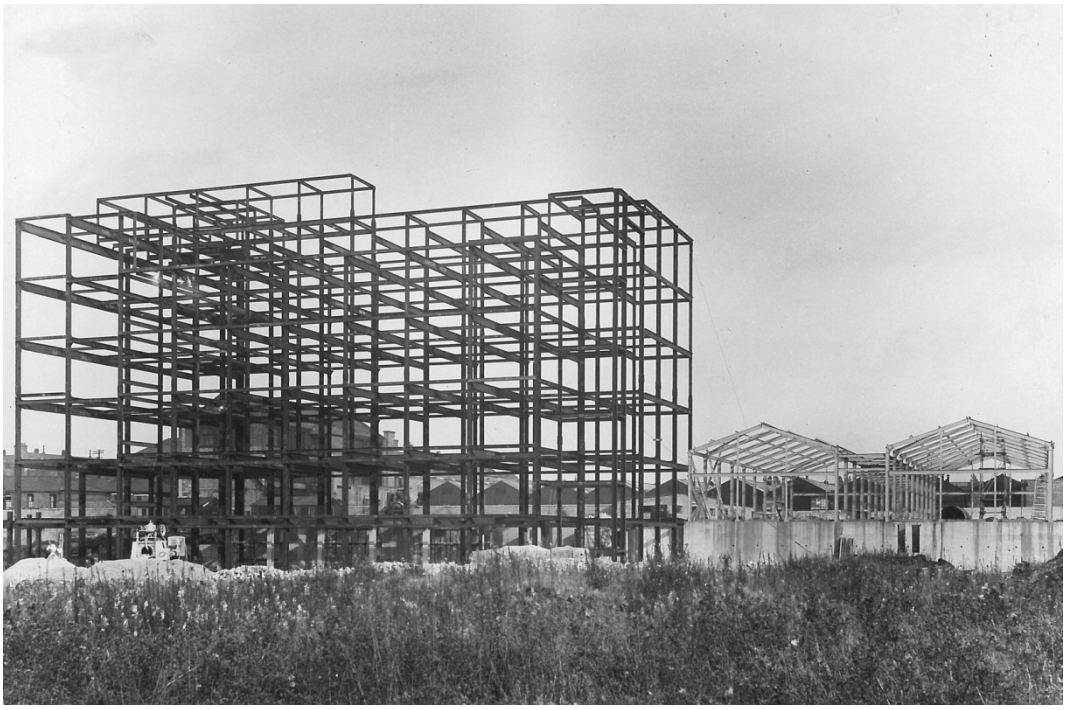

Fig.3.12. Openshaw Technical College, first instalment: steel frame erection (workshops on the right)

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m428123.]

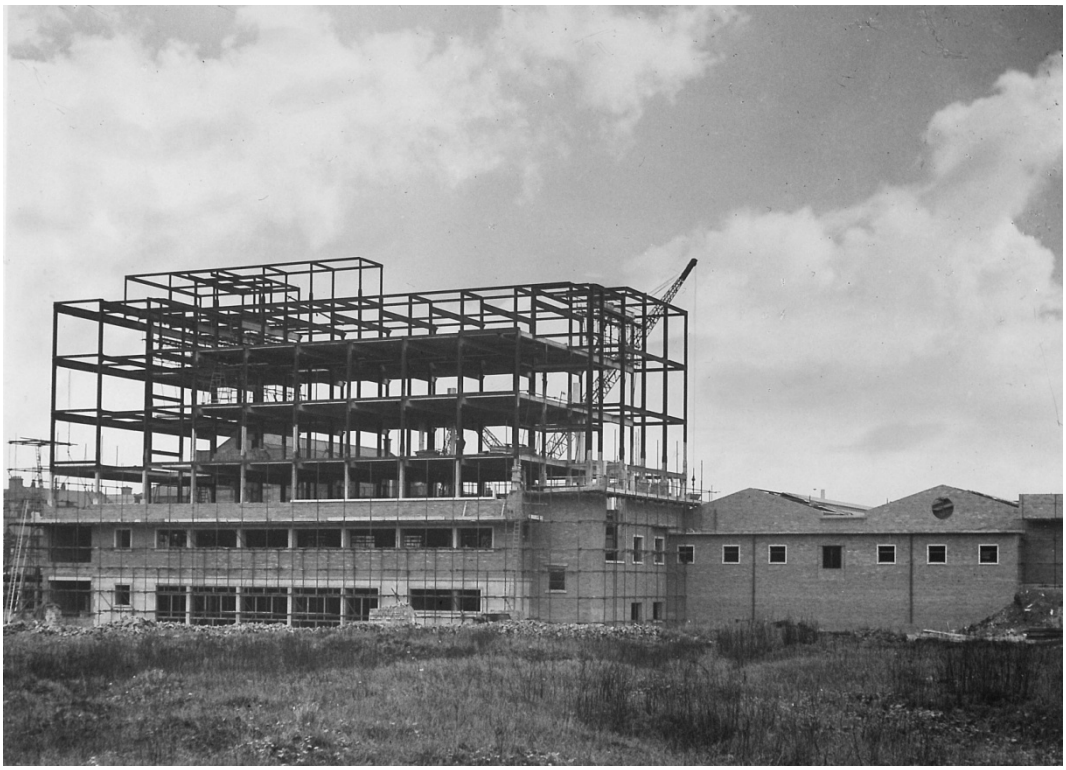

Fig.3.13. Openshaw Technical College, first instalment: brickwork commences

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m428123.]

Fig.3.14. Openshaw Technical College, first instalment (1956): rear view

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m428123.]

Fig.3.15. Openshaw Technical College, first instalment (1956): front view

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m428123.]

Second Instalment

Concurrent with the construction of the first instalment was the wider debate regarding the role of the Municipal College of Technology. In 1953, with government policy in favour of expanding higher technological education outside of London, the UGC had recommended that the Municipal College of Technology be granted university status.[49] This had not been anticipated by Manchester's LEA when drafting its scheme. Nonetheless, committed to improving standards at the Municipal College of Technology, the need to transfer elementary courses to other educational institutes within the city had already been identified. In January 1955, details of a second instalment of Openshaw Technical College were submitted to the MoE along with proposals for a college in the Mayfield district of the city. Both schemes were considered a priority, and the proposed college for Wythenshawe was deferred once again.[50] The second instalment of Openshaw Technical College was included in the 1955/56 Building Programme and Mayfield was placed on a reserve list.

To enable construction in Openshaw to progress seamlessly, the building of the second instalment was entrusted to the same general contractor, with the design as per Halliday & Agate's original sketch scheme for the complete college. Along with the addition of an assembly hall, a gymnasium, and much-expanded workshops, the teaching block was to be doubled in size and include additional laboratories, classrooms and drawing offices on the upper floors. Upon completion of the teaching block, a front elevation of stripped-down classicism was revealed. Broken only by small punched windows, the solid walls of the ground floor storey gave way to the mostly glazed upper-storeys. The artificial stone window dressing offered verticality to an otherwise horizontal composition. Devoid of decoration, yet not consciously modern, the overall aesthetic was akin to the work of Dutch architect, Willem Marinus Dudok.[51] [Figs.3.16 & 3.17]

[49] HC Deb 13 July 1954, vol. 530 cc.284-287

[50] TNA: ED 168-1908. Letter from MoE to LEA, dated 15th February 1955. Although proposals for the first instalment of a college in Wythenshawe were withdrawn, the building of a 'whole college' was provisionally included in the 1956/57 Building Programme.

[51] Notably, the architects Halliday and Agate had also worked on the designs for Battersea Power Station (constructed 1929 onwards), another building which arguably drew inspiration from Dudok's monolithic brick structures.

Fig.3.16. Openshaw Technical College, second instalment (1959): front view

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m64180.]

Fig.3.17. Office block for 'De Nederlanden van 1845', Rotterdam (1952) by Willem Marinus Dudok

[Source: Photograph copyright of Jan Sluiter.]

By the time the second instalment was complete in 1959, the role of the college had subtly shifted. During the 1950s, there was a rapid expansion of Britain's telecommunication network. The impact upon Manchester was significant with the global geopolitics of the Cold War prompting another major construction project in the city: a complex network of tunnels, known as the Guardian Underground Telephone Exchange, was being constructed on behalf of the General Post Office (GPO). Completed in 1958, it spread underneath the city-centre, and was intended to help maintain communication links in the event of an atomic explosion. The demand for telecommunication specialists was increasing.[52] In response, Openshaw Technical College established a communications department to provide a GPO Student Apprentice Scheme.[53]

Third Instalment

By 1960, Openshaw Technical College was providing a wide diversity of mechanical and electrical trade courses, some in 'highly specialised fields' such as telecommunications.[54] A report by H.M. Inspectors highlighted the limitations of the existing available accommodation: further extension of the workshop block, a larger library, along with additional classrooms and laboratories were recommended.[55] Accordingly proposals for a third and final instalment were prepared, this time by Manchester City Architect's Department, and included in the 1965/66 Building Programme.[56] Although Halliday & Agate had been entrusted with the design of the previous instalments, the City Architect's Department had, in fact, assumed responsibility for constructing the city's educational buildings in 1946. The national school building programme of the 1950s meant that staff shortages within the department were the likely reason for the initial use of private architects on Openshaw Technical College, an approach not repeated with Manchester's other technical colleges.

This latter structure was distinct from the previous instalments. Following construction of the first instalment, differential settlement between the teaching block and workshop had

[52] For further information of the Guardian Underground Telephone Exchange, see Richard Brook and Martin Dodge, *Infra_MANC* (Manchester: Bauprint, 2012), pp. 160–200.
[53] Information provided by Ralph Bramwell, former student and staff member at Openshaw Technical College. This period, described as the 'heyday' of the college, ended when British Telecom was formed in 1980 and became independent of the GPO the following year.
[54] TNA: ED 168-1901. See 'Schedule of Accommodation – Third Phase', undated.
[55] Ibid.
[56] TNA: ED 168-1901. Letter from MoE to LEA, date stamped 11th August 1966. By this time, S.G. Besant-Roberts had succeeded L.C. Howitt as City Architect.

occurred requiring remedial works to realign the two structures.[57] Therefore, a precast-concrete frame was used for the third instalment with provision made for jacking the concrete foundations if necessary. The main elevations featured panels of brickwork at storey level with metal-framed windows above and below; gables were of solid brickwork and the concrete frame was visible externally.[58] Construction was scheduled for March 1967 and completed in 1969. [Fig.3.18]

Fig.3.18. Third instalment (1969) by Manchester City Architect's Department (foreground)

[Source: Author's own image.]

Postscript

In 1983, Openshaw Technical College merged with Manchester College of Building (see Case Study 2 pp. 80-91), Moston Technical College, and St. John's College for Further Education to form Central Manchester College.[59] Openshaw Technical College was demolished incrementally from 2000 onwards, although elements including the communal block, the former gymnasium, and the third instalment remain. Subsequent to further institutional mergers, these buildings along with those more-recently erected now form part of The Manchester College's Openshaw Campus.

[57] Subsidence had been highlighted as a risk in an earlier report with worked coal seams underlying the site - see TNA: ED 168-1900. Report of the Mineral Valuer (Northern – Inland Revenue), dated 7th July 1950.
[58] Comparisons may be drawn with Hulme Library (1966), also designed by Manchester City Architect's Department.
[59] For a brief history of The Manchester College, see 'History' (The Manchester College, 2014). Available at: <www.themanchestercollege.ac.uk/about/history> [accessed 01/07/14] St. John's College for Further Education (1965) by Manchester's City Architect's Department neighboured Manchester College of Building, but was not erected in the period defined in Chapter Two.

Case Study 2: Manchester College of Building

On 7th January 1926, Mill Street School for Building Trades was opened by Manchester Corporation in the Ancoats area of the city, occupying the premises of the former-Manchester Day Industrial School, itself established in 1889.[60] [Fig.3.19] This came in response to a request from the Manchester, Salford and District Building Trades Joint Council for such a facility.[61] Concerns had been raised about the shortage of competent tradesman in the city, and it was hoped that the school would go some way to addressing the problem. Initially, trade apprenticeships were offered to 14-18 year olds alongside more traditional instruction; within a fortnight of opening around 130 apprentices had been enrolled.[62] According to the school's Principal, the aim was not to 'produce students who [could] pass exams, but boys who [would] put their heart and soul into the job'.[63]

Fig.3.19. Mill Street School for Building Trades (1889) by John Lowe

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. M10344.]

[60] See 'Building Trade Apprenticeships: Training Craftsmen, New Manchester School', *The Manchester Guardian*, 29 January 1926, p. 13; 'Day Industrial Schools', *The Manchester Guardian*, 16 January 1889, p. 5; 'Manchester Day Industrial School', *The Manchester Guardian*, 30 July 1888, p. 8. The building, since demolished, stood on Mill Street, now renamed Old Mill Street.
[61] Manchester City Corporation Education Committee, p. 49.
[62] 'Building Trade Apprenticeships: Training Craftsmen, New Manchester School'.
[63] 'In Manchester: Making Good Workmen', *The Manchester Guardian*, 30 November 1929, p. 14.

By 1935, with Britain having emerged from a period of economic depression, increased slum clearance activity was being matched by the building of new homes and Manchester was suffering from a chronic lack of bricklayers.[64] Such shortages ensured that attendance at what was reportedly the country's first apprentice training school reached around 300 prior to the outbreak of the Second World War. After the war ended, the combined support of local businesses saw numbers further increase with around 700 apprentices attending day-release courses in 'brickwork and masonry, carpentry and joinery, plumbing, plastering and woodcutting machinists work'.[65] The demand for places was such that larger premises were needed.[66]

It had been proposed to move the school to nearby vacant premises on Heyrod Street. However, when it became clear that extensive dry rot made such a move uneconomical, the Corporation concluded that 'the erection of new premises on a suitable site should be considered', and that this should 'take precedence over the work' on the proposed college for Wythenshawe .[67] The initial response from the MoE was not encouraging: 'As I understand it, this is not a firm proposal…There is no site, nor have we an estimate of cost.'[68] Further details were requested before a decision on whether to include the proposals in the 1952/53 Building Programme could be made.[69]

With the proposed move to Heyrod Street effectively aborted, Manchester City Architect's Department was asked for alternative suggestions. These included extending the existing premises on Mill Street, reproducing the existing accommodation elsewhere, or building an 'entirely new Building Trades College'.[70] The second option was dismissed as 'stupid' by the MoE, but a new building was a possibility; a site in the Mayfield district of the city had been identified.[71] However, because the LEA '[h]ad not bothered to decide' which option to pursue, the MoE felt 'there was no case for giving Manchester anything'.[72] A final decision was in abeyance.

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[64] 'In Manchester: The Shortage of Bricklayers', *The Manchester Guardian*, 20 August 1935, p. 11.
[65] 'The Training of Building Craftsmen', *The Manchester Guardian*, 6 April 1954, p. 10. Local businesses lent their support through affiliation with the 'Manchester and District Federations of Building Trade Employers and Master Plumbers'.
[66] Manchester City Corporation Education Committee, *Scheme of Further Education*, p. 239.
[67] TNA: ED 168-1882. See Manchester Education Committee Report, dated 12th March 1951.
[68] TNA: ED 168-1908. See correspondence between MoE and HM Inspectors, dated 1st May and 11th July 1951.
[69] Ibid.
[70] TNA: ED 168-1882. See notes of MoE meeting with LEA, dated 15th August 1951.
[71] Ibid.
[72] Ibid.

A New Building College

In October 1951, Manchester City Architect's Departments submitted their designs for the proposed college to the MoE. The second of ten County Colleges proposed in the Manchester scheme, it was to be known as Mayfield College of Further Education. [73] Given the publication of BB No. 5 just one month earlier, the proposals were subject to close scrutiny by the MoE. Storage space was described as 'rather lavish', and the administration and communal facilities were considered too large.[74] The MoE was keen to make cost savings but, in defence of the proposals, H.M. Inspectors declared: 'The present school…is a shocking place – it has NO administrative or communal provision and the new college will have to cope with this problem for itself and the old school'.[75] Conceding the point, the MoE approved the proposals subject to minor amendments.[76] Once more, this was indicative of the interplay between local concerns and national prescription.

Concerns persisted, however, regarding the suitability of the site. Legal obstacles were anticipated which would delay building work: roads which had served recently-demolished houses required formal closure.[77] Referring to the problems encountered building Openshaw Technical College, it was suggested that, 'in view of previous experience with delays in Manchester…a forthright letter should be sent to the [LEA] asking them to clear up the site problems at the earliest possible moment'.[78] As it stood, the MoE was unable to include the college in the 1952/53 Building Programme.[79]

In May 1952, the proposals for Mayfield College of Further Education were resurrected. As well as having to satisfy the demands of the MoE, the Corporation noted that it was being subjected to ongoing pressure from local industry to improve technical education.[80] However, it emerged that the Mayfield site had been identified by another Corporation department as the possible location for a helicopter station.[81] With fresh doubts emerging over the siting of the college, the MoE expressed its frustration over the 'costly plans' that had been prepared and which were now redundant: there was no alternative but to locate the college elsewhere in the

[73] TNA: ED 168-1882. Letter from LEA to MoE, dated 11th October 1951.
[74] TNA: ED 168-1882. MoE 'Minute Sheet', dated 23rd October 1951.
[75] TNA: ED 168-1882. See correspondence between MoE and H.M. Inspectors, dated 23rd October and 30th October, 1951.
[76] TNA: ED 168-1882. Letter from MoE to LEA, dated 21st December 1951.
[77] TNA: ED 168-1882. Letter from H.M. Inspectors to MoE, dated 7th January 1952.
[78] Ibid.
[79] TNA: ED 168-1882. Letter from MoE to LEA, dated 18th February 1951.
[80] TNA: ED 168-1882. See 'Northwest Division Building Programme for 1953/54', undated.
[81] TNA: ED 168-1882. Letter from LEA to MoE, dated 30th May 1952. See also 'Helicopter Station for Manchester', *The Manchester Guardian*, 11 July 1951, p. 2.

city.[82] According to the LEA, a site adjacent to the River Irwell was a viable option, being 'in a very central position' and offering 'better access from all parts of the city than the Mayfield site'.[83] However, pending its acquisition, the MoE shelved the proposals once more. Striking a tone somewhere between dismay and optimism, the MoE offered that if arrangements 'could be got ready, contrary to present appearances, to start in time', the proposals would be re-considered.[84] This was despite MoE reservations over what, in reference to its unusual shape, it called the alternatively proposed 'Balking Donkey' site: an even more central location would have been preferred.[85] However, the LEA insisted that 'no other suitable site was available'.[86] [Fig.3.20]

Fig.3.20. 'Balking Donkey' site: adjacent to the River Irwell

[Source: The National Archives: ED 168-1882.]

