

Project Directory 02

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CAMPUS - THE CITY WITHIN THE CITY



Campus - the city within the city

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1_ project information

above figure 1.01
tower and podium buildings at the UMIST Campus,
a clear datum separates buildings with a vertical
emphasis from those with a horizontal emphasis

Campus - the city within the city

stage 02
design
project

is phase two of a two stage combined
design and research project within the
broader thesis of

Spaces of Edification - the Campus as Urban Theory and Design Concept

overarching
MPhil thesis
project

1.1 Thesis Outline

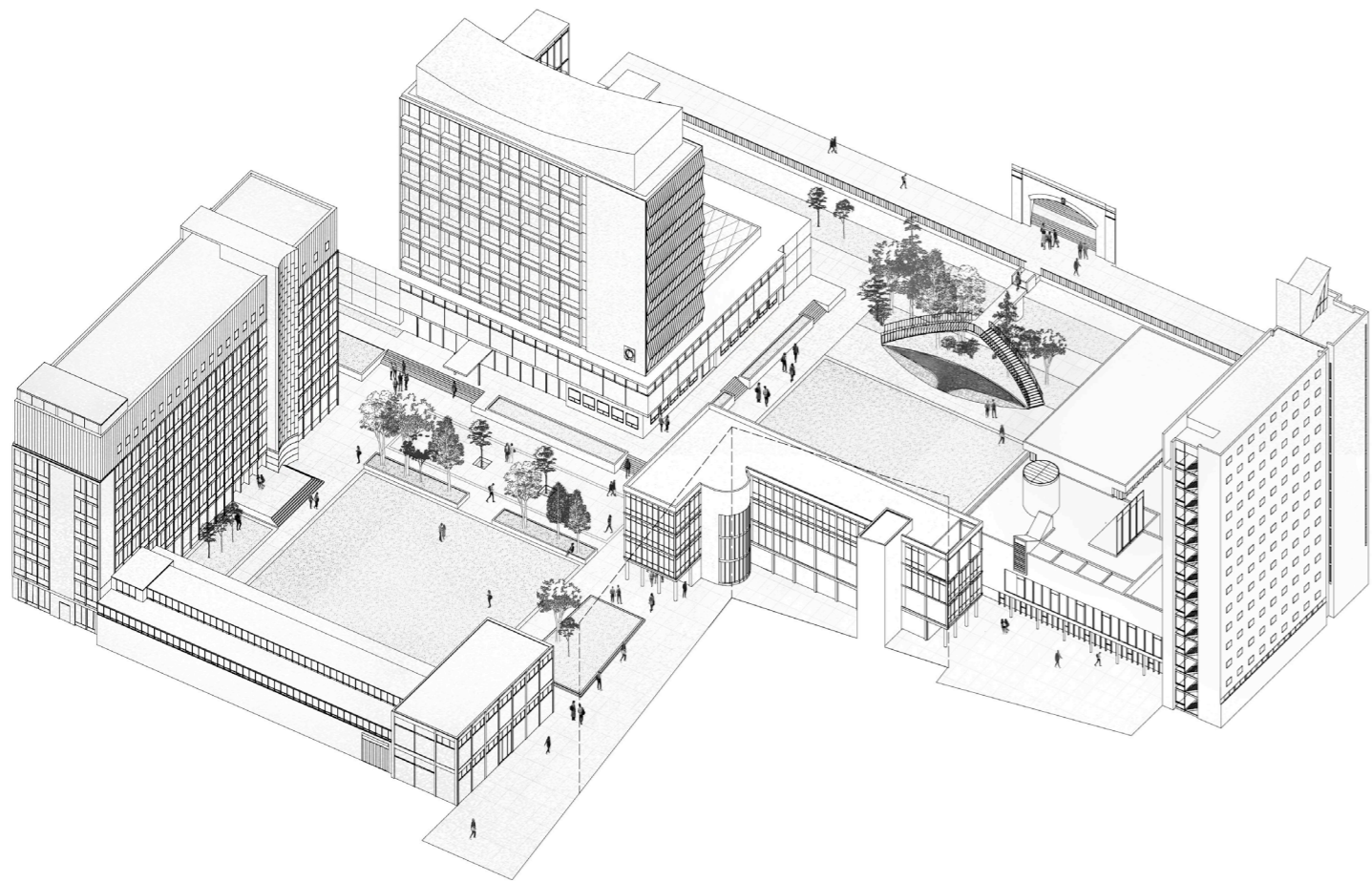
Spaces of Edification is a project which examines the relationship between higher education and the built environment. As inferred by the term 'edification', this project concerns the edification of students as good citizens, one objective of the modern university, and the etymological cognate in the word 'edifice', denoting the university campus as an environment dedicated to individual and collective betterment.

This thesis examines the university campus type, in particular the urban campus within the city. Campuses are physical realisations of the idea of the university as a self-sufficient polity - a contained miniature city, with its own form of government, world-view, population, residence, objectives, pedagogy, policing, social hierarchies etc - the campus is a physical infrastructure capable of accommodating the polyvalence of the modern university.

This thesis is concerned primarily with the postwar proliferation of university campuses in England coinciding with the democratisation of higher education under the welfare state. One such campus planned in this period, which forms the site of this study, is the University of Manchester Institute of Science and Technology (UMIST) Campus. The containment of this campus at the fringe of Manchester City Centre elicits a rare urban situation: whereby the campus, as a small city itself, is implanted within the fabric of another city which circumscribes it.



overleaf figure 1.02
collegiate modernism - the central court at
the UMIST Campus, showing the enclosed
streetscape defined by low podium buildings



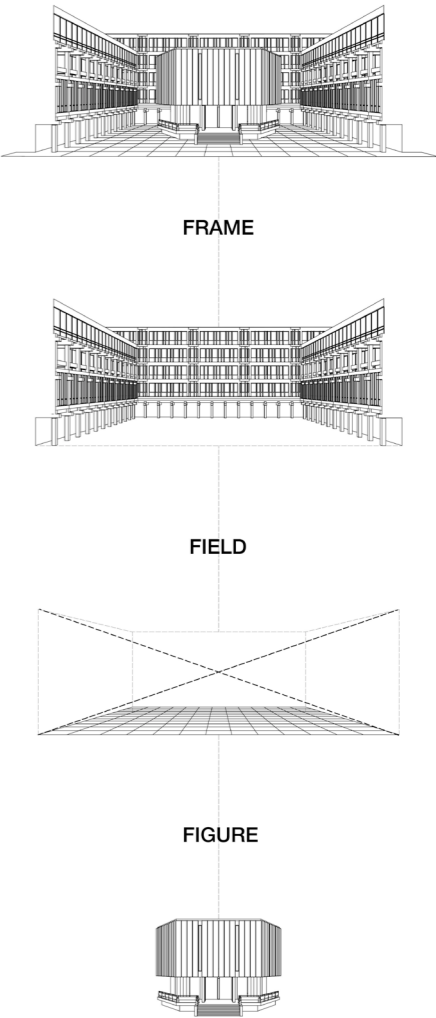
Campus planning logic, which privileges the relationships between buildings over their physical singularity, suggests how the space of the city can be reordered to create a common space of appearance through the precinctual planning of a field condition. This thesis subverts the misconception that modernist architecture exclusively privileges the object building by illustrating a range of case studies where the cultivation of a society, namely the society of a university, is conditioned through the concerted design of the figure, frame, and field; that is, common space, and architectural form which defines it.

Furthermore, it demonstrates how the concept of a spatial field within which interrelationships between architectural figures and frames are made salient can serve city planning on a level beyond the autonomous building. This thesis considers that it is in the reciprocity of utopianism and urbanism where campus theory surpasses a self-referential architectural theory and becomes symbolic of the university and the values it represents, and suggests how this reciprocity might extend beyond the university. For the city at large, campus theory can be a useful instrument to configure cohesive urban ensembles and establish the preconditions for a civic symbolism based upon the political organisation of the space. Consequently, it is through this, the principle of edification - where space and form foster urban commonality and embody symbolic values - that the potentiality of the campus to the city is revealed.

¹ The Aula project forms the first design stage and is recorded in a twin document to the present document.

1.1.2 Applying Campus Theory

In studying a range of postwar university campuses, a common theory of the postwar university campus and a complementary understanding of modernist spatiality is brought together under the architectonic categories of the figure, frame and field. This thesis maintains that this triadic spatial organisation is capable of both describing various exemplars of postwar university campuses and is also capable of suggesting new architectural forms within this spatial framework. In the project described here the theoretically deduced framework of the figure, frame and field is applied in an urban design strategy which intervenes in the fabric of the UMIST Campus. As such, this architectonic framework is used as a bridge between historic and projected urban form and situates the spatiality of the UMIST Campus within the broader enterprise of postwar campus design.



1.1.1 Thesis Conclusions

Excerpt from research thesis:

Spaces of Edification entails the fecund yet often fractured relationship of the university to society - the campus to the city. For the New Universities in England, the university is a closed society of its own making reflected in the separation of the campus from their environs. A sui generis temporal and spatial condition defines these campuses which, notwithstanding their reference to historic urban models, used their city-like configurations to suggest new patterns of urban planning. For specific urban institutions studied in Manchester, a new form of relationship between the campus and host city is formed by the spatial arrangement of the precinct type.

The precinct translates the campus type to an urban setting, and posits the possibility of the campus as a critical counter-site: a heterotopia which simultaneously challenges and affirms the form of the city. The implementation of this theory, whereby campus-planning concepts have been applied in extramural urban settings, is tested in the project for the Aula in Manchester¹, and is separately studied internationally in case studies in Chicago. From these studies in distinct locations we can conclude that the field condition which forms the basis of campus theory has implications beyond the realm of the university and retains value in modern society.



above top figure 1.03
The arrangement of buildings around courts at the UMIST Campus, Manchester. The 'collegiate' form of urban space at the campus counteracts the dominance of the postindustrial street

top right figure 1.04
research thesis: the campus as urban theory and design concept



above top figure 1.05
The triad of frame, field and figure as demonstrated using tectonic elements found at the University of Essex

