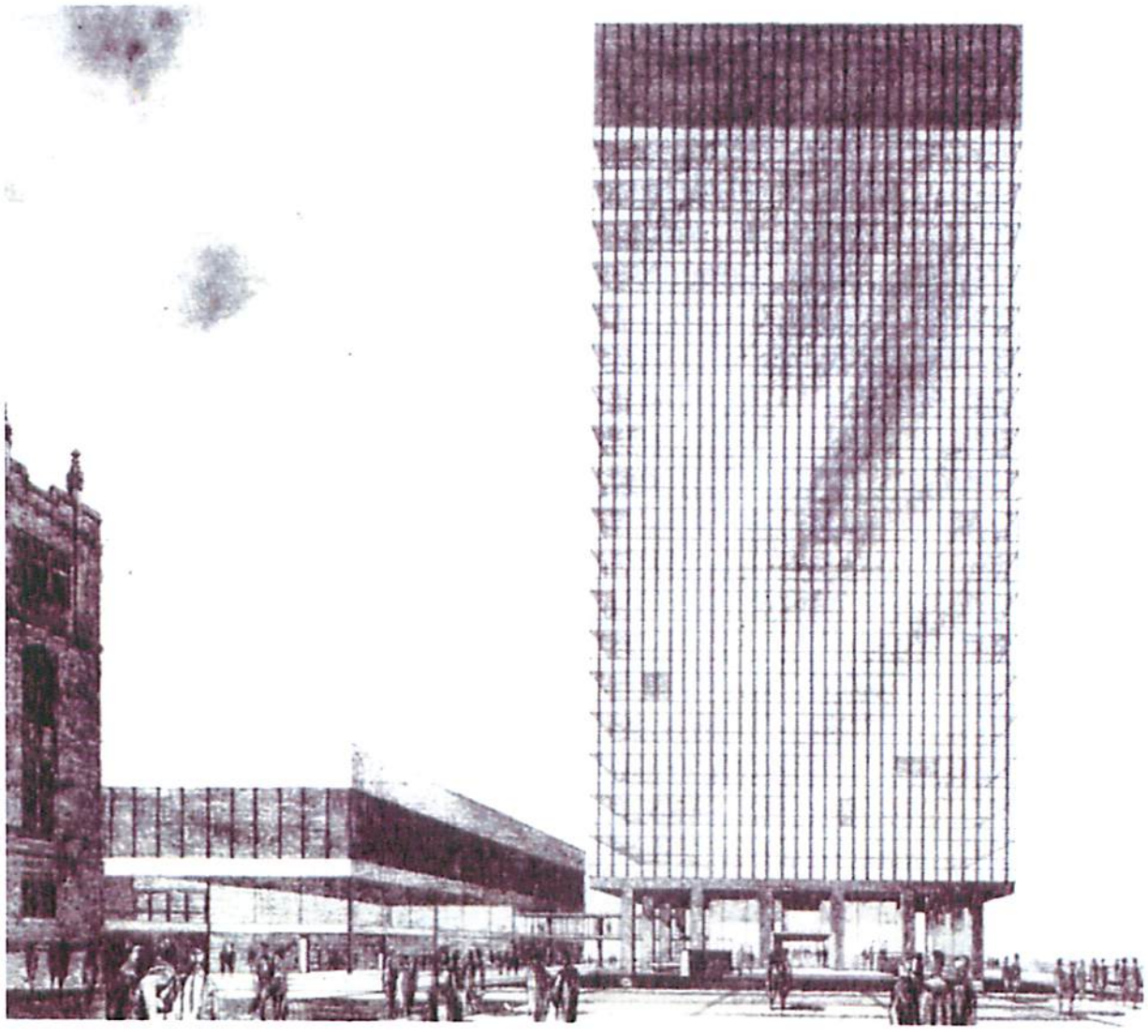
The University Of Sheffield



The Arts Tower and Main Library Conservation Plan

avanti architects

Part Draft 2- 23rd November 2007

NOTE

THIS IS A PARTIAL DRAFT OF THE CONSERVATION PLAN, AND WILL BE EXPANDED TO INCLUDE FURTHER MATERIAL, ILLUSTRATIONS, ETC IN SUBSEQUENT ISSUES.

Avanti Architects Ltd 23rd November 2007

Contents

Introduction, Scope and Methodology

This document has been prepared by Avanti Architects Ltd to the commission of the Department of Estates, the University of Sheffield, and seeks to identify the key conservation issues in relation to the Arts Tower and Main Library, both listed buildings, in order to assist in finding the optimum balance between the need for an upgraded and sustainable facility for the future and the obligation to respect the character of the buildings as designated heritage assets.

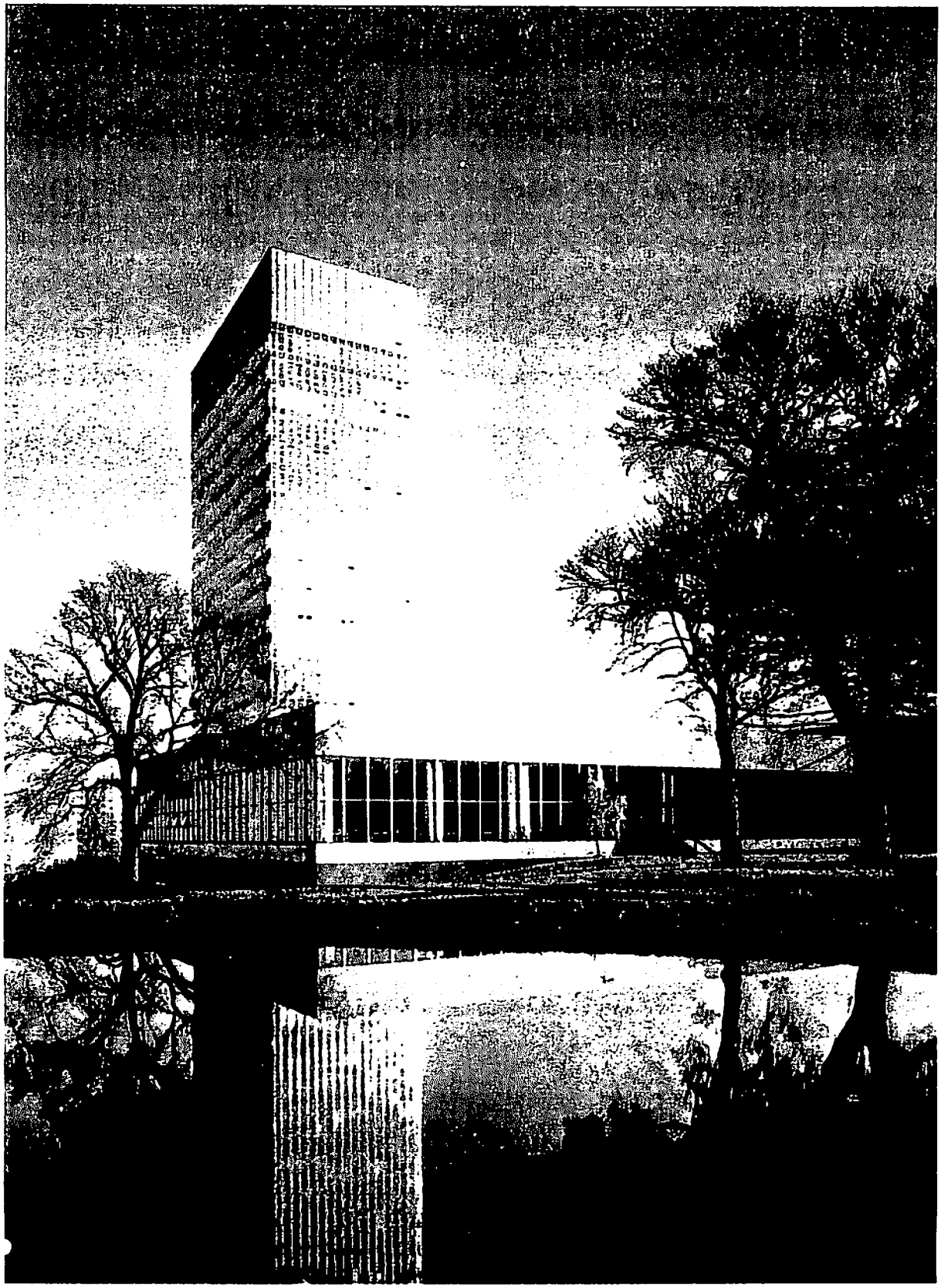
It is well understood by the University and those involved in developing proposals for The Arts Tower's refurbishment and regeneration that since it is a Grade II* listed building there are certain obligations and responsibilities that would not apply to a new-build redevelopment or the refurbishment of an unlisted structure. The cornerstone of good conservation practice is the injunction to study and understand the 'heritage asset' in order to identify the reasons for its significance and thereby establish a plan, or series of 'policies', that may be used to safeguard that significance and at the same time inform and evaluate proposals for any works to repair, alter or extend the fabric in terms of their impact on that significance. The document should also inform the subsequent use of the building providing a framework of guidance for control and management.

Such a plan, usually termed a 'Conservation Plan', should be regarded as an independent document and be 'scheme neutral' in respect of any specific proposals that might be in development concurrently or anticipated in the future. The preparation of the Plan in this instance has been undertaken by Avanti Architects as an independent consultant. It should thereby be capable of being used as a tool against which to audit the appropriateness of any particular design proposals or scheme iteration.

It should not however be supposed that conservation and change are incompatible, and it is a key part of formulating any Conservation Plan to prioritize factors contributing to the asset's significance, so that the process of change, which is also a function of sustainability, can then be managed systematically and sympathetically without detriment to the essential character of the asset itself.

Consideration of the conservation objectives in the case of this project has been undertaken in parallel with the development of proposals by others for the regeneration of The Arts Tower and the authors of the Conservation Plan have accordingly sought to provide guidance separately from the evolving Conservation Plan to assist the designers in the formulation of the refurbishment designs.

Reference has been made to best practice guidance and standard texts in the field, including 'The Conservation Plan', by James Semple Kerr; 'Conservation Plans', and 'Informed Conservation' by Kate Clark, English Heritage, The Burra Charter, ICOMOS, Australia; 'Conservation of Historic Buildings' 3rd Edition, by Sir Bernard Fielden; 'Conservation Principles – Policies and Guidance', English Heritage, and of course Planning Policy Guidance : Planning and The Historic Environment (PPG 15) as amended by 'Revisions to Principles of Selection for Listed Buildings', Dept for Communities & Local Government, 8th March 2007.



The Arts Tower and Library, view from Weston Park, c.1965 (Photo Henk Snoek)

Historical Synopsis

Development of the University of Sheffield

The proud history of the origins and development of the University of Sheffield, one of the first 'civic universities' of the early 20th century, has been fully chronicled in the recent book by Helen Mathers 'Steel City Scholars' (James & James 2005) published to mark the University's centenary. From the early genesis of the institution in the late 19th century, this account narrates the formative years of the first half of the twentieth century and then proceeds to chart the surge of new development that began to transform the University from the mid 1950s. It is at that important point of departure that this study begins.

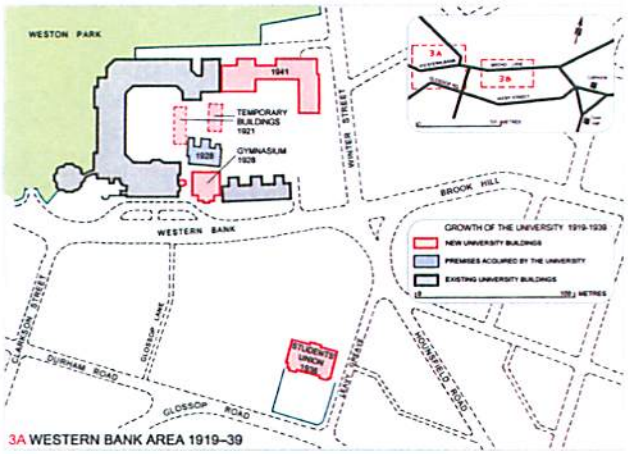
Rising provision of higher education opportunities to meet the demand from a new generation of beneficiaries of the 1944 Education Act was exerting pressure for expansion on universities across the whole country. In Sheffield's case, the development programme that emerged from the masterplan and buildings of Gollins Melvin Ward & Partners (GMW) - including the new Library and the Arts Tower, the subjects of this study - may be regarded as the most significant products of this pivotal and dynamic period.

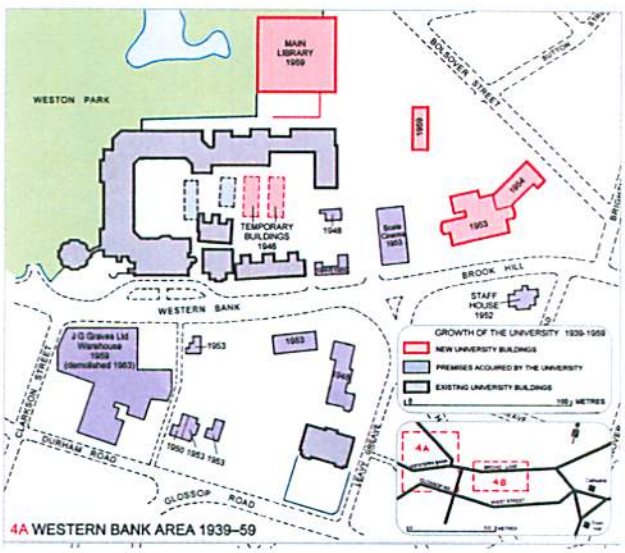
The City of Sheffield itself had embarked on the post-war task of reconstruction and modernization with conspicuous vigour. Some of its early housing projects – Gleadless, Netherthorpe, Park Hill, of which the latter was destined to become the best known - were changing the city and its skyline and attracting international attention, and were paralleled by major infrastructure works, including the urban motorway, Castle Market, the celebrated 'Hole-in-the Ground', and prominent modern buildings like the College of Technology by GMW and Coles Brothers Department Store by YRM, confidently confronting the City Hall by Vincent Harris . The image of Sheffield as it entered the 1960s was of an engineering and technology-led city with institutions that were facing forwards and forging ahead.

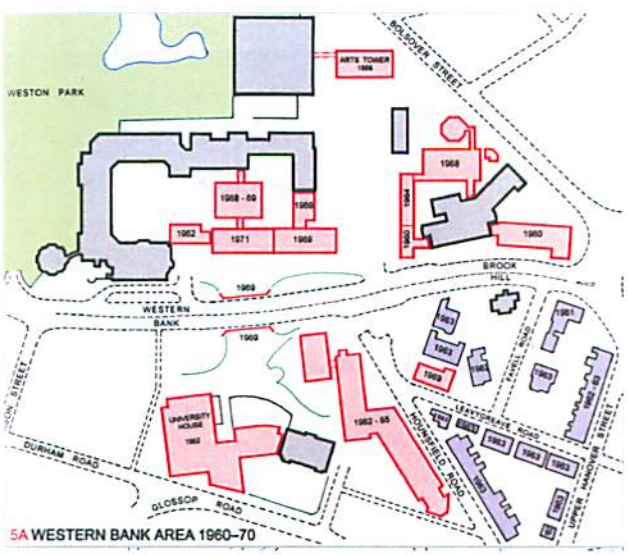
Location and urban context

Although the University has been accommodated on various sites and in many different properties around Sheffield during its century of development, the principal centre of gravity was consolidated on the rising ground adjacent Weston Park on the western slopes of the city. This was a propitious location, being adjacent recreational parkland and the Mappin Gallery while still close to the city centre and at the same time raised well above the industrial tracts of the Don Valley and away from the 'satanic mills' of Tinsley and Rotherham on the north east. The buildings with which this study is concerned were closely influenced by, and would seek to take full advantage of, this commanding position.

Prior to the major developments of the late 1950s and 60s the kernel of the University was the quadrangle around Firth Court – a handsome redbrick complex of buildings in a late Victorian neo-Gothic style. With the arrival of the post-war phase of development this traditional image of the University was to change decisively. A key precondition of assembling the site for the eventual Library and Arts Tower ensemble was the closure of Winter Street which hitherto had effectively formed the eastern boundary of the original quadrangle of University buildings, centered on Firth Court.







Sequential plans of development of the Western Bank hub
(Source: Helen Mathers, op.cit)

This released a generous, albeit significantly sloping, triangle of land stretching east from the existing University's redbrick core which together with Weston Park itself formed the plot's western edge, the other two sides being contained by Bolsover Street and Brook Hill. In this complex but not unpromising context it was clear that the key to a successful solution would be the establishment of meaningful and cohering relationships with the existing core and park to the west, and also with the growing hub of further University buildings on the other side of Western Bank.

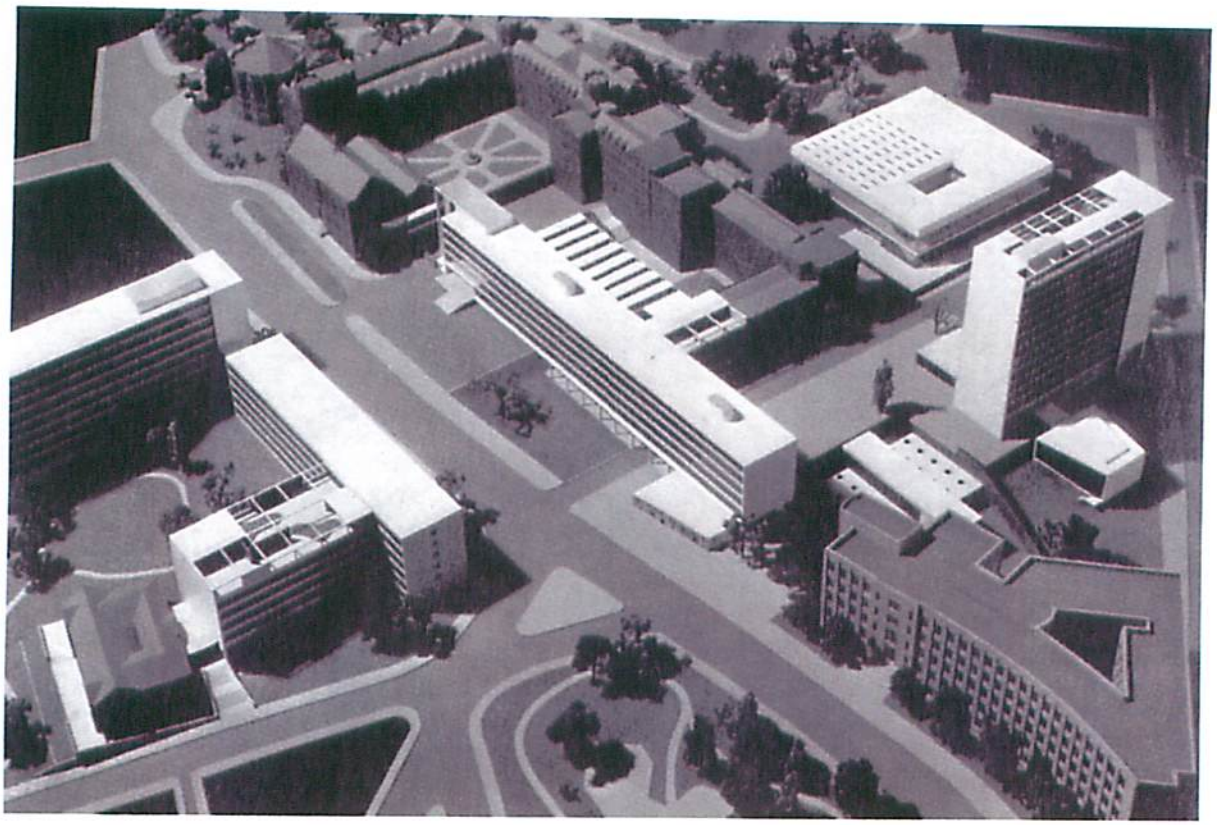
Client/competition brief

Whilst major higher education building developments - including the construction of seven completely new universities - would be initiated all across the UK in the 1960s, Sheffield was unusual in preparing for its expansion by holding an international architectural competition in 1953. The original Edgar Allen Library, a characterful polygonal brick pavilion, had become 'hopelessly inadequate' even by 1930 and the provision of a first-class modern library was a key priority in the new development plan that was conceived in the early 1950s. Equally pressing was the need for new students' union facilities and a major expansion in the arts and humanities accommodation. These together with a new administration and science studies block were the key ingredients of the eventual complex of buildings that now form the heart of the University on either side of Western Bank, the major east-west road that bisects the institutional campus.