Further discussions between the MoE and LEA were centred on the proposed budget allocation. LEA estimates, based upon prior experience, indicated far greater costs than if calculated using BB No.5. With the MoE unwilling to revise its own estimate, however, the LEA promised to make '[e]very effort…to keep within [the proposed] figure', and informed the MoE it

[82] TNA: ED 168-1882. Letter from MoE to LEA, dated 19th June 1952.
[83] TNA: ED 168-1882. Letter from LEA to MoE, dated 22nd July 1952.
[84] TNA: ED 168-1882. Minutes of meeting held at the MoE, dated 16th September 1952; see also 'Education Plans Shelved: Ministry's Decision', *The Manchester Guardian*, 1 November 1952, p. 2.
[85] TNA: ED 168-1882. Letter from MoE to LEA, dated 12th March 1953.
[86] TNA: ED 168-1882. Letters from LEA to MoE, dated 23rd March 1953.

was proceeding with the acquisition of the site.[87] A Compulsory Purchase Order (CPO) was issued in August 1953.[88]

The Irwell site was mostly vacant, but standing buildings included a warehouse, offices, a timber yard, and a number of occupied dwellings: objections to the CPO meant further delays. Those fears became a reality when the owners of the timber yard claimed that the River Irwell would pose 'a potential danger to the students…by reason of the smells which may arise from it and by reason of the dirty state of its waters'.[89] A Public Inquiry loomed until an agreement was reached allowing the objector to temporarily remain in occupation; compensation was duly paid and the CPO was confirmed in January 1954.[90]

Despite promises to keep within the allocated budget, tender returns indicated that the college would cost even more than originally anticipated, partly indicative of rising building costs. However, when the plans were reviewed by the MoE, additional accommodation including a woodcutting machine shop and a saw doctor's shop was discovered. It was claimed the additions were suggested by H.M. Inspectors.[91] However, this was denied: they had come at the behest of the Mill Street School's Principal.[92] Nevertheless, H.M. Inspectors recommended approval of the additions so long as overall costs were kept within the allocated budget: '[it would] be clearly ridiculous to build the whole of the workshop accommodation and at some later stage add another 960 feet or so'.[93] The LEA was instructed to find economies elsewhere to compensate.

The following April, when revised plans were presented to the MoE, alarm was expressed that the LEA architects 'had not attempted to make any economies' and were proceeding with working drawings.[94] The MoE considered this a case of brinksmanship with previous instructions having been wilfully disregarded: '[I]n view of the peculiar position in Manchester vis-a-vis proposed developments at the [Municipal] College of Technology, the Ministry were bound to consider how the project could go forward …; if it were not for this special circumstance the project would…have to be deferred'.[95] National policy on the expansion of higher technological education can be seen, therefore, to have been exploited by the LEA in the approval and construction of what was then referred to as Irwell College of Further Education. [Fig.3.21]

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[87] Ibid.
[88] TNA: ED 168-1882. Letter from LEA to MoE, dated 26th August 1953.
[89] TNA: ED 168-1882. Letter from solicitor on behalf of J. Holt and Sons, dated 2nd September 1953.
[90] TNA: ED 168-1882. Letter from MoE to LEA, dated 11th January 1954.
[91] TNA: ED 168-1882. See notes from meeting at the MoE, dated 19th February 1955.
[92] TNA: ED 168-1882. See minute sheet from H.M. Inspectors to MoE, dated 2nd March 1954.
[93] Ibid.
[94] TNA: ED 168-1882. See notes from meeting at the MoE, dated 4th May 1954.
[95] Ibid.

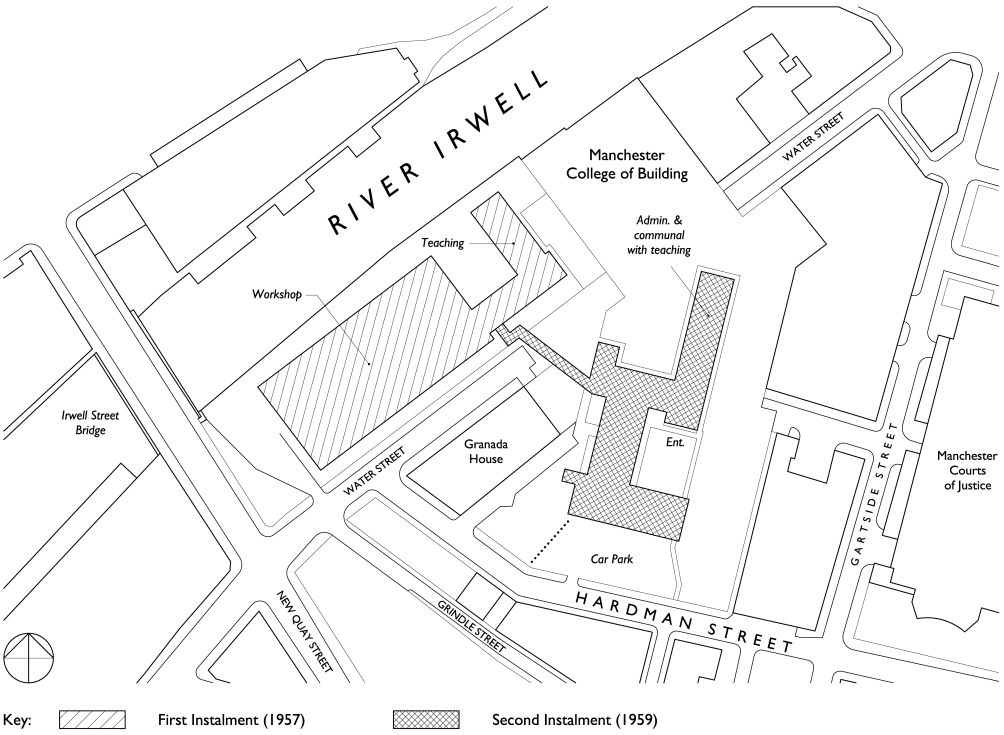

Fig.3.21. Manchester College of Building (formerly Irwell College of Further Education): site plan of complete college

[Source: Author's own image.]

First Instalment

The first instalment consisted of a single-storey workshop with a connected teaching block, both adjacent to the River Irwell. Along with the aforementioned additional accommodation, the workshop block housed two carpenters' shops, three plumbers' shop, a masons' shop, a wet-mix room, and associated storage.[96] The concrete structural frame carried a visually striking conoidal roof structure: six segmented concrete arches, each spanning 100 foot, were connected by purlins running down to the tie-beam of the adjacent arch to form a succession of tilted cones. [Figs.3.22 & 3.23] Each arch, facing in a north easterly direction, was infilled with clear glazing affording high volumes of natural light into the space below. The roof structure allowed for flexibility in planning the workshops beneath by eliminating internal columns.[97] Whilst a practical design consideration, it was also an opportunity for the fabricator to showcase one of its more innovative products.[98]

[96] TNA: ED 168-1883. See 'Schedule of Accommodation – First Instalment', undated.
[97] 'New Outlook: Conoidal Roof for Workshop Block', *Prefabrication*, 1957, pp.102–105.
[98] The fabricator, Trussed Concrete Steel Company, was reputedly responsible for the first use of reinforced concrete in the city: the YMCA Building, designed by Woodhouse, Corbett and Dean (1911). See Parkinson-Bailey, pp. 130–131.

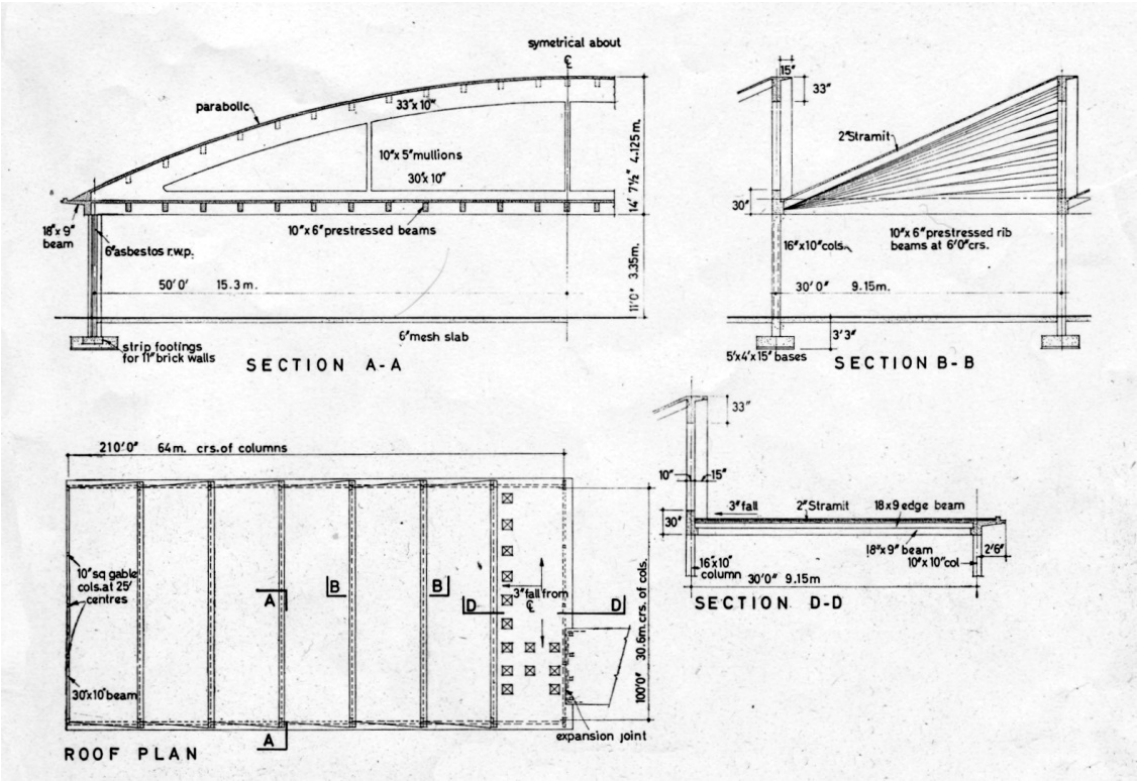

Fig.3.22. Manchester College of Building: detail of conoidal roof to workshop

[Source: Prefabrication, 1957, pp.102–105.]

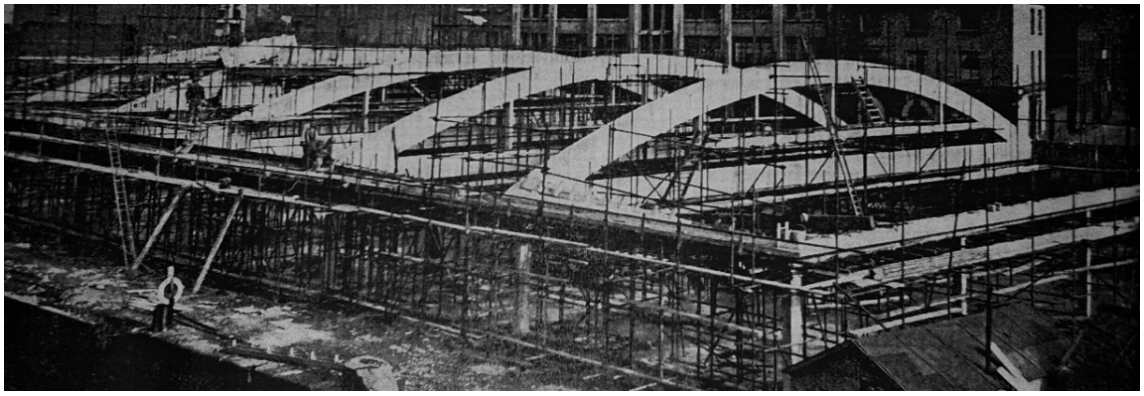

Fig.3.23. Manchester College of Building, first instalment: workshop under construction

[Source: Prefabrication, 1957, pp.102–105.]

The teaching block was of a more prosaic construction. Rising to three-storeys, this steel-framed structure contained temporary drawing offices at ground floor with lecture rooms and laboratories on the upper storeys: the drawing offices were intended to revert to shops for metalwork and plastering when the second instalment was built.[99] Aluminium-framed glazed-curtain walling enclosed the space with pre-fabricated holoplast panels at storey level.[100] The roof was a simple concrete slab roof dressed with felt.[101] Erected by the general contractor, Robert Carlyle & Company, the college welcomed its first intake of 500 students in October 1957.[102] [Fig.3.24]

Fig.3.24. Manchester College of Building, first instalment (1957):

a welcome addition to an area described as 'short of bright colours in its buildings'.[103]

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m06280.]

[99] TNA: ED 168-1883. See 'Schedule of Accommodation – First Instalment', undated.
[100] Holoplast, a laminated plastic material, was a war-time innovation used extensively by the Admiralty in shipbuilding. See Erika Dicker, 'Statement of Significance' (Powerhouse Museum, 2008). Available at: <www.powerhousemuseum.com/collection/database/?irn=241847> [accessed 01/08/14]
[101] TNA: ED 168-1883. See 'Brief Outline Specification', date stamped 21st January 1955.
[102] 'New Manchester College of Building', *The Manchester Guardian*, 18 October 1957, p. 12.
[103] Ibid.

Second Instalment

Given the post-war restrictions on capital expenditure, enshrined in guidance documents such BB No.5, the construction of Irwell College of Further Education was always planned to take place in two instalments.[104] With onward works being arranged prior to the completion of the first instalment, this was evidence, seemingly, that MoE procedures were being successfully implemented. In this particular instance, building in instalments held the fringe benefit of enabling the trade apprentices the chance to observe a live construction project.[105]

In February 1955, the LEA outlined its proposals for the second instalment. Originally the college had intended to provide courses in general studies alongside building studies. However, having been relocated from Mayfield to Irwell, the LEA considered it unlikely that the college would 'ever be called on to serve County Colleges needs for general subjects'.[106] Owing to the failure to implement day-release attendance for school-leavers not in full time education, as outlined in the 1944 Education Act, the planned system of Central and County Colleges was no longer relevant.[107] Accordingly, in future the college planned to focus on building studies only.[108]

With the first instalment nearing completion, the LEA requested inclusion of the second instalment in the 1956/57 Building Programme. As with Openshaw, this was to enable the general contractor to move from completion of one instalment to the next. In doing so, considerable economies were to have been effected by dispensing with 'the need of a temporary roof to the dining room and kitchen block… pending the building [of the second instalment]'.[109] Despite the LEAs proposal according with BB No5 directives on the avoidance of temporary structures, available finance dictated that the MoE could not include the second instalment until the following year.[110] This highlights a tension between the aspirations of central planning and its practical application.

The irregular shape of the Irwell site called for a covered walkway to link the first instalment to the second. The new block, four-storeys high and of steel-framed construction, contained a gymnasium, an assembly hall, and a dining room, all arranged around a courtyard.

[104] 'Manchester College of Building', *The Builder*, 1961, pp.214–216.
[105] 'New Manchester College of Building', *The Manchester Guardian*, 18 October 1957, p. 12.
[106] TNA: ED 168-1883. See 'Statement and Schedules of Accommodation – Second Instalment', dated February 1955.
[107] Janet McKenzie, *Changing Education: A Sociology of Education Since 1944* (London: Routledge, 2001), p. 184.
[108] TNA: ED 168-1883. See 'Statements and Schedules of Accommodation – Second Instalment', dated February 1955.
[109] TNA: ED 168-1883. See letter from the LEA to MoE, dated 12th January 1956.
[110] TNA: ED 168-1883. See letter from MoE to LEA, dated 30th April 1956.

The gymnasium was raised to first level to allow pedestrians passage from the car park to the entrance hall. Accommodation also included a library, a bookshop, additional classrooms and drawing offices, and staff rooms. [Fig.3.25]

Fig.3.25. Manchester College of Building, second instalment (1959): as viewed from Hardman Street

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m66457.]

The external facades were mainly glazed-curtain walling except for insulated coloured plastic panels at storey level. Internally, floor finishes included 'composition block, hardwood strip, terrazzo and marble tile'; walls and ceilings were plastered and painted. Externally, brickwork was faced with Portland stone, and special emphasis given to the main entrance through the application of Westmoreland green slate.[111] [Fig.3.26] Such finishes marked a departure from the austerity of the first instalment, most likely on account of its prominent location: the building faced onto the route of a planned inner-city ring road and the land opposite had been allocated for the erection of prestigious new law courts to replace those destroyed in the blitz.[112] [Fig.3.27]

[111] 'Manchester College of Building', *The Builder*, 1961, pp.214–216.

[112] The Courts of Justice, designed by City Architect L.C. Howitt, opened in 1961 to replace Alfred Waterhouse's blitzed Assize Courts (1858). See Parkinson-Bailey, pp. 101 & 182.

Fig.3.26. Manchester College of Building main entrance: students learning surveying techniques

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m428140.]

Fig.3.27. Manchester College of Building viewed from Gartside Street: part of a planned inner-city ring road

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m66458.]

Reflecting the college's new role dedicated to building studies, on 2nd March 1959 the re-named Manchester College of Building was formally opened. In attendance, the Parliamentary Secretary to the Ministry of Works, Mr. Harmer Nicholls, called for local industry to support the new college, and described the college as 'an important part of the Government's policy of producing more scientists and technologist'.[113] Even so, the MoE later voiced concerns 'that reductions which were necessary to bring tenders within acceptable limits were not in fact achieved'. [114] Assurances were given, however, that such 'misdemeanours belong[ed] to a past era and [would] not be repeated'.[115]

Postscript

Manchester College of Building continued to expand throughout the 1960s. Later additions included a standalone workshop and acquisition of the neighbouring Granada House (formerly Virginia House).[116] In 1983, Manchester College of Building was merged with Openshaw Technical College (see Case Study 1 pp. 67-79 above), Moston College, and St. John's College for Further Education to form Central Manchester College.[117] In 2001, following the erection of new purpose-built premises not far from the former-site of Openshaw Technical College, Manchester College of Building was demolished. The site is now occupied by the sixteen-storey residential block known as Leftbank Apartments.

[113] 'Building College Opened: More Skilled Men', *The Manchester Guardian*, 3 March 1959, p. 3.
[114] TNA: ED 168-1883. See internal MoE correspondence dated 9th January, 1963.
[115] Ibid. By this time, the City Architect's Department had been significantly reorganised with S.G. Besant-Roberts assuming the role of City Architect in 1961 from the departing L.C. Howitt.
[116] This followed the TV Company's relocation to Granada Television Centre designed by Ralph Tubbs (1956-66). See Parkinson-Bailey, pp. 169–170.
[117] For a brief history of The Manchester College, see 'History' (The Manchester College, 2014). Available at: <www.themanchestercollege.ac.uk/about/history> [accessed 01/07/14]

Case Study 3: Wythenshawe College of Further Education

Within Manchester's further education scheme, the establishment of four Central Colleges and ten County Colleges had been envisaged. The outlying County Colleges, accessible to a greater portion of the population, was to offer, unlike the Central Colleges, a curriculum of general studies alongside any specialism.[118] Two such County Colleges were proposed for Wythenshawe, and it was hoped that, subject to suitable sites being secured, a start on both could be made in 1950.[119] The provision of further education facilities in Wythenshawe was seen as essential for the continued development of Manchester's experimental Wythenshawe estate.