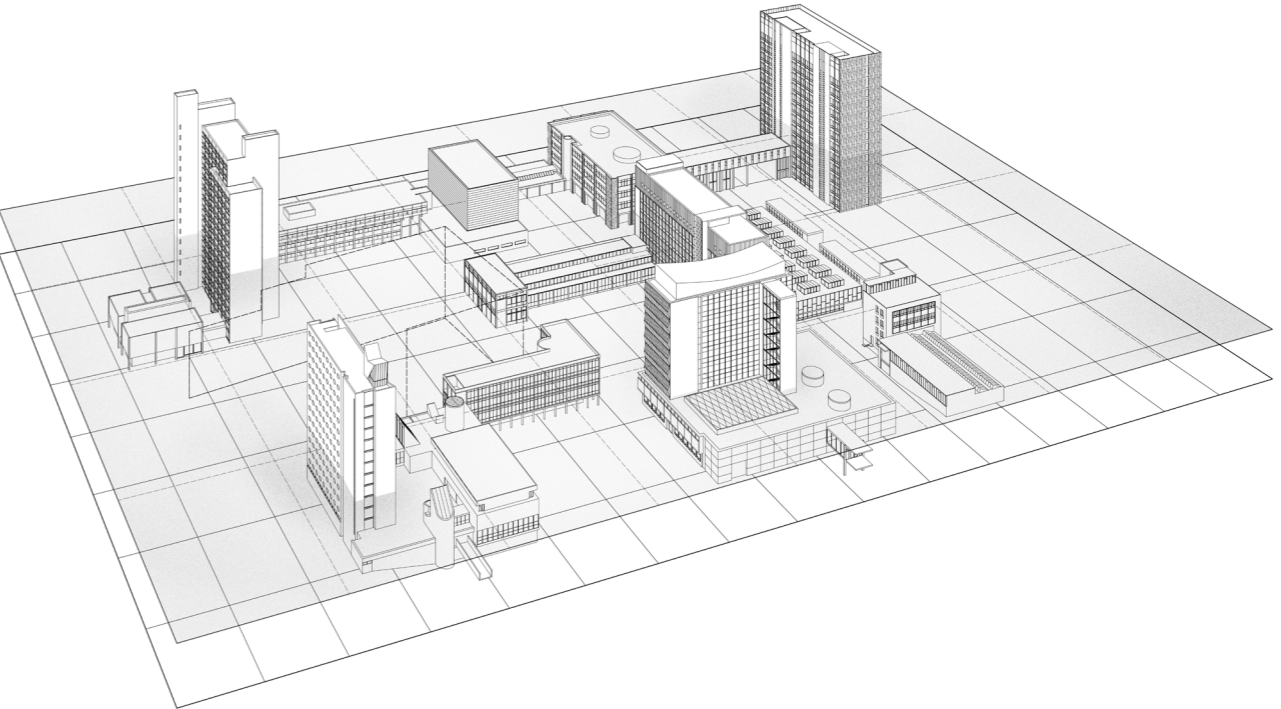
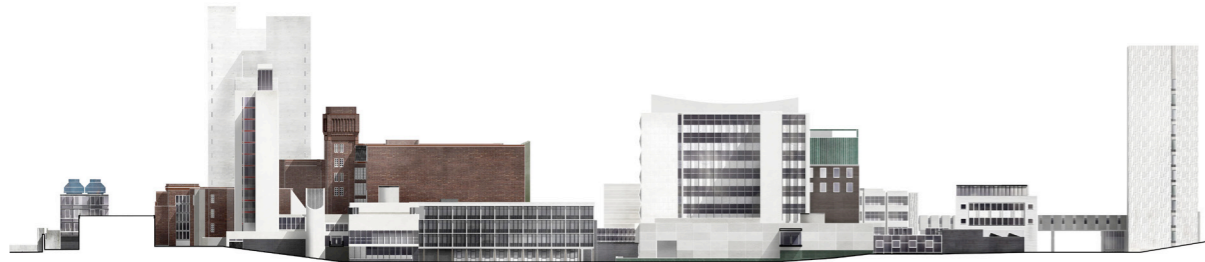
left figure 1.06
the multi-layered city - campus planning in the 1960s was employed as an experimental field to trial urban planning ideas

1.2.2. Campus Typology

The thesis identifies the tower and podium typology as a unifying morphological framework for the UMIST Campus, whereby most original buildings subscribed to a common massing approach. At a lower level, individual buildings would form an enclosed townscape using podia to form a spatial envelope whilst, at an upper level, monumental towers in a rarefied spatial field would be allowed to express their individuality on the skyline. The spatiality of the campus is therefore divided into monumentality on the skyline and collegiate intimacy on the groundplane.

In addition to common material decisions across the various buildings of the campus, the tower and podium type unifies the spatial characteristic of the campus environment as a whole, generating a sense of unity greater than the sum of the qualities of individual buildings. As this thesis maintains:

The campus field is arranged on the horizontal and vertical axis to create a three dimensional compositional field. At lower level, a consistent datum is established of podia which collectively enclose the space of the field at the level of the pedestrian. This spatial frame is surmounted by the architectural figures of the towers, which are formally individuated and occupy a more rarefied spatial field. This sectional separation allows each figure to be viewed in isolation above the datum of the podium, whilst simultaneously closely delineating the space of the courts at the ground plane. On the space of the field giving rise to the experience of a figure, Leatherbarrow simply states that 'a setting in which there is viewing distance on all four sides is the site of a monument'. As such, the tower on podium type enables both a monumental figuration of solid form above the podium datum, in addition to a relational framing of the space between at podium level, lending form to the void itself



1.2 The UMIST Campus

1.2.1 Existing Condition and Potential for Change

The current condition of the UMIST Campus represents a largely intact ensemble of modernist buildings, of varying degrees of significance and potential for reuse. The location of the campus at the fringe of the city centre suggests a density not currently matched by the morphology of the site, whose own fringes are characterised by low-rise specialist labs and workshop buildings, whilst the centre of the site is characterised by mid-rise blocks and a clearly defined urban scale. The periphery of the campus, at its interface with the city, suggests the greatest potential for change, given its poorer urban condition and poor land use. The first stage of this two-part project addresses the campus centre, and is summarised over the following pages within the remit of the Aula project. Therefore the Campus project is primarily concerned with a strategy for densification and infill across multiple buildings.

above top figure 1.07 photograph of the Renold Building at the centre of the campus demonstrating the dual scale of tower and podium

above left figure 1.08, 1.09 longitudinal site sections illustrating the campus as a cohesive urban cluster

above figure 1.10 campus on two scales - the aerial datum separates low podium buildings at the groundscale from monumental tower buildings on the skyline

above top figure 1.11 the Barnes Wallis Building, exemplar of the tower and podium typology found across the campus

RENOLD BUILDING

figure 1.12a
Architect: Cruickshank and Seward
Typology: Tower and Podium
Function: Joint Lecture Block
Status: Intact, subject to plans for partial demolition
Heritage designation: none, previous unsuccessful listing attempts
Date: 1962

PILOT PLANT/ SCULPTURAL WALL

figure 1.12c
Architect: H.S Fairhurst & Son
Typology: Adaptable 'hangar' interior
Function: Experimental engineering lab
Status: intact, subject to plans for partial demolition
Heritage designation: Sculptural wall listed grade II
Date: 1966

STAFF HOUSE

figure 1.12f
Architect: Hubert Worthington
Typology: Linear block
Function: Staff facilities
Status: intact, subject to plans for partial demolition
Heritage designation: none
Date: 1960, extended 1968

BARNES WALLIS BUILDING

figure 1.12b
Architect: Cruickshank and Seward
Typology: Tower and Podium
Function: Student Union and Halls of Residence
Status: Intact, subject to plans for total demolition
Heritage designation: none
Date: 1966

MATHS & SOCIAL SCIENCES TOWER

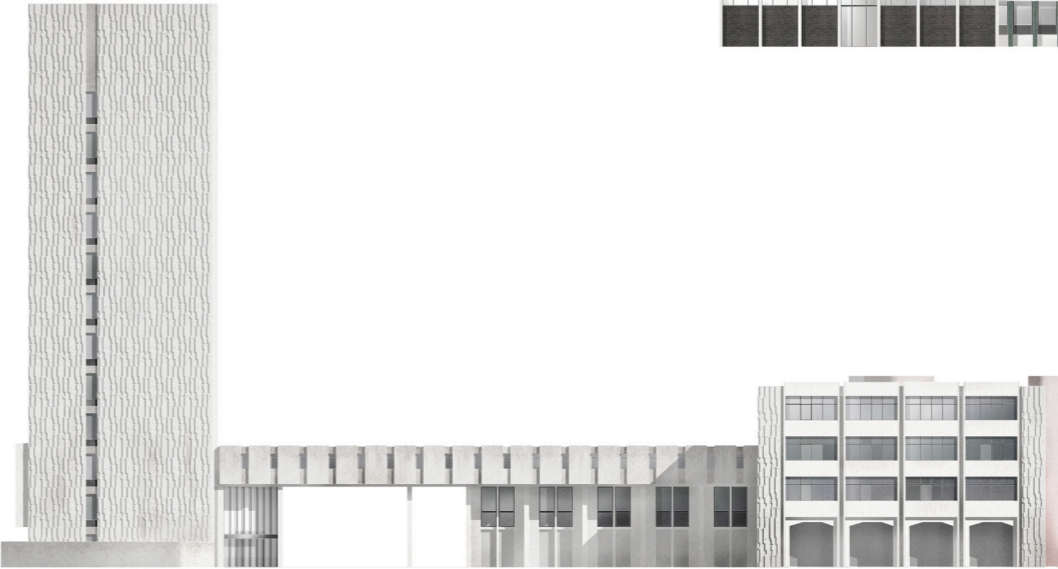
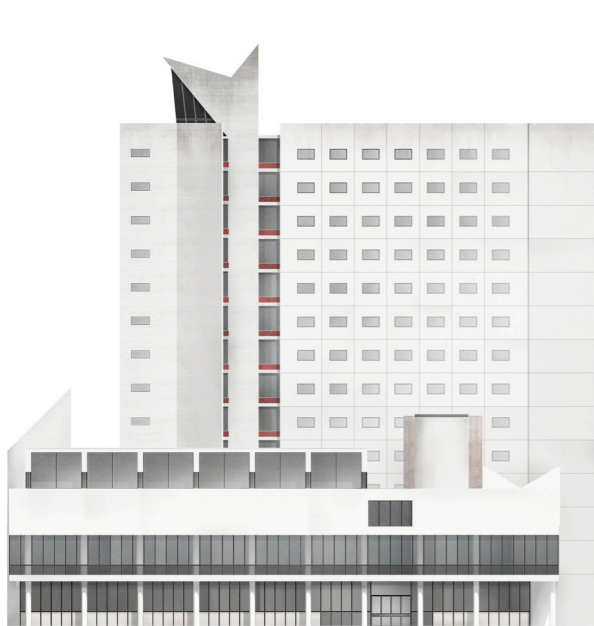
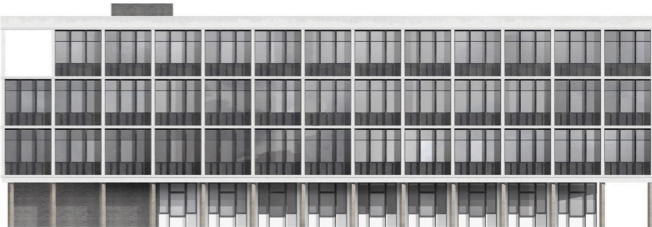
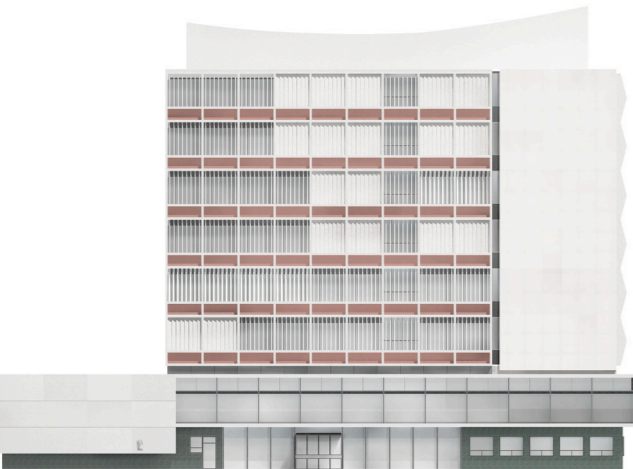
figure 1.12d
Architect: Cruickshank and Seward
Typology: Slab Tower and adjoining block
Function: Classrooms and offices
Status: Intact, subject to plans for total demolition
Heritage designation: none
Date: 1968