Dr Gerard Young, Chairman of the Buildings Committee, proposed a competition to establish the plan for the new development and deans of every faculty were instructed to prepare their specifications. Architectural competitions as a means of attracting new talent and producing fresh ideas had resumed after the war with several high profile schemes, such as Churchill Gardens, Golden Lane and Coventry Cathedral – all of which would establish their respective winning architects as prominent post-war practices. But the opportunity at Sheffield was the first of its type involving a major university campus. This attracted 99 entries including many notable architects of the oncoming generation such as James Stirling, the Smithsons, Colin St John Wilson. Even Berthold Lubetkin, the leading figure of the previous generation of modernists, submitted a scheme.

Although the Smithson's talent for self-promotion ensured their proposal gained the most conspicuous and enduring publicity, it was evidently not what the University was looking for. The winning entry by the young firm of Gollins Melvin Ward & Partners proposed a grand vision for the whole university area – the centerpiece consisting of a broad plaza or university court around which were placed respectively the new library, a 13 storey arts tower block and a long slab block running alongside Western Bank and raised on pilotis to provide pedestrian linkage with the other facilities, including the new students' union across the road.

The disposition of buildings in the competition scheme, while not formal in the sense of axial alignments, immediately made sense of the otherwise fragmentary pre-existing elements of the campus and adopting the orthogonal geometry of the original Firth Hall quadrangle bedded the new ensemble firmly into its surroundings. What was more, the bold use of a tower block anchoring the composition (though at this stage only 13 storeys high) provided an urban landmark and a beacon for the University that would be visible from many viewpoints across the city.



Gollins Melvin Ward's winning competition entry, 1953

Seagram Building, New York.
1958 Mies van der Rohe

Lever House, New York
Skidmore, Owings & Merrill, 1959-62

Although the concept was to evolve significantly in its ensuing design development (see below), there is no doubt that the scheme proposed by Gollins Melvin & Ward intended, and largely achieved, a grand vision for the University that has determined its character ever since. (For details of the competition and evolution of the design, see Tatjana Schneider, op.cit.)

Gollins Melvin Ward & Partners

The partnership of Frank Gollins (b.1910), James Melvin (b.1912) and Edmund Ward (b.1912) was formed in 1947 and could be seen as a typical product of the early post-war period when a whole new generation of architects, many too young to have practised in the 1930s when Modernism first arrived in Britain, now embarked on the crest of a huge wave of national reconstruction. The firm was established in London, early projects consisting of the reconstruction of bomb-damaged housing. Although in terms of actual building the practice was to open its account in Sheffield with the large new College of Technology in Pond Street, the success in the University competition was its big break, marking an involvement with this institution stretching over some three decades.

Edmund Ward, Frank Gollins and James Melvin.

GMW were committed and increasingly accomplished exponents of the so-called 'International Style' of modern architecture, or more specifically the Miesian school, whereby the structural and economic logic of the gridded steel or concrete frame was exploited to produce highly rationalized buildings, generally rectilinear, whether low or high, deep or shallow, whose external expression – usually an elegant iteration of the glazed curtain wall - was precisely the celebration of their own technology. The resulting aesthetic epitomized 'mainstream modernity' on both sides of the Atlantic in the early post-war period, being authoritatively represented in the USA in such buildings as Lever House (1952) by Skidmore Owings & Merrill and the Seagram Building (1958) by Mies van der Rohe. In Sheffield, apart from the coherence and clarity of GMW's masterplan that contributed to their competition success, it was evidently also this progressive building imagery which so aptly captured the ethos and aspirations of the University at that moment.

Other buildings by GMW of this early period include the Pharmacology Laboratories for Oxford University, New Cavendish Street offices and Castrol House in London – the latter an innovative (for the UK) application of the slab and podium concept and close rehearsal of some of themes that appear in Sheffield. The firm's success continued in the 1960s and 70s with major projects such as P & O and the Commercial Union buildings in London and the BOAC Terminal at JFK Airport in New York. The original partners retired in 1974, but the office has continued to grow and still maintains a prominent place among the leading commercial architectural practices of today.

Golden Lane Housing, London 1953-63

Boots Factory, Nottingham 1932

Peter Jones Store, London 1936

Cooperation Insurance, Manchester 1959-62

David Hume Tower, Edinburgh, 1962

Engineering Faculty, Leicester 1959-63

Lancaster University from 1963

Essex University from 1964

The rise of the tower block and the curtain wall

The use of the tower as an architectural type-form in the development of post-war modernism and specifically in the context of university building is of particular interest. Although tall buildings had been envisioned by 19th century pioneers and the first generation of aspiring modernists from before the First World War, few had been built and most of these were to be found in north American cities. In Britain towers began to appear in various projects from the early 1950s, though mainly in residential applications. Tall blocks were used by Chamberlin Powell & Bon at Golden Lane and later the Barbican, by the LCC at Roehamption, by Goldfinger at Brownfield Estate, and became commonplace as the 1960s municipal housing programme gathered pace.

Early post-war commercial uses of the tower also featured at the Shell Centre, Castrol House, Route 11 in the City of London, Thorn House, Centrepoint, and - beyond London - in such notable examples as the Cooperative Insurance building in Manchester. Their frame construction increasingly became the generator of their architectural expression, with curtain walling following on as the progressive enveloping technique.

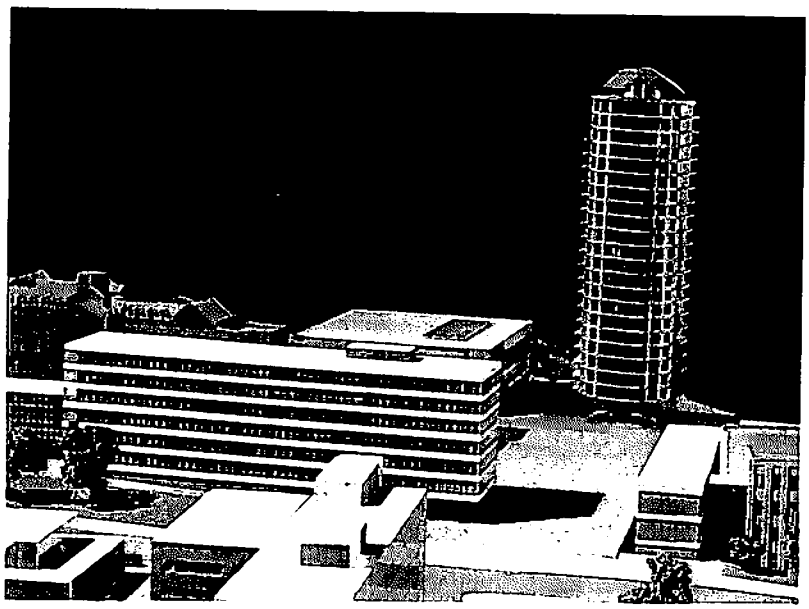
But the use of towers in university development was more sporadic. Examples in the form of student residences produced fairly conventional outcomes at Essex and Lancaster. However, the tower as a building type for teaching use was altogether more rare. Charles Holden's pre-war Senate House Library was perhaps the earliest use of a tower form for an educational institution at an urban scale, but was clearly of pre-modern lineage. The University of Edinburgh's David Hume Tower attempted a polite intervention in the historic setting of George Square, while Stirling and Gowan's celebrated Engineering Department at Leicester (a miniature compared with the scale at Sheffield) effectively established its own context.

Curtain walling was still in a developmental stage, many of the above buildings being walled in brick-work, concrete panel or stone cladding. Although curtain walls had begun to appear in the UK from before the War in such buildings as the Boots Factory, Nottingham (1932) and Peter Jones Department Store, London (1936), it was not until the 1950s that this technique was pursued systematically.

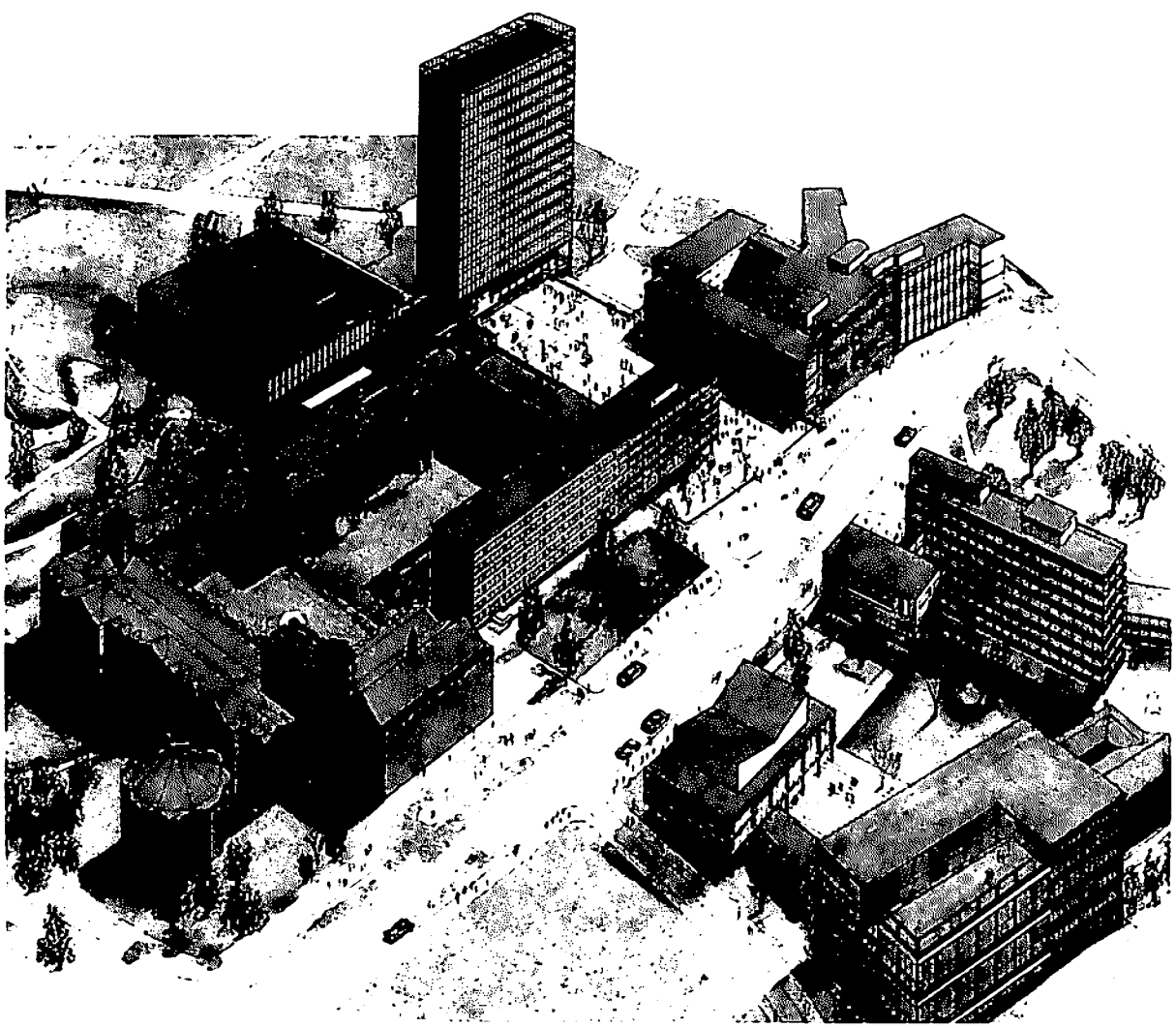
Sheffield University's Arts Tower is thus highly unusual in the UK in regard both to its size and its curtain wall expression, and also in its use as a teaching building - in the latter respect to the extent that mis-givings were apparently voiced during its design development over the suitability of such an anonymous 'office type block' in a university context. Certainly compared with some of the architec-tural idiosyncracies germinated in the hothouse atmosphere of Oxford and Cambridge over the 1960s (and beyond) the Arts Tower is conspicuous in its self-disciplined sobriety. Yet from today's perspective, there is little question that the rational and restrained GMW aesthetic - and the Tower in particular - has imposed its own unique personality on the ambiance of the University of Sheffield.

The Library and Arts Tower – development of the competition scheme

As is frequently the case following architectural competitions, in which architect and client cannot engage in real dialogue, the winning design submitted by Gollins Melvin & Ward in 1953 underwent significant evolution in the process of its eventual realization. In the case of the Arts Tower this narra-tive has recently been meticulously researched by Tatjana Schneider in her forthcoming book 'Notions on Modernity', an unpublished draft of which was kindly made available to the authors of this study. Readers wishing to follow the evolution of the Arts Tower in detail – a circuitous narrative with various



An interim cylindrical version of the Arts Tower



Revised 'final' version, showing south facing tower and pedestrian precinct 'Tower Court'. (Source: Helen Mathers, op.cit.)

detours, including a cylindrical iteration - are referred to her authoritative work. As this Conservation Plan necessarily focuses on what was built, rather than the preceding story, the brief account that follows summarizes only the main differences between the competition scheme and the final design.

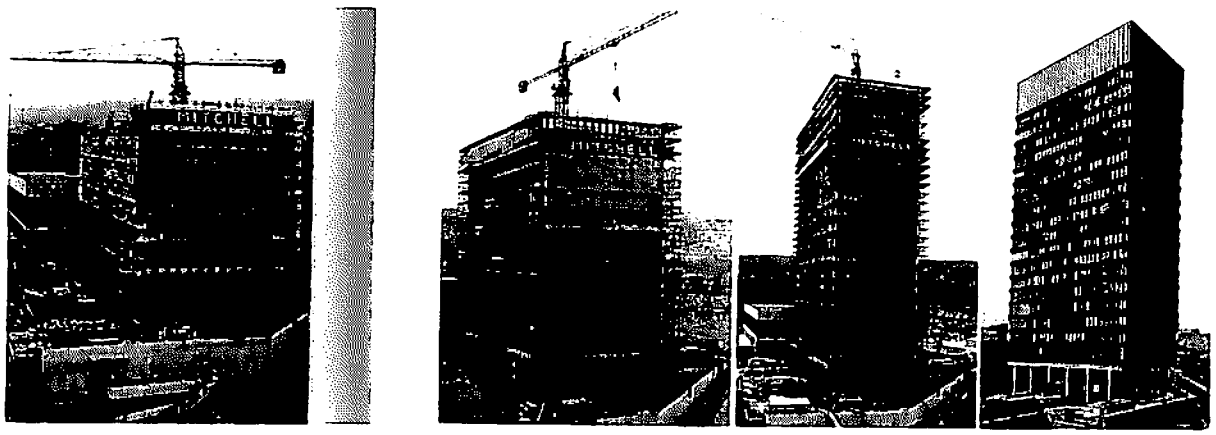
The Library had always been conceived as a deep square free-standing pavilion (rather than a 'podium' as such) – a low counterfoil to the tower - overlooking and partly set into Weston Park, and this was carried through in its completion in 1959. The concept of a tower as an anchoring dominant in the overall composition was also a feature from start to finish, but whereas the competition scheme had placed the Arts Tower on a north-south axis closing a processional avenue to the park that would be formed between the Library and the 1941 medical extension, the eventual design re-oriented it east-west placing it level with the Library and 'closing' the old Winter Street axis to create a large south-facing court extending (after removal of the old Scala Cinema) up to the edge of Western Bank.

The effect of this move was both architectural and spatial. Architecturally – and indeed symbolically - the relationship between the Library and Arts Tower was greatly strengthened, the mezzanine bridge effectively linking them into a single composition. Spatially the 90 degree shift transformed what was originally a linear space, in fact the ghost of the former Winter Street, into a huge plaza 'addressed' by the tower – nominally 'Tower Court' – though it is uncertain that this name has ever been genuinely adopted in common University parlance. In any event it is a square by suggestion rather than by physical enclosure, as the Winter Street axis continues to provide an access from the north while the Sciences Building, originally planned virtually to close the frontage at Western Bank, was in its eventual realization as the Biology building reduced to expose the full southern façade of the tower.

As shown in the revised drawings Tower Court was evidently intended to function as a major social or academic precinct, a sort of 20th century re-interpretation and enlargement of the traditional Oxbridge quad. Indeed the 1957 drawing shows a huge gridded pedestrian plaza with the Western Bank edge defined by garden walls and entered through a formal central opening. This ambition, upon which the intended axial presentation of the Arts Tower depended, and drawn of course before the Western Bank underpass - or 'concourse' - was ever conceived, has been only partially realized.

Another significant departure from the competition scheme involved rethinking the arrangement of the lecture halls, which instead of being presented in free-standing sculptural forms at ground level became buried in the vast volume of space comprised in the levelling up of the ground between Bolsover Street and the square.

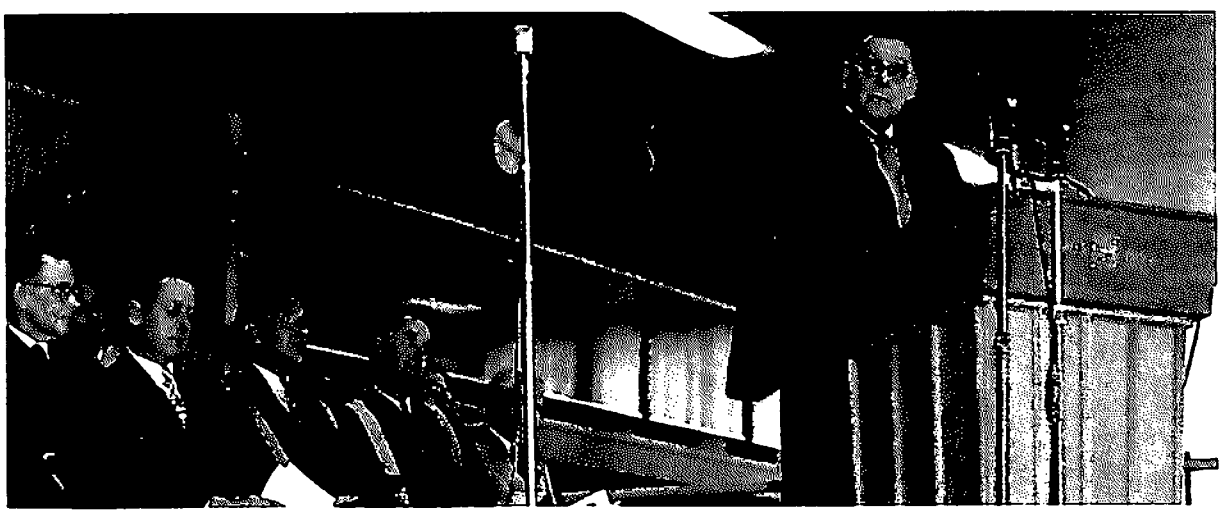
Meanwhile the generous connection of Tower Court with Weston Park, which had seemed a significant element in the original design faded as a functional idea, and the orthogonal geometry of the former redbrick quads that had been adopted as the overarching planning grid and which had tidily marshalled all the new buildings both sides of Western Bank was modified locally to allow University House and the Students' Union to reflect the alignment of Glossop Road.



Building The Arts Tower (Source: Helen Mathers, op.cit.)

Over a decade was to be spent turning Gollins Melvin & Ward's competition winning entry from paper into reality, and this historical introduction ends with the ceremonial completion of the two buildings covered by this study – the Library being opened by TS Eliot in May 1959, the Arts Tower being opened by Queen Elizabeth the Queen Mother in June 1966 (though the Tower was occupied during the previous year.)