Drawing on the tradition of Letchworth and Welwyn garden cities, the Wythenshawe estate was considered as the 'first serious effort by a great city to produce a satellite garden town'.[120] Unlike the self-contained garden cities, the population of the garden town would work 'partly in the [local] area and partly in the mother city [of Manchester]'.[121] The idea for a 'satellite garden town' was conceived by Manchester's Housing Committee at the end of the First World War as the 'Homes fit for Heroes' campaign gained national momentum.[122] Housing densities in the city-centre were typically 60 homes per acre, but the new garden town aimed at a mere 12 per acre.[123]

Development north of the city-centre was considered impracticable; the land 'being rough and expensive to build upon'.[124] Similarly, sites to the east of the city were thought unsuitable, the area being dominated by heavy industry. With Salford Docks and Trafford Park occupying land to the west and south-west, the renowned town-planner Patrick Abercrombie prepared a report on behalf of the Corporation and concluded: 'the Wythenshawe estate stands out as the one piece of unspoilt land suitable for building in the immediate vicinity of Manchester'.[125] The land was purchased, and Wythenshawe became formally incorporated within the City of Manchester on 1st April 1931.[126]

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[118] Manchester City Corporation Education Committee, *Scheme of Further Education*, p. 241.
[119] Ibid, p. 247.
[120] Ernest Darwin Simon and J. Inman, *The Rebuilding of Manchester* (London: Longmans, 1935), p. 51. Letchworth Garden City, the brainchild of the pioneering town planner Ebenezer Howard, was designed by the architects Parker and Unwin in 1904. It provided the blueprint for Welwyn Garden City, designed by Louis de Soissons, and founded in the 1920.
[121] Ibid, p. 36.
[122] Peter Scott, *The Making of the Modern British Home: The Suburban Semi and Family Life Between the Wars* (Oxford: Oxford University Press, 2013), p. 18.
[123] Simon and Inman, p. 37.
[124] Ibid, p. 37.
[125] Ibid, p. 38.
[126] 'Wythenshawe Now In Manchester: A Midnight Change', *The Manchester Guardian*, 1 April 1931, p. 11.

Urban planner, Barry Parker, was asked to prepare a scheme for Wythenshawe which, covering an area of 5,500 acres, was to include housing, schools, shops, a civic centre, and a 'substantial industrial area'.[127] Construction began in 1932, and one year later around 3,400 homes had been built before a change in government policy halted progress. In response to the economic crises of the 1930s, housing subsidies to local authorities had been cut.[128] Owing to the bleak economic situation, the planned industrial area had also stalled. Wythenshawe resembled more a 'garden suburb' than garden town with its residents still reliant upon the city for employment.[129] [Fig.3.28]

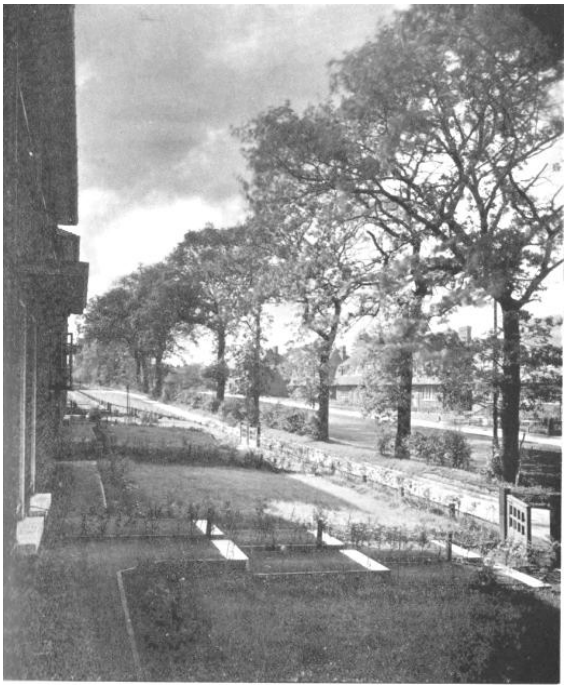

Fig.3.28. View of interwar Wythenshawe Garden Town: more 'garden suburb' than garden town

[Source: Inman J. & Simon E. 1935. The Rebuilding of Manchester [Longmans] p.42.]

Because of the Second World War, it was not until the latter part of the 1950s that industry became firmly established in Wythenshawe.[130] A consequence of this was the initial prioritisation of further education provision elsewhere in the city. Despite two colleges for

[127] Simon and Inman, pp. 42–44. Parker, along with Raymond Unwin, was a partner in the architectural firm that had been responsible for Letchworth Garden City.
[128] Ibid, p. 45. The 1924 Housing Act, also known as the Wheatley Act after John Wheatley, Labour's Housing Minister, had earlier seen central government subsidies substantially increased – see Alison Ravetz, *Council Housing and Culture: The History of a Social Experiment* (London: Routledge, 2003), pp. 87–89.
[129] Kidd, pp. 222–223.
[130] Ibid.

Wythenshawe being proposed in the LEA scheme, both Openshaw Technical College and the Manchester College of Building were given precedence. Once industry became established, the provision of further education in Wythenshawe became a priority once again.

A Possible First Instalment

Problems securing a site for Manchester College of Building led to proposals for the first instalment of a college in Wythenshawe being put forward in 1953, which was to proceed if the CPO of the Irwell site was unsuccessful.[131] Whilst previously keen to prioritise the provision of further education in the east of the city, the LEA was aware of the changing circumstances in Wythenshawe. In its submission to the MoE, the LEA noted that the population of Wythenshawe in 1952 stood at 73,200, but was expected to rise above 92,500 by the time the Corporation's housing proposals were complete.[132] Industries associated with electrical engineering had built up a significant presence in the area, and it was anticipated that when all the land allocated for industrial use was occupied, 33,000 people would be employed in Wythenshawe.[133] The proposed college was intended to satisfy the vocational needs of both resident and industry. Although accepted for inclusion in the 1954/55 Building Programme, the CPO of the Irwell site was confirmed in January 1954 and the Wythenshawe proposal was deferred.[134] Inclusion in the 1955/56 Building Programme was, however, assured.[135]

In July 1954, it was announced that the Municipal College of Technology was to be afforded university status.[136] This central government initiative strengthened the position of the LEA in that the transfer of elementary courses to other institutes became more pressing. A request for the inclusion of a 'complete college', rather than a single instalment, for Wythenshawe was made.[137] The proposal was subsequently accepted for inclusion in the 1957/58 Building Programme.[138] [Fig.3.29] In gaining permission to construct a complete college, the LEA had exploited national circumstance to further local needs once again.

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[131] TNA: ED 168-1908. The purchase of the site is noted in a letter from MoE to LEA, dated 29th August 1952. The possible inclusion of Wythenshawe is mentioned in a letter from LEA to MoE, dated 6th March 1953.
[132] TNA: ED 168-1908. See 'Specification: Manchester – Wythenshawe College of Further Education – 1st Instalment', enclosed with letter to MoE from MoE, dated 6th March 1953.
[133] Ibid.
[134] TNA: ED 168-1908. Letter from MoE to LEA, dated 1st May 1953.
[135] TNA: ED 168-1882. Letter from MoE to LEA, dated 12th May 1954.
[136] HC Deb 13 July 1954, vol. 530 cc.284-287
[137] TNA: ED 168-1908. Letter from LEA to MoE, dated 14th January 1955.
[138] TNA: ED 168-1908. Letter from MoE to LEA, dated 15th February 1955.

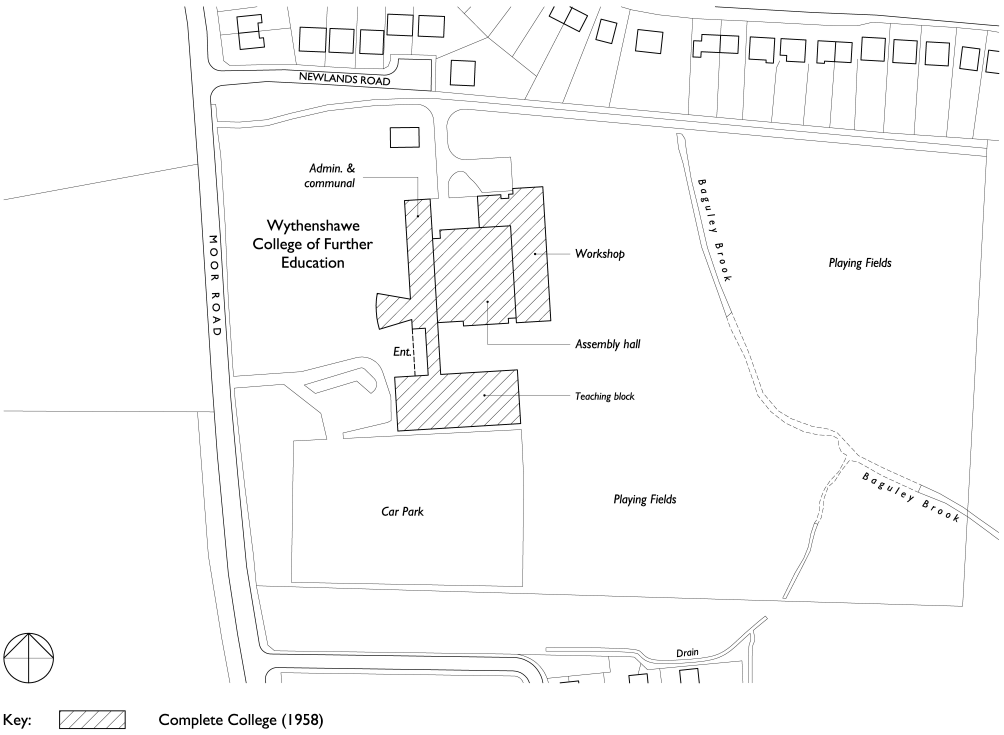

Fig.3.29. Wythenshawe College of Further Education: site plan of complete college

[Source: Author's own image.]

Complete College

In May 1955, sketch plans by Manchester City Architect's Department were submitted to the MoE.[139] The proposed college was originally to be located on a site adjacent to Greenwood Road. However, as a nearby school was already under consideration for conversion into a college, the LEA suggested an alternative site.[140] Accepting the proposals, the MoE commented: 'This second site [off Moor Road] is quite suitable [and] if anything is better served by public transport'.[141] Following the appointment of G & J Seddon of Little Hulton as general contractor, construction of Wythenshawe College of Further Education could begin.[142]

Although the college was not built in instalments, adherence to the principle of separate administration, teaching and workshop blocks, as dictated by BB No.5, was indicative of the post-war technical college being established as a distinct building type. At the centre of the proposed college was the entrance hall. To the south was a three-storey teaching block: the ground floor housed laboratories for engineering science, mechanics and hydraulics, electrical engineering,

[139] TNA: ED 168-1908. Letter from LEA to MoE, dated 23rd May 1955.
[140] TNA: ED 168-1908. Letter from LEA to MoE, dated 19th December 1955.
[141] TNA: ED 168-1908. MoE internal note, dated 28th December 1955.
[142] TNA: ED 168-1909. Tender return from LEA to MOE, dated 31st July 1956.

and general science, whilst at first floor a library was provided along with classrooms and drawing offices. The second floor contained studios for dressmaking, needlework, typewriting, and cookery.[143] The structure was concrete framed with infill generally being steel casement windows with timber weather boarding at storey level. The gable ends were partly glazed, partly solid brickwork. [Fig.3.30]

Fig.3.30. Wythenshawe College of Further Education: teaching block

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m64303.]

To the north of the entrance hall was a two-storey block of traditional brick construction containing both administrative and communal facilities. A kitchen and dining room was placed at ground floor level with staff and student common rooms occupying the space above. From here, a lecture theatre could be accessed. [Fig.3.31] Facing onto the main road, the lecture theatre helped define the entrance to the college whilst its plain, brick façade allowed for the installation of a feature sculpture.[144] Curtain walling completed the enclosure with cranked pre-cast concrete beams supporting the roof.

[143] The distribution of functions within the teaching block was indicative of the prevalent gender divide.

[144] 'Sculptures for New College: A Matter of Minutes', *The Manchester Guardian*, 3 March 1959, p. 20. Four mosaic panels, by Malcolm Hughes, each with an abstract figure formed in tubular steel, were mounted on the wall, the intention being that the shadows cast on the mosaic would give a 'suggestion of forms moving' across the curved surface.

Fig.3.31. Wythenshawe College of Further Education: lecture theatre (with sculpture)

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m64297.]

Whereas BB No.5 advocated flexible, pre-fabricated construction for colleges - something that had not been achieved at Openshaw Technical College - by the time it came to construct Wythenshawe College of Further Education in 1957, the zeal for prefabrication was declining.[145] Perceived cost benefits were called into question and doubts persisted over the appearance and long-term robustness of new building materials: a move back to traditional construction methods was becoming more prevalent.[146] Although mostly of traditional construction, the curtain walling and prefabricated concrete roof beams of lecture theatre gestured towards more modern methods: likewise the gull-wing roof incorporating clerestory glazing which sat above the double-height assembly hall. [Fig.3.32]

[145] Saint, pp. 153–154.
[146] Ibid.

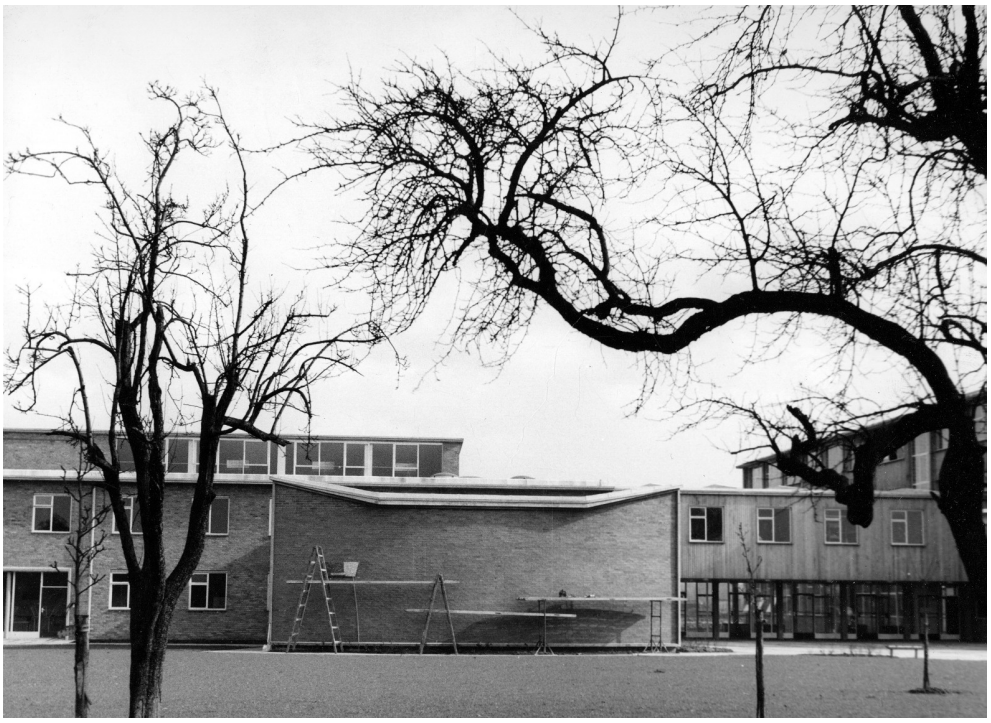

Fig.3.32. Wythenshawe College of Further Education:

assembly hall (beyond lecture theatre) with clerestory glazing

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m64298.]

Fig.3.33. Wythenshawe College of Further Education: workshop block

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m64308.]

At the rear of the site, isolated from the teaching block, was the single-storey workshop block. Mostly of brick construction, a series of insitu-cast curved concrete slabs formed north-facing roof lights above the internal spaces. Facilities included a machine shop, a fitting shop, a woodwork shop, and an electrical installation workshop. [Fig.3.33]

In September 1958, the college welcomed the first intake of students.[147] A ceremonial opening took place the following April. Officiating, Sir Willis Jackson, education and research director at the Metro-Vickers Electrical Company warned that without an increase in facilities such as Wythenshawe College of Further Education, those emerging from secondary school would 'experience serious frustration and disappointment' with 'serious consequences in the long run to the efficiency of industry'.[148]

Postscript

In 1990, Wythenshawe College of Further Education merged with Fielden Park College and the newly established Arden School of Theatre to form South Manchester College. Following its closure in 2004, the college was demolished and the site is now occupied by private housing. A new college opened in 2010 as the Wythenshawe Campus of The Manchester College.

[147] 'News in Brief', *The Manchester Guardian*, 3 September 1958, p. 12.
[148] 'Warning to Industry: Youth Needs More and Better Training', *The Manchester Guardian*, 22 April 1959, p. 16.

Case Study 4: John Dalton College of Technology

In 1956, with the Municipal College of Technology having become independent of Manchester Corporation, elementary courses were to be transferred to the city's other institutes. The first instalment of Openshaw Technical College was complete; the first instalment of Manchester College of Building was nearing completion; and the construction of a complete college in Wythenshawe was imminent. Additionally, proposals for a new municipally-run central technical college were being developed.

A New Municipal College of Technology

In October 1954, the future role of the Municipal College of Technology - and the consequences of it being granted university status - was discussed at the MoE. It was noted that an institute attempting to provide university level instruction typically did so at the cost of non-university level instruction.[149] In Manchester, lower level educational needs were jointly served by the Municipal College of Technology and the Royal Technical College in Salford. If the Municipal College of Technology ceased such provision, it was felt that the Royal Technical College was not suitably located to serve the needs of the whole of the city: '…it [is] unthinkable that a city of the size of Manchester should not have its own provision and that students living in the southern end of Manchester should have to travel to Salford…The colleges at Openshaw… and Irwell [are] badly placed geographically and…there was, and always had been, a need for a college in the Rusholme area of Manchester'.[150] A site close to Rusholme in the suburb of Fallowfield, previously earmarked for a new domestic and trades college, was one possibility, but with the Municipal College of Technology yet to obtain its charter of independence the LEA thought 'it was politically inexpedient to make such a proposal'.[151] One year later, with the charter of independence confirmed, an earnest search for a suitable site began.[152]

[149] TNA: ED 168-1913. Minutes of meeting at MoE, dated 20th October 1954.
[150] Ibid. As stated by H.M. Chief Inspector Shelley.
[151] Ibid. Quote by LEA's Chief Executive Officer, N.G. Fisher.
[152] See TNA: ED 168-1913. Letters from LEA to MoE, dated 22nd July and 23rd September 1955. Two sites off Oxford Road came under initial consideration. When a planning application for a petrol station on one of these sites was refused by Manchester Corporation, a public inquiry was held – see 'Plans For Technical College: Building in 10 Years' Time to Cost £750,000', *The Manchester Guardian*, 29 September 1955, p. 5. Ultimately, neither site was selected: one is now occupied by Manchester Metropolitan University's Geoffrey Manton Building (1996) by Sheppard Robson, the other by University of Manchester's Business School (1972) by Cruikshank and Seward.

In December 1956, the LEA noted that non-university level work was continuing at the former Municipal College of Technology – now renamed Manchester College of Science and Industry: the UGC was 'unlikely to give the college its fullest support and substantial financial backing' under such circumstances.[153] As such, and in accordance 'with present national policy', the LEA requested inclusion of a new central technical college in the 1958/59 Building Programme.[154] This proposed college was to assume responsibility for non-university level work, and 'a substantial site almost ripe for development' had been identified by the LEA between Oxford Road and Cambridge Street.[155]

Whilst plans for the college were being prepared by Manchester City Architect's Department, H.M. Inspectors wrote to the MoE enclosing a sketch of the proposed site. [Fig.3.34] Comprised of around 5.5 acres, it was noted that the site faced 'on to what will become a major road round [Manchester] in the development plan': such a prestigious site was indicative of the importance the college held for Manchester Corporation, embedding it within the city's wider plans for reconstruction.[156]

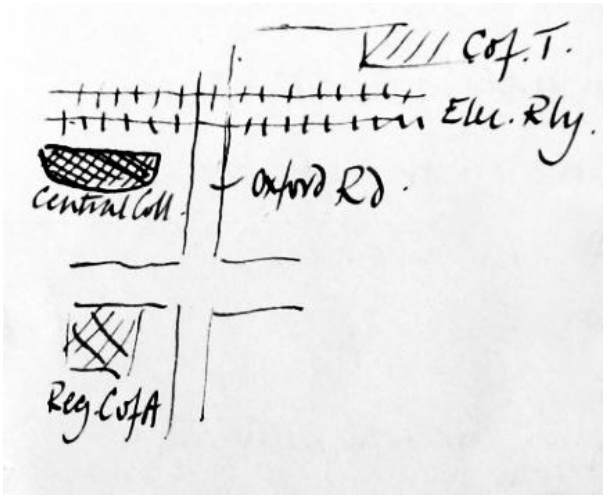

Fig.3.34. H.M. Inspectors sketch of proposed Oxford Road site

[Source: The National Archives: ED 168-1913.]