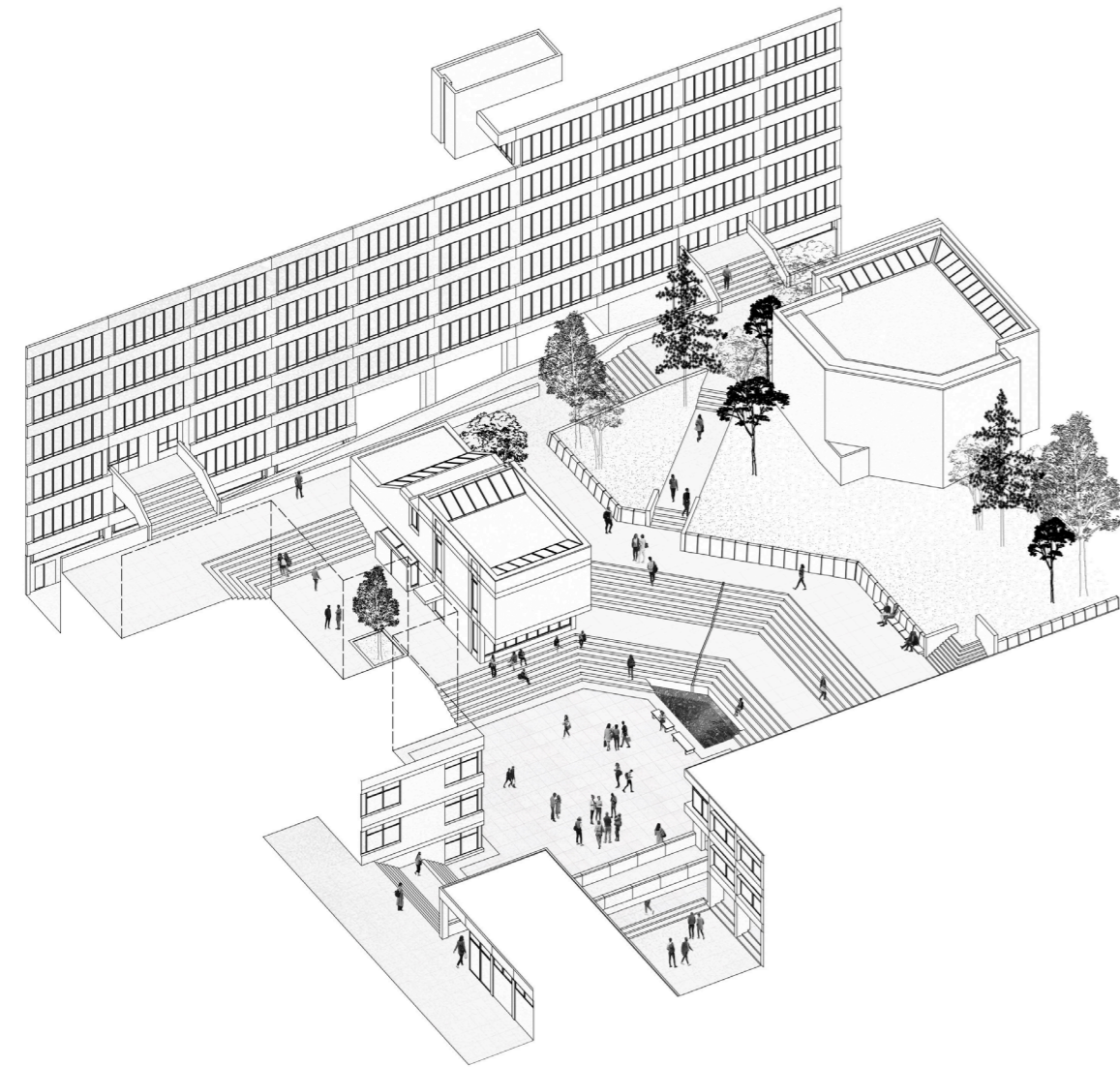
FARADAY BUILDING

figure 1.12e
Architect: H.S Fairhurst & Son
Typology: Slab Tower and adjoining block
Function: Offices and laboratories
Status: Partially demolished
Heritage designation: none
Date: 1967

PARISER BUILDING

figure 1.12g
Architect: H.S Fairhurst & Son
Typology: Slab Block and low-rise laboratory wings
Function: Workshops and Civil Engineering Labs
Status: Intact, subject to plans for partial demolition
Heritage designation: none
Date: 1963





1.2.3 Precinct as Void and Form

A further spatial concept identified in the thesis is that of the Precinct, a small urban ‘cell’ which at once refers to urban space and its interrelationship with architectural fabric. In this thesis a precinct is defined as a ‘space where activity and enclosing envelope reciprocate to heighten collective experience’. Therefore a precinct is an urban episode supported by an architectural envelope, whose arrangement is configured as a backdrop and in such a way as to provoke the life of the city. Many of the postwar university campuses studied were defined as precincts as their arrangements of buildings sought to compact space in such a way as to engender a sense of urbanity through spatial compression at the intersection of key routes. Through the spatial manipulation of the position of buildings to heighten collective experience, the precinct can be said to give form to the void and enclose a series of urban rooms.

The thesis states:

Although the principles were traditional, precinct planning collided with the most modern of spatial phenomena, positing a new form of urban space which nevertheless held as its basis familiar architectural arrangements. Repeatedly in the design of the New Universities and urban university precincts, planners retroactively appropriated the sensitivity of traditional townscapes and combined that traditional experience of urbanity with a monumental structuralist reordering through urban form.



above left figure 1.13 drawing of a precinct at UEA formed from the interrelationships of figure, frame and field. space is compressed in such a way as to create a postive form out of the void.

above figure 1.14 the triad of figure (foreground building), frame (background building) and field (amphitheatre and plaza) at UEA

Aula

(ˈɔːlə)

stage 01
design
project

noun a large place where people can congregate, such as a hall
aula magna a great hall or large classroom used for special occasions at a university

1.3 The Aula

1.3.1 Stage 01 Project

The first stage of this two-part design project is an architectural anchor building proposed for the centre of the campus, entitled the Aula. The Aula is a proposal for a civic ‘condenser’ building, which combines civic, cultural and social programmes within a singular building. It fulfils a key question of the wider thesis which is ‘if a campus can be analogous to a city, how then is a building like a city? [...] As the campus type deploys architectural form to generate a condition of urbanity, collectivism and integration this project speculates on whether this condition can be distilled further into the form of a building.’

This part of the project is studied in detail within Project Directory 1, which states:

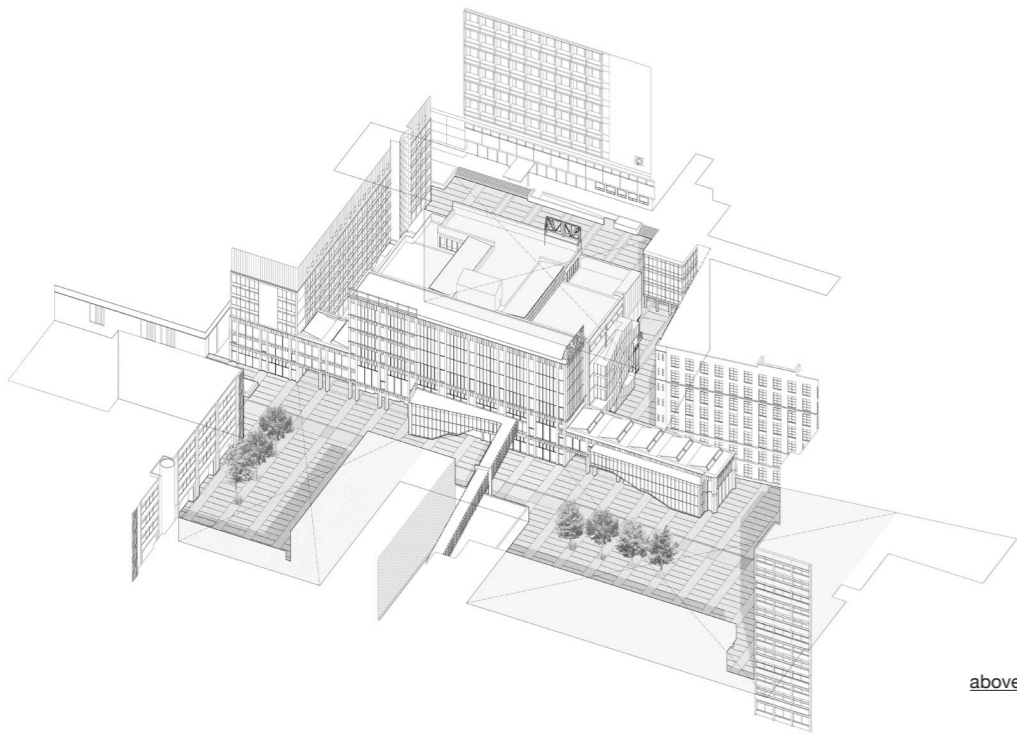
the Aula is a new typology adapted from a previously institutional setting which generates a novel civic programme. The project assembles a varied cultural programme within a single integrated environment, alongside leisure, civic, and public service programmes. Foremost, the Aula is a non-institutional interior for public assembly, supported by an evolving programme of event and activity, it seeks to condense the cosmopolitan condition of a campus into public complex and generate new social and cultural possibilities from the combination of people and event within.

In such a regard the Aula emulates another university typology which has no immediate extramural equivalent: the student union. The Aula should provide the personnel and physical apparatus for citizens to stage their own events and campaigns, and offer services for public representation to facilitate a democratic urban citizenry. The Aula hosts local municipal services, societies, and citizen’s support groups, and combines that programme with an open cultural programme to elicit a new typology of an urban union.

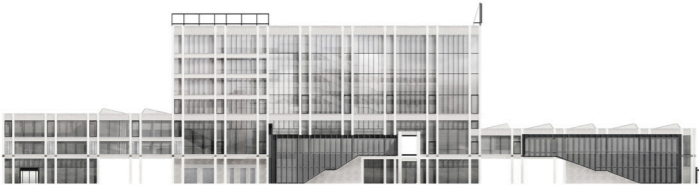


above figure 1.15 the Aula as a public interior - a large urban foyer assembling various civic and cultural programmes within the vessel of the Aula hall

above right figure 1.16 the main facade of the Aula, defining a new public quadrangle at the centre of the campus



This first stage initiates the wider project strategy, whereby the Aula acts as a cultural anchor building at the centre of the campus and stimulates public activity at the heart of the site. It is comparable to the situation of the Barbican Centre at the heart of the Barbican Estate, drawing public activity into a city interior. The Aula stimulates a democratic use of the UMIST Campus, programmatically overturning the mono-functional previous life of the campus. The ideological purpose of the Aula is to reprogramme the post- university campus from an institutional environment to an entirely public sphere, as a pilot project for a wider strategy to reinvent the campus.



The Aula is conceived as a campus-in-interior, compressing the diverse functions of a collegiate life into an intensified environment. What this achieves, in strategic terms, is a liberation of the remaining campus buildings for new uses and a critical mass of different programme types. Furthermore, the Aula establishes its own rules as to the condition of urban space around it. The building encloses and defines new quadrangular spaces, or precincts as previously described. The internal topography of platforms within the Aula is extended outwards to establish a new public network of routes within the project as a whole - an integrated relationship of indoor spaces and outdoor rooms.

As a project which must interface with an existing condition of the campus - and moreover represent the condition of the campus in architectural form - the Aula must appear as a autonomous figure which is simultaneously embedded in the existing campus field. Two distinct elevations respond to and heighten two distinct conditions. At the campus centre to the north, the Aula delineates one boundary of a quadrangle presenting a civic face to the newly-charged public space by means of enclosure. This elevation is compositional, and stands apart from neighbouring buildings as a representational facade. Conversely, to the south, the Aula reinforces an existing ambiguously defined street condition by presenting a 100m long concourse to sharply define the latent street condition. This elevation is infrastructural, as the concourse attaches to adjacent buildings, integrating them into one continuous interior.



above left **figure 1.17**
the Aula in context with its immediate environs, showing its 'plug-in' relationship with adjacent buildings

above **figure 1.18**
the internal concourse of the Aula as a vertical connection between internal programmes - the concourse itself acts as a horizontal street and mixing chamber for diverse audiences

left **figure 1.19**
the concourse elevation responds to a distinct urban condition relative to the main facade, and adopts a linear quality along Atlas Way



above **figure 1.20**
view along Atlas Way - a wide pedestrian street - which is internalised into the Aula concourse. The Aula forms a cultural anchor building at the centre of the campus and influences subsequent urban ideas as part of the project's second stage



2_ detailed proposals

2.1 [Overview](#)

2.1.1 [Aula - an Urban Union](#)

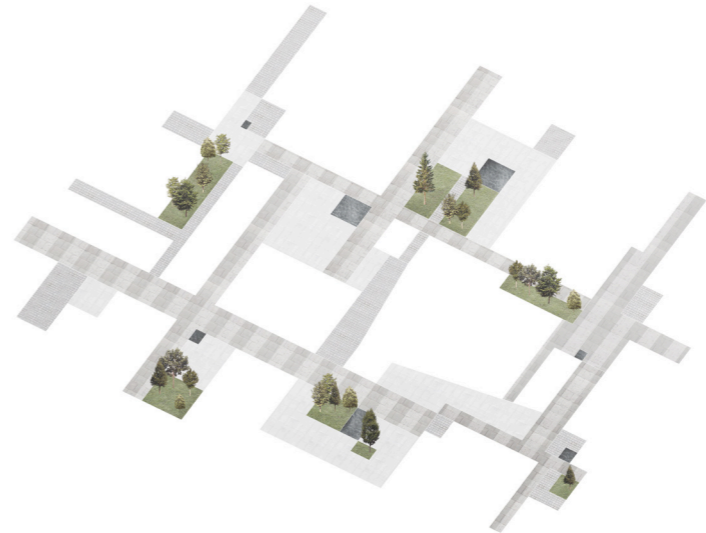
Following from the research gathered on postwar university campuses and modernist urbanism, combined with previous design proposals for the Aula, which sought to capture the cosmopolitan idea of a campus; the second project stage shifts to examine and rectify aspects of the UMIST Campus specifically and on an urban scale.