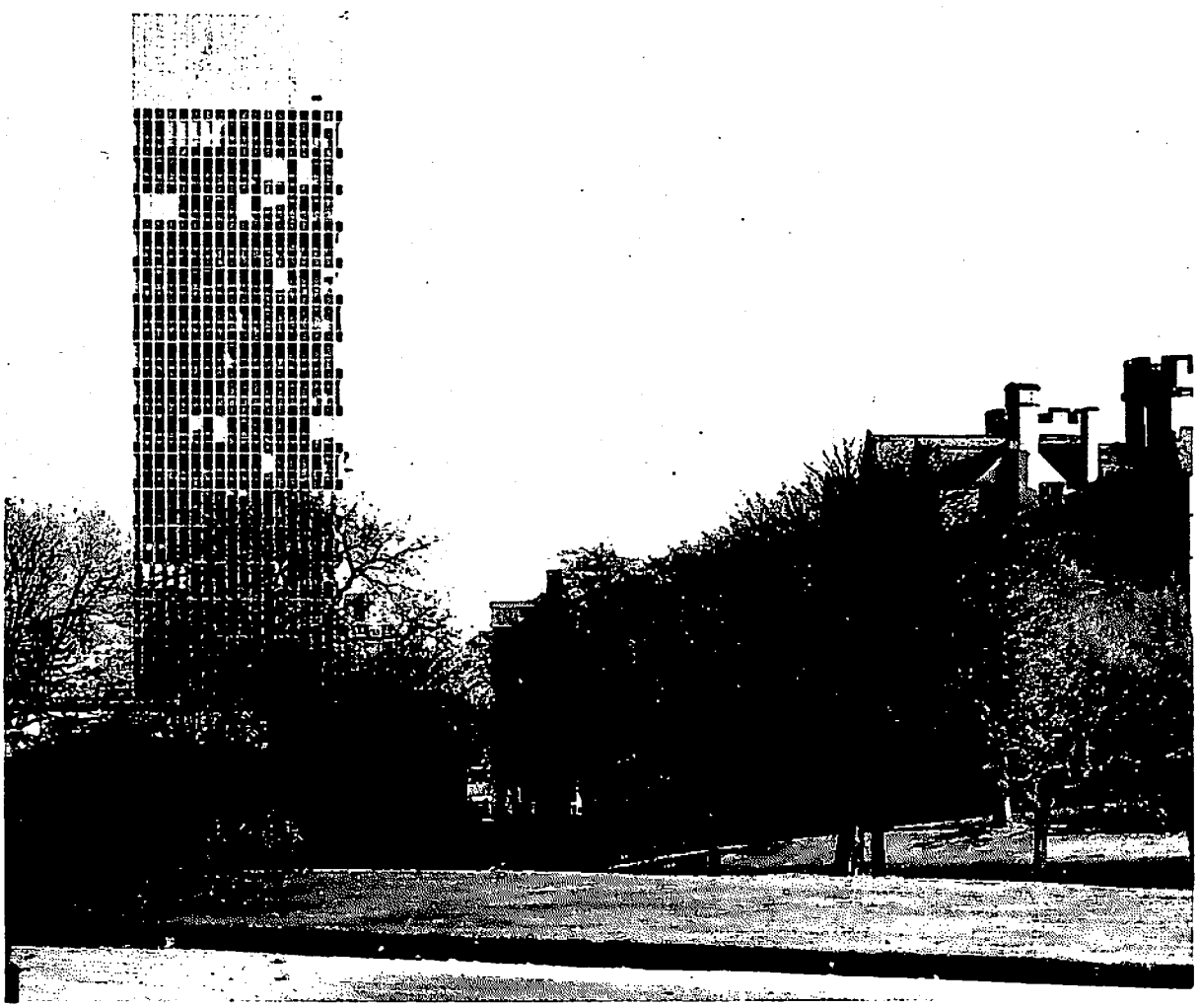
The Queen Mother with R.AButler, opens The Arts Tower, June 1966



T.S.Elliot opens The Library, May 1959 (Source: Helen Mathers, op.cit.)

The Main Library (note)

Although the Library preceded the Arts Tower in the original development programme, being completed in 1959, its proposed refurbishment is due to come after the current Arts Tower project, and for this reason consideration of this building in this study will follow that of the Arts Tower.



The Arts Tower seen over Weston Park, c.1965 (Photo: Henk Snoek)

Designation

List Entry

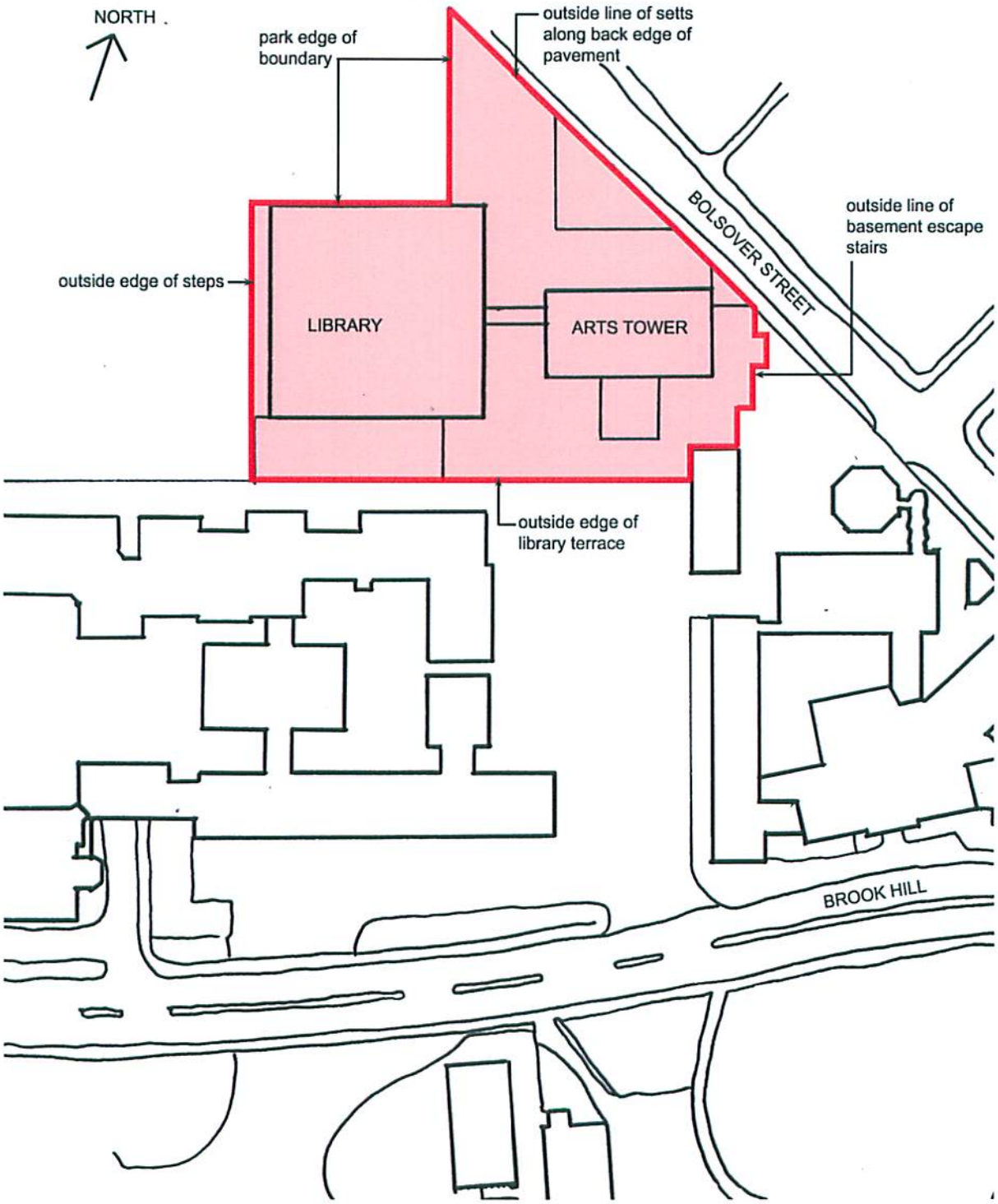
The Library and Arts Tower were listed on 30th March 1993 at Grade II* under the provisions of the Planning (Listed Buildings and Conservation Areas) Act 1990. In the terms of PPG 15 this indicates that the buildings are regarded as 'particularly important buildings of more than special interest' - a category reserved for less than 5% of all listed buildings in England. As defined in the statutory criteria, this interest is expected to inhere in one or more of the following

- Architectural interest
- Historic interest
- Group value

The application of these criteria to the Library and Arts Tower is considered in the foregoing Historical Synopsis and architecturally in further detail below. Reference is also made to the measures of value identified in Conservation Principles – Policies and Guidance, English Heritage, including communal and evidential value. First, the text of the listing entry is cited as follows.

> SHEFFIELD
> SK3487SW WESTERN BANK
> 784-1/22/930 Library and Arts Tower, University of Sheffield 30/03/93
> II*
> University library and linked arts tower. 1959 (library) and 1962-5 (arts tower). By Gollins Melvin Ward and Partners. Library clad in Portland stone on brick base; glazing with turquoise tint; flat roof. Arts tower fully glazed in transparent and obscure glass panels with metal mullions. Flat roof. Library of square plan with one main floor above ground containing reading room and further stack floors below. Arts tower of rectangular plan, lecture theatres in basement; departments above. 18 storeys high. Curtain walling with solid panels below window sill height. Library with floor to ceiling glazing to reading room with thick painted mullions closely spaced. Portland stone strip above (deep) and below (narrower). Entrance fully glazed wit gallery. (Aldous Tony : Architecture of Gollins, Melvin Ward Partnership).

It will be noted that the list description does not seek to define the special interest as such, its purpose being primarily to assist in the identification of the buildings themselves. Departmental policy guidance is clear in advising that the absence of any reference to a feature (external or internal) in a list description does not indicate that it is not of interest, or that it can be removed or altered without consent. In other words special interest and significance, and the task of identifying it, is a separate matter from the list description. In this connection it is important to note that what is listed is what exists at the moment of listing, whether or not it is original. Thus alterations and/or additions will necessarily be included regardless of whether they contribute to, or detract from, the significance of the asset.



Site plan showing working listing boundary (drawing by Avanti Architects)

This in itself emphasizes the importance of identifying 'character and special interest' in a listed building prior to undertaking any works.

It will also be noted that the listing entry in this case also does not define the exact physical boundary of the listed asset. For the purposes of this study we have accordingly sought to do this in the attached drawing. This is derived from the contemporary general arrangement drawings of Gollins Melvin & Ward. It is noted that this plan is a prepared as a working document and may not be regarded as having statutory status.

It should be noted however that while the notional curtilage as far as listing is concerned may be drawn quite tightly to the building footprints, the setting in which they are seen and upon which they accordingly depend for their appreciation as heritage assets may take in a considerably greater area.

Background and policy - Legislation, Listing and Listed Building Control
The following notes provide a brief synopsis of statutory background and implications of listing for building owners. Listed building controls are defined in primary legislation, government guidance and local policy. This section aims to draw attention to the key sections of the most relevant documents as they apply to the management of change to listed buildings. The main documents to which it refers are:

- Planning (Listed Buildings and Conservation Areas) Act 1990;
- Planning (Listed Buildings and Conservation Areas) Regulations 1990;
- Arrangement for Handling Heritage Applications- Notification and Directions by Secretary of State, DETR Circular 01/2001;
- Planning Policy Guidance Note 15: Planning and the Historic Environment (PPG15) 1994;
- Revisions to Principles of Selection for Listed Buildings, Dept for Communities & Local Government, 8th March 2007
- Sheffield City Unitary Development Plan (UDP)

Listing: methodology and criteria
The Planning (Listed Buildings and Conservation Areas) Act 1990 is the main Act of Parliament that protects listed buildings and conservation areas. Under Section I of the 1990 Act there is a requirement that the Secretary of State (now the Secretary of State for Communities and Local Government) compiles a statutory list of buildings of 'special architectural and historic interest'. When a building is 'listed' consent must be sought for any alterations that will affect the building's special character or historic interest.

The list will formally identify the building or structure and will include the address, the grade of listing and a description. The building or structure will be given one of three grades: I, II* and II. Grade I identifies those buildings of outstanding special interest, but all listed buildings are special in a national context. The majority of listed buildings are identified as Grade II (approximately 94.5%), followed by Grade II* (4%) and Grade I (1.5%). However, the legislation applies equally to all grades of listed buildings and affords protection to both the interior and exterior. It should be noted that post-war buildings, particularly those less than 30 years old, have to be of outstanding quality to be eligible for listing.

Initially listing descriptions served for identification purposes and consisted of little more than a few lines describing the exterior of the building. In addition to the need for identification, modern list descriptions often include an analysis of the history and elements that make the building or structure of special interest. The list entry does not attempt to provide a comprehensive list of those elements of the building or structure that are special but the descriptions may also flag up areas and features of relative special interest. PPG15 states:
'Absence from the list description of any reference to a feature (whether internal or external) does not, therefore indicate that it is not of interest or that it can be removed or altered without consent.'

Listed Building Consent
The Planning (Listed Building and Conservation Areas) Act 1990 also sets out the process for authorisation of works affecting listed buildings. Section 7 of the Act states:

'... no person shall execute or cause to be executed any works for the demolition of a listed building or for its alteration or extension in any manner which would affect its character as a building of special architectural or historic interest, unless the works are authorised.'

Listing is not intended to fossilise a building. Its aim is to ensure that the architectural and historic interest of the building is carefully considered before any decisions are made about the future of the building or before any alterations, either internal or external, are undertaken. Works of demolition or alteration to any part of a listed building which is part of its special interest requires listed building consent before any works begin. This includes both the interior and the exterior of the building. Repairs which match exactly the existing materials and profiles may not need consent but it is strongly recommended that even these kinds of repairs are only be done with the agreement of the City's Planning and Conservation Department.

Listed Building Policy
When considering matters that affect a listed building, each local planning authority will be guided by the relevant planning policies, both national and local.

Planning Policy Guidance Note 15: Planning and the Historic Environment (PPG15) provides national guidance on implementing the provisions of the 1990 Act. It explains in detail the protection afforded to listed buildings and conservation areas. Section 3 of PPG15 outlines the government's advice on listed building control. This includes the detailed criteria against which decisions regarding alterations are made.

Section 8 of the 1990 Act highlights the importance of discharging conditions attached to listed building consent decisions and for works to be executed as agreed under the terms of the consent. The importance of complying with conditions and discharging any conditions before starting works on site is emphasised in this document.

Works can be undertaken as urgent works if they comply with Section 9 of the 1990 Act. This is reserved for works that are urgently necessary for health and safety and if undertaken are the minimum required. Urgent works could include stabilising a building after a fire or temporary repairs to openings damaged in a burglary until proper repairs can be completed. Such circumstances are extremely rare. The City's Planning and Conservation Department should be informed and consulted immediately following such events.

Breaches of planning controls and enforcement
Planning and listed building enforcement action can be taken when works have been done without the appropriate planning or listed building consent (section 172 of the Town and Country Planning Act 1990 and section 30 Planning (Listed Building and Conservation Areas) Act 1990).

To undertake works to a listed building without first obtaining listed building consent carries the risk of an enforcement action. Under section 9 of the 1990 Act, it is a criminal offence to execute, or cause to be executed, without first obtaining listed building consent any works for the demolition of a listed building or any works of alteration or extension which would affect its character as a building of special architectural and historic interest. It is also an offence to carry out works in relation to a listed building under a Listed Building Consent which fail to apply any condition attached to that consent.

The role of English Heritage
English Heritage, also known as the Historic Buildings and Monuments Commission for England, is the Government's statutory adviser on the historic built environment with powers to help protect listed buildings. It is a non-departmental public body and was established in 1983.

English Heritage may propose new designations to be added to the list and advises the Secretary of State on requests made by others to list buildings. In relation to works which require listed building consent, English Heritage will:

- consider and advise the Secretary of State on applications for listed building consent. The legislation prevents a local planning authority from determining listed building consent applications on its own buildings;

- authorise the City's Planning and Conservation Department to decide as it sees fit, or direct a decision as to the granting of listed building consent for works of alteration which comprise or include the demolition of a principal external wall or a substantial part of the interior of public and communal areas.

English Heritage may also offer advice on applications for planning permission which may affect the fabric of a listed building and/or its setting. In practice, this is usually reserved for large applications or where the proposed alterations will have a significant impact on the character of the listed building.

The role of the national amenity societies
There are six national amenity societies in England which aim to protect aspects of the historic built heritage. They are:

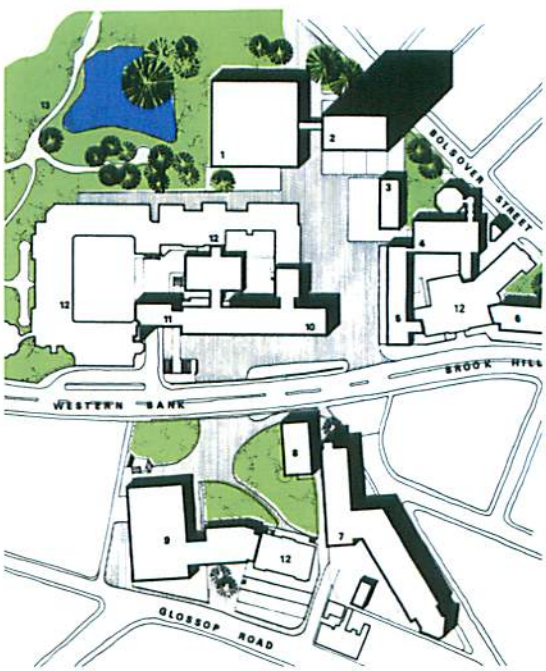
- the Ancient Monuments Society
- the Council for British Archaeology
- the Society for the Protection of Ancient Buildings (SPAB)
- the Georgian Group
- the Victorian Society
- the Twentieth Century Society

Each national amenity society has responsibilities for historic buildings, the division of these responsibilities being defined by the period in which a building was constructed. The Twentieth Century Society, founded in 1979 as the Thirties Society, is concerned with architecture of the twentieth century and buildings from 1914 onwards.

In common with all the national amenity societies listed above, the Twentieth Century Society has a statutory role in the listed building consent process. It will normally be primarily concerned with 20th century listed buildings, but as the Society has full statutory status, it is consulted on all referable listed building consent applications for buildings from all periods, and on applications where substantial alterations are sought and may offer specialist advice in this regard.

The Western Bank hub, with Arts Tower deminant. (Source: Helen Mathers, op.cit)

The bridge link between Library and Arts Tower, c.1965
(Photo: Henk Snoek)



University Precinct Plan
1 Library
2 Arts and Architecture
3 Central Boiler House
4 Chemistry North Wing
5 Chemistry West Wing
6 Chemistry East Wing
7 Physics and Mathematics
8 Lecture Theatre
9 University House
10 Biology
11 Bursars Department
12 Existing Uni Buildings
13 Public Park

Conservation Plan - Statement of Significance

This section begins with assessment of the group value of the Tower and Library, then considers each element of the exterior and interior of the Tower in detail, noting its original design, principal alterations and heritage significance.

Group Value

The Tower and Library must first be considered as an architectural sub-set within a larger and more variegated group of buildings that represent the University's development over more than a century. The campus at Western Bank takes in the whole sweep of development and landscape from Weston Park and Broad Lane on the north to Glossop Road and West Street on the south.
Taken together this creates a rich narrative of the institution's evolution and self-presentation.