[153] TNA: ED 168-1913. Report of the Chief Education Officer to the Further Education Sub-Committee, dated 17th December 1956.
[154] Ibid.
[155] Ibid. BB No.5 did not specify the requisite site areas for new technical colleges.
[156] TNA: ED 168-1913. Letter from H.M. Inspectors to MoE, dated 11th January 1957. The site had originally been earmarked for the BBC. The planned 'major road' referred to the Mancunian Way (constructed 1964-67).

In August 1957, the proposed Central College of Technology was slated for inclusion in the 1958/59 Building Programme.[157] But, in March 1958, the Corporation confirmed that it had been unable to reach agreement on the purchase of the site, and confirmed that a CPO was required.[158] Official notices appeared in the local press the following May.[159] By June, twelve objections had been received and, with the LEA doubtful that matters could be resolved, a Public Inquiry was arranged.[160]

The principle objection to the CPO was in its scope. [Fig.3.35] Views were expressed by the objectors that 'the site [was] on the generous side'.[161] This was undoubtedly so, the LEA having identified a site larger than initially required to allow for future expansion. Thus, when the LEA sought the inclusion of a student hostel within the proposals, the MoE was suspicious: 'Perhaps…for fear of criticism…the [LEA] are now seeking sanction to the inclusion of a 100-place hostel on this site and have asked us verbally…for sanction at once so that the need may be quoted in their evidence at the Public Inquiry and, by our approval, their hand strengthened'.[162] The MoE demurred in view of the CPO proceedings, but the interplay between the local and national in decision making is evidenced once more.

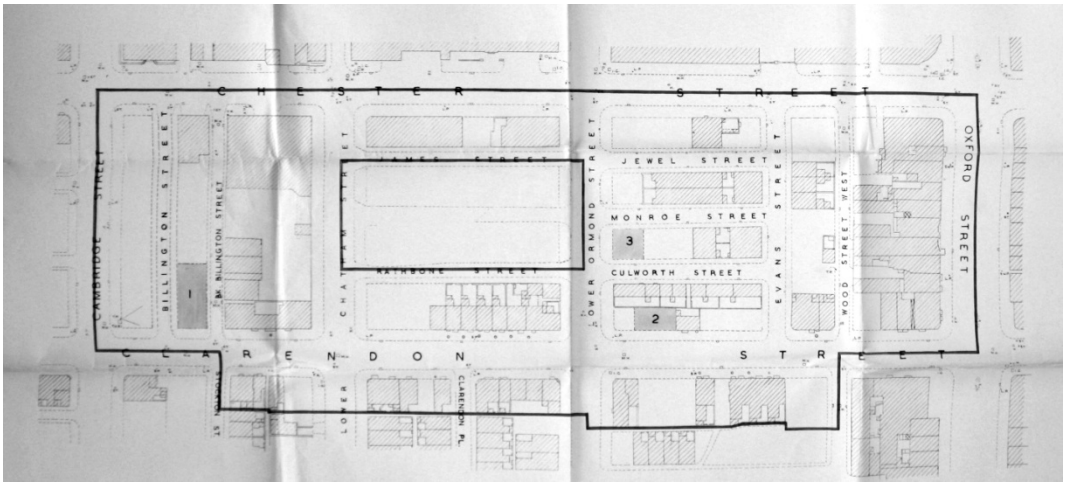

Fig.3.35. Site plan indicating area included within the CPO: considered 'on the generous side'

[Source: The National Archives: ED 168-1913.]

[157] TNA: ED 168-1913. Letter from MoE to LEA, dated 29th August 1957.
[158] TNA: ED 168-1913. See letters from LEA to MoE, dated 19th September 1957 and 4th March 1958.
[159] 'Classified Ads', *The Manchester Guardian*, 12 May 1958, p. 11.
[160] TNA: ED 168-1913. See MoE note, dated 10th June 1958, and letters from LEA to MoE, dated 11th July 1958 and 27th August 1958.
[161] TNA: ED 168-1913. See MoE Minute Sheet, dated 29th September 1958.
[162] Ibid.

The Public Inquiry took place on 30th October 1958. Those objecting included the owners of a bookshop and a newsagent. Most feared a loss of livelihood. [163] Nonetheless, it was decided that a need for the college was established; satisfied that no alternative site was available, the inquiry found in favour of the LEA.[164] However, the Oxford Road shops, including the bookshop and newsagent, were excluded from the CPO. [Figs.3.36-3.37]

Fig.3.36. Oxford Road shops excluded from CPO

[Source: The National Archives: ED 168-1913.]

Not until 1960 was the acquisition of the whole site completed. Having 'given up' the Municipal College of Science and Technology to the UGC, the LEA was keen to make its new college 'an important and outstanding feature of [further education] work in Manchester'.[165]

[163] TNA: ED 168-1913. Objections are noted in: Report of the Honourable SC Silkin, B.A., Barrister-at-Law to the Minister of Education: Part 1, undated.
[164] TNA: ED 168-1913. Report of the Honourable SC Silkin, B.A., Barrister-at-Law to the Minister of Education: Part 2, undated.
[165] TNA: ED 168-1914. Letter from H.M. Inspectors to MoE, dated 22nd June 1959.

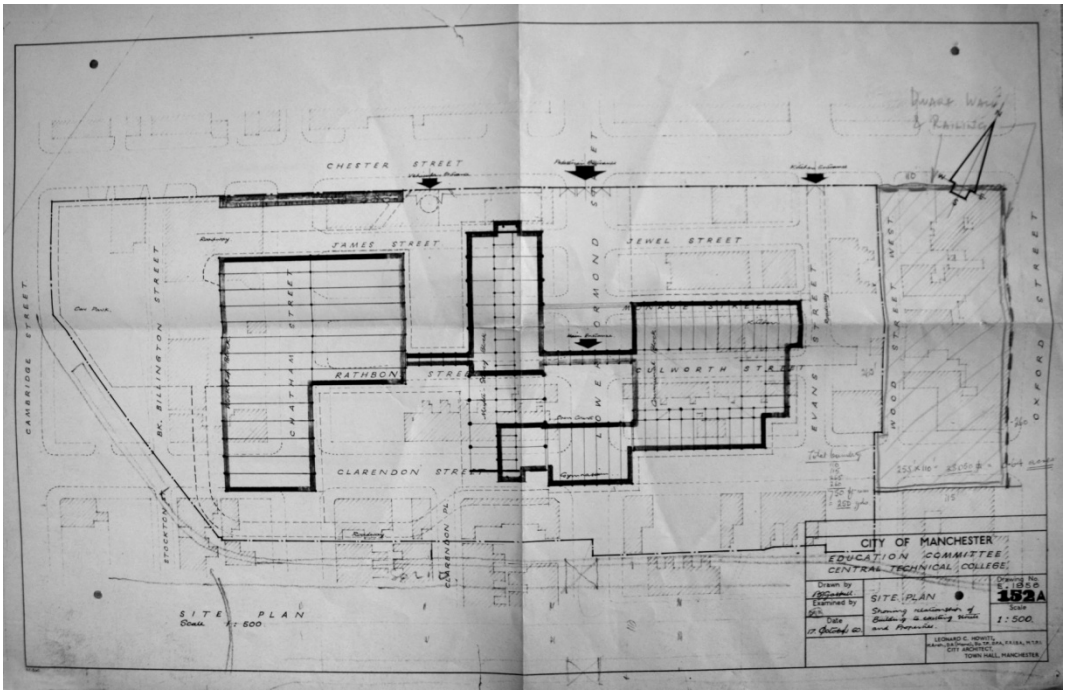

Fig.3.37. Sketch plan for Central College of Technology

[Source: The National Archives: ED 168-1914.]

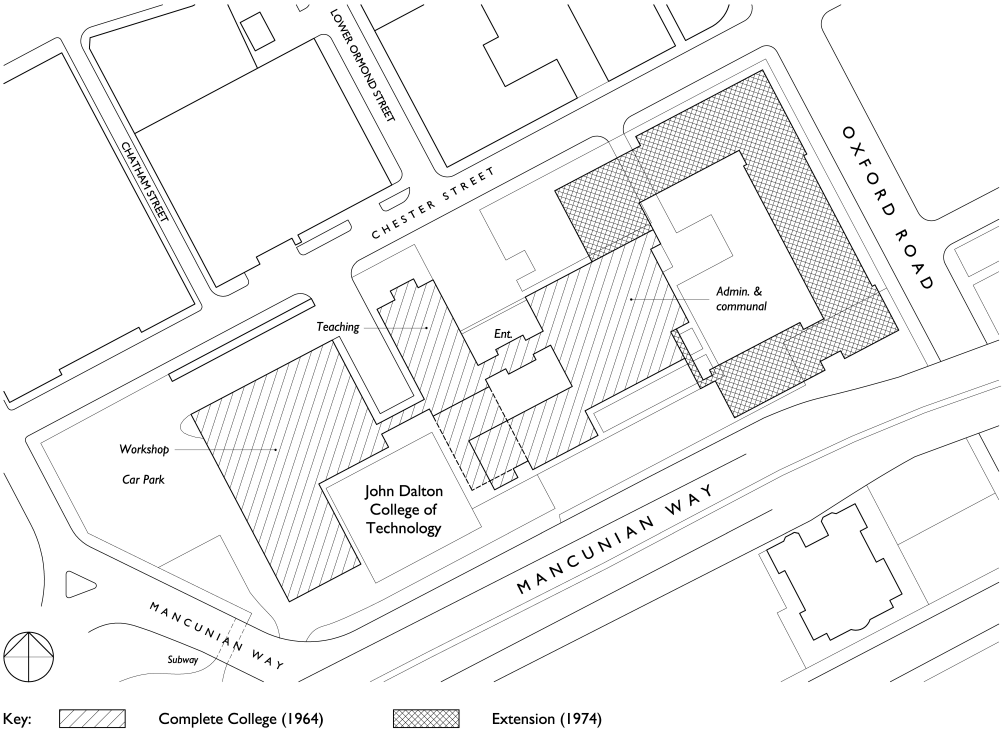

Fig.3.38. John Dalton College of Technology (initially Central College of Technology): site plan of complete college

[Source: Author's own image.]

Complete College

Building licences had ceased in 1954 and economic austerity no longer determined that building in instalments was necessary. As with Wythenshawe College of Further Education, the proposed Central Technical College was to be constructed in its entirety. [Fig.3.38] According with type, the college consisted of a workshop block, a teaching block, and an administration block arranged according to acoustic need. Close examination of the plans suggest that the new college was a composite of designs for Wythenshawe College of Further Education and the Domestic and Trades College. Completed in 1960, this latter building was Manchester's fourth post-war technical college and is perhaps exemplar of the type, thus a more detailed study is undertaken in the next chapter. Central Technical College, later renamed John Dalton College of Technology, was the sixth and final technical college constructed in Manchester subsequent to the 1956 White Paper.[166]

Setting aside the similarities of Manchester's earlier technical colleges, two further factors determined the design of Central Technical College. Firstly, whilst agreements to purchase the premises fronting onto Oxford Road had been reached, the MoE had yet to sanction the loan for their acquisition so the buildings remained extant pending demolition. Thus, to avoid further delays in commencing construction, the new college was positioned towards the rear of the site.[167] Secondly, a link road designed to connect the industrial east of the city with the docks to the west was proposed. When complete, it would flank the southern boundary of the site and restrict access. Consequently, the main entrance to the college had to be from Chester Road.[168]

Beyond the entrance hall, reminiscent of Wythenshawe College of Further Education, was an internal courtyard whilst to its east, and closest to Oxford Road, was the administration and communal block; two storeys of office space was arranged on three sides of a double height assembly hall, the double gull-wing roof incorporating clerestorey glazing, once again suggestive of Wythenshawe College of Further Education. Other communal facilities included a gymnasium, kitchen and dining room.[169] The structural frame was reinforced concrete, externally exposed, with infill of glazed-curtain walling and brickwork. [Figs.3.39-3.40]

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[166] White Paper on Technical Education (H.M.S.O, 1956)

[167] The loan was not sanctioned until June 1964 causing some dismay at the LEA: '[T]he college will open in September, 1964, and the [LEA] is anxious for the frontage, which consists of rather dilapidated buildings, to be demolished and the area laid out in time for the opening of the college. See TNA: ED 168-1914. Letter from LEA to MoE, dated 19th June 1964.

[168] *John Dalton College of Technology: Programme of the Official Opening* (Manchester: Manchester Education Committee, 1964), p. 4.

[169] Ibid.

Fig.3.39. John Dalton College of Technology (1964): internal courtyard

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m428140.]

Fig.3.40. John Dalton College of Technology (1964): assembly hall (foreground)

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m428140.]

To the west of the entry hall was an eight-storey teaching block. [Fig.3.41] Facing materials for both the teaching block and the administration and communal block were chosen by Manchester City Architect's Department to 'maintain simplicity of style'.[170] Hence, its reinforced concrete frame was similarly exposed externally, with glazed-curtain walling on the east and west facades; the solid brickwork to the end gables providing a sharp contrast to the clear glazed stair-cores. Laboratories for applied research were housed on the lower storeys of the teaching block with classrooms placed on the upper floors whilst the top storey included caretaker's accommodation. This arrangement of teaching space and caretaker's accommodation was, as we will see, previously employed at the Domestic and Trades College. (See Chapter Four pp. 114-138)

Fig.3.41. John Dalton College of Technology (1964):
teaching block (administration and communal block in foreground)
[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m64243.]

[170] Ibid.

Completing the ensemble was the single-storey steel-framed workshop block. Reached via a short covered walkway, north-light roof trusses were incorporated with large, open work spaces below.[171] Accommodation within included a laboratory for research into rubber and plastic, a machine-tool workshop, and a metrology laboratory. The use of the term laboratory, as opposed to workshop, was suggestive of a subtle shift away from a curriculum biased towards manufacturing towards one focussed on advanced technical knowledge; this was consistent with the soon to be elected Prime Minister Harold Wilson's declaration that 'those charged with control of our affairs must be ready to think and to speak in the language of our scientific age'.[172] [Fig.3.42]

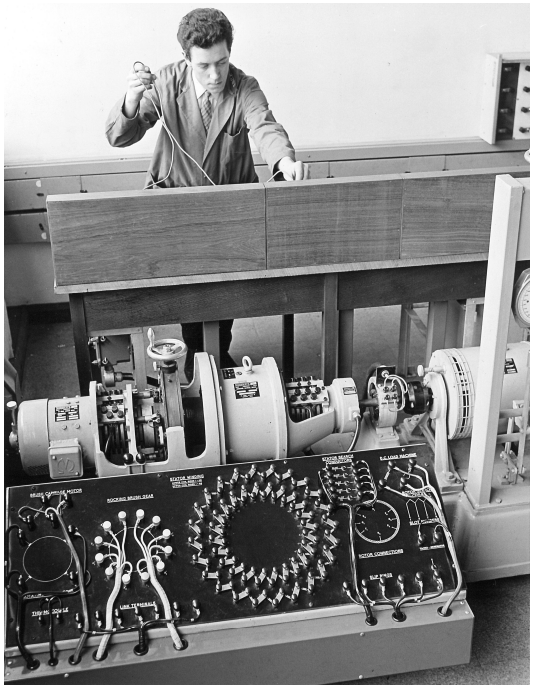

Fig.3.42. Student engaged in advanced research

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127.m428140.]

The roof lights of the workshop block, similar both visually and structurally to those of the Domestic and Trades College, are further evidence of a precedent, and indicative of the post-war technical college becoming formalised as a building type. [Compare Figs.3.43 & 3.44]

[171] Ibid.
[172] Harold Wilson, as quoted at the Labour Party Conference, 1st October 1963.

Fig.3.43. Domestic and Trades College (1960): teaching block and workshops

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m63960.]

Fig.3.44. John Dalton College of Technology (1964): teaching block and workshops

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m64244.]

The college was erected by the general contractor G & J Seddon of Little Hulton and, prior to completion, was re-named John Dalton College of Technology.[173] Although the first intake of students enrolled in September 1964, the official opening ceremony was delayed until December later that year. Wilson, having accepted an invitation to officiate, was otherwise engaged fighting a General Election.[174] At the opening, the newly-elected Prime Minister Harold Wilson reportedly praised the new college 'as an attempt to bridge the gap between machine and mortarboard'. Echoing sentiments voiced since the Great Exhibition of 1851, Wilson further stated: 'If we are going to compete in the world technological race, and get ahead in that race, there must be a more vigorous exchange of ideas between industry and the academic world'.[175] Such remarks underscore the contemporary significance of post-war technical colleges to the national economy.

Postscript

In Manchester, the opening of John Dalton College of Technology marked the end of a period of expansion in technical education defined by the 1956 White Paper on Technical Education. Moreover, for Manchester Corporation it was the culmination of its long term ambitions for technical education in the city. This is not to say that technical education did not continue to grow in Manchester, and elsewhere, but the emphasis was on advanced technical knowledge not manufacturing.

In 1970, John Dalton College of Technology merged with Manchester College of Commerce and Manchester College of Art and Design to become a faculty of Manchester Polytechnic. The merger came ahead of the first major addition to the college in 1974.[176] The eventual demolition of the Oxford Road shops had left a large area of the site vacant. A five-storey steel-framed structure was erected housing additional teaching and administrative accommodation. Pre-cast concrete units with exposed aggregate were suspended from the steel frame at each storey level with angled, opaque glazing providing infill. Given the modest elevational treatment of the original building, it can be conjectured that a visually assertive extension was always planned. [Fig.3.45]

[173] John Dalton came to Manchester in 1792 as a teacher in mathematics and philosophy. His work on atomic theory laid the groundwork for the likes of James Prescott Joule and Ernest Rutherford, both eminent scientists with Manchester connections. *John Dalton College of Technology: Programme of the Official Opening*, p. 1.
[174] 'Mr Wilson to Open City's New College: Clash With Election?', *The Guardian*, 22 May 1964, p. 4.
[175] 'Team Era Now, Says Mr Wilson', *The Guardian*, 21 December 1964, p. 4.
[176] The 1974 extension was designed by Manchester's City Architect's Department under Stuart Alan Bulmer (S.A.B.) Heppell who was previously project architect for Salford Technical College (1960).

In 2005, the original administration and communal block was demolished with a new entrance lobby and lecture theatre taking its place. A covered pedestrian walkway was erected to provide a link to the 1974 extension, and a new entry point off Oxford Road was also added. A second phase of refurbishment work resulted in the eight-story teaching block being over clad significantly altered the external appearance of the building.[177] In 2010, a new two-storey workshop block of undistinguished character was erected: the former workshop block now used by the university's reprographics department with office space made available for small start-up businesses.[178] Since 1992, when Manchester Polytechnic was afforded university status, John Dalton College of Technology has continued as a faculty of Manchester Metropolitan University.