Seeking to implement both aspects from the aforementioned research and design strategies, the focus of this stage (and this document) is the urban scale design approach to the campus. The intention for the next stage remains consistent with the strategy defined at the previous stage, specifically: a two stage project framework on first; an architectural scale of the Aula project itself, and second; a strategic plan for re-use of the existing campus buildings and cohesive public realm improvements. The Aula is considered the civic anchor building at the nucleus of the campus, whose cultural programme initiates the process of gradual re-inhabitation of the quarter.

This strategy is implemented and supported by the frameworks identified through the research findings of the thesis, which are briefly summarised in section 1.2, pertaining to the spatiality of the campus. It applies both the logic of the figure, frame and field, in aiming to create a series of precincts, or city rooms. Therefore this approach can be considered to be sensitive both to the specific space of the UMIST Campus, and to the general theory of campus architecture, balancing site specificity within a broader logic to generate a considered framework for new architectural proposals.

above

figure 2.01
view over the new campus rain garden looking towards the cinema foyer and precinct. New architectural interventions frame a series of enclosed public spaces



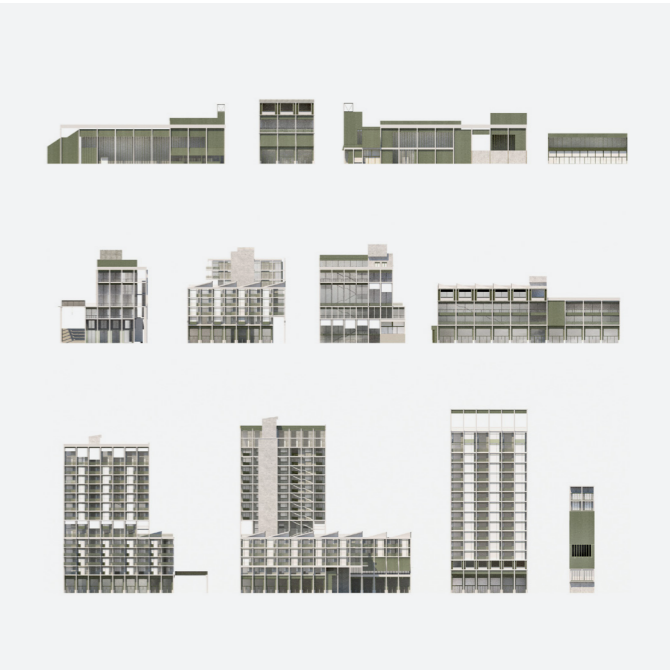
Furthermore, the Campus Quarter intends to provide - within one delimited area - many of the functions required for urban life to unfold. The 15 minute city is a concept applied to evolving urban neighbourhoods, this project seeks to condense that radius into a 5 minute city, adopting many of the benefits of campus life. Namely, the immediacy of a community, amenity and a localised identity are treated as methods to resist the alienation of modern city living, supplanted by a sense of collegiality. The Campus Quarter therefore is not so much a fragment of the city, but a micro-city in its own right, providing for an immediate urban citizenry.

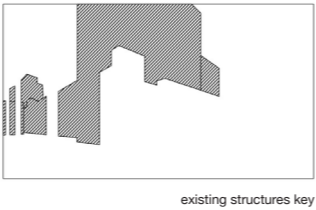
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figure 2.02
proposed typologies for the new buildings on campus. Top: colonnade buildings, middle: mid-rise blocks, bottom: tower and podium buildings

left

figure 2.03
civic ground - the intent of the project is to restore an urban grain to the campus as a post-institutional environment





2.3 Design Synopsis

The urban strategy proposes the introduction of new buildings concentrated around the site perimeter, at the junction with the city. These buildings inject a critical mass of new uses to the campus, ranging from residential, to commercial, to community and recreational use. The purpose of the programme is to be varied, in order to overturn the mono-functionality of the former campus and create a diurnal rhythm of life to the campus quarter.

This architectural infill structures the edges of the campus, and threshold markers signal the transition from city to campus across a landscaped belt. The intent of density at the edge is to preserve the original integrity of the campus core, whilst creating a sharply defined identity to the campus in relation to the city.

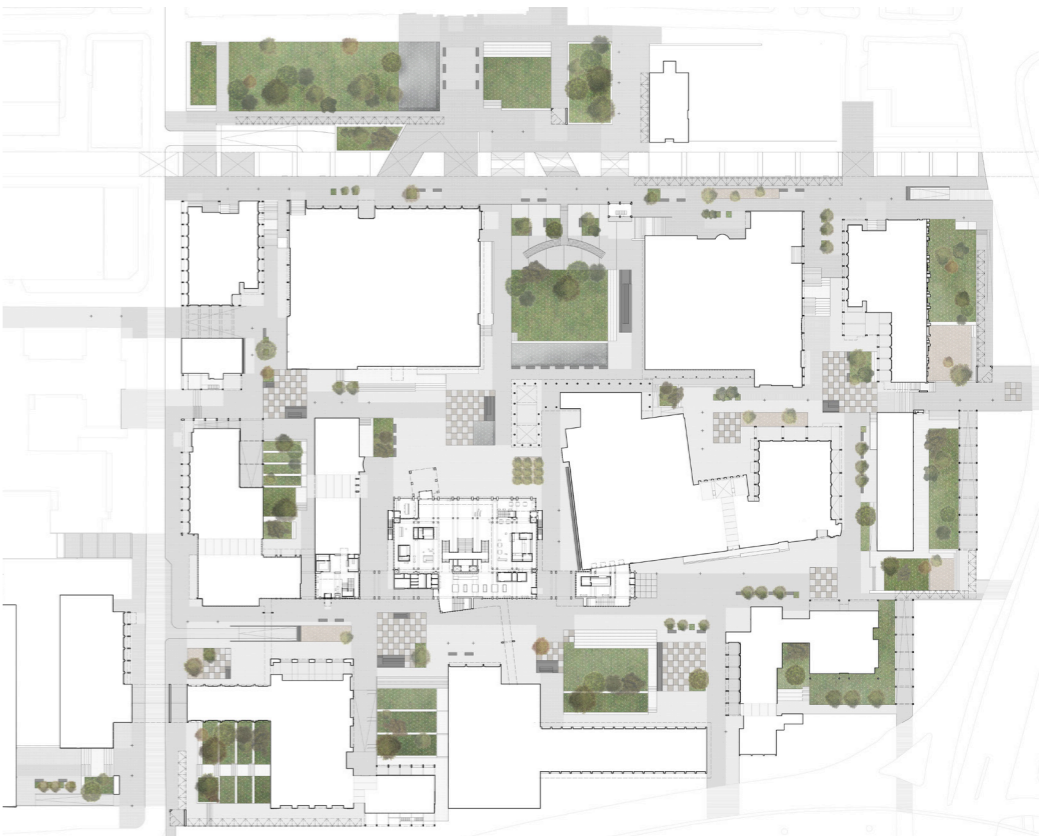
Judicious decisions concerning the value of existing buildings drive this project, whilst buildings which contribute little to the campus environment are removed, positive urban figures remain as fixes within the plan. The proposal balances the interaction between proposed campus buildings and the original identity of the UMIST Campus.

Within the campus itself, improvements to the public realm are effected by a new cohesive landscape strategy across the ground plane, privileging pedestrian movement across the site in a series of public 'spaces of appearance'. Specific urban areas are designed to intensify public occupation and concentrate activity at nodal points in the plan.



above top figure 2.04
view of a new public precinct formed from the space of a former service yard - the new public realm balances hard landscape and planting

above figure 2.05
urban figures - key entrance buildings and foyers are architecturally individuated to provide a salient presence within the new precincts

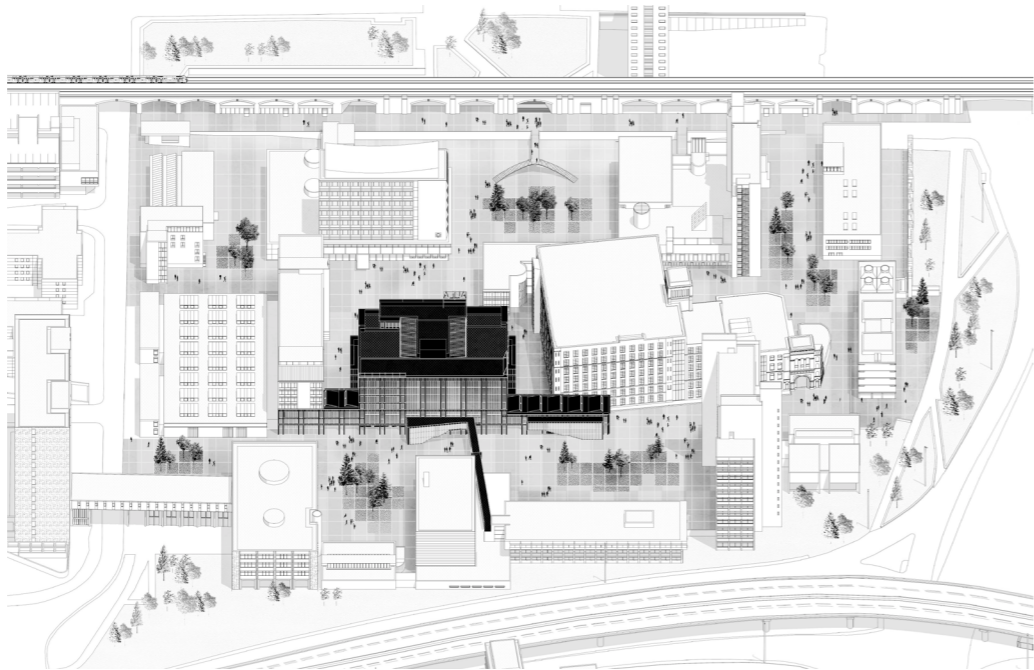


2.4 Urban Strategy

The following section is not intended as a phasing masterplan, but as separate thematic categories for different types of renewal within the campus as a whole. No one form of redevelopment is chosen as a panacea to the existing shortcomings presented by the campus and as such a multifaceted approach is taken.

above top figure 2.04
campus-wide landscape strategy showing distribution of landscaped courts and chequerboard precincts

above figure 2.05 - 2.08
views of landscaped areas at the edge of the campus - covered colonnades and courtyards provide a green buffer between campus and city

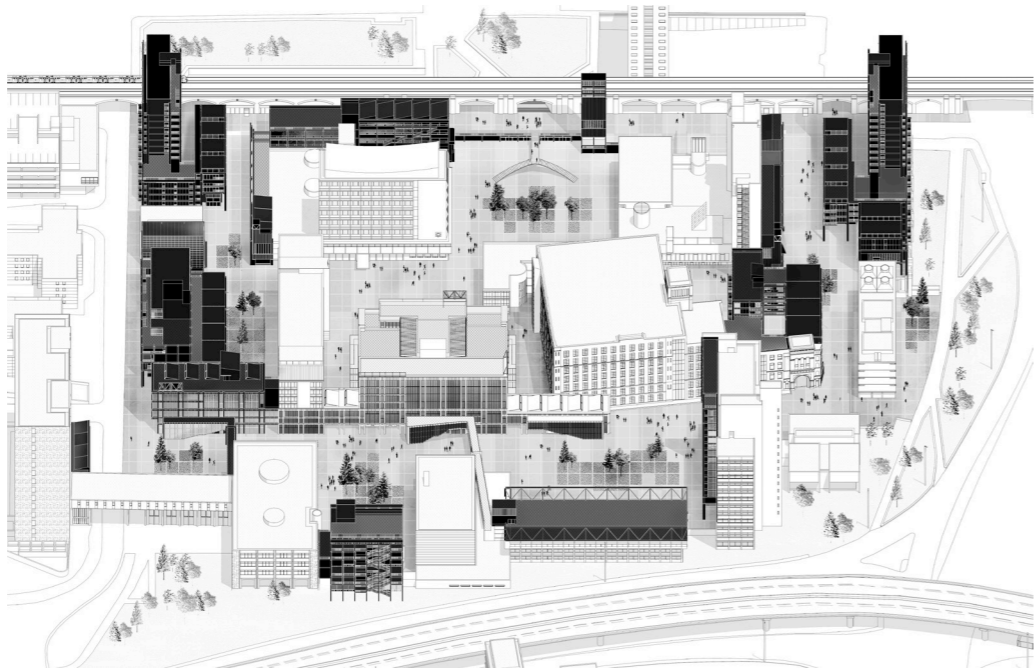


Aula

figure 2.09

The Aula project initiates the reappropriation of the campus for public use. Its situation at the centre of the campus acts as a magnet for the campus in relation to the city as a whole, introducing a central civic and cultural purpose at the nucleus of the site. In time, the effect is reversed and in further stages of the proposal the Aula begins to contribute outwards to the public life of the campus quarter as a whole.