The topography of the area, a defining aspect of Sheffield generally, ensures that the area is experienced not just as a series of buildings on plan, but three-dimensionally as a dynamic piece of townscape. Standing as it does towards the highest point of this extensive land area the Tower effectively anchors the otherwise disparate collection of building forms and styles – as indeed it was intended to do. Both through this visual dominance of the Tower and in the way the Tower and Library together exert their influence on the campus plan, the buildings help to confer the sense of a group upon the ensemble. As one historian has written,

> 'The Library and the Arts Tower were classics of the late fifties and later additions by the same architects like the Students' Union and the red-brick additions to the old building, linked by Ove Arup's exciting underpass/concourse, have enlarged the vocabulary and enhanced the scene. Other good architects like Tom Mellor and William Whitfield have contributed. On a late May morning when every tree and shrub is in fresh leaf and flower, there is no more life-enhancing experience than to perambulate this now rather Ivy-League University quarter'. Lionel Esher, A Broken Wave, Allen Lane 1981, p.214

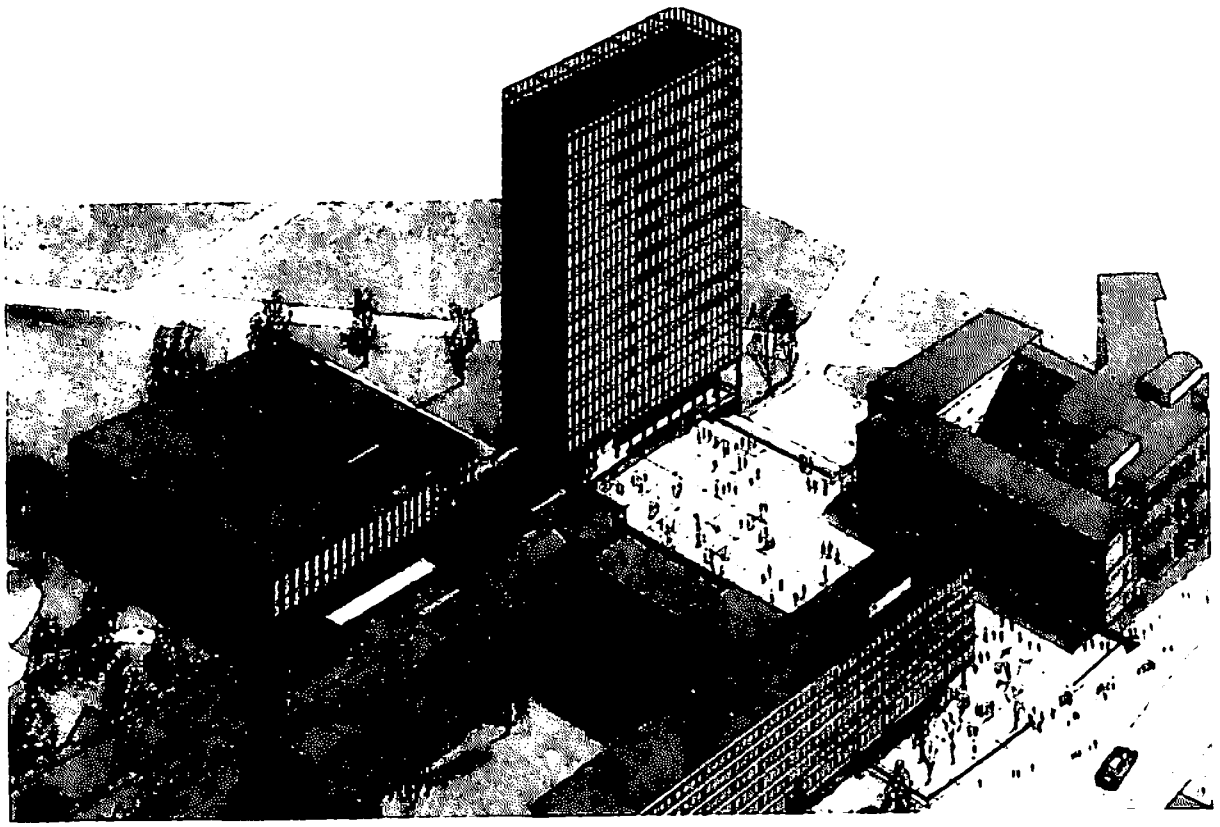
Coming to the two buildings that are the focus of this study, the chronology of the development of the competition concept (noted above) shows clearly how the Library and Arts Tower became linked in the overall design ensemble as well as being physically linked by means of the mezzanine bridge. This linkage is both architectural and symbolic; architectural in the complementary forms of low pavilion and tall tower which was a characteristic International Style convention of the period and always a deliberate formal strategy of the architects for this project. An unusual aspect of the arrangement here is the way that the tower does not rise from the low block itself – as was definitively stated in, say, Lever House, New York, or even GMW's contemporaneous project Castrol House in London - but is set alongside it.

There is also a symbolic connotation inasmuch as the functions represented by the two buildings – accumulated knowledge as a learning resource (the Library), and active pedagogy as a dynamic process (the Tower) - are shown as interdependent functions of a university. There is accordingly special interest and significance in the linkage of these two buildings in addition to their contribution to the group value of the larger ensemble noted above.

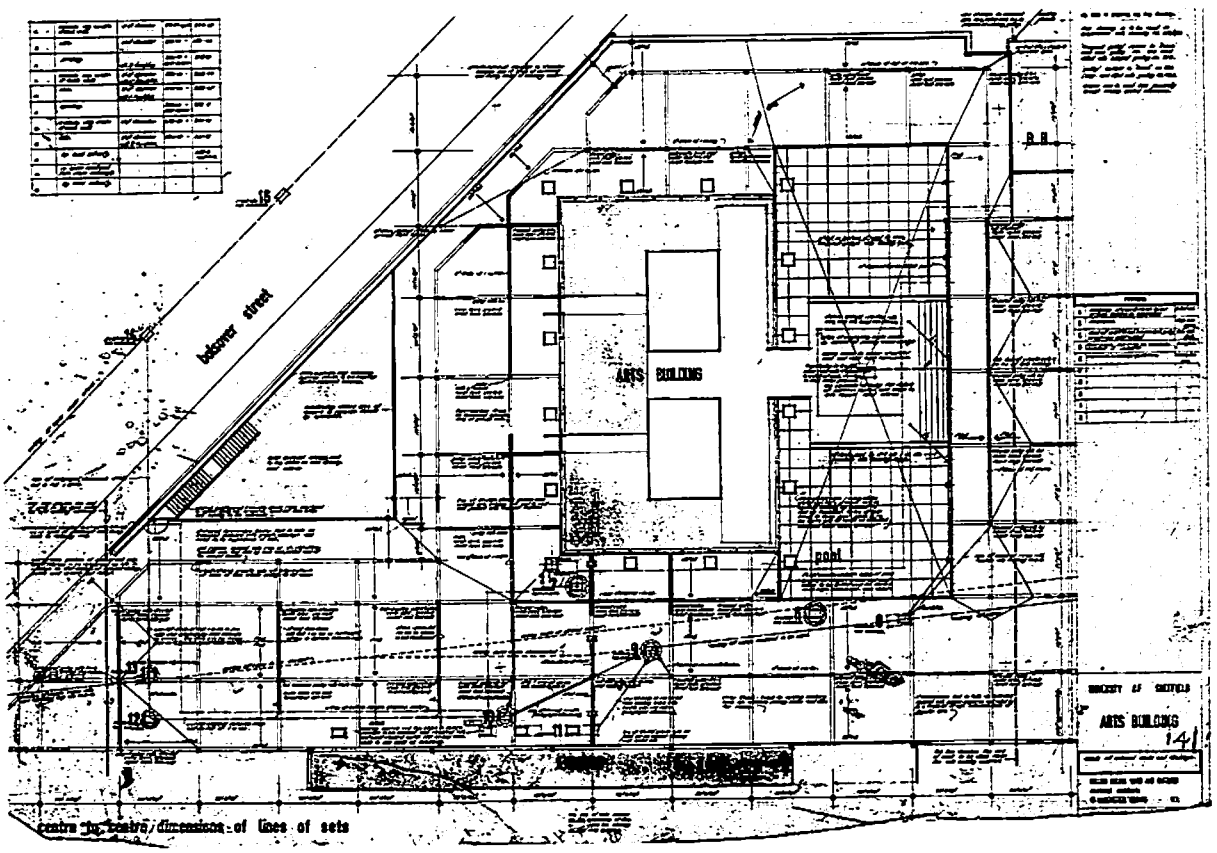
However, notwithstanding its strength and identity, the group value of the asset and its larger environment is still susceptible to erosion by other interventions. The protection of heritage value at this scale is clearly a strategic task at city planning level, as well as a matter for ongoing vigilance at the University.

As the same observer has written,

> '[Womersley's] intention was that the glass Arts Tower should preside unchallenged over the University ridge, and this has recently been fatally compromised by the monstrous slab of the Hallamshire Hospital: so hard is it to achieve a unity and to hold to it'.
> Esher, op.cit. p.216.



Tower Court as envisioned in evolving design drawing. (Source: Helen Mathers, op.cit)



The close environs of the Tower, as specified in detailed construction drawing, showing gridded paving layout

Architectural interest
Exterior

Setting of the Arts Tower

Original design

The original design placed the Arts Tower within the setting of Tower Court, as noted above. This extends from the tower footprint in each direction – south towards Western Bank, east and north to the oblique line of Bolsover Street, and west to the Library, which itself merges directly with Weston Park on its west side. The principal plaza, clearly signified by the position of the main entrance, was the southern aspect. The grid, as shown on drawings, was specified as a composition of granite sett lacing courses infilled with tarmacadam bays on to which was to be rolled a topping of granite chippings, though the eventual construction used square concrete paving slabs laid within the lacing courses. The gridlines were derived from the centerlines of the colonnade bays of the building itself and extended away from the building in all directions. Early photographs show the environs of the Tower and Library with the grid fully realised.

Alterations from original design

The original intention for Tower Court was never achieved, but what was built has also been altered. For one thing the actual approach to the Tower, instead of being aligned axially on its entrance, is skewed towards the south-west corner by virtue of the line of arrival from the mouth of the concourse, completed over a decade later in 1969.

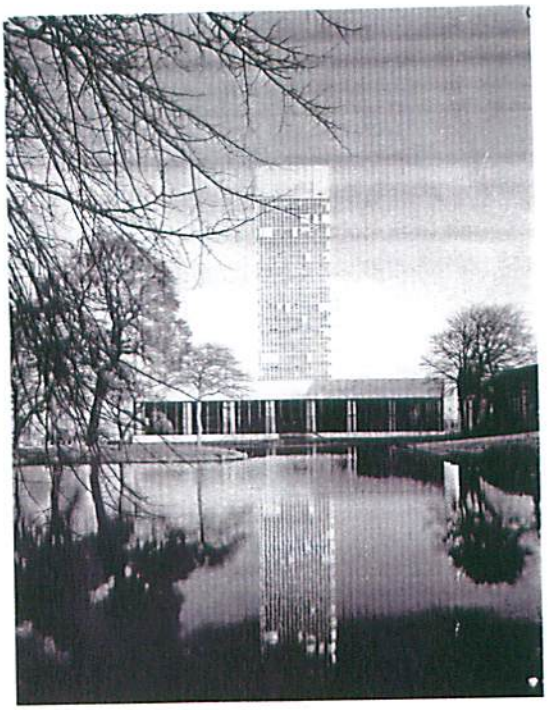
The other consideration is that the very size of the court has made it easy prey to the insatiable demand for parking, with the result that the original gateway at Western Bank is now a vehicular entrance (complete with security post and barrier), and the actual walkway is channelled along its west side - leaving the Arts Tower to rise from a plinth of cars. This opportune usage, together with the reality of Sheffield's weather has tended, perhaps ironically, to make the middle of the dual carriage-way (previously the most dangerous spot in the entire campus) - or rather the covered area under the flyover itself - a more congenial meeting point than the car-congested square, the concourse bringing together pedestrian traffic from the whole range of University departments around the Western Bank hub.

Heritage significance

The Arts Tower and Library were conceived as pure platonic forms set on a clear ground plane, and the full impact of the buildings depends on unimpeded visibility from their forecourt and the expanse of sky that surrounds them. The front plaza and the entrance approach are an intrinsic aspect of the intended character of Tower Court – as is evidenced in the contemporary drawings which showed a grandly gridded concourse extending from the foot of the Tower apron right up to the edge at Western Bank.

The parallel with Mies van der Rohe's Seagram Building, where the equivalent forecourt is crucial to the proper presentation and appreciation of the building, is clear – even if conscious acknowledgement of this on the part of the architects is apparently difficult to authenticate. (Schneider)

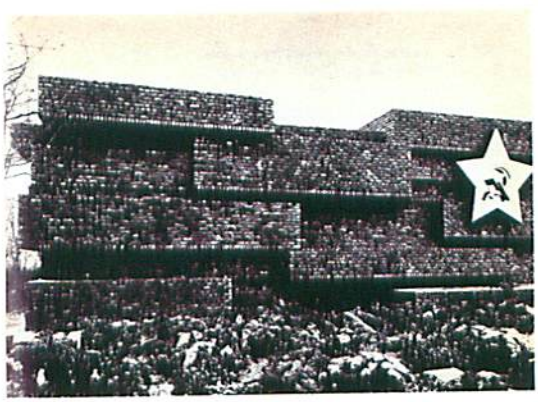
The Seagram forecourt



View from Weston Park – 'space, light and verdure'

The Cyclopaedian wall

View from North



Monument to Karl Liebknecht and Rosa Luxemburg,1926

The spatial proposition represented is derived from the modernist urban paradigm whereby figure and ground are inverted, and instead of the enclosure of external space with continuous building – whether by means of the square, the terrace or the corridor street - space is treated as a universally extensible medium articulated or punctuated by coordinates in the form of buildings. A contrast is thus registered with the pre-existing adjacent quadrangle of Firth Court and provides a concise commentary in spatial terms on the evolution of the institution (and indeed the concept of urban space) from the 19th into the 20th century. The proper appreciation of this proposition is highly dependent on retention of a reasonably clear ground plane in front of the Arts Tower and the extent of sky against which it is seen. The erosion of this effect as a result of the predominance of car parking, whilst doubtless providing operational benefits, is seriously detrimental to the heritage value of the setting. Some reduction of parking allocation in the environs of the Tower, and even limited retrieval of the gridded apron, would go some way to restoring this important value.

Other aspects of the setting are also significant, most notably the view of the Library and Arts Tower from Weston Park where the image of abstract crystalline forms rising over a designed landscape was an intrinsic aspect of their intended presentation. In its essence this could indeed be seen as an idealised image of modern architecture in an Arcadian setting, embodying the Corbusian triad of space, light and verdure, and should be carefully preserved.

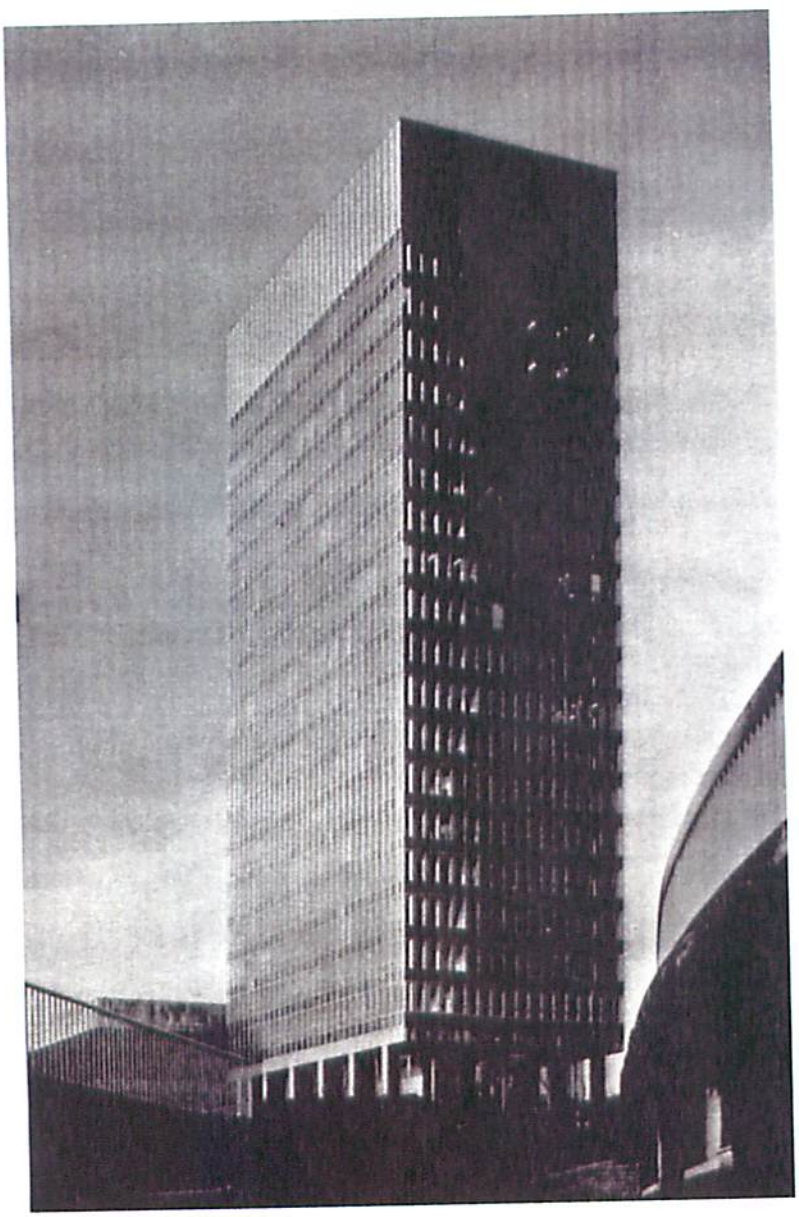
The setting of the buildings as viewed from the north is of slightly lesser significance, though it is important to be able to read the entry from Bolsover Street through the mezzanine bridge as a 'gateway' to the University precinct. Additionally, oblique views of the Tower from Bolsover Street on the east, showing it rising above the Cyclopaedian wall, are dramatic in revealing its local dominance and convey an important aspect of the land engineering that was a key part of the design concept.

The Cyclopaedian wall itself is a major engineering construction using heavily boardmarked concrete cast into a repeating zig-zag pattern that 'dies' against the street gradient, using varying relief depths of 25mm, 50mm and 100mm. A course of granite setts lines the wall foot along the back edge of pavement. The coping edge is of a contrasting exposed aggregate finish, while the rear façade uses a reduced scale boardmark in horizontal grain.

This wall has a robust sculptural quality and is of definite interest as a positive architectural gesture towards the street scene. It also provides an appropriately monumental base for the Tower. Given the architects' apparent interest in the work of Mies van der Rohe it may not be fanciful to suppose a reference here to his monument to Karl Liebknecht and Rosa Luxemburg, Berlin 1926, where a similar bas relief effect was achieved in brickwork.

The intended setting of the Library in relation to the rear of the redbrick buildings of the original quadrangle and the stepped walkway to Weston Park – as indicated in the historical synopsis – was not fully realized. Although the raised terrace adjacent the south façade of the Library provides a valuable external space for use in conjunction with the free floor area of the 1st floor, the ramped road beyond does not serve as an effective connection to the Park and is compromised by deposits from the rear of the Redbrick building, gas bottle storage compounds and the like. This part of the setting is unworthy of the listed buildings and deserves fresh consideration.

The ramped roadway, with park beyond, as used today.



Tower silhouette – a pure crystalline form

Tower silhouette – corrupted by plant

Silhouette

Original design

Completed in 1966 the Arts Tower was the highest building in Sheffield and indeed the tallest academic building of any British university, having grown from 13 to over 20 storeys during the design development programme. In fact in addition to the 18 tiers of uniformly glazed floors there is a double height space between entry level and the first regular floor, and also the equivalent of two levels of accommodation concealed behind the louvred screen above the curtain walled zone. The above ground volume thus comprises 22 floors in addition to the two layers of lecture theatre accommodation below ground. The original design of the Arts Tower presented not only a clear outline, in which the tower footprint is extrapolated to the summit of the enclosure as a single form, but also a defined termination, or 'crown', created by the upper tier of louvred screens that masked the various rooftop structures and services installations. This silhouette is seen from various points around the city.