Fig.3.45. Manchester Polytechnic, John Dalton Faculty Extension (1974):

as viewed from Chester Road towards Oxford Road

[Source: Photograph courtesy of Special Collections Library, Manchester Metropolitan University.]

[177] These works were by Fairhursts Design Group and RMJM respectively with Pickard Finlason acting as clients architect. - see Planning Refs: 063613/FO/CITY2/01 & 067736/FO/CITY2/03. Available at: <www.manchester.gov.uk/info/200074/planning/5865/planning> [accessed 20/08/14]

[178] The new workshop block was designed by Fairhursts Design Group. See 'MMU, John Dalton Workshops' (Scott Hughes Design, 2014). Available at: <www.scotthughesdesign.co.uk/education/mmu-john-dalton-workshops.html> [accessed 20/08/14]

Summary

The extensive correspondence between Manchester's LEA and the MoE reveals the bureaucratic processes, operating at both local and national level, which impacted upon the design of the city's technical colleges. We have seen how constrained the LEA was in terms of when a college could be built and, to an extent, how it was laid out. Proposed colleges were often included in a Building Programme prior to suitable sites being secured. This resulted in modifications to designs to keep within budget or, in the case of Manchester College of Building, a complete redesign following relocation to another area of the city. Although, on this occasion, it must be recognised that mitigating circumstances came from within Manchester Corporation: wider transport plans forced the LEA to reconsider its own proposals.

However, LEAs were not powerless in the face of centralised decision making. The successful re-negotiation of the budget for Openshaw Technical College, as the LEA prioritised education in the east of the city, provides evidence of the interplay between national prescription and local agenda. Moreover, the LEA was able to capitalise on the changing national circumstance with regard to the provision of higher technological education outside of London; both Manchester College of Building and Wythenshawe College of Further Education were constructed against a backdrop of moves to elevate the Municipal College of Technology to university status thus requiring the transfer of elementary courses.

Further design mitigation came in the form of the guidance document BB No.5. Centralised planning was intended to rationalise the design process and produce coherent buildings constructed in a cost-effective manner. This was not a smooth process of centralised prescription followed by local adoption; the designs for Openshaw Technical College were too advanced to retrospectively implement the guidance when it became available. The priority afforded Openshaw Technical College by the LEA was indicative of its contemporary social and economic importance however.

The Manchester College of Building is more exemplary of the negotiations between local and national scales since the principles of BB No.5 were fully applied to this building. However, centrally controlled budget allocations proved counter to BB No.5's aim of achieving coherent, cost-effective buildings. In certain circumstances, it was cheaper to include additional accommodation in the first instance than build later, but minor additions were not permitted under strict MoE budget controls. Nonetheless, the circumstances described above allowed the LEA to include additional accommodation for the Manchester College of Building and disregard

instructions from the MoE to make economies. In design terms, Manchester College of Building was more progressive than Openshaw Technical College making judicious use of new materials. However, the completed college lacked visual coherence. This was partly a consequence of the awkward siting, but with ever improving economic circumstances, it was inevitable that the latter instalment would not be as austere as the first.

With industry on the Wythenshawe estate firmly established by the late 1950s, the elevation of the Municipal College of Technology to university status was again advantageous to the LEA as it pursued its goal of establishing a technical college in the area. Built as a complete college, Wythenshawe College of Further Education avoided the visual incoherence of Manchester College of Building. However, subsequent to the relaxing of building controls, it was built in a fairly traditional manner with only gestures toward new construction methods. Although not built in instalments, adherence to the principle of separating of key functions suggests that this was a successful innovation of BB No.5, and is indicative of the post-war technical college being established as a distinct building type.

As with Manchester's other technical colleges, the acquisition of a site for John Dalton College of Technology was problematic, and complicated by the public inquiry. And whilst the selection of a site adjacent to a major new road may seem unusual today, it placed the college firmly within the fabric of the emerging reconstructed city: this was a prestigious site for a prestigious building, and underscores the significance that John Dalton College of Technology held for Manchester Corporation. Although the design was impeded by site specific circumstances – the delayed demolition of the Oxford Road shops and the construction of a link road to the site southern boundary - the Corporation drew on previous experience of constructing technical colleges and incorporated elements of two earlier schemes. The internal courtyard and central assembly hall were first deployed at Wythenshawe College of Further Education; the teaching block of Domestic and Trades College, as we shall discover, had an innovative arrangement of spaces which was followed at John Dalton College of Technology.

Collectively these buildings show how the post-war technical college became a distinct building type but it is in John Dalton College of Technology that the full evolution of the building type can be observed; modern construction techniques successfully combining with the key design principles of BB No.5. However, following the demolition of Manchester's earlier technical colleges and subsequent unsympathetic alterations to John Dalton College of Technology, it is the Domestic and Trades College – considered in the next chapter – that now best exemplifies the building type in the city.

Chapter Four: Domestic and Trades College

As the Openshaw case study demonstrated, the post-war era witnessed a sharp rise in the demand for further education from both school leavers and from the women for whom work in the war-time munitions factories had offered a glimpse a of life beyond humble domesticity. Manchester's LEA recognised that the service sector was likely to be an important part of Britain's economic recovery, and identified the need for a domestic and trades college that dealt with what was then known as the domestic trades in its 1949 'Scheme for Further Education incorporating County Colleges'.[1] This was reiterated at a meeting with the MoE in October 1954, and a proposed site for the college identified.[2] It was a further six years before those plans became a reality, but the creation of the Domestic and Trades College in Fallowfield, just south of the city-centre, was indicative of an ongoing diversification in Manchester's economy; a diversification which had begun in the mid-nineteenth century and continued throughout the 1950s with a move away from manufacturing and towards the service sector.[3]

Background

The origins of the Domestic and Trades College lay in the Central Girls and Women's Institute, established by Miss Emma Davies at Birley Street High Grade School in 1901. In 1911, following the opening of the Central High School for Girls on Whitworth Street in Manchester's city-centre, the Institute found its permanent home for almost the next five decades. Throughout much of this period, it was known as the Central Evening School of Domestic Economy.[4] Courses offered included tailoring, elocution, art, cookery, and dress-making; the latter reportedly being the most popular.[5] These were soon supplemented with courses in first-aid and home nursing. Owing to the outbreak of the First World War, it was anticipated that such skills may, for some, become a

[1] Manchester City Corporation Education Committee, p. 127.
[2] TNA: ED 168-1913. Minutes of meeting at MoE dated 20th October, 1954: as stated by H.M. Chief Inspector Shelley.
[3] See Chapter One, pp.22-23, and Kidd, pp. 191–192.
[4] Vicky Egerton, *A History of Hollings College, 1901-1976* (Manchester: Manchester Education Committee, 1978), p. 5.
[5] Ibid, p. 12.

necessity of domestic life. Indeed, during the war the Whitworth Street premises were temporarily taken over for use as a military hospital.[6] [Fig.4.01]

Fig.4.01. Central High School for Girls, Whitworth Street, Manchester[7]

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m65858.]

In 1937, a report prepared by H.M Inspectors stated that 2,717 students, mostly housewives, were attending the school, and implied that the inter-war years had witnessed an increase in attendance: 'the growth of the school is largely the result of…[Miss Heywood's]…labours'.[8] The report highlighted the inadequacy of the existing accommodation noting that the school lacked a library, a refectory, staff rooms, and storage space.[9] Responsibility for dealing with these problems fell to the new school Principal, Miss Elsie Hollings, appointed on 1st November, 1937.[10] [Fig.4.02] At this time, the school was described by one journalist, as almost entirely attended by women 'doing what was then called recreational studies'.[11] In addition to

[6] Ibid, p. 13.
[7] The Central High School for Boys (1900), foreground, was designed by Potts, Son & Pickup. It was extended in 1911, architect unknown, to house the Central High School for Girls.
[8] TNA: ED 168-1878. Report of H.M. Inspectors on the Central Schools of Domestic Economy, dated 31st July 1937, p. 1.
[9] Ibid.
[10] Egerton, p. 25.
[11] 'Obituary: Miss E.M. Hollings', *The Guardian*, 5 July 1962, p. 18.

those subjects mention above, a course in 'housewifery' was offered.[12] The provision of such courses can be interpreted as conforming to contemporary aims of creating separate domains for men and women, as political and economic restructuring sought to re-establish social order after the First World War.[13]

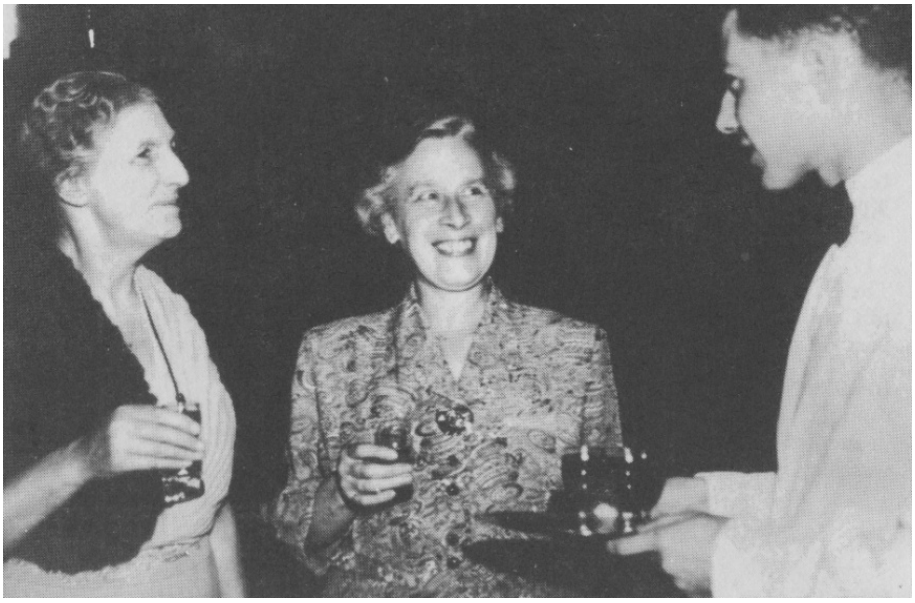

Fig.4.02. Elsie Hollings (centre), pictured in 1950 alongside Lady Simon of Wythenshawe (left)

[Source: Egerton V. 1978. A History of Hollings College, 1901-1976 [Manchester Education Committee] p.18.]

In 1939, with the outbreak of the Second World War, blackout regulations forced the closure of all evening schools in the city-centre, forcing the school to seek alternative accommodation.[14] Westbourne, a large house in the suburb of Fallowfield, was rented by the LEA in March 1940, and although the school returned to Whitworth Street the following winter, it retained a presence at Westbourne. During the war, studies of a more practical nature were introduced including the planning and preparation of war time menus.[15] The advent of rationing also saw classes which promoted an ethos of 'make-do-and-mend' given greater emphasis.[16]

[12] TNA: ED 168-1878. Report of H.M. Inspectors on the Central Schools of Domestic Economy, dated 31st July 1937, pp. 3-6.
[13] See, for example: Susan Kingsley Kent, *Making Peace: The Reconstruction of Gender in Interwar Britain* (Princeton, NJ: Princeton University Press, 1993).
[14] Egerton, p. 27. See also: Fowler and Wyke, p. 57.
[15] Egerton, p. 28.
[16] Ibid. With troops returning from service overseas, army blankets were fashioned into coats, skirts, and trousers whilst used-parachute material became underwear or curtains.

These classes proved so popular that in 1944, after much lobbying by Miss Hollings, the LEA provided additional accommodation at 14 Birch Polygon, Fallowfield.[17]

Rationing of clothing continued up until 1949, by which time a plot of land close to Westbourne, and including the premises known as Birchfields, was acquired by CPO.[18] One year later, the completion of hutted accommodation on Mauldeth Road, Withington, saw the school principally spread over five separate sites.[19] [Figs.4.03-4.05] It was during this period that apprenticeships were established at the school to train machinist for work in the city's well-established clothing industry.[20]

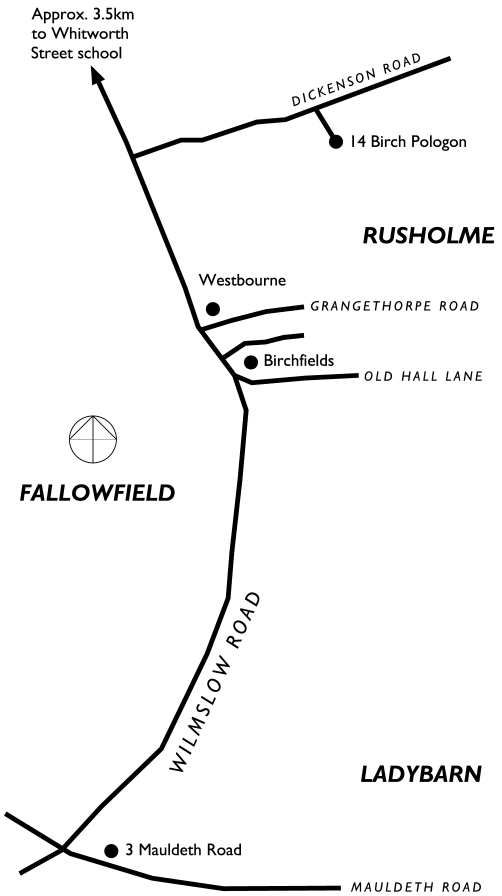

Fig.4.03. Location map: shows the school's various sites in South Manchester

[Source: Author's own image.]

[17] Ibid, p. 29.
[18] TNA: ED 168-1878. 'City of Manchester (Birchfields) Education Compulsory Purchase Order, 1949', dated 16th June 1949.
[19] TNA: ED 168-1878. See 'Application of Award for Starting Date', dated 2nd April 1949. The huts were constructed by F.J Gibson of Wilmslow.
[20] Egerton, p. 30.

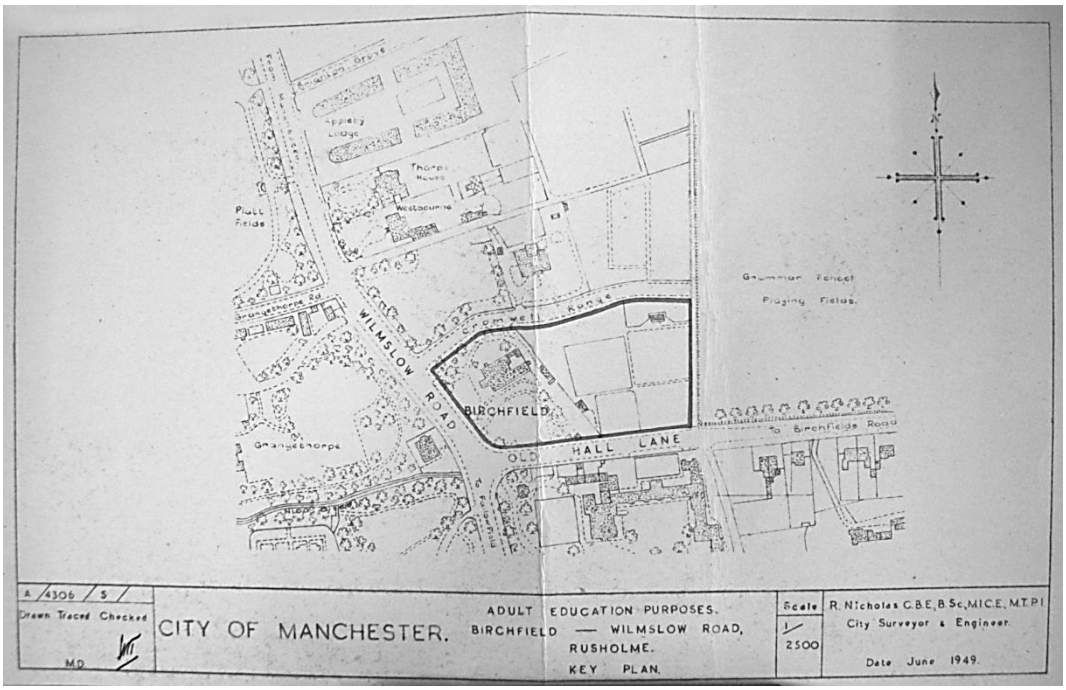

Fig.4.04. Birchfields site: purchased by CPO in 1949

[Source: The National Archives: ED 168-1878.]

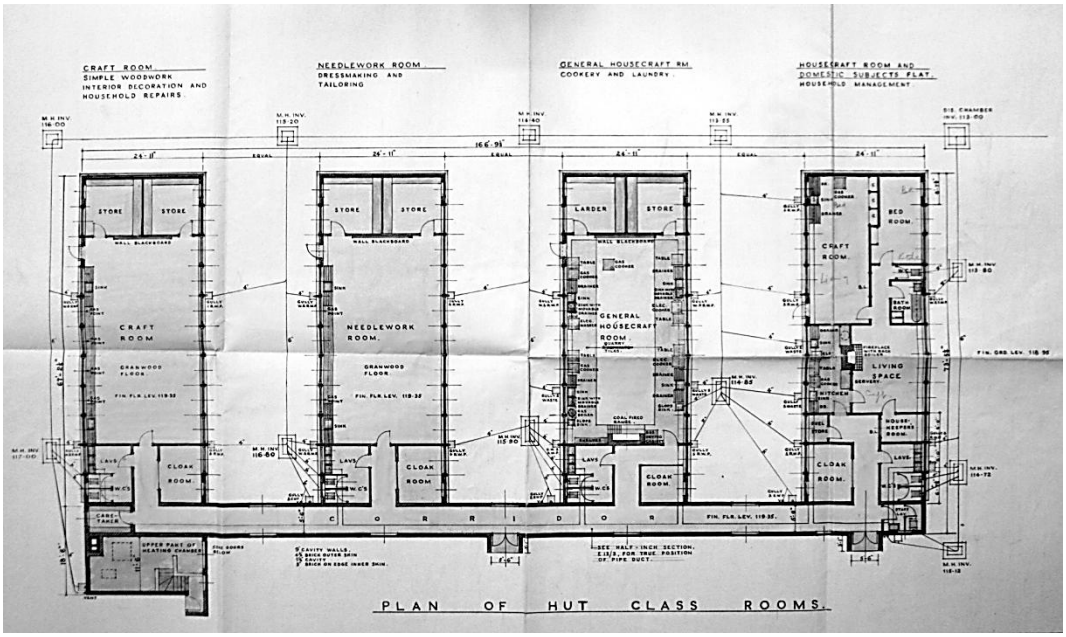

Fig.4.05. Plans for Mauldeth Road huts: erected in 1950

[Source: The National Archives: ED 168-1878.]