Structurally, the Aula plugs into adjacent buildings at first floor level across a public concourse and bridges. The concourse, as an internal street, provides a sheltered public interior and integrates into a larger campus system. It connects through to existing buildings reused as sports facilities, co-working halls, offices, and apartment buildings respectively. The Aula has a predominantly programmatic approach to renewal.

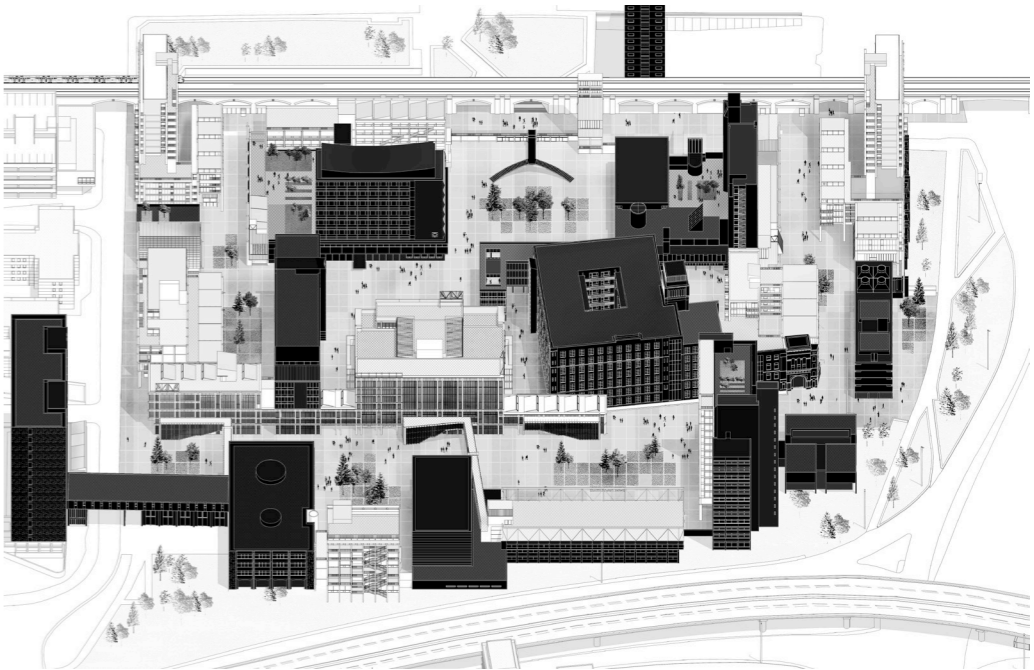


Infill

figure 2.10

Low rise laboratory wings around the campus perimeter are removed to make way for a strong urban edge, reinforcing the identity of the campus quarter in relation to the city around it. These mid scale blocks reinstate positively defined urban space and respect the tower and podium datum established by the original campus buildings.

This category of redevelopment establishes a density and new normative campus frame, providing a regular yet differentiated rhythm to the built environment. A consistent tectonic logic ensures that the infill buildings are legible as facades which support street activity, which allow individuated urban figures to come to the foreground of the city scene. The infill strategy adopts a morphological approach to renewal.

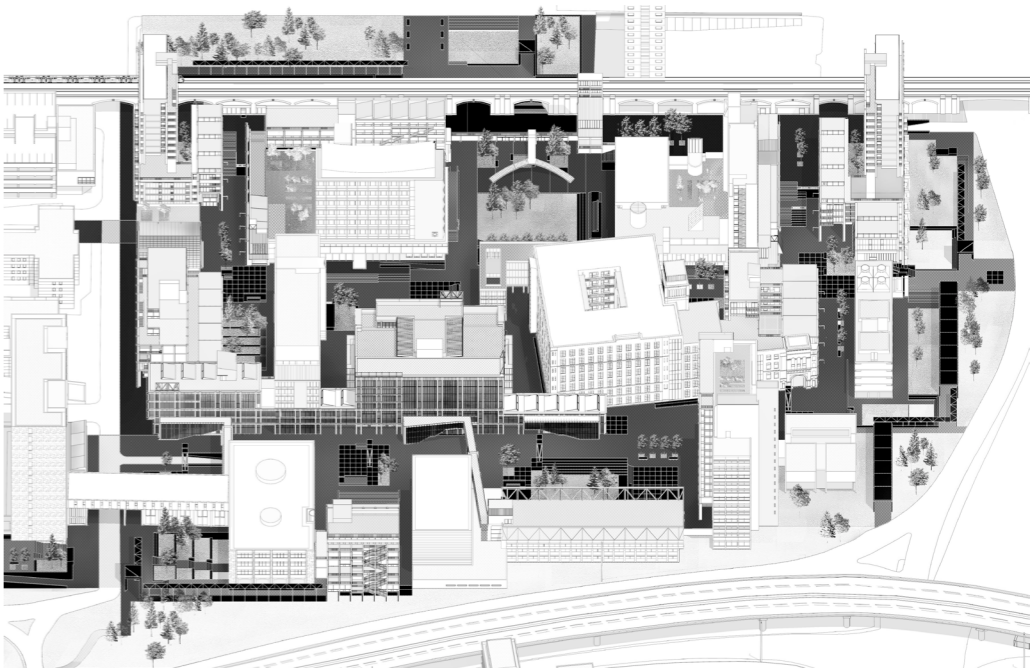


Transformation

figure 2.11

In balance with the strategy for infill, this is a strategy for retention and reinvention of the existing building stock, where the qualities of the existing buildings warrant retention. Original campus buildings which contribute to the streetscape, identity, or by virtue of their adaptability are retained and are creatively assigned new uses. For instance, former lecture rooms become cinemas, the former students union becomes a sixth form college, and former labs become sports facilities.

In general, the adaptable floor plates of former academic buildings become offices or residential, supported by new building 'scaffolds' which increase floorspace and improve the relationship of the building interiors to the campus outside. The transformation approach ensures that an adaptive reuse strategy preserves the unique aesthetic and evidential value of the campus buildings without precluding urban change.



Consolidation

figure 2.12

This category of redevelopment aims to splice the grid of the city into the grid of the campus, in order to create a permeable ground plane to the campus. Whilst the Infill strategy ensures the campus quarter is legible as a distinct urban environment, the improvement to the groundscape ensures that its porosity to the life of the city is facilitated. Modulation of the ground treatment from landscaped courts to paved squares establishes a coherent gradient of spaces which unite existing and proposed campus buildings.

The ground plane submerges services under an entirely pedestrian 'environmental area' devoid of traffic, subverting the predominant post-industrial typology of the street in favour of a collegiate environment of landscaped courts. The consolidation of multiple strategies through a unified ground treatment adopts a landscape oriented approach to renewal.



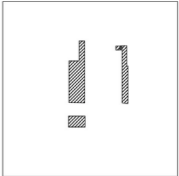
campus quarter



above

figure 2.13
Campus-wide groundplan - the campus is reconceived as a forum of buildings, with a continuous public mat of pedestrian spaces and internal passages through proposed and existing buildings.

At ground level building frontages are made as porous and active as possible, exploiting the topographical shift from north to south. The plan aims to restore an urban grain across the site creating a new city grid

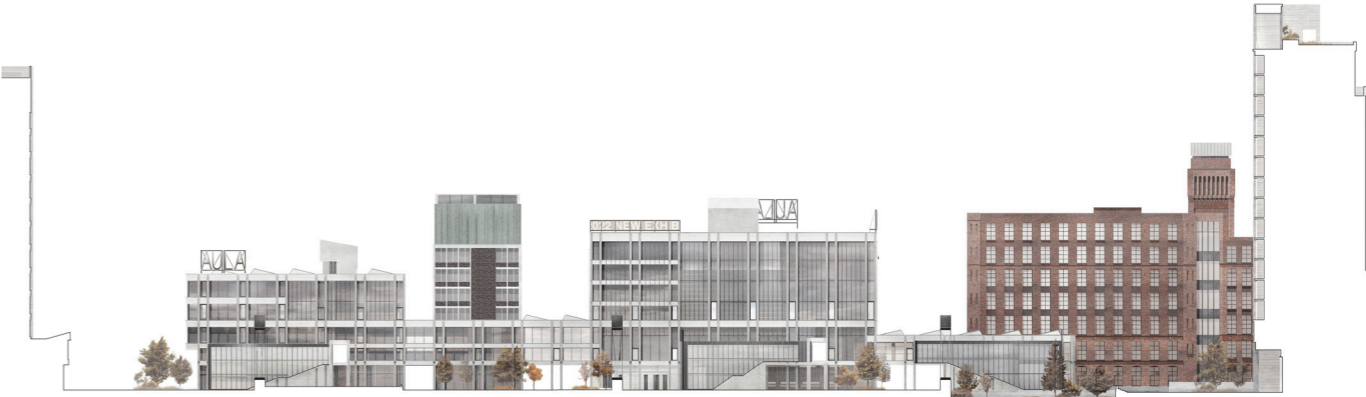


existing structures key

2.5

Urban Plan

The masterplan for the entire campus intends to create a forum of buildings, in order to retain the permeability of campus buildings to the public. A consistent and subtly varied ground treatment is layered over the site to reinstate a loosely grid based urban pattern. The grid, which locks onto existing building lines, is offset subtly by the shifting proposed buildings off axis to establish short streets and passages, rather than long axes. One notable exception to this is Atlas Way, named for a former factory on the site, which bisects the campus running parallel to the Aula concourse. It mirrors the internal programme of the Aula concourse acting as a public street for parades, activity, and marshalling for public events. The bridges of the Aula straddle Atlas Way to divide its length into three smaller spatial compartments, or precincts, each with a specific ground treatment and atmosphere.