Alterations from original design

Installation of additional antennae structures on the rooftop of the central concrete core (first apparently in 1992, with additions in 1995) have breached the screen line, resulting in detrimental manifestations in long views from various points around the city. The second phase of this installation appears to have taken place after the building was listed, though it is not known whether the work was carried out with listed building consent. In any event this breach of the silhouette line is clearly contrary to the intention of the original design and should be corrected at the first opportunity.

Heritage significance

The silhouette of the Arts Tower was carefully designed as a prominent and significant landmark in the environs of the University and the City of Sheffield generally, providing an iconic image and a beacon for the University. The original louvre screens were devised to terminate the building with a consistent 'crown', masking any rooftop plant to ensure it did not compromise the building outline. In practical terms the louvre screen allows the requisite engineering installations to be erected and modified pragmatically, provided the headline is not breached. Again the Seagram Building and Lever House provide authoritative precedents.

Any externally visible alteration or addition to the building silhouette in the form of solar louvers, brise soleil, satellite dishes or additional plant at roof level would detract from the simple clean volumetric form of the Tower and should be resisted. Installations that may not be apparent in near views of the Tower, may still be evident in long views.

Arts Tower main entrance, 1965. (Photo: Henk Snoek)

The pool and landing 'bridge', 1965 (Photo: Henk Snoek)

How the area looks today

Entrance approach

Original design

The immediate southern approach to the Arts Tower comprised a raised landing mounted by broad flight of shallow open-tread steps, the guardings to which were formed as concrete benches extending the full depth of the landing, the upright sections cantilevering forward beyond the landing to align with the front edge of the steps. The landing itself was separated from the building edge, making the entry porch a bridge between landing and foyer – an equivalent separation being formed internally between the ground floor and the building envelope. (See below) The rear of the landing was thus articulated from the building itself, with guardings in the form of stainless steel balustrades and glazed panel in contrast to the metal kneel rail used within the public areas of the building interior. (See below) This minimises the impact of the guardings allowing the building double height screen wall to read through uninterrupted. The landing was paved with square tiles of a dark aggregate, a finish taken through into the interior though of smoother surface texture. A non-slip finish is used along the step nosings.

A shallow pool was created under the landing extending across the full width of the Tower frontage to the line of the edges of the cantilevered wings. This pool, which was paved in like manner to the adjacent ground, was served by fountain jets fed from pipework concealed beneath the landing edges, the jets arching symmetrically away from the landing right and left towards the outer sides of the pool.

Alterations to the original design

These features have now been substantially lost, the pools themselves having been infilled and paved over to the level of the adjoining ground. The space they formerly occupied, now being undifferentiated even by a distinctive paving treatment, has been allocated to car parking. This is clearly contrary to the design intent and special interest of the listed building, and should be re-considered – regardless of whether or not the pool itself is reinstated.

The re-activation of the pool might be considered subject to effective resolution of the previous problems experienced with flying spray – (originally dealt with by simply turning the jets off in windy conditions.) Any alternative treatment to the pools should be symmetrical and register their original plan footprint, whether through a differentiated finish and/or level relative to the surrounding paving.

Another intervention since the original design has been the addition of a ramp to the west side of the landing, an unfortunate effect of which has been to close the gap which originally existed between the back of the landing and the glazed building envelope, thereby reducing the clear articulation of the two. Additionally the rear guarding has been detailed in the style of the interior guardings, with a solid knee rail, contradicting the transparency of the original. Ideally this ramp would be located on the other side of the landing, where it would be less conspicuous but no less accessible. Any DDA compliant disabled ramp arrangement required to upgrade accessibility to the main entrance should be detailed minimally in such a way as not to challenge or obscure the original concrete landing edges.

Several sections of the non-slip nosing have been lost and crudely patched in cement mortar.

Finally various signage has been added around the entrance area, including boards fixed directly to the building colonnade and bench surfaces.

The rear sunken courtyard, and, showing 'sentry box' exits from Tower, and lower level lecture theatres.

Heritage significance
The entry sequence with its ceremonious axial steps, generous plinth landing and symmetrical pools was designed to anchor the composition and mediate between the ground plane of Tower Court and the main building volume of the tower. The elegant open tread steps, the raised platform with its 'floating structure' and symmetrical exposed aggregate concrete 'Roman' benches are all intrinsic to the presentation of the Tower to the approaching visitor and should be carefully conserved.

The original fountain pool (across which the landing served as bridge) as well as enhancing the ceremonial aspect of the building, had the practical effect of preventing those arriving from the north or west from cutting across the building undercroft and apron, instead causing them to walk beyond the building footprint, then turn and approach the entrance 'formally' from the front.

These design devices whereby a large tower is made to control the spaces immediately around its base as part of its self-presentation may be closely compared with the celebrated arrangement of Mies van der Rohe's Seagram Building on Park Avenue, New York where a generous forecourt and flanking symmetrical pools are used to similar effect.
As such at the Arts Tower these elements of the original design are also of special interest with an international resonance and were an integral part of the character of the listed asset.

Ground treatment to other sides of Tower
Original design
To the rear (north) of the Tower the ground plane was brought up directly to the building envelope, with no special presentational effects equivalent to the front treatment, other than the gridded paving layout that continued around all sides of the building. The paving was terminated against the glazed screen perimeter by a course of granite setts laid end to end and jointed in cement mortar. The colonnade is penetrated by two doorways marking the escape exits from ground floor bridges that connect with escape stairs in the core of the building. (See below – interior.) These doorways are formed as reinforced concrete 'sentryboxes' – the tops of which equate with and help support the mezzanine floor slab within.

Beyond the immediate building footprint, the oblique line of Bolsover Street establishes the site boundary and the edge of the ground plane, secured by the substantial retaining wall. Within the triangular area thus created is a sunken courtyard that provides natural light and means of escape to the lower ground floor lecture theatres that abut it. The two sides of this triangle within the site are protected by steel railing guardings. An external concrete staircase, with steel balustrading, was cantilevered off the inner face of the retaining wall giving escape egress back up to ground level.

On the east side of the Tower the ground plane stops against the returned line of the retaining wall. At the lower level escape exits are provided to the lecture theatres at lower ground and basement levels giving onto a service yard/ parking area accessed from Bolsover Street.

On the west side the original paving grid extended across to the east edge of the Library as part of the overall Tower Court plaza.

Alterations to original design
The granite sets used as edging noted above have been superseded by a kerb upstand, presumably

Original cantilevered concrete stair (right) and later steal addition to lower courtyard.

The bridge link looking south, showing current parking here. (Compare with original view in group value section)

intended to act as a physical protection against surface water and vehicular movement in close proximity to the undercroft. The original paving layout has also been replaced by the undifferentiated use of modular paviors around the footprint of the building, which is a departure from the design intent which extended the architectural discipline of the tower in a gridded apron as described above. Painted parking bay delineation has been applied to the paving.

A further steel escape staircase has been added to supplement egress from the triangular courtyard. This differs noticeably from the rather elegant original adjacent design.

The attempt should be made to retrieve the original ground level paving grid, even to a limited area, in order to reinstate the sense of connection between the building and its immediate environs.

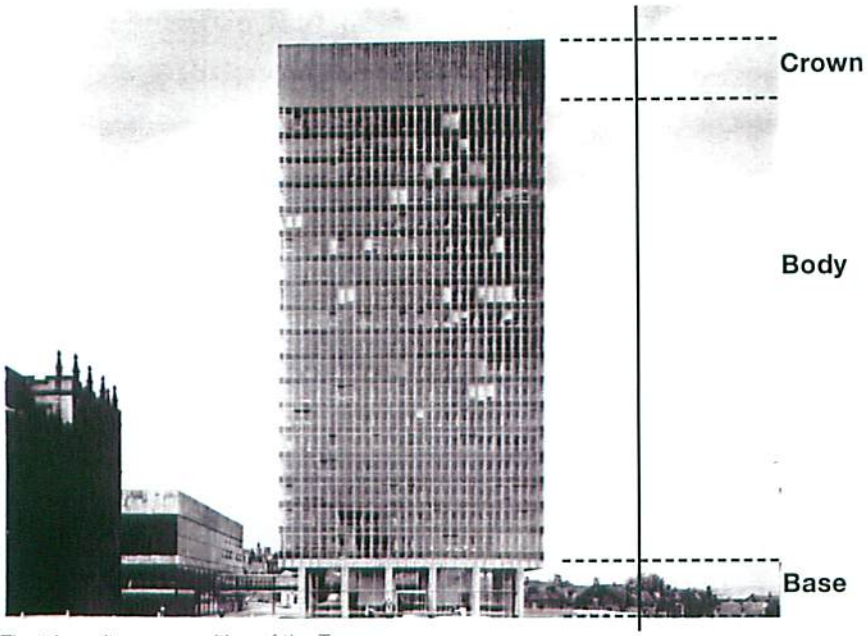
Heritage significance
Although in elevational terms the tower is treated consistently on all four sides, its orientation and situation within the campus plan have the effect of differentiating clearly between its two main facades – the north and the south. Thus the two 'sentrybox' doorways on the north side are clearly subsidiary to the main entrance described above, although operationally important as means of escape, and the ground treatment conveys their lesser architectural significance in the overall composition.

The triangular courtyard was important strategically in enabling natural light and means of escape to be provided to the lecture theatres, but it has little architectural significance as such and is not used to any positive effect.

Bridge link (external)
Original design
An enclosed bridge link was designed to connect the Library (1st floor level) to the Arts Tower by means of a mezzanine floor within the Tower (see also below - Interior). The bridge consists of a reinforced concrete slab supported on three free-standing square columns with shallow mushroom capitols. The columns continue through the bridge interior to support a reinforced concrete slab roof. The internalised structure enables the bridge envelope to be formed entirely of glazed panel, arranged in eleven equal bays. The columns, although aligned with the glazing grid, are not symmetrical in relation to the gap between the two buildings.

Alterations to original design
Externally, the original design appears to be unaltered, except for the addition of light fittings to the centreline of the roof slab edge.

Heritage significance
As noted above, an operational and symbolic relationship exists between the Library and the Tower. The buildings are connected by a first floor level glazed bridge link and this link symbolically demonstrates the important connection between active pedagogy and deposited knowledge. The bridge also acts as a gateway to Tower Court from the north and performs the spatial function of defining the main precinct created by the Tower and Library, and the buildings on either side stretching back towards Western Bank.



The tri-partite composition of the Tower

Detail of double height glass screen (rear) with later half-sized-replacement (right). Note also staining pattern on concrete fascia

The design of the bridge itself is of architectural interest in being clearly derived from that of the two much larger buildings it connects, whilst at the same time being made of finer, more delicate elements in order to reflect its smaller scale and subservient status in the hierarchy of forms. The glazing bars, for example, are exquisitely slender and indicate the consideration that was given to the design of this piece as a part of the architectural set that still deserved its own care and identity.

This fineness needs to be carefully preserved, with no alteration of glazing bar sections or guarding rails, care also being taken to ensure the free space between the supporting columns remains clear and the transparency of the bridge, which provides views from either side externally right through it, is not reduced or compromised by external or internal interventions in any way.

Tower base

Original design

The Arts Tower was formatted as a tripartite composition of base, body and crown – again following the Miesian convention, itself a modern interpretation of the classical model of podium, peristyle and entablature. The base here consists of a reinforced concrete colonnade with a giant order and cantilevered wings. The columns are of square section set out to produce an arcade that is neither quite square nor Golden section in ratio relative to the frieze beam. The curtain wall detail however, indicates that the visually equalised widths of frieze and column are achieved by masking a section of the first floor thickness behind the spandrel zone. The range comprises six columns to view on the front and rear facades, and four on the sides – sixteen in total.

Recessed behind the column line is the building enclosure itself, where each bay is sub-divided into three glazing sections, the panels being supported by I section internal steels and aluminium external mullions supported only at head and foot, with the glazing itself being achieved (originally) in full height single sheets. The Arts Tower is believed to be one of the most ambitious uses of its period of glass in such panel sizes - (approx 6770mm x 1890mm x 10mm thick.).

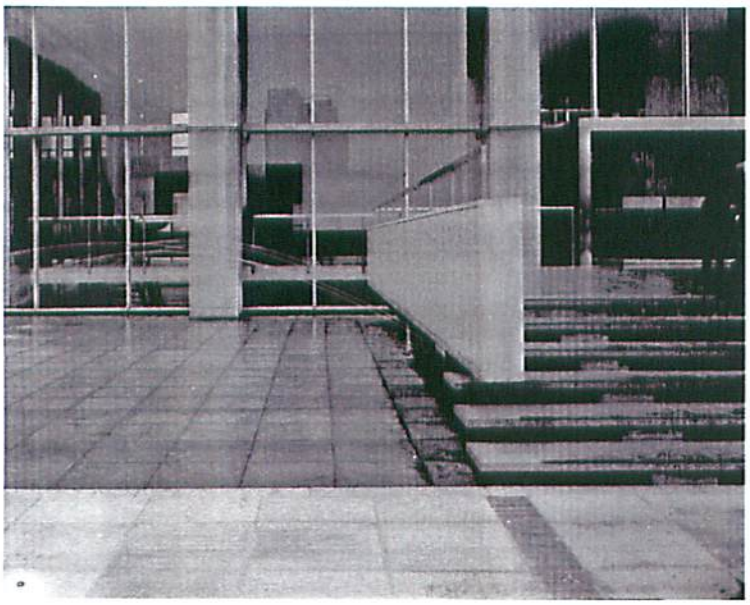
Special mullions occur at the corner condition and intermediate cleats are used to provide additional restraint to the head of the glazing. A channel section locates the glass at floor level, while a continuous aperture to allow for movement and pressure equalisation runs along the top below the first floor beam soffit.

Although alternative facing materials for the colonnade were apparently considered (Schneider) the in-situ concrete eventually chosen (mainly for cost reasons) was executed to high quality, with the buff coloured exposed aggregate finish articulated within carefully formed smooth margins along the arrises – a detail that is repeated in the nearby biology block, giving a sense of consistency to the two buildings.

Alterations from original design

The concrete colonnade was uncoated and the fascia has developed prominent weather pattern staining from façade run-off in a series of regular vertical sheddings which clearly correspond with the mullion lines and fascia trim joints above. Early photographs indicate that this developed immediately the tower was constructed.

Several panels of the full height glazing have failed over the years but have not been replaced in single sheets.



The glazed screen (front) with concrete bench, steps and pool. (Photo: Henk Snoek)

Arts Tower entrance porch (Photo: Henk Snoek)

Finsbury Health Centre, London, 1938

Heritage significance
The Arts Tower colonnade is at once sturdy and elegant, its simple design imparting a monumental character to the base of the building which needs to be kept clear of any additions, fixtures or incidental signage.

The recessed double height glazing which stands behind the colonnade is both architecturally significant, and technically bold in its use of large glass panel in the formation of a building envelope. (Even the Seagram Building did not attempt this double height glazing at entrance lobby level without a transom member.) The double order scale signifies the public or collective status of the building and emphasises the contrast with the individual fenestration treatment of upper levels. The recessed line of this screen glazing is critical to the uplifted presentation of the building above, and under no circumstances should be altered. The retention of the full height glazing sheets is highly significant and any breakage replacements should be sourced to match the original full height effect.

The pattern staining on the concrete fascia is extremely unsightly and should be carefully cleaned off, with consideration given to the introduction of a discreet flashing detail that could improve the weathering action along the junction of the base of the curtain wall and the top of the fascia. The concrete itself however should remain uncoated.

Entrance porch
Original design
In the middle bay of the colonnade the entrance porch, expressed as a freestanding portal in vertically profiled stainless steel sheet, is aligned on the centre axes of the adjacent columns, and originally contained two pairs of outward-opening double doors. The depth of the enclosure results in it protruding beyond the external and internal envelope lines to convey the effect of a bridge between the rear edge of the 'floating' external landing and the forward edge of the detached interior ground floor.

Within the thickness of the sheet cladding twinned downpipes were concealed, draining the porch roof directly into the pool below.

Alterations to original design
Various alterations to the original arrangement have occurred. The manual swing doors have been replaced by automatic sliders, with flanking fixed glazed screens, effectively halving the usable width of the entrance. Also, following the addition of the external ramp (noted above) which has resulted in the infilling of the gap between the rear of the landing and the glazed envelope line, the bridge effect of the porch has been lost – the adjacent column now finishing at landing, rather than pool, level.

Heritage significance
The architectural treatment of entrances to large public buildings was an important aspect in the development of the Modern Movement's vocabulary, requiring an appropriate sense of ceremony as well as considerate mediation from the monumental to the human scale. The use of a porch or aedicule within a the larger building frame was a common device - first demonstrated authoritatively in England by Lubetkin at Finsbury Health Centre - and is deployed to significant effect here.
The compression of the porch intensified the experience of passing from the expansive open air plaza to the lofty internal foyer space.

Current view of the curtain wall

The alterations, doubtless made for operational reasons, have reduced the clarity and panache of the original design, and with the infilling of the pools themselves (also noted above) completely eliminates the sense of the porch providing an entrance to the building over a bridge across water. Consideration should be given to how this dramatic aspect of the original design could be retrieved.

From the long view, the porch serves both to signal the main entrance from afar and also to register the human scale of the doorway relative to the giant order of the colonnade in which it stands. This relationship is critical to the overall elevational composition of the building and should not be altered. The porch itself, being formed in stainless steel, may be said to proclaim Sheffield's particular identification with this material, and should be kept free of attached signage.

Upper levels cladding/fenestration (Note – this section should be read in conjunction with the interior assessment of the curtain wall.)

Original design

Above the colonnaded base, the structural grid narrows to a perimeter column range of single window spacing. These columns stop short of the building corners, which are formed with storey height fixed glass on a corner mullion. There are 30 columns to the front and rear facades, and 17 on each side. Whereas on the front and rear facades these columns are set out on a module of the colonnade grid below, on the sides the spacing is unrelated and simply equalized between the corner conditions. This is a result of the slightly differing centres of the main and side facade grids themselves and is effectively imperceptible to the casual observer. Between the columns is a concrete upstand wall to cill height, with a small downstand beam at soffit level to master the blind boxes. From here the structural floor slab then spans back to the central core.

The main body of the building is enveloped in a curtain wall system fixed to the perimeter columns. The vertical aluminium framing, finished with storey height capping sections, rises uninterrupted from a horizontal channel flashing at the first floor concrete beam to the top of the building, the main field to the 18th floor having infill panels of cast glass serving as spandrels between the window cill of each floor and the window head of the floor below.

This glass reads as slightly obscured and imparts a grey/green shade to the floor bands which provide a strong stratification to the façade as whole. At close quarters the glass proves to be almost clear, revealing the concrete slab and back-up wall behind, its seeming opacity resulting simply from the fact that no light reaches the rear side of the sheet, other than that reflected by the concrete itself. The effect of this rudimentary detail is a subtle coloration of the façade that is an essential aspect of its architectural character.

Each bay is approx 900mm wide (though varying slightly between main and side grids, as noted) each floor lift comprising, the spandrel panel, a fixed glazed panel and an upper vertical sliding sash window. The ratios are approximately 2:1:1 of sash to fixed glazing to spandrel – giving a clear secondary rhythm within the primary order. In the column thickness between the bays the framing sections are infilled with slate grey painted aluminium storey height plates, every alternate channel being fitted with paired steel flanges that served as fixing points for the access cradle.

View up the façade showing articulation of flat plane and glass corners

Alterations to original design
The original design is virtually unaltered, other than by the incidental effects of weathering and longevity. Several glazing panels are broken and there has been some paint loss from the aluminium mullion plates. The aluminium curtain wall sections have also acquired an oxidisation patina.

Heritage significance
The regularity, transparency and delicacy of the façade treatment – spandrel cladding, pattern, colour and sash proportions together - comprise the major part of the building's external material character and architectural identity. Specifically, the single bay rhythm registers and represents the building's structural and planning grid, while the continuity of the aluminium framed channels establishes the primary vertical emphasis of the façade.