By 1950, over 3,800 students were enrolled on a variety of courses, mostly on a part-time basis.[21] Miss Hollings continued to draw attention towards any perceived deficiencies in the existing accommodation as she sought to realise her personal ambitions for the school.[22] The purchase of the Birchfields site had raised the possibility that the school's variously dispersed departments could be consolidated in one location. It was envisaged that the existing Birchfields premises could be adapted to house specially-equipped rooms for catering, clothing, bakery, and hairdressing.[23] An application was submitted to the MoE in 1951 outlining the proposals and inclusion in the 1952/53 Building Programme was requested.[24]

Meanwhile, with arrangements being made to mark the Golden Jubilee of the school's founding, its future status came under consideration. The word 'Evening' had already been dropped from the school's name, but at a meeting of Manchester's Education Committee in April 1951 it was noted that 'there appears to be no longer any particular significance in the use of [the] word [Central]' and, '[t]he school has for some time past developed a number of trade classes which are not adequately described under the heading Domestic Economy'.[25] Recognising that how a building is described is as important as its visual appearance, a name change which reflected local ambition for the school was felt appropriate.[26]

In February 1952, the MoE informed the LEA that all of its proposals for that year, including the adaptation of Birchfields, had been rejected.[27] The reason was not specified, but it was most likely due to a simple lack of finance. Nonetheless, on 16th December 1952, at celebratory evening in the recently re-opened Free Tree Hall, it was decided to rename the school: the Domestic and Trades College came into being, and a new era beckoned.[28]

[21] See the appended enrolment statistics in Egerton, pp. 102–105. It must be noted that these figures do not account for those students who may have been enrolled on more than one course.
[22] Ibid, p. 38.
[23] Ibid.
[24] Records of the application have not been kept in the archive, but this can be inferred from subsequent MoE correspondence. See, for example: TNA: ED 168-1882. Letter from MoE to LEA dated 18th February, 1952.
[25] GB127.Council Minutes/Education Committee, vol. 17a, 16th April 1951, p. 2225.
[26] Thomas A. Markus and Deborah Cameron, *The Words Between the Spaces: Buildings and Language* (London: Routledge, 2002), p. 2. '…the language used to speak and write about the built environment plays a significant role in shaping that environment and our responses to it'.
[27] TNA: ED 168-1882. Letter from MoE to LEA, dated 18th February 1952.
[28] Egerton, p. 40.

New Domestic and Trades College

Although Manchester's scheme had included a domestic and trades college as part of the planned Centre of Culture and Education (see Chapter Two p. 46), the rejection of the Birchfields proposals prompted the LEA to consider erecting the new college in Fallowfield.[29] A vacant plot adjacent to Westbourne, previously allocated by the Corporation for residential development, was identified.[30] [Fig.4.06]

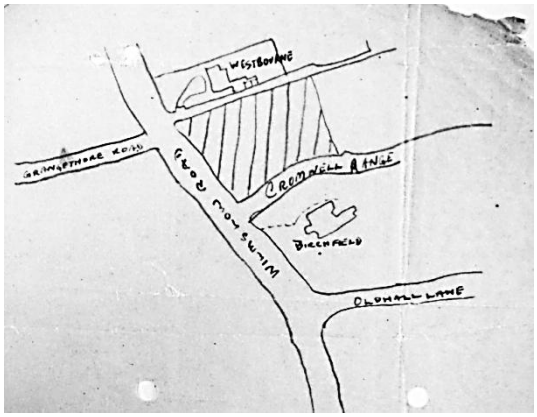

Fig.4.06 H.M Inspectors sketch of potential site for the proposed new college

[Source: The National Archives: ED 168-1878.]

Given that the current owners of the site had recently requested planning permission for a cinema, the LEA expected that any attempt to acquire the site would be met with strong resistance. The MoE was asked whether, in the event of a Public Inquiry, it would support the LEA. Whilst it was generally agreed that the site was suitable, H.M. Inspectors noted that the work currently undertaken at the college did not 'fall into those categories for which [new] accommodation [could] be built'.[31] Whilst clothing manufacturing was important to Manchester's economy, it can be inferred that MoE policy privileged traditional manufacturing industries such as mechanical engineering and building; this was despite a nationwide re-emergence in the 1950s of the 'cult of domesticity' and associated consumerism.[32]

[29] TNA: ED 168-1878. Letter from LEA to MoE, dated 8th June 1953.
[30] TNA: ED 168-1878. Letter from H.M. Inspectors to MoE, dated 19th June 1953.
[31] Ibid.
[32] See, for example: Dominic Sandbrook, *White Heat: A History of Britain in the Swinging Sixties* (London: Abacus, 2007), pp. 66–67; Jane Pilcher, *Women in Contemporary Britain: An Introduction* (London: Routledge, 2002), p. 116.

Undeterred, the LEA pressed ahead with its plans for a new college and requested inclusion in the MoE Building Programme for 1956/57.[33] Having decided not to acquire the site adjacent to Westbourne, it was proposed that the existing Birchfields premises be demolished and a new technical college erected in its place. Yet in August 1955, despite assurances from the MoE that the proposal would be 'sympathetically considered', the MoE announced that it had cut Manchester's budget for educational buildings; projects including the proposed Domestic and Trades College had been rejected.[34]

The announcement elicited strong reactions locally with one councillor describing the decision as 'shocking…[t]here are many other things from which economies could be made without cuts in one of the most vital public services'.[35] The Manchester and District Branch of The Clothing Institute, a national organisation established in 1948 to promote the profession and practice of clothing technology, voiced the concerns of local industry: 'In view of the fact that Manchester is now the acknowledged clothing manufacturing centre in Britain, the branch committee views with alarm the deletion [of the proposed college] from the 1956/57 Building Programme.[36] This followed earlier calls from the institute for tailoring to be recognised as a profession and, in language indicative of the period, senior practitioners to be considered as 'clothing engineers'.[37] The lobbying continued with Lady Simon of Wythenshawe, former Chair of Manchester's Further Education Sub-Committee, writing to the MoE urging them to reconsider the proposals.[38] Consequently, the following year it was made known that money was available for the project, but strong justification was required for it to proceed. Miss Hollings and her staff set about gathering statistics that would prove the demand for trained individuals from local industry.[39] The findings were submitted, and soon after the MoE confirmed that the project was included in the 1957/58 Building Programme.[40] The combined voices of locally interested third-parties had succeeded in influencing the centralised decision making of the MoE.

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[33] TNA: ED 168-1878. Letter from LEA to MoE, dated 26th February 1955.
[34] TNA: ED 168-1878. MoE document, dated 13th April 1955. Inclusion of the college had been intimated to Lady Simon of Wythenshawe. See also: 'School Building Plans Halved: Manchester to Fight Minister's Decision', *The Manchester Guardian*, 3 August 1955, p. 10.
[35] Councillor R.E. Thomas, secretary of the Labour Party's representatives on the city council, as quoted in: 'School Building Plans Halved: Manchester to Fight Minister's Decision'.
[36] TNA: ED 168-1878. Letter to Chancellor of the Exchequer, R.A. Butler, from The Clothing Institute (Manchester and District Branch), dated 16th August 1955. See also: 'Stimulating Taste In Clothing', *The Manchester Guardian*, 8 May 1948, p. 6.
[37] 'Tailoring as a Profession: Women & Methods Alter', *The Manchester Guardian*, 17 September 1953, p. 6.
[38] See, for example: TNA: ED 168-1879. Letter from Lady Simon of Wythenshawe to MoE, dated 8th January 1956.
[39] Egerton, p. 45.
[40] TNA: ED 168-1879. Letter from MoE to LEA, dated 10th April 1956.

Design and Planning

Responsibility for the design of the college fell to the education division of Manchester City Architect's Department. Having previously designed Manchester College of Building and Wythenshawe College of Further Education, the Domestic and Trades College was, perhaps, an opportunity for the department to meld the practical experience it had gained with a more architecturally creative approach. Working under the-then Deputy City Architect Sidney George Besant-Roberts, Derek Hill was tasked with overseeing the project.[41] Initial proposals, developed in collaboration with staff members, were considered rather conventional, but when 'new plans…of an entirely different conception' were presented to the college's governors they were positively received.[42] The MoE, however, expressed doubts about the 'attractive but un-utilitarian shape' of the new proposals, and considered them so unusual it was necessary to consult the architects of the A&B Branch.[43] [Fig.4.07]

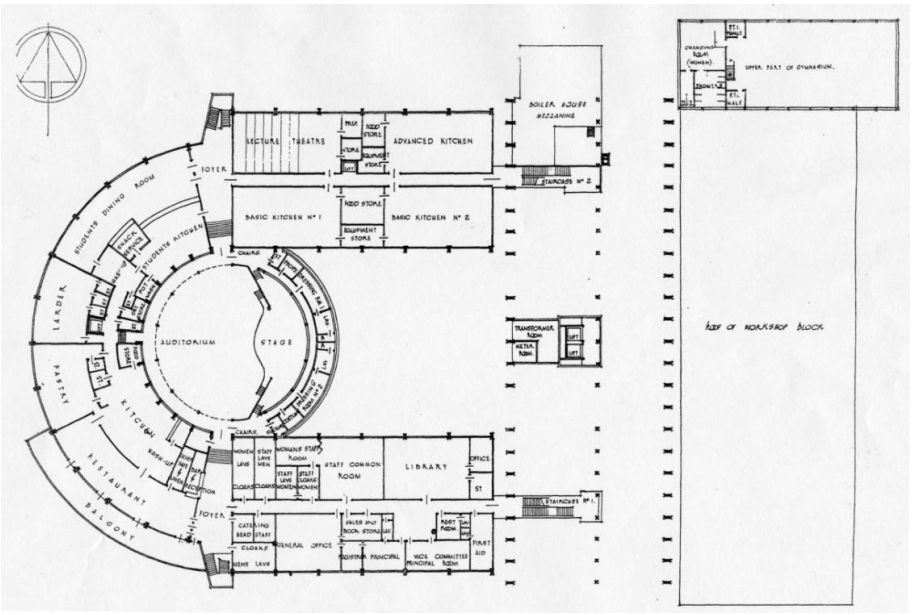

Fig.4.07. Domestic and Trades College: sketch plan of overall building

[Source: Official Architecture and Planning, May 1958, p. 215.]

[41] The City Architect's Department was split into three divisions – No.1 office, responsible for major projects; housing; and education. The City Architect, Leonard Cecil Howitt, oversaw no.1 office whilst the Deputy City Architect, Besant-Roberts was responsible for education. I am grateful to Derek Hill for providing this overview which coheres with details included in an unpublished memoir of L.C Howitt by John H.G. Archer dated 31st July 1996. The design team for the Domestic and Trades College is noted in: 'Domestic and Trades College, Manchester', *The Builder*, 1958, pp. 900–901.

[42] Egerton, p. 46.

[43] TNA: ED 168-1878. See MoE Minute Sheet dated, 4th December 1956.

With the A&B Branch architects concluding, '[t]he shape of the whole building has no relation to the practical needs of a technical college', the MoE requested a simplification of the plans.[44] It recommended that the 'horse shoe'-shaped administration block should be given 'straighter sides and [a] straighter front', and an 'oblong shape' be adopted for the multi-storey teaching block 'instead of the present odd shape'.[45] Whilst revised plans were submitted by the LEA in April 1957, the proposals remained largely unaltered.[46] The MoE later noted, '[t]he development of the plans for this College has been most unsatisfactory largely on account of the lack of cooperation by the Manchester [City Architect's Department]'.[47] Despite this plans for the complete college were approved in February 1958.[48] [Fig.4.08]

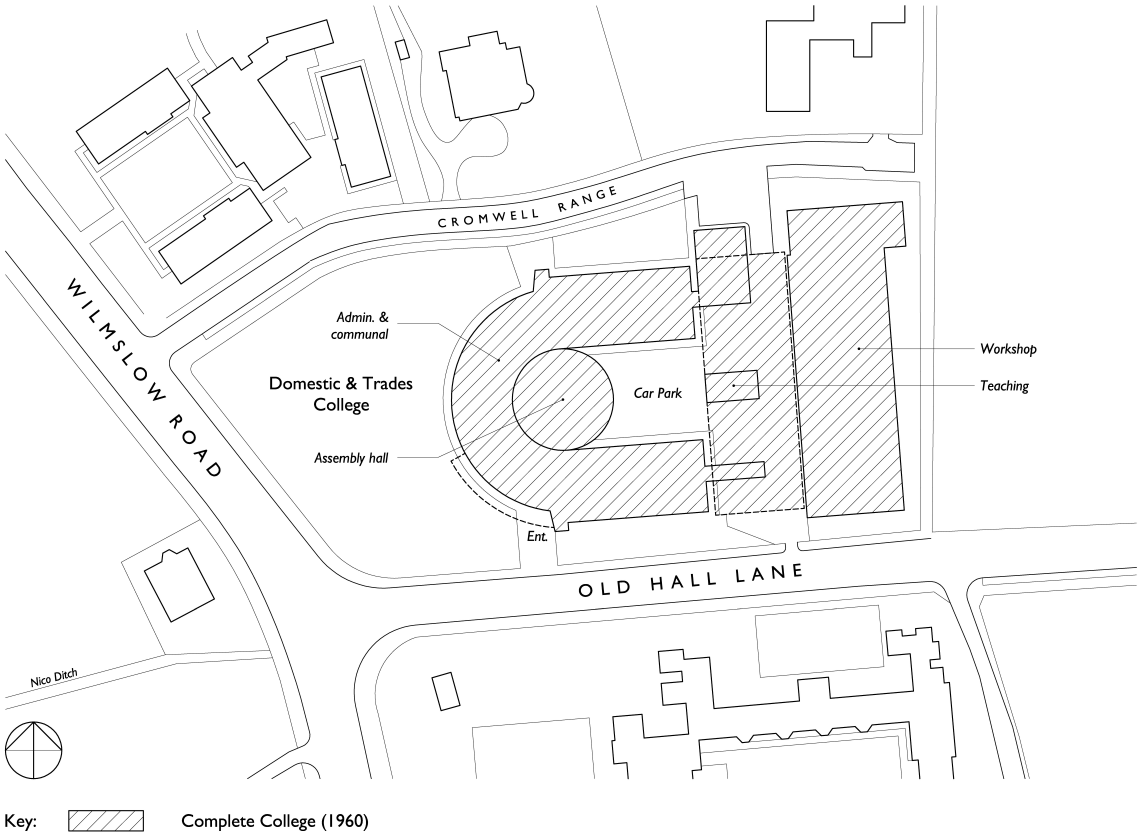

Fig.4.08. Domestic and Trades College: site plan of complete college

[Source: Author's own image.]

[44] Ibid.
[45] Ibid.
[46] TNA: ED 168-1879. Letter from LEA to MoE, dated 9th April 1957.
[47] TNA: ED 168-1879. MoE minute sheet, dated 9th December 1957.
[48] TNA: ED 168-1879. Approval is noted in letter from LEA to MoE, dated 24th April 1958.

Complete College

Whilst Manchester City Architect's Department appear to have been reluctant to change the form of the college, possibly raising doubts about the effectiveness of centralised planning, the proposals mostly adhered to the guidelines set out in BB.No.5. Built in one instalment, the proposed college was comprised of three inter-connected components and included the requisite teaching and administration blocks along with an additional standalone single-storey workshop block. This latter element, for use by the tailoring department, was deliberately isolated from the main college due to the anticipated noise and vibration caused by sewing machines.[49] The workshop block was of steel-framed construction with brickwork outer walls and, similar to the technical college workshops built elsewhere in Manchester, the roof incorporated a series of north-facing fan lights.

Rising above the workshop block, and oriented on a north-south axis to maximise natural lighting, was the eight-storey teaching block. Contained within were lecture theatres, teaching rooms, a bakery, and accommodation for a hairdressing and beauty department.[50] Apart from the lift lobby and stair cores, the ground level of the teaching block was left open, thus, creating an undercroft. This allowed vehicles to service the workshop whilst providing general access to the inner courtyard car park.[51] Larger rooms, such as lecture theatres and laboratories, were positioned on the lower levels of the block with smaller rooms, mostly classrooms, placed above. The top storey included a caretaker's flat and a sun terrace.[52] Made up of 23 reinforced concrete arches and rising to a height of 134 feet, the tapered form was adopted to accommodate the wide diversity of rooms the college required.[53] [Fig.4.09] By positioning the classrooms on the upper floors, further acoustic separation from the workshop block was achieved. The structure was expressed externally with infill provided by aluminium-framed glazing.[54] Below cill level, panels of 'rustic brown-red' brick tile were proposed to add colour to the main elevations with 'light blue' vitreous enamel panels to be incorporated into the end gables.[55]

[49] 'Domestic and Trades College, Manchester', *The Builder*, 1958, pp. 900–901.
[50] 'Proposed Domestic and Trades College, Manchester', *The Architect & Building News*, 1958, p. 565.
[51] 'Domestic and Trades College for Manchester', *Official Architecture and Planning*, 1958, pp. 213–216.
[52] 'Proposed Domestic and Trades College, Manchester', The *Architect & Building News*, 1958, p. 565.
[53] 'New College Nearly Ready: A Unique Essay in Architecture', *The Guardian*, 15 June 1960, p. 28.
[54] 'Domestic and Trades College for Manchester', *Official Architecture and Planning*, May 1958, pp. 213–16.
[55] Besant-Roberts as quoted in: 'College Like Letter "A": £600,000 Building's Tapering Design', *Daily Telegraph*, February 1959. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections)

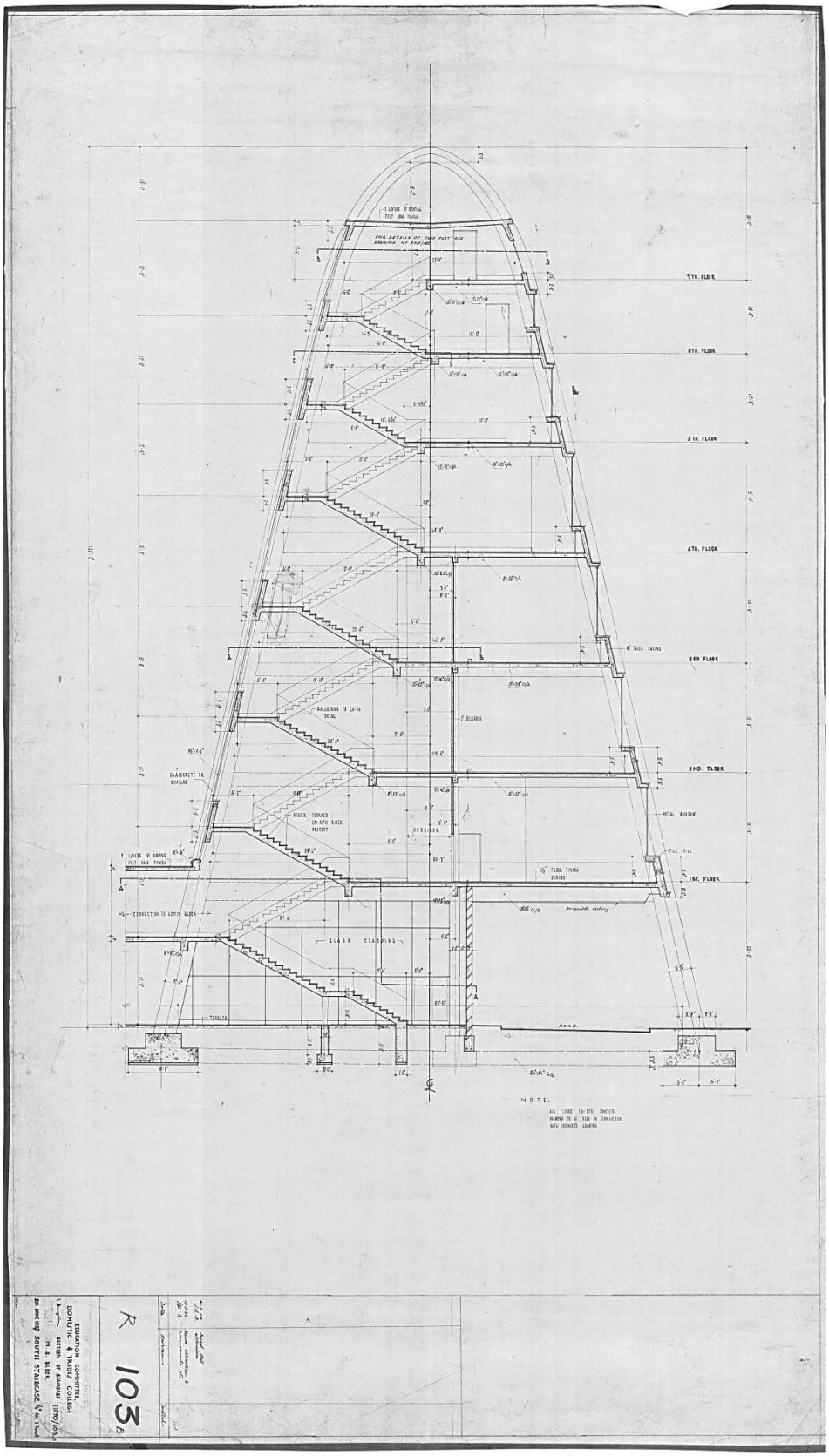

Fig.4.09. Domestic and Trades College: section through teaching block

[Source: Drawing courtesy of Derek Hill A.R.I.B.A.]