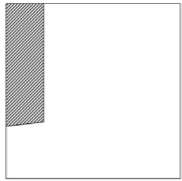


above top

figure 2.14
Atlas way - a long public thoroughfare bisects the campus, divided by bridges along its length into smaller precincts of varying characters

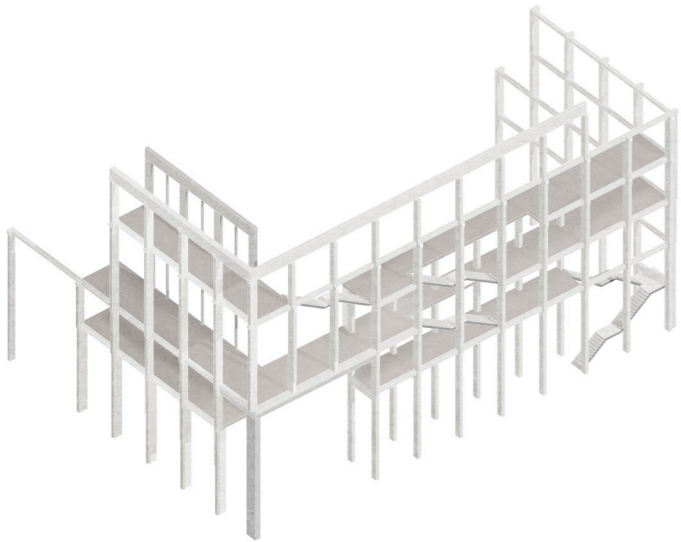
above

figure 2.15
Atlas Way - section showing the Aula and its extension through the Pariser Building. The north side of Atlas Way is a long linear curtain wall, whilst the south side is comprised of individual pavilions



existing structures key

Overall, the depth of building thresholds is treated as the area with the most under-utilised civic potential. The building line is recessed behind colonnades, loggia and arcades to extend the transition between interior and exterior, introducing an intermediate filter spaces where the public and private areas overlap. At the centre of the plan, facing onto the Aula forecourt, the former staff house is hollowed out to create a large Campus Hall. Here, the ground plane is extended through the hall, which is open to the elements through two large atrium oculi and through the frame of the original building shell. Public art and listed artefacts from the original campus are collected here as a modernist lapidarium.



Covered colonnades find further use around the campus perimeter, where they become threshold structures between the campus and the city. Whilst the campus colonnades serve as filters between interior and exterior, so too around the edge they serve as filters between campus interior and city exterior. The colonnades offer a continuous covered walkway around the edge of the site, providing shelter and a salient sense of passage. The overall intention for the plan is to be as porous as possible in order to elicit an open forum of buildings.

above top

figure 2.16
view of the proposed urban realm, the building line is articulated by recessed and projecting elements within the colonnade zone. To the left a covered arcade provides a gateway to the site from the city and spans between proposed and existing buildings

left

figure 2.17
the building frame provides an inhabitable zone between internal and external domains and acts as a sheltered civic area

below

figure 2.18
view of a campus threshold structure - three identical gateways exist as satellites at the campus edge



2.5.1

Precinctual Planning

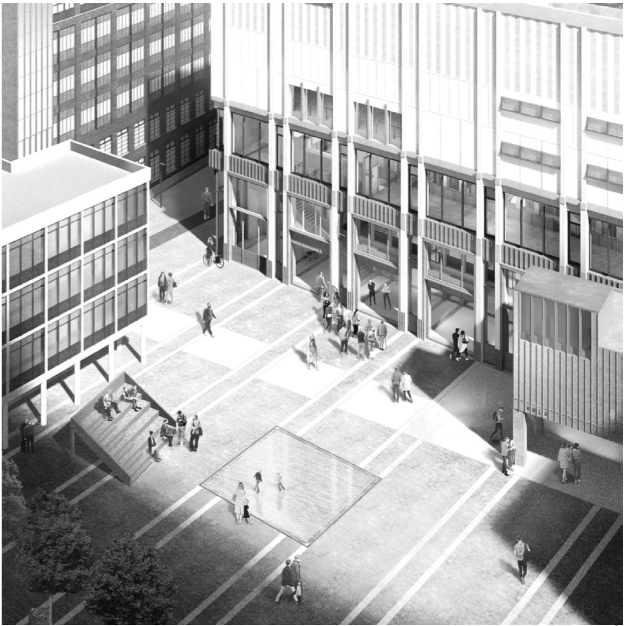
In order to establish a coherent urban realm which complements the existing urban fabric, a common set of spatial urban principles are employed across the campus. These principles largely correlate to the Townscape principles established by Gordon Cullen in the eponymous theory of the 1960s, and influenced the design of urban precincts in the postwar period. Townscape privileged pedestrian movement, visual scenography, and a varied experience of space exemplified by the precinct type. The project thesis states that 'a key factor in precinctual planning as much as campus-planning is the arrangement of buildings in such a way as to concentrate activity and generate a sense of urbanity.' By adopting similar spatial traits through an adapted townscape theory, the new urban principles for the campus can reflect and amplify the prominence of the original campus layout and heighten the experience of public life.

above top

figure 2.19
view of the townscape around the cinema precinct - a chequerboard pattern on the ground represents the crossing and convergence of multiple routes around campus. The spatial envelope of the precinct is formed of a varied combination of urban figures and frames

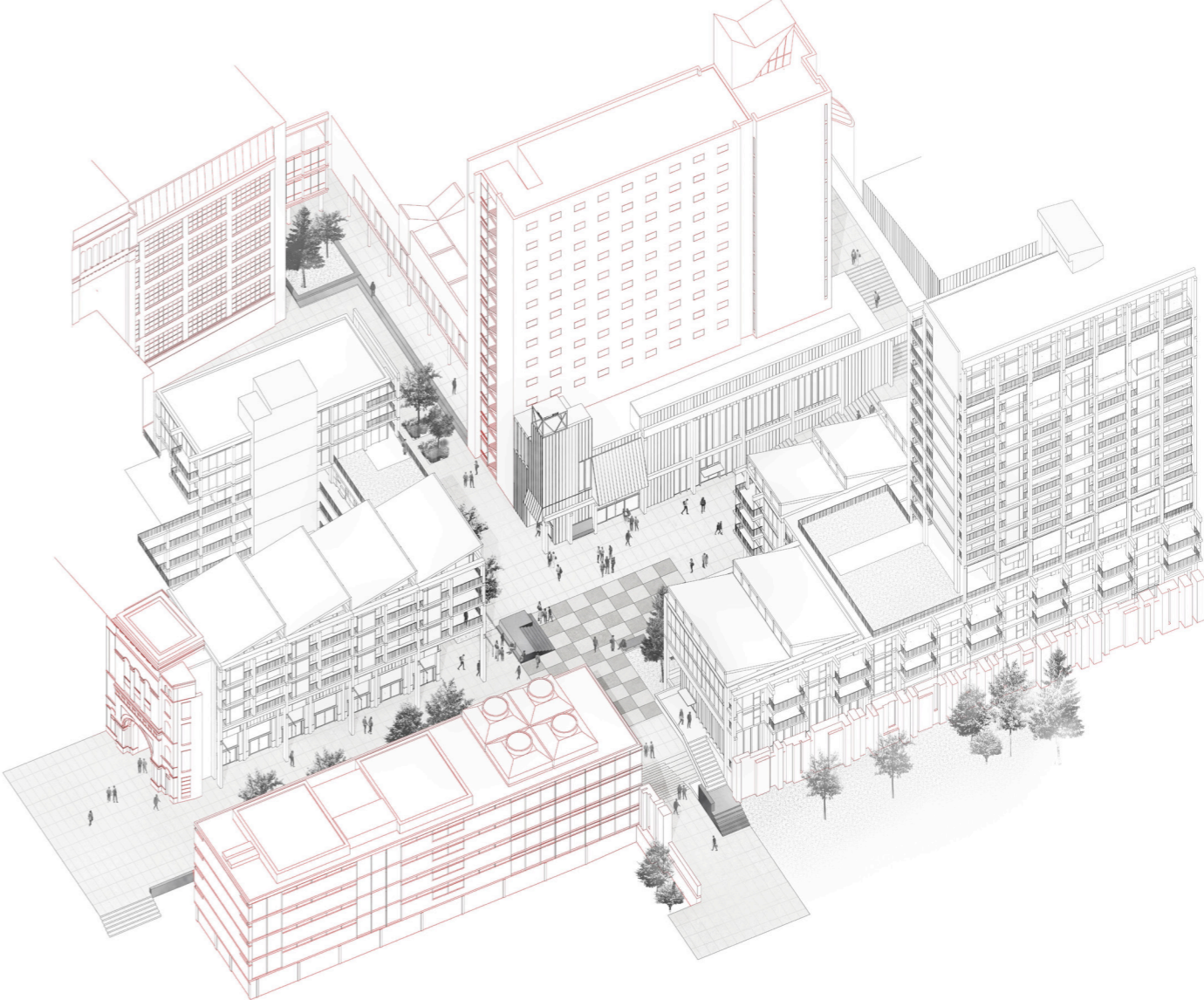
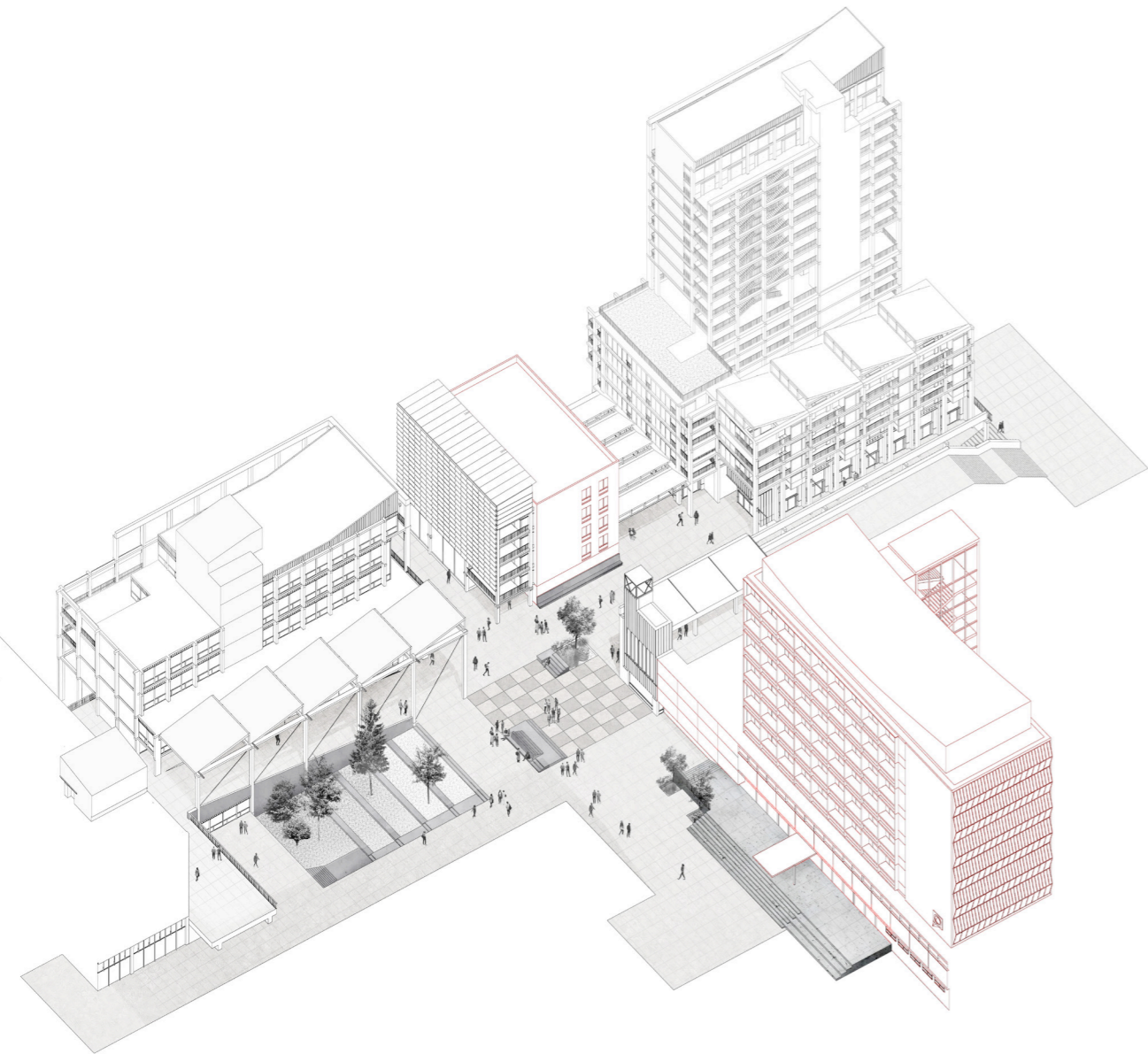
above left

figure 2.20
view of the local authority building flanked by two existing buildings, seen from the loggia of the Aula. The enclosure of space aims to create a series of interconnected 'city rooms'



right

figure 2.21
a city square is created at the centre of the campus, and forms a large forecourt to the Aula



west precinct

clockwise from top

figure 2.22 aerial drawing of the west (cinema) precinct at the approach from the city. buildings shown in red are original campus buildings which form 'as found' fixes within the proposal

figure 2.23 plan and elevation of the cinema foyer, which forms a unique urban figure and stimulus for the life of the precinct

figure 2.24 around the rest of the precinct, more normative uses and building frames provide a backdrop for urabn life



east precinct

clockwise from top

figure 2.25 aerial drawing of the east (college) precinct at the approach from the station. buildings shown in red are original campus buildings which form 'as found' fixes within the proposal

figure 2.26 plan and elevation of the college foyer, which forms a unique urban figure and stimulus for the life of the precinct

figure 2.27 around the rest of the precinct, more normative uses and building frames provide a backdrop for urabn life



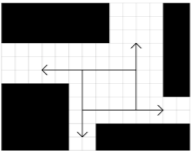
2.5.2 Urban Principles

The following diagrams illustrate spatial and morphological constraints which influence the precinctual planning of the campus quarter. These figure-ground principles aim to generate rhythm and comprehensible spatial condition across the campus as a whole, where many specific urban episodes can coalesce into a sense of a larger planned entity.