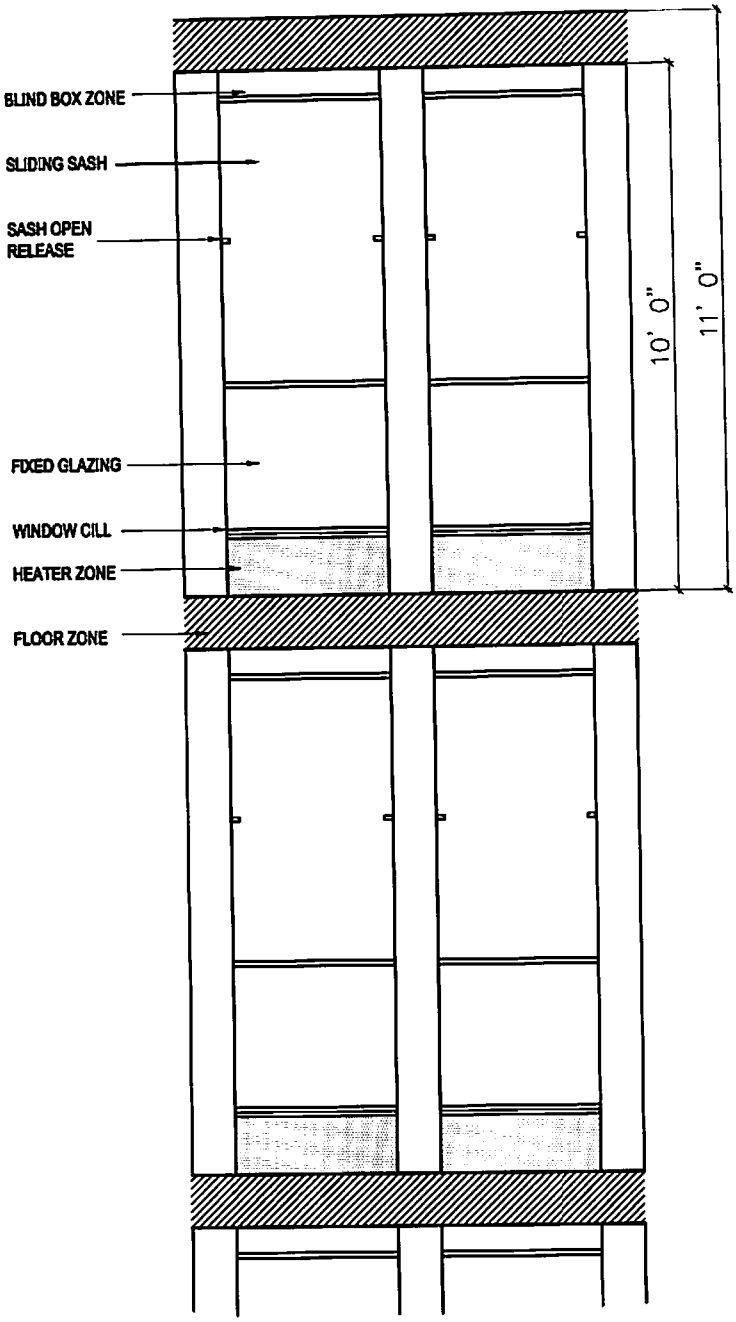
Within this discipline the detailed modelling and panel ratios are contained. Thus the height of the opening sashes is balanced by the combined depth of the fixed light and spandrel panel, the plane of the sash mastering that of the fixed light – the extent of surface modelling being kept within fine dimensions. Such considerations, continuously revisited and refined in the GMW canon, may be identified with the *Baukunst* tradition associated with the school of Mies van der Rohe and bring a sense of architectural internationalism to the campus at Sheffield.

As in the design of any large repetitive façade, beyond the establishment of the principal orders and ratios, the key decisions relate to the dynamic aspects that will provide the element of variation. At the Arts Tower these are limited to two components – the sashes and the blinds. These may both be raised or lowered to any extent within the limit of their openings, and in so doing provide a continuous narrative of occupation. The blades of the blinds may also be adjusted to any tilt. Across the facades of the building as a whole this produces an almost unlimited degree of visual permutation. But whatever 'iteration' exists at any given moment, the façade remains flat, with no openings breaking the planar character of the curtain wall, and ordered by the rules of its primary framing.

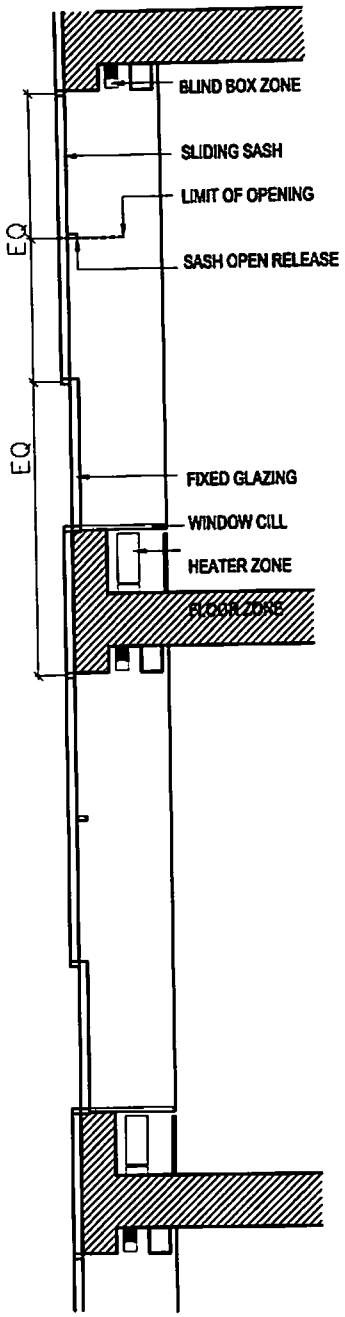
Although curtain walling may be seen as a universal technique in the enveloping of modern buildings, there are distinct categories and subsets within the genre. By the mid-20th century the US tradition, being more often applied to sealed air-conditioned buildings, tended to produce shear façades in which windows and spandrels are unified into single planar grids. In Britain, where – at least in the early days - air-conditioning was generally regarded as unnecessary as well as often unaffordable, the curtain wall façade typically needed to assimilate openable windows into the overall assembly which resulted in a greater visual complexity and surface modelling.

There was no question of air conditioning being affordable for the Arts Tower, and as such it presents a distinctly British interpretation of the curtain wall typology embodying a range of parts including spandrel panels, fixed lights, opening windows and a diversity of framing and fixing components. Its accomplishment is the way in which these essential elements are organized into a coherent and articulate composition at a genuine urban scale.

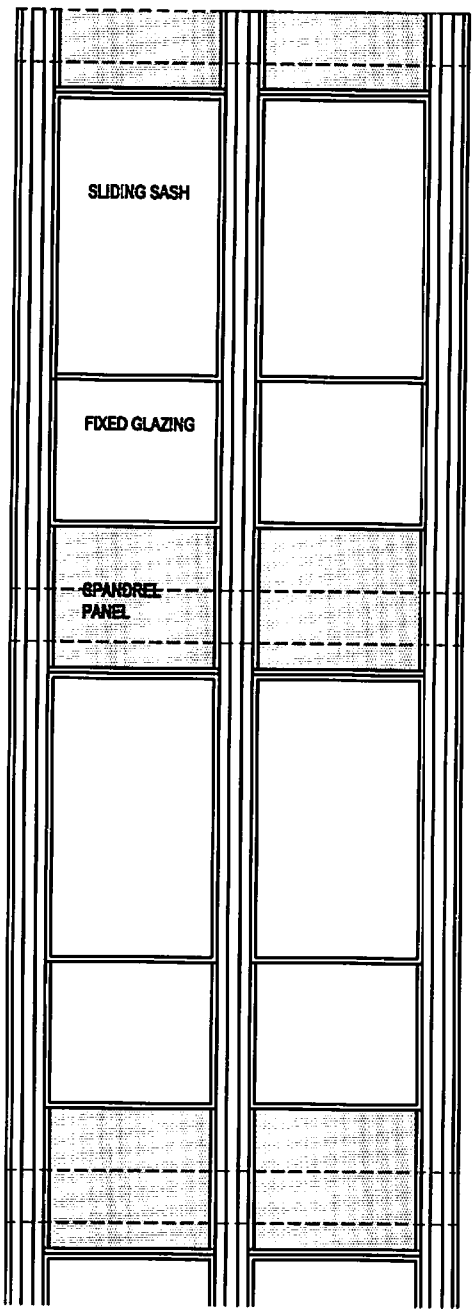
These then are the essential architectural characteristics of the Arts Tower's curtain wall façade – its overall discipline of vertical frame and spandrel banding, its panel ratios within each individual bay, its fine surface modelling, its subtle translucent coloration, and its 2 dimensional dynamics – all of which together contribute to its special interest and should be retained or reiterated in a comparable manner in any refurbishment, upgrade or replacement project.



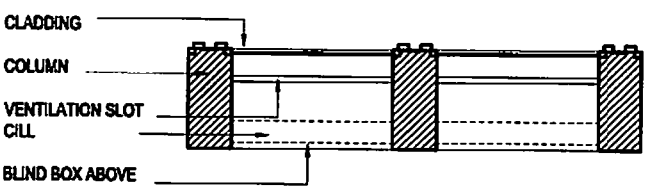
INTERNAL VIEW



SECTION



EXTERNAL VIEW



PLAN

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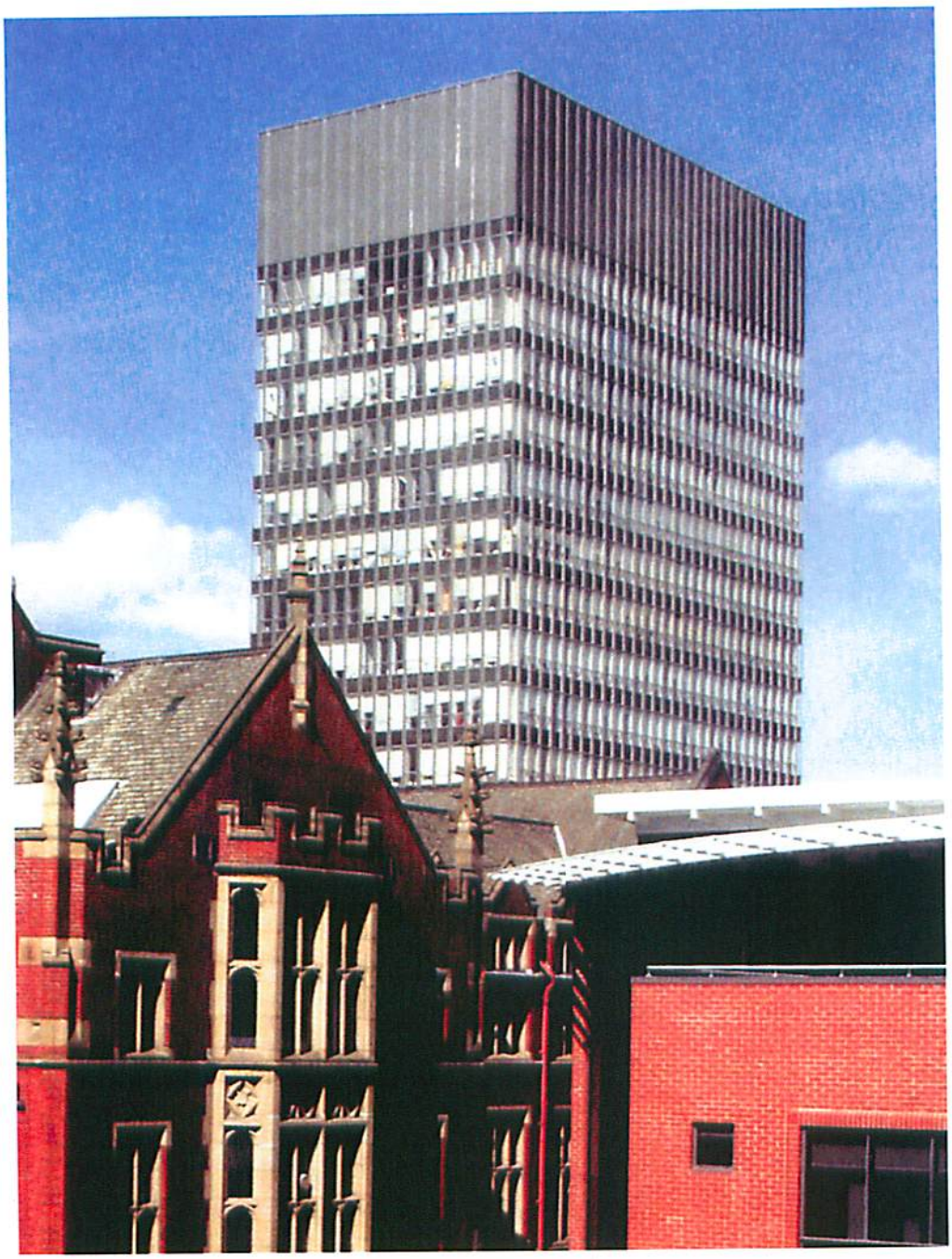


The louvred crown above floor 18. (Source: Helen Mathers, op.cit.)

Roof crown

Original design

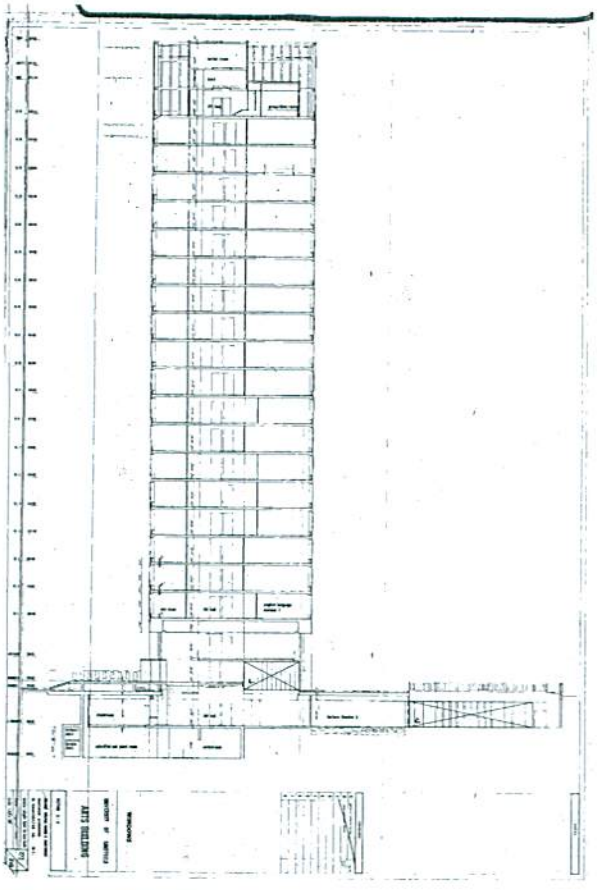
The top floor variations and plant equipment serving the building (including the boiler chimney) were designed to be concealed behind an architectural 'crown', or attic storey, consisting of 36 tiers of aluminium louvers set within the vertical framing derived from the main building façade below, as previously noted, and finished with a top capping section. Behind the screen the façade structure continues as an open reinforced concrete framework, providing also support for the twin tracks of the access cradle around the perimeter.

Alterations from original design

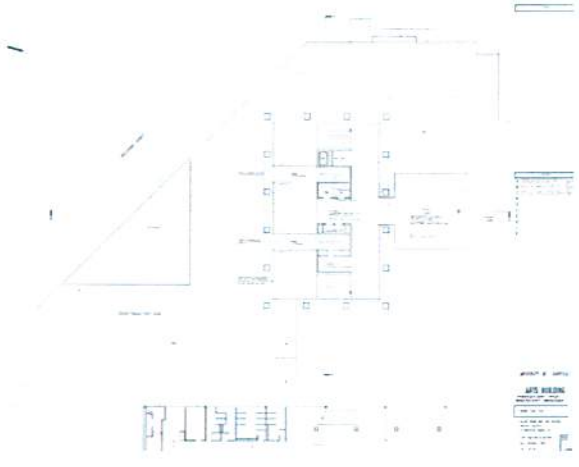
The roof crown in its exterior manifestation is effectively unaltered, except in relation to weathering patina and localised louvre damage.

Heritage significance

The crown arrangement – again clearly redolent of the precedents at Seagram and Lever House – is a key element of the overall building composition and larger civic identity and should be retained. No further plant should be added that would rise above the capping level – as previously noted.
The louvres could be replaced if necessary – with the possible exploration of a louvre section that permitted outward views from the roof terrace if desired - provided that they were replaced as a consistent whole, matched the original arrangement and colour, and were no less effective in concealing the rooftop plant in distant and ground level views of the tower.



Section looking west



Ground floor plan

The entrance foyer, 1965. (Photo: Henk Snoek)

View today

Architectural interest
Interior

Overall Spatial Concept

Before embarking on a detailed consideration of the building interior it may be helpful to consider briefly the overall spatial organization of the Arts Tower building. Whilst the regular and repetitive character of the exterior might superficially suggest a comparable interior uniformity, in fact the building contains a considerable diversity of spatial formats.

- Double height entrance hall
- Double and triple height lower ground floor foyer
- Range of large lecture theatres within lower ground and basement zone
- Mezzanine floor and landings
- Variety of office and tutorial room sizes based on structural/ planning grid
- Larger seminar rooms, studios and formal Boardroom
- Interconnecting open stairwell within architecture department (16th/17th floors)
- Lift halls, corridors and core spaces
- Rooftop lecture theatres and terrace

It is clear that this spatial range was very deliberately factored into the development of the design, (see Schneider) and is an important part of the building's special interest. Whilst there is considerable scope for modification of certain types of spaces to suit changing requirements – and such flexibility was indeed intended - it is important to retain a sense of this overall diversity.

Entrance & public spaces - Ground Floor

Original design

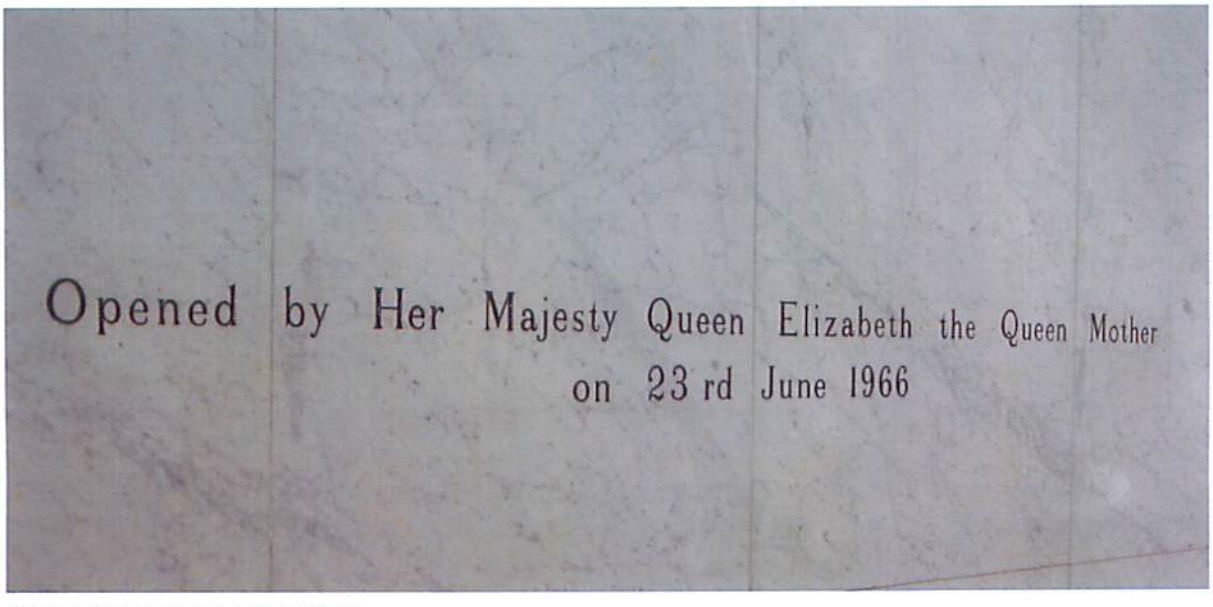
The main entrance porch led directly into the lofty, albeit shallow, double height space formed by the glazed screen wall and the core walls and offered dramatic views laterally into the foyer wings and forwards across the lift lobby to the void over the lower ground floor beyond. The detachment of the ground floor slab from the building front edge is achieved structurally by means of a range of rectilinear section columns at lower ground floor, which remain unseen from ground level, thereby imparting a 'floating' character to the foyer area that is emphasized by the guardings around all of its edges. The detachment of the ground floor from the building edge is also exploited to include a continuous heating convector which runs around the foot of the glazed screen at cill level.