Adjacent to the teaching block, and connected at first floor level via two enclosed walkways, was the two-storey administration and communal block, horse-shoe shaped in plan as per the original proposals. This reinforced-concrete structure was arranged around a circular assembly hall, and housed staff rooms, student common rooms, and a refectory. Also contained within were the catering department's kitchens and a restaurant: given first floor prominence and with full height glazing, it was intended that visitors to the restaurant could enjoy views of the generous landscaping provided at the front of the site. Setting the building back in this way also served to mitigating traffic noise from the adjacent thoroughfare, Wilmslow Road.[56] Somewhat optimistically, given the local climate, an external terrace was also included affording the opportunity for dining outdoors.[57] Whilst providing practical experience for catering students, the restaurant facility was to be open for use by the general public, thus connecting the college with its wider community as recommended in BB No.5.[58] Again, the reinforced-concrete structure was expressed externally with cranked members rising up the walls, thickening towards the top, and curving over to support the roof. At its centre was the assembly hall, elevated to first floor level and supported by a single mushroom-shaped column. Intended for use by students for fashion shows, this element was topped off with a shallow aluminium dome, 70 feet in diameter.[59] The proposed college was exhibited at the Royal Academy Summer Exhibition in 1958 with construction due to begin later that year.[60] [Figs.4.10 & 4.11]

[56] See the description in: 'Domestic and Trades College for Manchester', *Official Architecture and Planning*, May 1958, pp. 213–216.
[57] A series of looped mild-steel uprights formed the balustrading to the completed restaurant balcony, thus mimicking the parabolic arches of teaching block.
[58] Ministry of Education, *Building Bulletin No.5: New Colleges of Further Education*, p. 4.
[59] 'College Like Letter "A": £600,000 Building's Tapering Design', *Daily Telegraph*, February 1959. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections)
[60] The college was Exhibit No. 1327. See: *Royal Academy Exhibitors, 1905-1970*, E-LAWL (Calne: Hilmarton Manor Press, 1985), II, p. 89.

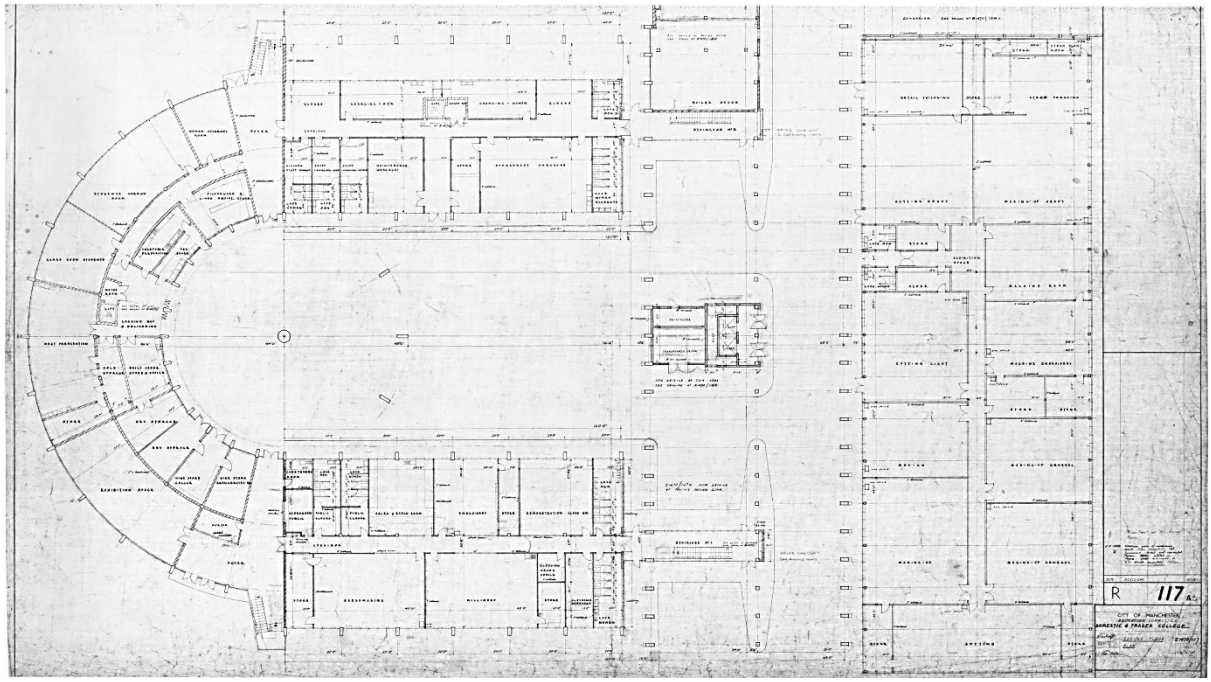

Fig.4.10. Domestic and Trades College: ground floor plan

[Source: Drawing courtesy of Derek Hil A.R.I.B.A.]

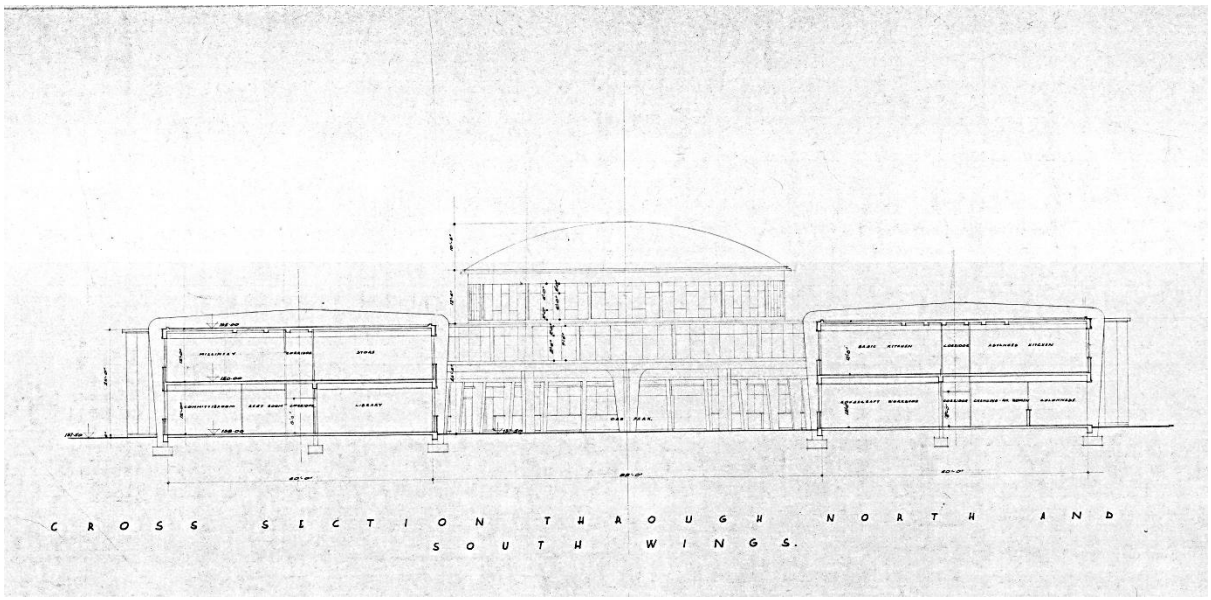

Fig.4.11. Domestic and Trades College: section through administration block

[Source: Drawing courtesy of Derek Hill A.R.I.B.A.]

Construction

Before construction of the college could begin, controversy surrounded the proposed method of heating of the building. The LEA had initially specified coke-fired boilers, but permission was sought to substitute these with an electrical heating system.[61] The 1956 Clean Air Act had been recently introduced, but Manchester Corporation had long been committed to making the city a smokeless zone.[62] With tender returns indicating that the approved budget for the college was already likely to be exceeded by around £20,000, the MoE declined the request. The Corporation offered to pay the estimated £11,000 cost of the system, but the MoE insisted permission would only be granted 'if the additional cost…could be absorbed by the Corporation AND the £20,000 saving asked for [was] met'.[63] Whilst noting 'Manchester's pioneering work in relation to pure air', and reiterating that it was local policy for new buildings to be heated by gas or electric, the Chairman of Manchester's Education Committee announced that the Corporation was not prepared to 'place restrictions on the building of the college'. [64] The status afforded the college at local level was therefore evident, and although it appeared that the Corporation was prepared to compromise on its 'pure air' policy, it was subsequently announced that all coal-fired boilers installed in Corporation premises were to be converted to burn smokeless fuel only.[65]

With an uneasy truce reached, a ceremony took place on the 22nd September, 1958, whereby Sir Edward Boyle, Secretary to the Minister of Education, laid the foundation stone of the new Domestic and Trades College.[66] Although unable to attend the ceremony due to ill health, the occasion was described in one local press report as Miss Holling's '20-year-old dream [come] true'.[67] With J. Gerrard & Sons appointed as general contractor, and L.G. Mouchel & Partners acting as structural consultants, actual construction commenced.[68]

[61] TNA: ED 168-1879. Letter from LEA to MoE, dated 24th April 1958.
[62] See, for example: Ernest Darwin Simon and Marion Fitzgerald, *The Smokeless City* (London: Longmans, Green and Company, 1922).
[63] TNA: ED 168-1879. Letter from LEA to MoE, dated 30th May 1958.
[64] 'Compulsory Coke at College', *The Manchester Guardian*, 15 July 1958, p. 4.
[65] 'Corporation Will Set Example: Using Smokeless Fuels', *The Manchester Guardian*, 21 June 1958, p. 1.
[66] 'Tap - A New College Underway', *Manchester Evening News*, 22 September 1958. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections)
[67] 'A 20-Year Dream Comes True', *Evening Chronicle*, 22 September 1958. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections)
[68] 'Domestic and Trades College, Manchester', *The Builder*, 1958, pp. 900–901. L.G. Mouchel were pioneers in the use of reinforced concrete and are widely credited with introducing reinforced concrete to the UK. See, for example: Adrian Forty, *Concrete and Culture: A Material History* (London: Reaktion Books, 2013), pp. 244–245.

Despite problems such as the discovery of an infilled pond, under the guidance of the site foreman, Frank L. Hunter, progress on site was swift.[69] Sanctioned overtime for labourers meant that the college was completed almost six months ahead of the contract date. Hunter's pride was clear: 'I don't suppose I'll ever work on such a building again. It's had its problems but it's been a wonderful experience watching such a beautiful building taking shape'.[70] It was reported that the college was comprised of '1,000 tons of steel reinforcement [and] 10,000 cubic yards of concrete'.[71] The mushroom-shaped column supporting the assembly hall alone was calculated to weigh 700 tons.[72]

Although construction appears to have progressed without any major problems, there was, reputedly, a dispute between Manchester City Architect's Department and the structural engineers. It is alleged that the architects intended the reinforced-concrete arches of the teaching block to be designed such that when erected, the individual floor plates would be held in suspension from the resulting framework.[73] However, with the engineer supposedly lacking the experience to design such as structure, a compromise was reached whereby a traditional post and beam approach was adopted; the columns were designed to rake inwards whilst the ties beams supported the floor slab of the storey immediately above. A decorative top section added to the final storey completed the illusion of a structural arch: photographs taken during the construction of the college suggest that the top sections could be removed without any detriment to the overall integrity of structure. [Figs.4.12-4.15] Although the building may not be as structurally innovative as first appearances suggest, the adopted solution was less costly.[74]

[69] 'Toastrack Opens Up', *Evening Chronicle*, 14 September 1960. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections) The infilled pond is noted in: 'Way to Save £1,200: Visit to Building Sites', *The Manchester Guardian*, 17 May 1958, p. 12.
[70] 'Toastrack Opens Up', *Evening Chronicle*, 14 September 1960. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections)
[71] Ibid. In metric this is approximately 1,016 tonnes of reinforced steel and 7,645 cubic metres of concrete.
[72] 'Gives You A Crane's Eye View', *Manchester Evening News*, 11 August 1959. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections). In metric this is approximately 711 tonnes.
[73] This information was recounted by Derek Hill in a series of informal conversations held with the author in 2013, and is corroborated by the typed testimony of Imre Burjan, a junior member of the design team, received in October 2013. Both cite the work of renowned Italian engineer Pier Luigi Nervi as being influential in design of the Domestic and Trades College.
[74] Ibid.

Fig.4.12. Domestic and Trades College under construction 1: teaching block on the right

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m42192.]

Fig.4.13. Domestic and Trades College under construction 2: post and beam construction evident

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m42193.]

Fig.4.14. Domestic and Trades College under construction 3: 'decorative top sections added'

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m42194.]

Fig.4.15. Domestic and Trades College (1960): as viewed from Old Hall Lane

[Source: Photograph copyright of Manchester Libraries, Information and Archives, GB127. m42195.]

Critical Reception

Prior to construction, Lady Simon of Wythenshawe had opined: 'This college cannot be called dull or conventional and it may give a lead to architecture in the city.'[75] But despite the timely completion of the building, the MoE remained unhappy with its overall cost. Savings previously requested had not been met: 'the [A&B Branch] architects had always had very considerable doubt as to whether this college could be built within costs limits, partly on account of excess planned areas and partly because of the plan itself and the type of construction'.[76] Having failed to keep within the cost limits, the MoE reported, 'there [are] no mitigating circumstances – we were at great pains to bring home to the [LEA] each point that troubled us, each risk they were taking. The result must be entirely on their heads, because they acted quite irresponsibly'.[77]

Regardless, on 14th September 1960 as staff took occupancy of the building for the first time, it was reported: 'Manchester today added a Toastrack and a Poached Egg to its architectural features'.[78] Locally, the distinct form of the teaching block had been dubbed the 'toastrack', whilst the circular assembly hall seemed to nestle up to it 'like a poached egg'.[79] Two week later, having recovered sufficiently from her illness, Miss Hollings welcomed the first student intake.[80] It was hoped that the college would eventually accommodate 3,000 part-time and full-time students albeit only 800 students would use the building at any one time.[81] Indeed, within a year of opening the college had enrolled 2,700 students, and the catering department's restaurant was so popular with the general public that bookings had to be made in advance; equally popular were the cut-price professional treatments offered by the hairdressing department. [82] And despite the misgivings of the MoE, the college received positive coverage in the international press, appearing in publications such as *The Tanganyika Star*, *Construction (Australia)*, and *Taifa Uganda*.[83]

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[75] 'New Note in Architecture: Plan for City's Domestic College', *The Manchester Guardian*, 21 January 1958, p. 14.
[76] TNA: ED 168-1901. Minutes of MoE meeting, dated 13th July 1960.
[77] TNA: ED 168-1879. MoE minute sheet, dated 22nd August 1960.
[78] 'Toastrack Opens Up', *Evening Chronicle*, 14 September 1960. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections)
[79] 'New College Nearly Ready: A Unique Essay in Architecture', *The Guardian*, 15 June 1960, p. 28.
[80] 'Crash-Bang Term Start', *Manchester Evening News*, 27 September 1960. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections). In recognition of her efforts, Miss Hollings was awarded the Order of British Empire in January, 1960 – see 'Obituary: Miss E.M. Hollings', *The Guardian*, 5 July 1962, p. 18.
[81] 'Crash-Bang Term Start'. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections)
[82] 'The "Toastrack" and "Poached Egg" Gives You...A Shampoo and Set for 1s', *Daily Telegraph*, 19 January 1961. (Uncatalogued press clippings: Manchester Metropolitan University Special Collections)
[83] Untitled, *The Tanganyika Star*, 15th November 1960; 'Futuristic New British School', *Construction (Australia),* 23rd November 1960; 'Bold Design for New College', *Taifa Uganda,* 27th November, 1960. (Press clippings: Manchester Metropolitan University Special Collections)

Invariably describing the college as a 'striking example of modern architecture', the uniformity of these reports are suggestive, however, of an official press release. In Britain, meanwhile, the design continued to split opinion. In declining an invitation to open the college, Prime Minister Harold Macmillan observed, 'the building certainly seems to have been imaginatively planned. The design is striking'.[84] One local councillor, however, described the college as disastrous: 'The circular shape of the kitchens is very unsuitable. There is a problem of fitting in equipment. I also don't like the circular assembly hall'.[85]

On 8th March 1962, at a ceremony attended by Princess Margaret, a plaque was unveiled to mark the formal opening of the college. Once again, Miss Hollings was unable to attend having again succumbed to illness. Soon after, it was revealed that she had been suffering with cancer and had died. In the Guardian newspaper obituary that followed, Lady Simon of Wythenshawe described Miss Hollings as 'the guiding spirit of all the arrangement…made for the design of the new college.' In 1964, the Domestic and Trades College was renamed The Hollings College for the Food and Fashion Industries in her memory. [Fig.4.16]

Fig.4.16. Postcard showing aerial view of Hollings College

[Source: Postcard copyright of Airviews (M/c.) Ltd, Manchester Airport, Ref: Manchester 22.]

[84] Harold Macmillan, as quoted in: TNA: ED 168-1879. Letter from Macmillan to Lord Mayor of Manchester, dated 8th January 1961;
[85] Dr Kathleen Ollerenshaw, local councillor for Rusholme (1956-81) and future Lord Mayor of Manchester, as quoted in: '"Disastrous" Designs', *The Guardian*, 26 September 1961, p. 17.

Continuity and Change

It had been the wishes of Miss Hollings that one day the college would focus entirely on advanced studies.[86] Under the guidance of the new college Principal, Mr R.M. Wall, this became a reality. With the introduction of the 1965 Industrial Training Act, an initiative aimed at encouraging employers to send existing employees for further training, over 4,500 visitors attended the college open day that year.[87] Specialisation of available courses strengthened the reputation the college. In view of new developing technologies and trends, for example, further attention given to frozen food production and utilisation.[88] In 1971, having received official recognition as a Regional Advanced Centre for catering, clothing, and food, the college looked to forge closer ties with Manchester Polytechnic.[89] The polytechnic had been created just one year earlier following the merger of the College of Art and Design, the College of Commerce, and John Dalton College of Technology.[90] (See Case Study 3 pp. 100-111) Accordingly, in 1977 Hollings College and Didsbury College of Education merged with Manchester Polytechnic.[91] Hollings College became Hollings Faculty.