The precinct planning type is parsed into smaller spatial operations and employed where relevant to the existing urban situation. In other words, the as found condition of the campus is taken as a primary fix, providing immediate inferences to a spatial reaction. Once a basic programme is established to each given precinct, the urban principles guide the morphological outcome.

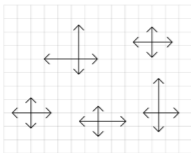
ECCENTRICITY

Approaches into a given precinct are offset in plan so that they converge to generate pinwheel arrangements



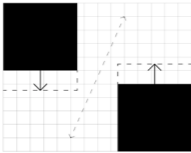
POLYCENTRICITY

Multiple 'sub-precincts' are distributed around the campus as a whole as localised pockets within a constellation of spaces



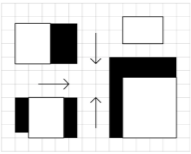
OBLIQUITY

Offset building frontages resist axial views through linear space, and indicates a space beyond



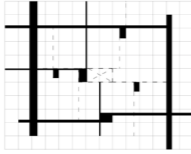
CLARITY

The figure-ground arrangement of the campus is clarified by tightening the urban realm to compress the void into a comprehensible spatial form



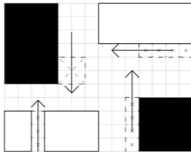
HIERARCHY

The grid network around the campus is ordered into primary thoroughfares, secondary routes, and tertiary passages



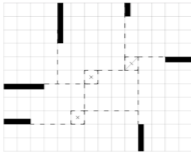
POROSITY

Building masses are penetrated and intersected by partially-open routes through buildings at the interface of public and private



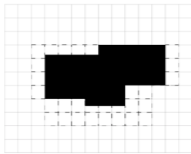
SPLICING

The urban gridiron of the city and the grid the campus are spliced together to facilitate the porosity of the Campus Quarter.



ENCASEMENT

Building figures are sleeved by skeletal frames, which provide civic depth and a filter between interior and exterior



above figure 2.28 figures and frames are integrated into singular forms which enclose and provide urban fixes within the precinct

left figure 2.29 urban planning diagrams showing basic spatial operations governing the arrangement of urban space on the campus

2.6 Figure, Frame and Field

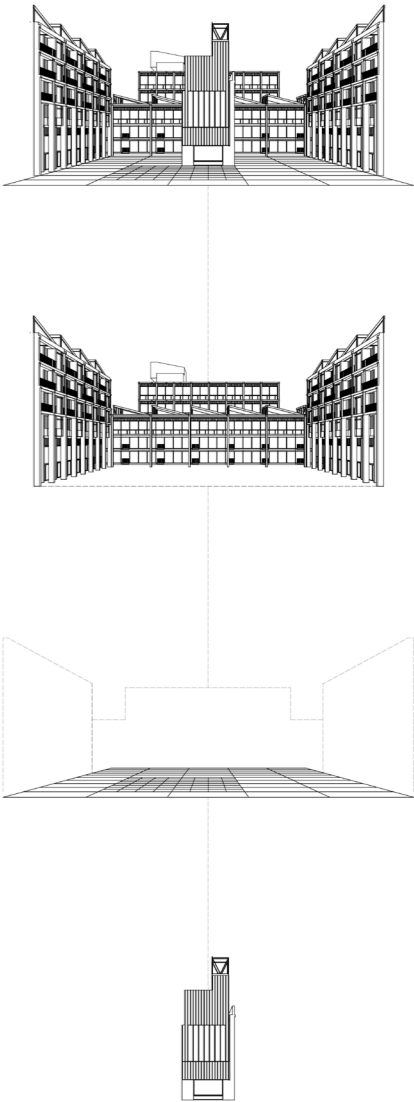
The architecture of proposed buildings is derived from the study of postwar campus architecture. The spatial logic of a campus is predicated on a rule based system which determines the treatment of individual functions and their architectural expression within the urban structure. The thesis states that 'Campus logic integrates distinct programmes and simultaneously expresses their unique identity' and that this duality is accomplished through the integration of functions within figures and frames. It continues, 'the figure is the autonomous architectural object (i.e. the exception), whilst the frame (i.e. the rule) is the integrative urban fabric.' The figure and frame have a symbolic basis as well as physical manifestation; the figure is the foreground expressive function, whereas the frame is the normative urban glue which provides consistency. Accordingly, the figure is permitted to express its functional individuality in a modelled architectural form, whilst the frame is restricted to a common tectonic inventory of elements.

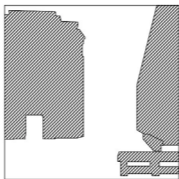
Whilst both figure and frame refer to architectural entities, the third element of the field has an urban orientation. The field 'represents the enclosed interstitial space in which both figure and frame are perceived together' and can refer to either the ground plane as the common datum of experience, or to the apprehensible spatial envelope created by the enclosure of a void. By giving form to the spatial field, the frame supports the life of the campus by containment and intensification. All three elements work concertedly but as distinct instruments to enable individuation within the mass environment. For campus planners, it conformed to the aim to 'restore the complexity and versatility of urban life' through the integration and simultaneous expression of all functions.



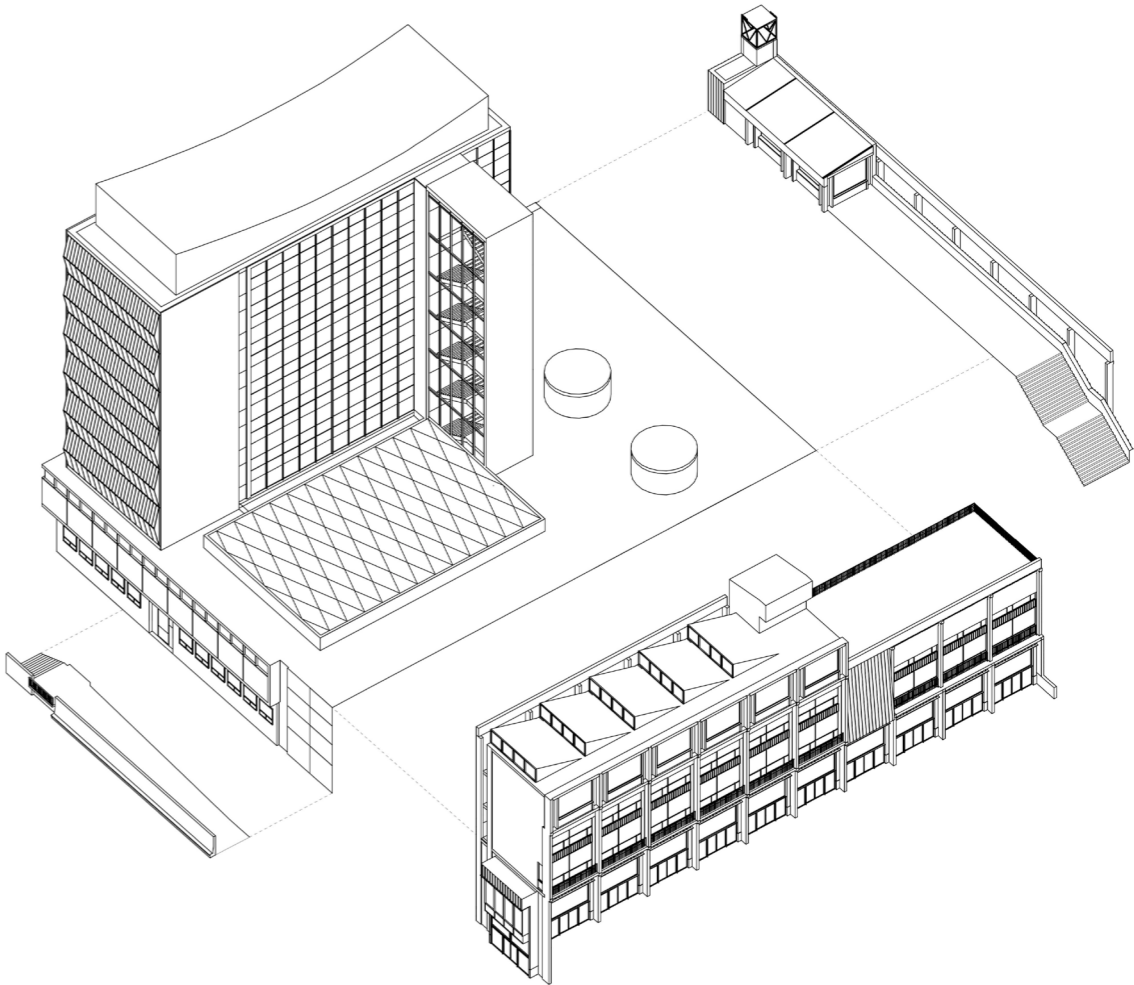
above left figure 2.30 View of the residential frame as tectonic system as well as a symbolic frame to facilitate the expression of private life in the public realm

above right figure 2.31 frame, field and figure diagram employing tectonic elements from the Campus Quarter. The frame refers to system building elements whilst the figure is an architectural state of exception





existing structures key



2.6.1 Applying the Spatial Framework

In the context of this project, the frame refers to a consistent index of basic tectonic elements and their conventional arrangement, such as columns, beams, lintels, mullions providing a system of common architectural parts. Arranged together, these form colonnades, loggias, terraces etc which become open zones and inhabitable voids within the depth of the building. Symbolically, the physical building frame can be interpreted as the frame for life within the campus, yet it requires some kind of stimulus to suggest activity. The figure is both the architectural and programmatic stimulus within the campus. Architecturally, they are expressed as points of exception and are designed beyond the constraints imposed upon the frame. The figures contain key foyers around the campus and as such also act as programmatic stimuli, contributing moments of event and activity to the life of the campus.