Beyond the lifts and paternoster the lobby was open to the void that rose from the lower ground floor concourse to the underside of the mezzanine – and beyond that, up to the first floor slab.

The remainder of the ground floor plan is occupied by service shafts, ducts and the boiler flue, a designated porter's office and mail room and two pairs of staircases - the inner pair (inaccessible from ground floor, except via the porter's office) providing a protected means of escape from upper levels to the rear of the building across paired bridges; the outer pair being designed as elegant open tread public stairways leading down to the lower ground floor. (See below)

The ground floor escape bridges

Current view of entrance lobby



Ceremonial inscription, entrance foyer

Alteration from original design
The original spatial impact of the entrance area has been significantly diminished as a result of the later extension of the mezzanine floor outwards to the front line of the building in a landing arrangement with twinned staircases either side connecting it back to the entrance foyer, the landing soffit being lined out with commonplace ceiling tiles. Although the additional staircases themselves have been carefully detailed to blend with the original design used elsewhere these interventions together with the enclosure of the landing footprint at ground floor level with secondary screen doors to left and right, have changed what was originally a dramatic and lofty foyer – the very centerpiece of the experience of arrival at the building - into an unremarkable lift lobby. Moreover the originally open balcony overlooking the lower ground floor concourse has been infilled with a glazed screen.

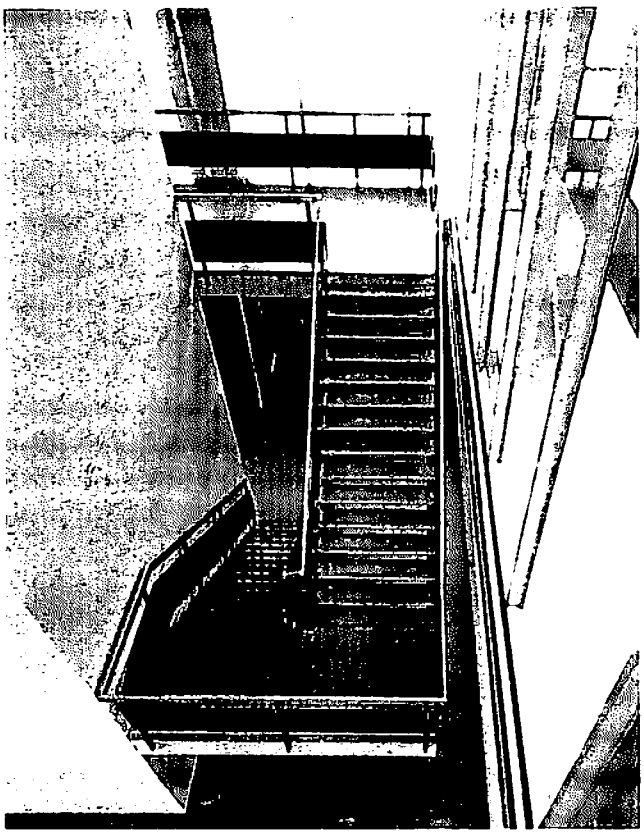
The escape bridges remain generally in their original state, though the bridge walls have been amended from glazed screens to solid panels, with their original metal louvred exit doors being replaced in solid timber. None of these alterations could be described as improvements in architectural terms.

Heritage significance
These spatial experiences were a highly significant aspect of the public identity and architectural grandeur of the original building design and their retrieval, retention and conservation should be very carefully considered in any refurbishment project. Taken together the various alterations have impacted with great detriment on one of the most significant areas of the interior character, and careful consideration should be given to any means of retrieving the original design intent.

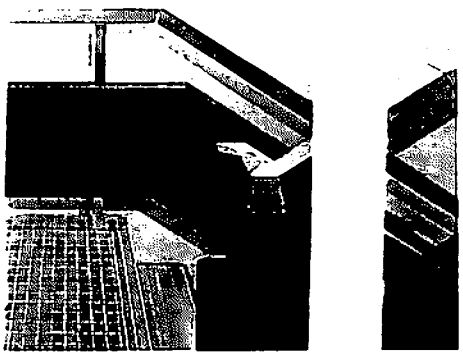
Ground Floor- Finishes
Original design
Durable high quality finishes were specified in the public arrival areas - dark terrazzo floor tiles and polished white veined marble cladding to the core walls – and these remain intact, a ceremonial opening inscription being incised on the wall to the right of the entrance. Several other design details are also worthy of note, including the 'shadowgap' channel used to articulate the floor tiling from the walls, and also the recessed lighting margin used similarly to 'detach' the marble sheathed core from the ceiling perimeter edge – a feature that added considerably to the nighttime presentation of the foyer as viewed both internally and from outside the building.

Alterations from original design
This lighting recess has been substantially filled in, eliminating the dramatic visual effect of the core passing beyond the ceiling. Other surface mounted luminaires and miscellaneous apparatus have proliferated on the otherwise plain plastered ceiling soffit, generally with detrimental architectural consequences.

Heritage significance
The original stone finishes are of special interest and high quality and should be conserved with the utmost care. The partial elimination of the recessed lighting detail was presumably undertaken in order to avoid the task of re-lamping, but in architectural terms it would be highly desirable to reinstate, and the use of suitable low energy long-life lamps should make this a realistic objective.



Public staircase to lower level concourse (Photo: Henk Snoek)



Staircase half landing detail (Photo: Henk Snoek)

Lower level concourse with entrance 'bridge' to ground floor (Photo: Henk Snoek)

Lower level concourse looking south (Photo: Henk Snoek)
Note perimeter lighting strips.

Ground floor - staircases and guardings

Original design

The two public staircases leading from each end of the ground floor foyer to the lower ground and basement floors were elegantly detailed with hardwood treads and open risers, the guardings being executed in fine section stainless steel for the balusters and handrail, with continuous black coated steel knee paneling. The stringers are formed in steel section with individual brackets supporting each step. This minimalist detailing is also used in the guardings around the foyer areas and the mezzanine bridge and was clearly intended to reinforce the sense of free flowing space in the public areas. Shadowgap details are used to articulate the half-landings from the marble linings at the main core positions.

Alteration from original design

The staircases remain in their original state and in generally good order despite years of intensive use.

Heritage significance

These public staircases are intrinsic to the building character and as such are of high significance and should be scrupulously conserved. Any additional safety details that might be required for compliance with current regulations should be considered only if absolutely unavoidable and would require the most meticulous care in design and execution.

Lower ground and basement

Original design

The residual site area stretching back from the tower to the diagonal line of Bolsover Street was ingeniously and intensively exploited in the building design concept. At Lower Ground Floor the area surrounding the core was planned as a generous open concourse, which receives natural daylight from the double height perimeter glazed screens above, and is part-lined with timber strip panelling. Beyond the tower footprint to the south was a large supervised cloakroom, with blocks of lavatories at either end. Beyond the tower footprint to the north and east was planned a series of lecture theatres of varying sizes (three for 78 students, and one each for 105, 153 and 250 students respectively – according to the original drawings).

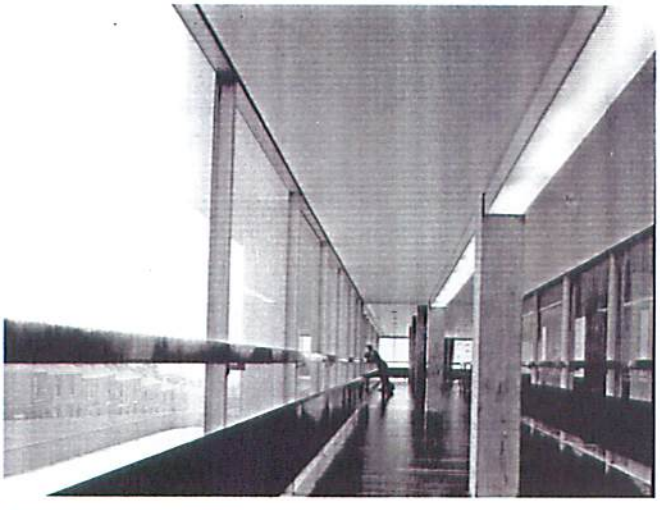
The largest, reached by descending a further half flight of stairs, was designed with separate projector and back-up rooms, a stage area and green room and separate lavatories. Each of these theatres had direct exits to the exterior courtyards occurring in the triangular spaces formed by the oblique line of Bolsover Street, from which external staircases returned upwards or outwards to ground level. Three of the theatres have glazing to the courtyard elevations and some were fitted out with fixed writing benches and hinged seating. To the east side of the tower where the land gradient continues to fall the basement level provides a further three lecture theatres, while to the south the space below the lower ground floor cloakroom is given over to an extensive plant room.

Alteration from original design

A project currently being completed has reorganized the cloakroom area, and there have also been a variety of miscellaneous interventions in the lecture theatres themselves over the years, mainly connected with projection equipment, service trunking, etc. the spaces being generally in a heavily worn condition.

Main lecture theatre stage

Lecture theatre



The bridge and mezzanine, 1965

The mezzanine lobby, 1965

The bridge and mezzanine today.

Mezzanine today, showing additional lobbies and screens

Heritage significance

The lecture theatres are of heritage significance in terms of building character and special interest inasmuch as they demonstrate the ingenious exploitation of the land section for the larger collective teaching spaces that could not be accommodated in the Tower, and which by being thus concealed achieved the larger architectural objective of presenting the Arts Tower and Library as pure forms on a clear ground plane. But there is limited interest in the material quality of the spaces or interiors themselves.

The lower ground floor public concourse areas however are of critical significance in their contribution to the spatial drama of the entrance and main circulation, and their function in suggesting the height of the tower itself. These spaces and their finishes should accordingly be carefully conserved and their material quality maintained in a manner that reflects the original design ethos of the building.

Mezzanine Floor

Original design

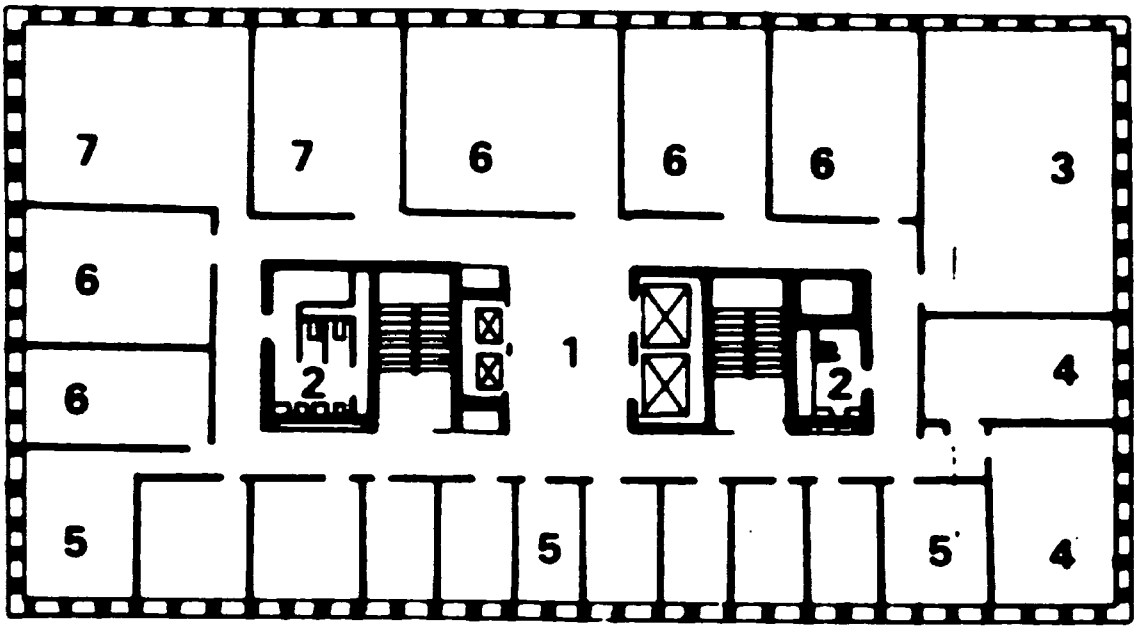
The mezzanine floor was introduced in the design evolution process as a consequence of the requirement to provide an enclosed connection between the Arts Tower and the Library. The floor is thus aligned with the Library first floor level and carried in a glazed bridge link, supported on three central external columns. Doors occur at each end of the bridge at the enclosure edges of the Library and Arts Tower respectively.

The original mezzanine floor footprint corresponded with the outside lines of the two internal bridges that provide separate exits at the rear of the ground floor, which themselves relate to the escape stair locations on plan – an arrangement that successfully concealed the means of its structural support. This left a considerable void area within the glazed external walls which contributes to the spatial drama of the foyers, already described. Here again the minimalist guarding detail is used, affording vertiginous views down to the lower ground floor. Three further columns occur internally on the bridge centerline and main colonnade grid. High quality hardwood block flooring is used through the floor.

Alterations from original design

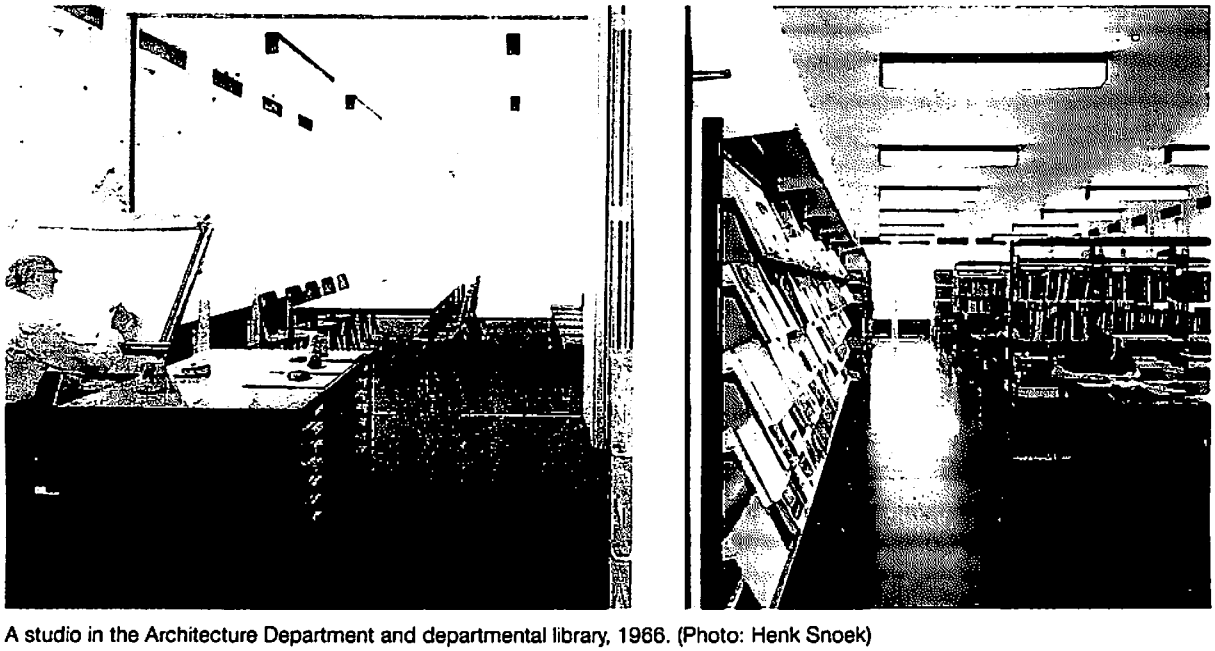
Significant alterations to the mezzanine have occurred, the most conspicuous being the extension of the front landing over the main entrance, already noted, and the twin staircases leading down either side. This eliminates the original internal view of the entrance itself from the mezzanine balcony, as well as producing an entirely different entrance experience at ground floor level – as already described. The other significant intervention consists of the extension of each staircase enclosure on the north side in order to produce a lobbied doorway arrangement- resulting in two bulky protrusions into the mezzanine floor. These have been clad in stainless steel paneling, and compromise the original clarity of the marble clad core as it passes through the space.

That original clarity is reduced further by the introduction of door screens at front and back of the lift lobby, executed in heavy aluminium sections. The infilling of the recessed lighting margin that articulated the core from the ceiling has already been noted, and also detracts from the original design concept of the core shafts, sheathed in marble, reading virtually as free standing solids surrounded by continuous space – almost a metaphor for the building itself. The addition of various surface mounted conduits and fittings on the mezzanine ceiling also further contributes to the general loss of elegance and visual order that characterized the original design.



Typical Tower Floor Plan

1 Entrance and Lift Lobby
2 W.C.
3 Library
4 Administration
5 Laboratories and Workrooms
6 Seminar
7 Conference Room



A studio in the Architecture Department and departmental library, 1966. (Photo: Henk Snoek)

Heritage significance

The original design of the mezzanine floor was of considerable special interest in contributing to the spatial character, public identity and material quality of the building. All the special original finishes and details should be carefully conserved. Its limited footprint within the larger interior envelope produces dramatic spatial effects that are still evident from a variety of viewpoints at ground, lower ground and mezzanine level itself, enabling building users not only to see the volume of space but also to participate in it. Views of the environs of the Tower and Library are also afforded from the mezzanine floor. All of the subsequent alterations have been detrimental in architectural terms, and any opportunities to retrieve the original design intent, as described above, should be pursued.

Upper floors

Original design

From the first to the eighteenth floor the building plan is based upon a consistent diagram. A standardized floor to floor height of 11.00ft was adopted, with a 1.00 ft floor zone.. It is apparent from the design evolution history (Schneider) that considerable thought was given to the development of a generic floor plan that would combine flexibility, economy and building logic. The simple central core plan arrangement coupled with the perimeter column structure, results in clear floor plates that may be sub-divided in innumerable permutations depending on departmental operational requirements. By shifting the lateral axis of the core off-centre relative to the main building axis an additional range of room depths is made possible.

The 94 perimeter columns (at slightly differing centres on the long and short sides as already noted) offer opportunities for room divisions from as narrow as two bays to as wide as twenty nine – ie. a whole long side of the tower. Theoretically an entire floor could be open plan around the core, with no subdivision whatever. Most floors are based on a racetrack layout with varying sized rooms reached from the internal corridor that encircles the core, but several – notably in the architecture department which has occupied the top floors since its opening – exploit the flexibility for larger seminar spaces, departmental libraries or studios. Additionally the open well in the 17th floor provides vertical interconnection by means of a spiral staircase between two studio floors in the architecture department. On the east side at first floor level a formal panelled Board Room is located. Floors that have a glazed screen opposite the lift lobby allow natural light to reach the core and afford dramatic views from the landing over the city.

The window wall design is standardized throughout the upper body of the building, though as noted above the window widths differ very slightly as between the main and side facades. The windows comprise a lower fixed light and an upper vertical sliding sash, operated manually by a spring loaded release mechanism on each side, which also act as a stop in the fully lowered position. The curtain wall and window frame being mounted on the front (external) face of the perimeter columns produces – remarkably – an absolutely flush sightline on the sides and cill so that the glass goes right to the edge of the columns and cills, the deep internal window reveal being finished with a plastered painted reveal lining. The flush sightline says much for the fine tolerances that were achieved in building. Between each column is a perimeter heating unit, enclosed within black composition front casing and cill panels, fixed with button screw covers. Slots are formed between the sections of cill and casing for convection flow. A small downstand in the ceiling, also painted black, allows for the Venetian blind to be concealed when fully raised. The blinds themselves may be lowered to any intermediate level using the right hand cord, and tilted to any angle with the left hand cord.