In 1992, as polytechnics across England were afforded university status, Hollings Faculty became part of the newly-recognised Manchester Metropolitan University (MMU).[92] As such, it was eligible for funding made available consequent to a report which recommended that facilities within higher education organisations such as libraries should be improved.[93] Hollings Faculty, successful in their application for funding, proposed to build a new library and study area in place of the old assembly hall.[94] However, the presence of asbestos and the fact that the hall was structurally integrated with the enveloping restaurant building made demolition awkward. A scheme prepared by a local firm of architects, Mills Beaumont Leavey Channon (MBLC), proposed converting the existing first floor assembly hall and adding a further two storeys above within the existing footprint.[95] [Figs.4.17-4.20]

[86] Egerton, p. 38.
[87] Ibid, p. 56.
[88] Ibid, p. 53. The popularisation of frozen food technologies in the post-war period is discussed in: R.W. Welch and P.C. Mitchell, 'Food Processing: A Century of Change', *British Medical Bulletin*, 56 (2000), pp. 1–17.
[89] Egerton, pp. 53 & 58.
[90] Fowler and Wyke, pp. 115–120.
[91] Ibid, p. 127.
[92] Ibid, p. 226.
[93] 1993 Follet Report. See, for example: Brian Edwards and Biddy Fisher, *Libraries and Learning Resource Centres* (London: Routledge, 2002), p. 162.
[94] 'Pinky and Perky', *RIBA Journal*, 1996, 28–35.
[95] Ibid.

Fig.4.17. Hollings Faculty: original assembly hall

[Source: Photograph copyright of Manchester Metropolitan University Special Collections, uncatalogued.]

Fig.4.18. Hollings Faculty: assembly hall removed (first floor slab revealed)

[Source: Photograph copyright of Manchester Metropolitan University Special Collections, uncatalogued.]

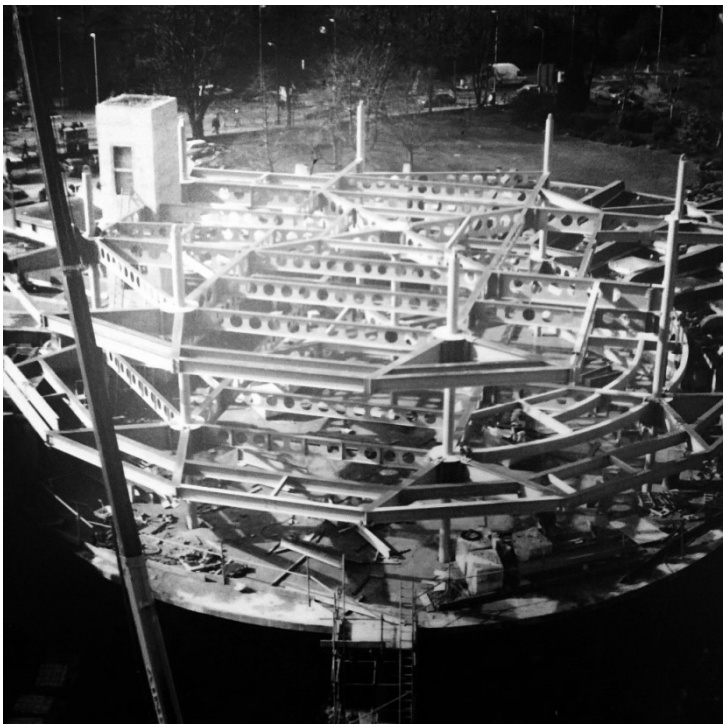

Fig.4.19. Hollings Faculty: erection of steelwork for new library

[Source: Photograph copyright of Manchester Metropolitan University Special Collections, uncatalogued.]

Fig.4.20. Hollings Faculty: new library nearing completion

[Source: Photograph copyright of Manchester Metropolitan University Special Collections, uncatalogued.]

In providing additional study space and library accommodation, MBLC emphasised the circular nature of its form by omitting intrusive central support columns.[96] Lattice beams, arranged like the spokes of a bicycle wheel, transferred the weight of the aluminium standing seam roof to a series of steel columns nominally offset from the interior of the perimeter wall. [Fig.4.21]

Fig.4.21. Hollings Faculty: interior of new library (1996) by MBLC

[Source: Author's own image.]

Externally, terracotta coloured render on insulated board and aluminium-framed glazing enclosed the space. Natural lighting within the study space was enhanced on the third floor with the introduction of clerestory glazing below the canted roof. Completed in 1996, the scheme was generally considered a success, although the architects complained that the book shelves were too high to allow a proper appreciation of the circular form.[97]

[96] Ibid.
[97] Ibid.

'Oh crumbs…Manchester Metropolitan students bid farewell to the Toast Rack'[98]

The headline above which appeared in a local newspaper on 21st June 2013, confirmed that after over 52 years, Hollings Faculty was to close. MMU have since vacated the building as part of a major restructuring programme that will see the university consolidate all operations at its All Saints campus and Birley Fields campus. Today, the building stands empty whilst the academic activities of Hollings Faculty continue at the Righton Building, All Saints campus. Although Grade II listed by English Heritage in 1998, the future of the old college building is uncertain.[99] [Fig.4.22]

Fig.4.22. Manchester Metropolitan University, Hollings Campus: vacated in June 2013

[Source: Author's own image.]

The demolition of Openshaw Technical College, Wythenshawe College of Further Education, and Manchester College Building, along with substantial alterations to John Dalton College of Technology, means that the Domestic and Trades College is the only technical college built pursuant to the 1956 White Paper on Technical Education to survive mostly intact. At the time of writing, it is understood the building and its site will soon fall into the hands of private developer, although its listed status may afford it some protection.

[98] 'Oh, Crumbs... Manchester Metropolitan Students Bid a Sad Farewell to Toast Rack', *Manchester Evening News*, 21 June 2013, p. 7.
[99] See The National Heritage List for England, 'Hollings Building at Manchester Metropolitan University' (English Heritage), List Entry Number: 1119722. Available at: <www.list.english-heritage.org.uk/resultsingle.aspx?uid=1119722> [accessed 01/09/14]

Conclusion: Architecture Through the Lens of Regionality

'…just a functional structure built in a different shape, complying to 1950-1960s building requirements and for a cost the town could afford…a new form of educational building, but no more'.[1]

The above quote is how one former member of the design team responsible for the Domestic and Trades College, Imre Burjan, rather humbly described his response to the news that the building had, in 1998, been granted Grade II-listed status. Whilst these were not official reasons offered by English Heritage – the listing suggests, for example, that the building was demonstrable of L.C. Howitt's 'love of structural gymnastics' - it is precisely the combination of social and economic factors he described that make the building known locally as The Toastrack historically important and exemplary of its type in Manchester and, perhaps, nationally.[2]

As we have seen**,** architectural narratives of the twentieth century have been overly concerned with conceptualised notions of modernity. This has resulted in the privileging of certain architects and buildings. In Britain, geopolitical circumstances saw the architecture of the emergent British Modern Movement of the interwar years redefined to represent the continuity of a native design tradition; this in order to obfuscate its German influence. However, the German influence it sought to deny, specifically that of the Deutscher Werkbund and the Bauhaus, was merely one concerned with fusing the skills of the artisan with that of industrialisation for the betterment of society.

Meanwhile, modernist architectural manifestos of the interwar years, such as those produced by Hitchcock and Johnson, Le Corbusier, and Giedeon, celebrated the universality of the new architecture whilst reinforcing the idea of the historic styles as unmodern and nationalistic. The outbreak of the Second World War, followed by collapse of the League of Nations, saw such manifestos being rethought. Regionalism - the ability of the new architecture to embody national

[1] 'Recollections of The Design of Hollings College', written testimony of Imre Burjan to the author, dated October 2013.

[2] See The National Heritage List for England, 'Hollings Building at Manchester Metropolitan University' (English Heritage), List Entry Number: 1119722. Available at: <www.list.english-heritage.org.uk/resultsingle.aspx?uid=1119722> [accessed 01/09/14] Although English Heritage's listing cites L.C. Howitt as the architect, but the structure of Manchester City Architect's Department was such that Howitt was unlikely to have been involved in the design or construction of the building. This is further evidence by his absence from existing correspondence, and the testimony of those surviving former-staff members.

identity - came to dominate post-war architectural debates: Giedeon's rehabilitation of Alvar Aalto as a master of Modernism was indicative of a willingness to re-embrace the vernacular. Championed by architect and critic alike, the interwar work of architects such as Aalto and Gunnar Asplund, therefore, influenced the buildings of the 1951 Festival of Britain. For many of those who attended the Festival, this was their first experience of a modern architecture. But the Nordic provenance of what they saw was not apparent. What is apparent today, however, is that whilst the buildings of the Festival reflected contemporary debates pertaining to regionalism, they did not typify the architecture of post-war reconstruction in Britain.

Post-war Reconstruction and Industrialisation

The move towards an industrialised architecture, which began in the interwar years, did not cease with the outbreak of the Second World War but, in fact, continued throughout its duration. From the mass production of temporary structures, such as mobile army barracks, to the development and application of new materials to replace those more expensive and scarce, the new architecture evolved whilst its practitioners, called up to assist the war effort, honed their skills and considered the possibilities it offered for post-war reconstruction. Just as technology and industry had combined in response to the war effort, continued economic difficulties and material shortages meant both played a key role in meeting post-war societal needs. Hence, the architecture of British post-war reconstruction can be seen to closely cohere with its German antecedent in the utilisation of industrial methods and new technologies.

The relationship between technology and industry, and its importance to British society and the nation's economy, was not just a post-war concern however, and can be traced back to the Great Exhibition of 1851. Historically, underpinning this relationship was the role of education. For over one hundred years, successive national legislative acts and policy documents, frequently gestated at a locally level, aimed at bringing industry and education together to improve technical expertise. BB No.5 and the post-war technical colleges defined therein was the apogee of this endeavour. Written under the guidance of Stirrat Johnson Marshall - an architect strongly influenced by Gropius and, due to his own wartime experiences, understood implicitly the benefits of mass production and the utilisation of new technologies – this document and the design approach advocated within, allowed for the rapid expansion of the further education sector against a backdrop of limited finance and material shortages. Arguably, this was critical to the subsequent expansion of higher technological education in British universities.

The post-war technical college, therefore, can be interpreted as an expression of the contemporary socio-economic importance of manufacturing in Britain. But whilst nationally significant, the post-technical college was often, though not always, purposely embedded within local plans for reconstruction. Typically, such plans were formulated at a time when LEAs were required to submit their proposals for further education to the MoE. Accordingly, it was logical that the post-war technical college should be made integral with wider city planning. Sometimes, planned local infrastructure projects influenced design and siting, as was the case with Rutherford College of Technology in Newcastle, or, as seen with Sheffield Technical College, they were planned to relate with major civic buildings. Hence, the post-war technical college can also be understood as an expression of local civic endeavour. Characterised by a clear relationship with local industry, the post-war technical colleges reflected local aspirations in a period which witnessed the re-emergence of a strong municipal culture and an associated civic pride; this underpinned by the post-war consensus.

A New Building Type

Whereas earlier educational institutes were often housed in makeshift accommodation, or otherwise occupied monumental building not necessarily well-suited to their purpose, the form of the post-war technical college was defined by its intended functions. These were identified in BB No.5 and included a workshop block, a teaching block, and an administration block. These components, it recommended, should be arranged according to acoustic need with communal facilities such as dining halls and gymnasia deployed as a sound buffer between quiet study space and workshops. This segregation of function aided the phased construction of what were, by necessity, large and complex buildings. Building in instalments, in the manner defined by BB No.5, was a phenomenon peculiar to the construction of the post-war technical college. And whilst symptomatic of the prevailing shortages in finance and materials, also contributed in influencing the plan layout and overall built form.

Another significant factor influencing layout and form was siting. When identifying sites for post-war technical colleges, ease of access to good public transport and a relationship with local industry privileged urban and city-centre locations. In this way, pre-existing physical infrastructure can be seen to have impacted up the design of the post-war technical college. These sites were usually restricted in area, thus multi-storey teaching blocks were preferable: to avoid the unnecessary expense of temporary roofing arrangements between instalments, BB No.

5 dictated that a teaching block must be erected to its full height with future expansion being sideways not vertical. Expansion of the workshop block was simpler: usually isolated from the teaching block due to the noise inherent with its function, the workshop block was typically single-storey owing to the requirement for natural daylight; a need almost uniformly satisfied by the installation of north-facing roof lights. Being single-storey meant that a gable wall could be easily removed, and additional bays of workshop accommodation later added. Redolent of the tower-on-podium relationship of much post-war commercial architecture, the juxtaposition of the multi-storey teaching block and single-storey workshop block is a strong identifying characteristic of the post-war technical college.

Whilst BB No.5 played an important role in formalising the typology of these buildings, it is the interplay between such nationally prescribed documents and those local conditions described above that render a better understanding of the individual buildings. The close reading of local conditions in order to understand a building is an approach termed in this thesis as regionality. This approach differs with the concept of regionalism in which buildings are viewed within the context of a modern vernacular, and with more traditional architectural readings which focus exclusively on work of individual architects and certain building. Regionality can offer a more textured understanding of buildings and potentially greater insight into their design – insights which today's less municipally-organised society, or architectural historians who remain aloof to political, social and economic concerns, may fail to read or understand. And whereby focussing on individual architects and their building can limit understanding, regionality broadens the scope of what may be regarded as worthwhile research and, hence, offers a legitimate means of assessing a building's architectural interest.

Regionality and Manchester's Post-war Technical Colleges

In the instance of Manchester's post-war technical colleges, whilst a consequence of national policy, the function and location of those buildings erected reflected local priorities which were often historically entrenched. Aimed at supporting local industry, Manchester's first post-war technical college was located in Openshaw, an area to the east of the city-centre which had been dominated by heavy industry since the 1870s; an industry which by the 1950s was central to the economic prosperity of Manchester. Dedicated to engineering studies, Openshaw Technical College may have been erected in accordance with contemporary national policy, but its function and location was locally determined.

Similarly, with post-war reconstruction and its attendant demand for labour requiring the training of building apprentices, Manchester's second post-war technical college was a building trades college. However, the need for such a facility in Ancoats can be traced back to the area's establishment as the world's first industrial suburb in the early nineteenth century: a rapidly erected housing stock was mostly occupied by poverty-stricken migrant Catholic Irish and Italians, many of whom were employed as day labours in the building trade.[3] The founding of the Manchester Day Industrial School in 1889, later becoming the Mill Street for Building Trades, brought both labourers and educationists together to make Ancoats the traditional home of building trades instruction in Manchester. Only the intervention of other local concerns prevented Manchester College of Building, built to replace the Mill Street School for Building Trades, from being erected in the area.

With regard to Manchester's other post-technical colleges, Wythenshawe College of Further Education was contingent upon industry became established in the city's interwar 'garden town' and, when finally built, taught a curriculum which acknowledged the nature of that industry – namely light engineering; Domestic and Trades College was a response to the post-war diversification of local industry, and consolidated the activities of its predecessor institutes within the same locale; whilst John Dalton College of Technology was built as a direct consequence of the Municipal College of Technology's elevation to university status and Manchester Corporation's desire to have a centrally-located municipal technical college.

Whilst the function and location of these colleges was clearly determined at a local level, their design was, nonetheless, informed by BB No.5 although, in practice, application of those principles described above was more successful with Manchester's later technical colleges. Early examples, including Openshaw Technical College and Manchester College of Building, were constructed in instalments and, in their final execution, this was all too apparent. Both colleges were disjointed in layout and aesthetically inconsistent having adopted varying forms of construction from one instalment to the next. Whilst this is possibly suggestive of a disparity between the ambition of the LEA and the resources available to the MOE, it may also be held as criticism of the architects: only when allowed to build 'complete colleges' did Manchester City Architect's Department's designs achieve the level of coherence that BB No.5 aimed at. Wythenshawe College of Further Education successfully related the main components of the post-war technical college in its plan layout, but was constructed at a time when, following the relaxation of building controls, traditional construction methods had begun to re-emerge;

[3] Kidd, p. 122.

Domestic & Trades College adopted a similar layout, but utilised modern building techniques and materials to produce a visually distinctive building in the suburb; and whilst aesthetically more conservative than Domestic and Trades College, John Dalton College of Technology combined aspect of both the aforementioned colleges with building materials chosen to 'maintain simplicity of style'.[4] In making John Dalton College of Technology less bespoke, it can be conjectured that the long-term use and possible future adaptation of the building was of some concern to Manchester Corporation: this college is the only building covered in this thesis to be erected by Manchester City Architect's Department following a 1961 re-structure which was intended to produce more efficient planning and tighter economic controls.[5] A comparison of those colleges erected in Manchester outside of the period defined in this thesis, such as St. John's College for Further Education and College of Commerce could potentially reveal further locally-driven design mitigation.

Beyond the relative architectural merits of Manchester's individual post-war technical colleges, and to fully appreciate their social and cultural value, the buildings must be read as a collective body of work and with reference to the Municipal College of Technology. Whilst the elevation of the Municipal College of Technology to university status in 1956 came as national policy promoted the development of higher technological education outside London, Manchester's LEA had already formulated a strategy aimed at establishing the college as the region's foremost technical institute. This strategy, part of the LEA's 1949 scheme, involved the transfer of elementary courses from the Municipal College of Technology to newly created technical institutes. This required a co-ordinated approach only made possible by strong municipal governance; whilst this was the case in Manchester, it is a matter for further investigation as to whether such a co-ordinated approach was adopted by other LEAs.

In considering Manchester's post-war technical colleges as a collective body of work, a shift in the type of education provided can also be observed; one that reflected the changing nature of industry in the city. Whilst Openshaw Technical College and Manchester College of Building, and to a lesser extent Wythenshawe College of Further Education, offered curriculums which were largely vocational, the establishment of Domestic and Trades College was indicative of the emerging service sector whilst John Dalton College of Technology, erected in the 'white heat' of Harold Wilson's technological revolution, was focussed upon advanced technologies. It is interesting to note that those colleges with a more vocational outlook have not survived, but

[4] *John Dalton College of Technology: Programme of the Official Opening*, p. 4.
[5] 'Manchester City Architect's Department: Management and Planning Following Reorganisation'.

Domestic and Trades College and John Dalton College of Technology both became faculties of Manchester Polytechnic, now Manchester Metropolitan University.

Future Evaluation

Since the decline of manufacturing in Britain, the post-war technical college has faced an uncertain future. The circumstance which gave rise to their creation is now history. Some persist as colleges of further education, their workshops converted or demolished. Others, as mentioned above have been absorbed by universities. However, with moves to rationalise property portfolios in the face of the energy efficiency agenda and the global expansion of the universities, those that remain are under an increasing threat of demolition. This thesis does not dwell on the individual architects responsible although notable architects such Frederick Gibberd, Lyons Israel Ellis, and Gollins Melvin Ward & Partners, to name but a few, were engaged in their design and construction in Britain. Neither has the manifestation of such buildings in other manufacturing nations been explored. However, if examples of this British post-war building type are to survive, an alternative reassessment of their architectural value is required. Architects are important, but equally so are the social and economic aspirations that buildings can embody. Design is a collaborative process undertaken in response to a specific set of circumstances in a given location. This thesis has aptly demonstrated just how legislation, building codes, and municipal and national aspirations can combine to become an active part of an architectural narrative. Whilst Modernism in architecture remains an intellectually rich focus of study, only in acknowledging the role and impact of such factors can a more comprehensive understanding of the built environment be reached.

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