The serial logic of the frame, and the specific logic of the figure are integrated into compound forms, insofar as the two are visually distinct, but formally affixed to one another. For instance, in the case of the college entrance building, the frames become overt civic devices when affixed as a representational colonnade on the face of the figure. The two are distinguished by material, yet complement each other by assimilating the attributes of the other: the frame adopts a civic and representational quality, whilst the figure adopts a normative conformity to the overriding logic of the campus.



above

figure 2.32
the frame provides a consistent tectonic logic for the normative fabric of the campus. its consistent logic permits a free use of the 'inhabitable voids'

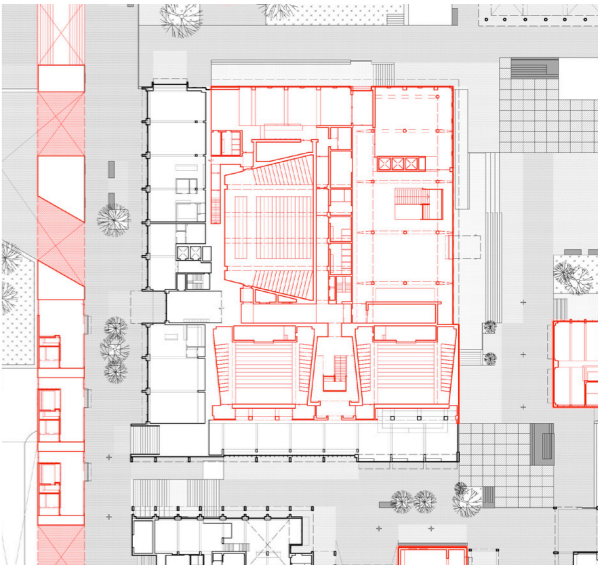
left

figure 2.33
elevations of key foyer buildings and urban figures, showing their integration with the rhythm of the colonnade frame

2.7 Adaptive Reuse: Case Study

The figure, frame and field configuration is used to order interventions across multiple scales and types of building. For existing campus buildings the frame refers to a larger enclosing armature than just the tectonic sense, instead existing buildings are reframed by new architectural extensions at podium level. Following from the statements made in section 1.2.2 concerning the tower and podium typology, new interventions to existing buildings seek to reinforce the townscape-enhancing effect of the podia whilst preserving the monumental quality of the tower. The extensions introduce mixed use functions into previously mono-functional institutional buildings, and hollow-out the building's former programme to insert new programmes creatively.

In the specific example of the Renold Building, which is regarded as the campus's finest postwar building, adaptive reuse of the original fabric works in tandem with new additions to enhance its setting. At podium level, new buildings line the former blind flanks of the podium to provide an active frontage to newly enclosed streets, containing ground floor retail and offices for small companies above. To the back of the existing podium a new foyer and colonnade acts as a civic edge to a new precinct; the foyer gives access to the cinemas within, formed from the existing lecture halls. The ground floor of the existing building is converted to a public hall and gallery, and the original classrooms above are converted into lofts. Up to the roof of the podium, a public flight of stairs gives access to a rooftop terrace. A single use educational use becomes a mixed use city block. The podium is modified, whilst the formal integrity and expression of the tower is preserved.

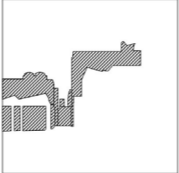


above top

figure 2.34
Renold Building showing new additions which bracket the podium section. The extensions provide a positive urban edge to a mixed use city block

above

figure 2.35
Split ground floor plan of the Renold Building (red indicates elements retained under the plan) showing reuse of the former lecture theatres



existing structures key

3_ appendix

Read in conjunction with Project Directory 1 for further information regarding the management of a working campus plan and its integration with active plans for redevelopment.

3.1.1 Access and Servicing

Under the site proposals, the only current service road within the site is omitted to create an entirely pedestrian public realm. To counteract the removal of this road, an underground route is buried beneath the current path of the service road, and is accessible from three service ramps. Individual buildings are either serviced by deliveries from the edge of the campus or from light deliveries underground, exploiting the topographical shift across the site. Service-intensive functions are sited at the campus edge to minimise disruption.

above

figure 3.01
view from station approach/bus stop showing new threshold structures and 'break' created in the Sculptural Wall to open up a route into the campus

Residential buildings are deck access, with an external staircase held within the building frame and a secondary internal staircase compliant with emergency escape regulations. A service shaft contains lift and service risers. At podium level the deck access encloses a courtyard on three sides, whilst rising to a single-banked deck above at tower level. Differing floor surfaces indicate areas of the deck where residents are able to colonise (with chairs, planters etc) and those which must be left clear for unhindered egress.



3.2 Treatment of Existing Buildings

Where buildings are retained, their fabric is upgraded through the process of 'sleeving' existing buildings with new additions in order to upgrade their environmental properties. Permanent frames are erected around existing buildings to improve natural daylighting, thermal performance, aesthetic value, and exposed areas are overclad where necessary to preserve the visual amenity of each building. In the case of the former Maths and Social Sciences tower, for instance, a new frame of terraces and bay windows reinforces the building's vertical emphasis, and increases the floorspace of the proposed apartments within.

3.3 Treatment of Heritage Assets

The site to the south of the railway viaduct contains only one designated heritage asset, the Grade II listed Wall at the London Road perimeter of the site. The plan proposes that a section of the wall is dismantled and re-erected within the Campus Hall (see section 2.5), leaving the majority in-situ. The removal of this section is justified by the need to increase the porosity to the site from a significant approach from Piccadilly Station and Mayfield, creating a key gateway to the campus from the East. Under the proposal, the wall's curtilage is re-landscaped with a series of threshold structures and planting to enhance its setting, whilst reinforcing its function as a boundary by treating it as a hard edge to the campus.



above

figure 3.02
Elevation of the MSS Tower showing the introduction of a central residential frame. The frame upgrades the environmental properties and enables reuse of the existing building

above right

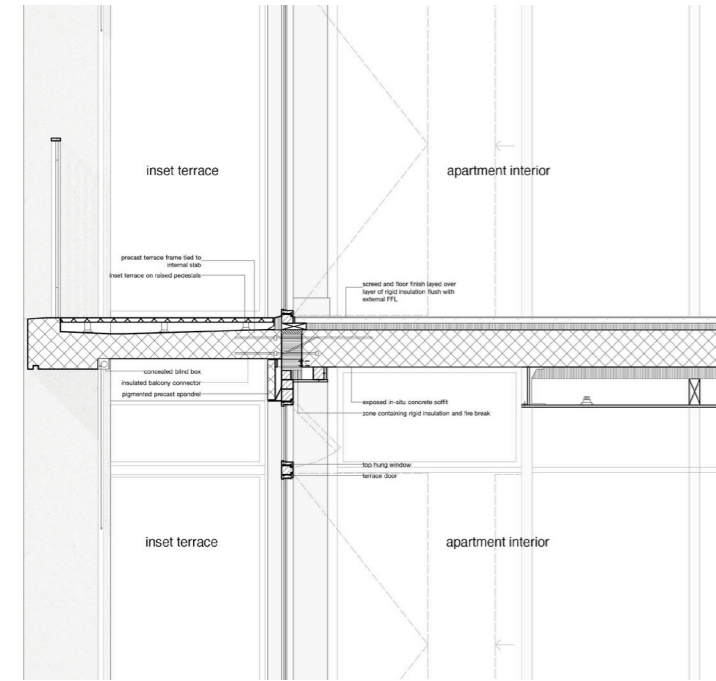
figure 3.03
elevation and section of proposed residential tower showing the interface of tower and podium, and its relationship to the grade listed Sculptural Wall



3.4

Typical detail

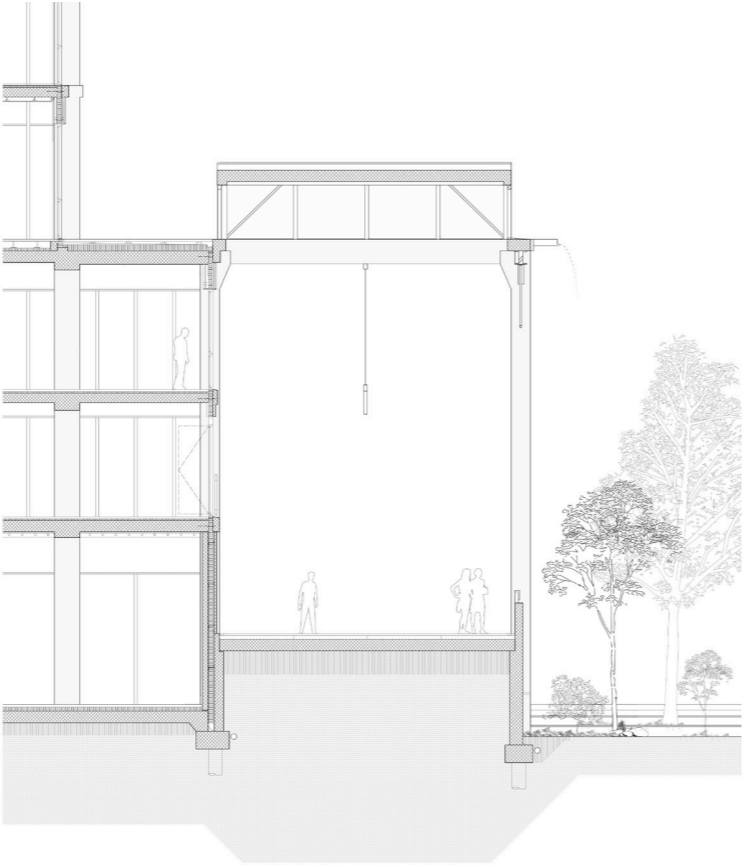
The architectural language of the open frame is achieved through a structural duplication and is illustrated here by a typical detail. An internal in-situ concrete frame provides structural integrity and a column free interior to the building, whilst an external reconstituted stone trabeated frame is tied back through a thermally broken joint to the primary frame. Variants of the typical detail are numerous, however the consistency of the frame provides a recurrent logic to various detail junctions. The detail facilitates an apparently open building framework and a zone between interior and exterior which building users are able to appropriate. The projecting frame accommodates the balustrade and external blinds which can be operated for solar shading and privacy.



3.5

Register of Research Outputs

This design proposal is validated by a collection of previous research studies, namely the thesis referenced throughout this document. The aim of this design is to implement the general campus theory identified in the thesis in alignment with the site-specific conditions of the UMIST Campus. Further research supports this design proposal in building a framework for modernist heritage, identifying areas of obsolescence in the campus and examining the history of the campus in relation to the city and postwar society.



above

figure 3.04
view and section of the colonnade as it ramps up to the Aula concourse at first floor level.

below left

figure 3.05
detail section of the junction between internal and external frames - structural and thermal integrity is maintained through a thermally broken connector tying the stone frame to the concrete slab



figure 3.06
Spaces of Edification - The Campus as Urban Theory and Design Concept

Master's Thesis



figure 3.07
Spaces of Edification: Fieldwork Report and Campus Case Studies

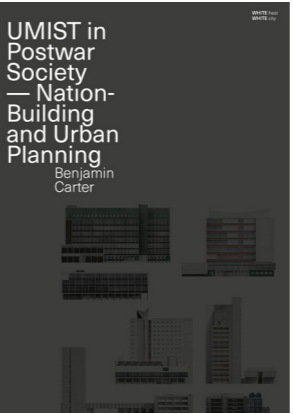


figure 3.08
UMIST in Postwar Society - Nation Building and Urban Planning

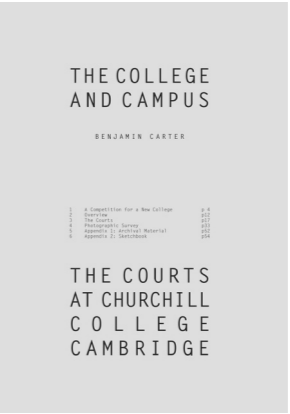


figure 3.09
The College and Campus: The Courts at Churchill College Cambridge

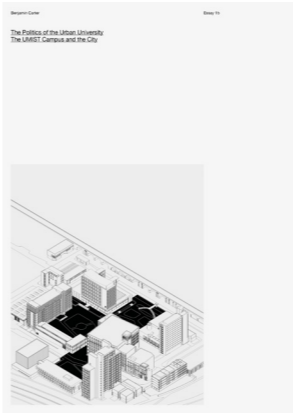


figure 3.10
The Politics of the Urban University: The UMIST Campus and the City

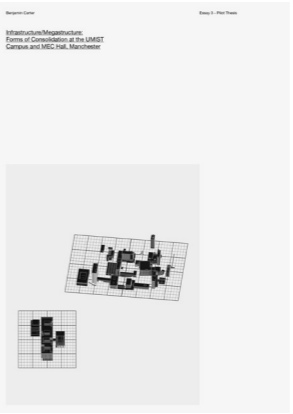


figure 3.11
Infrastructure/Megastructure: Forms of Consolidation at the UMIST Campus and MEC Hall



figure 3.12
Transforming the Campus: Contested Heritage Narratives and the Critical Re-Interpretation of the Modernist Built Environment