Views of the window wall today

Views of the window wall today

Typical lift lobby today

Views of the window wall today

Typical corridor today

Typical doorways today

The escape stair

As the columns stand slightly proud of the ceiling downstand and the heater casing, they read as a powerful floor to ceiling rhythm throughout the building interior.

The circulation areas typically comprise plain plastered walls and slab soffit, vinyl floor finish and metal strip skirting. The room doors are generally painted timber in full height frame that include a glazed fanlight and solid overpanel. A standardized door signage strip is incorporated into the ironmongery design, producing a simple businesslike look. Selected doors are given a veneer finish. Shallow recesses either side of the staircase positions provide a seating ledge and coat hook rail.

The core itself contains, 2 lifts and a paternoster lift arranged facing each other across a central landing or lobby, 2 escape stairs together with toilet and service facilities, various ducts and the main boiler flue. The lift lobby areas consist of the white coated metal portals to the lift doors, the doors themselves being stainless steel, the call button panel and speaker grille. The same metal portal detail is doubled across the paternoster opening, with grab handles and safety stop button.

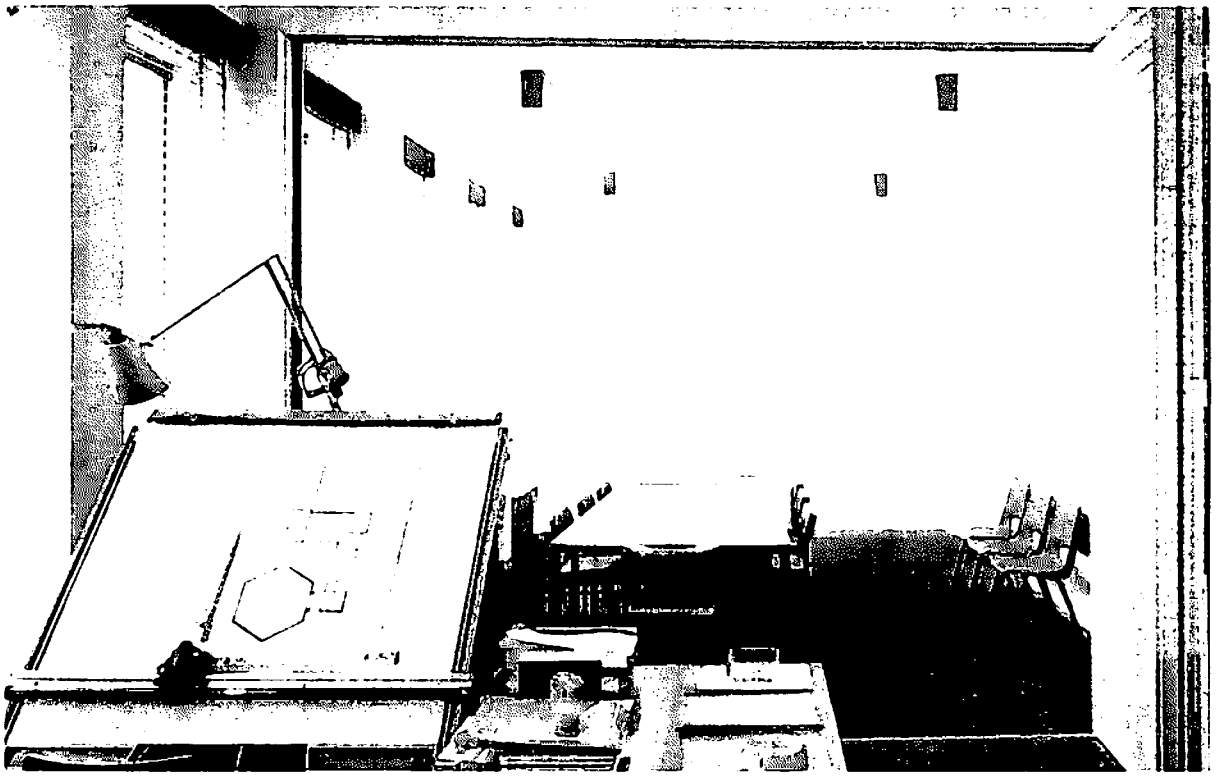
Finishes are restricted to plain plastered walls and slab soffits, vinyl floor covering and metal strip skirting. The stairs are Spartan in the extreme, with plain plastered walls, concrete flights and a black steel railing, but nonetheless cleanly designed. The toilet areas are also entirely functional, utilizing a cubicle system set on metal feet that raise the partitions above floor level to facilitate cleaning. These are the only repeating areas in the original design where suspended ceilings are incorporated.

Alteration from original design
Apart from the various rearrangements of room partitions within the departments that have taken place over the years (as the generic design indeed intended) the main alterations to the upper floors and common parts have resulted from new requirements in respect of fire safety, including the introduction of additional screens and doors around the lift lobbies and either side of the escape stairs, re-glazing of fanlights in wired glass, additional door closers, fire alarm points, emergency lighting, smoke alarms, firefighting apparatus, etc.

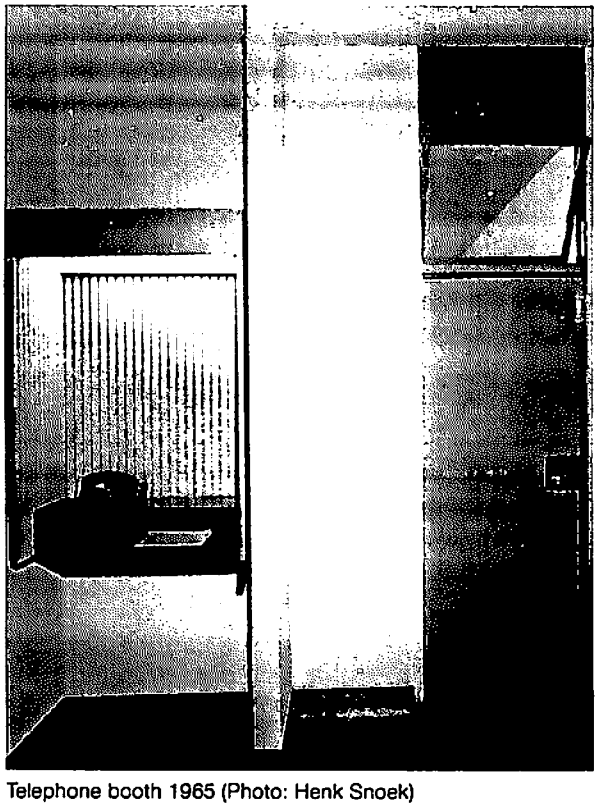
These additions may have been unavoidable in terms of regulatory compliance, but they have undoubtedly detracted from the simplicity and clarity of the original interior design. The lift lobby areas have also tended to take on differing identities depending on which department they serve, which can add to the 'personality' of the building and assist in vertical orientation – though in many cases the proliferation of notices, posters and assorted face fixed items has produced only a mess rather than a positive result.

In addition to the above, the most conspicuous alteration consists of the various replacement lighting fittings and the ubiquitous application of surface mounted trunking and wiring on the ceiling soffits. This has reduced the ceiling plane from a regular field to visual mayhem.

The windows however have remained unaltered, albeit the operation has deteriorated slightly, with a degree of 'racking' occurring in the sash motion. A proportion of the blinds have suffered damage either through use (or misuse) and/or the effects of wind buffeting when windows are open with the blinds lowered. In the first floor Board Room secondary glazing has been introduced. In some rooms dado trunking has been introduced across the columns.



Architectural studio, 1965 (Photo: Henk Snoek)



Telephone booth 1965 (Photo: Henk Snoek)

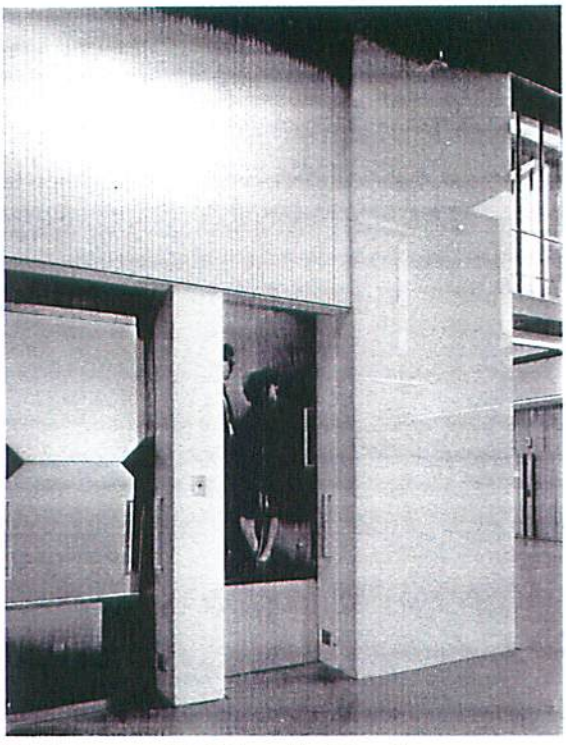
Heritage significance

Significance in the upper floors in heritage terms lies firstly in the 'philosophy' of the plan which concentrates the core functions in the centre and leaves the floor areas free. No core rooms are located elsewhere than in the core zone, and no habitable rooms are located elsewhere than on the perimeter. The corridor connects the core with the rooms, except where the rooms abut the core itself. This discipline is an intrinsic function of the structure whereby the floor plates span from the core shafts to the perimeter columns with no intermediate support.

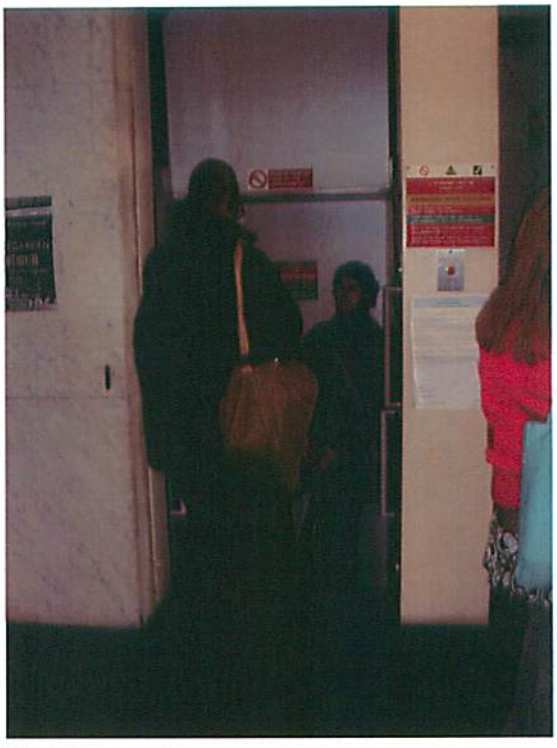
Whereas the re-arrangement of room partitions to suit changing departmental needs is entirely consistent with the original design intent and thus can continue without detriment to the building's character and special interest, the concentration of core functions in the centre and their separation from habitable rooms is effectively a 'rule of the plan' and should be maintained. The open well in the 17th floor is also of special interest in providing the only manifestation of double height space within the upper body of the tower, signifying also something of the collective ethos of the architecture community. This feature and the original spiral staircase should be retained, and might be repeated without detriment elsewhere if desired, subject to scrupulous detailed design.

The heritage significance of the curtain wall in its external manifestation is dealt with in the section covering the building exterior. So far as the interior character of the window wall is concerned, there is definite special interest in the fineness and simplicity of the window frames and specifically the achievement of flush sightlines at the window edges. This optimises the sense of connection with the outward views and maximizes light reflectance from the reveals. The floor to ceiling column rhythm and tangible reveal depth is also a powerful expression of the structural anatomy of the building and together with the black casings and downstand beams imparts a distinctive character to the interior experience of the Arts Tower.

As regards finishes, these are generally of a basic and functional quality and do not exhibit any particular heritage significance or special interest. The restrained and consistent decorative palette used through the common parts and offices did however impart a certain sense of order to the interior which should be noted, if not literally replicated, in any refurbishment. Likewise the loss of original light fittings (white diffusers on a black body which resonated neatly with the black downstand beams) and the application of innumerable unrelated surface fixed luminaires has also diminished that original sense of order. Whilst it may be unrealistic to expect replacement of original fittings (even if re-lamped to current standards) the re-establishment of a comparable visual discipline is to be recommended.



The Paternoster 1965 (Photo: Henk Snoek)



The Paternoster today

Lift lobby doors and directory

Vertical circulation

Original design

A particular aspect to be considered in tall buildings such as the Arts Tower is the design of vertical circulation. The Arts Tower was provided with only two lifts, but vertical circulation is supplemented by the paternoster lift, which serves all levels from the lower ground to the eighteenth floor with a continuous circulating open car system of 38 cars. Each car can accommodate two people who can step on or off at any floor level, various safety devices being incorporated to halt the system in the event of falls or trips.

Alteration from original design

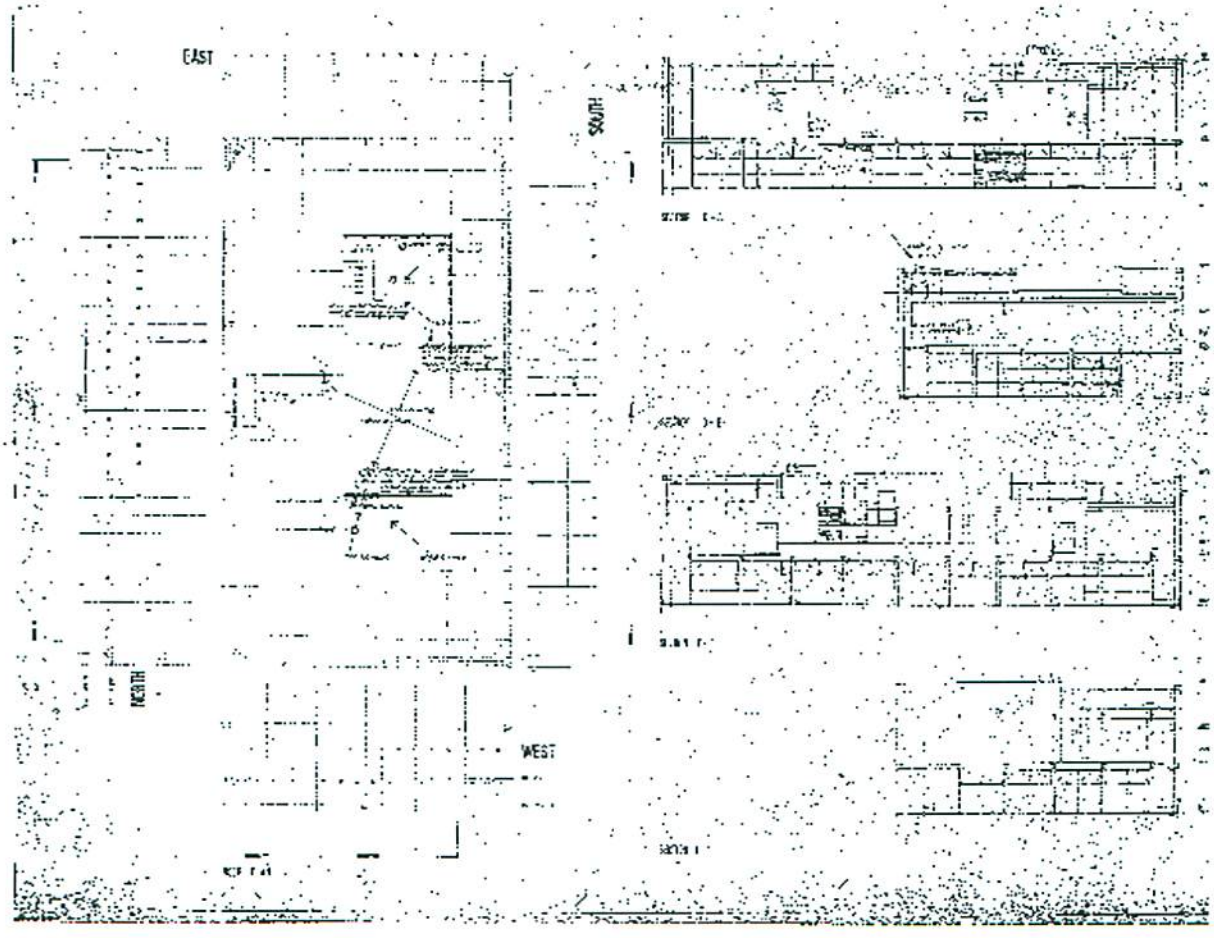
Apart from the addition of various further safety features and notices little has changed in the paternoster since its original installation. The lift installations have undergone change, though remain of broadly similar appearance other than the proliferation of related signage.

Heritage significance

The development of the passenger elevator in the US from the mid-19th century as a safe and efficient means of vertical movement was critical to the early progress of tall building design and the evolution of the 'skyscraper'. American buildings typically provided multiple banks of lifts to serve the building efficiently and avoid undue waiting time. Whilst the lifts are unremarkable, and could be replaced without triggering heritage sensitivities, the paternoster was a highly innovative and unusual feature of the building, with considerable functional benefits in enhancing vertical connectivity and providing a dynamic visual experience of travelling up and down the height of the building.

It also brings a social dimension into the circulation process that feels appropriate in an educational building, and surely differentiates the Arts Tower from the 'average office block' that early sceptics feared it would resemble. The paternoster remains an extremely rare use of such a technique in any tall building, and is probably the most significant example of the application of this technology anywhere in the UK. As such it is of considerable 'heritage value' and special interest and should be maintained as an intrinsic feature of the building – even though the machinery itself may require renewal. If replacement of the lift or paternoster components may be required it would be desirable to match the original finishes.

The louvred screen, 19th floor level



Top floors original drawing

Top floor and roof terrace

Original design

The regular floor plan pattern ceased at the 19th floor where the main curtain wall façade is surmounted by the louvred screen. At this level the enclosed volume is retracted from the building edge, producing an exterior terraced area of varying width around the perimeter. This level is served by one lift only, and the paternoster reaches the top of its loop. To the north side of the core two small lecture theatres are located back-to-back with a shared projection room. The locally raised floor to ceiling height in this area of the plan allows a raked section to the theatres. The floors of these spaces are thus built up in staging off the concrete slab, to provide a tiered seating arrangement in each theatre.

On the north west corner of the plan was located a small coffee bar serving the architecture department. Large sized steel windows were used in several of the external wall openings. The terrace area, which originally extended across the whole of the south façade and returned at the south-west corner, was finished with in-situ small square paviors.

Alterations from original design

The main alterations consist of further extension of the building enclosure into the areas formerly given over to terrace, filling out the south west corner and most of the southern margin, and also the addition of various safety systems, fire alarms, etc. The addition of further external installations on the roof is noted elsewhere.

Heritage significance

There is limited special interest in the sense of heritage significance on this floor. The louvre screen that crowns the building was essentially designed to allow what it concealed to be planned pragmatically, and alterations are of little impact provided they are constrained by the masking function of the screen itself. It is for this reason that installations which breach the screen rim are inconsistent with the original character and design intent of the building.

The lecture theatres are effectively constructed as fit-out installations, and are of interest in the variation of floor interval that was introduced in order to locate a collective teaching use at the summit of the building - reflecting an original iteration of the architecture department's needs. This is significant in terms of its use in providing a core educational function in a part of a tall building often given over wholly to service installations and tank rooms. The lecture theatres or similar collective teaching function should be retained, although as in the case of the lower level lecture theatres, the material quality of the fit-out itself is now of limited value.

There is also definite historical interest in the narrative of significant visiting speakers who have lectured to architectural audiences in these theatres. These include such notable figures as Ove Arup, Maxwell Fry, Jack Pritchard, Metzstein & MacMillan, Trevor Dannatt, Eric Lyons, John Weeks, Philip Dowson, et. al. It would be appropriate to record this tradition.

Signage, ironmongery, fixtures and fittings

(to be inserted)

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