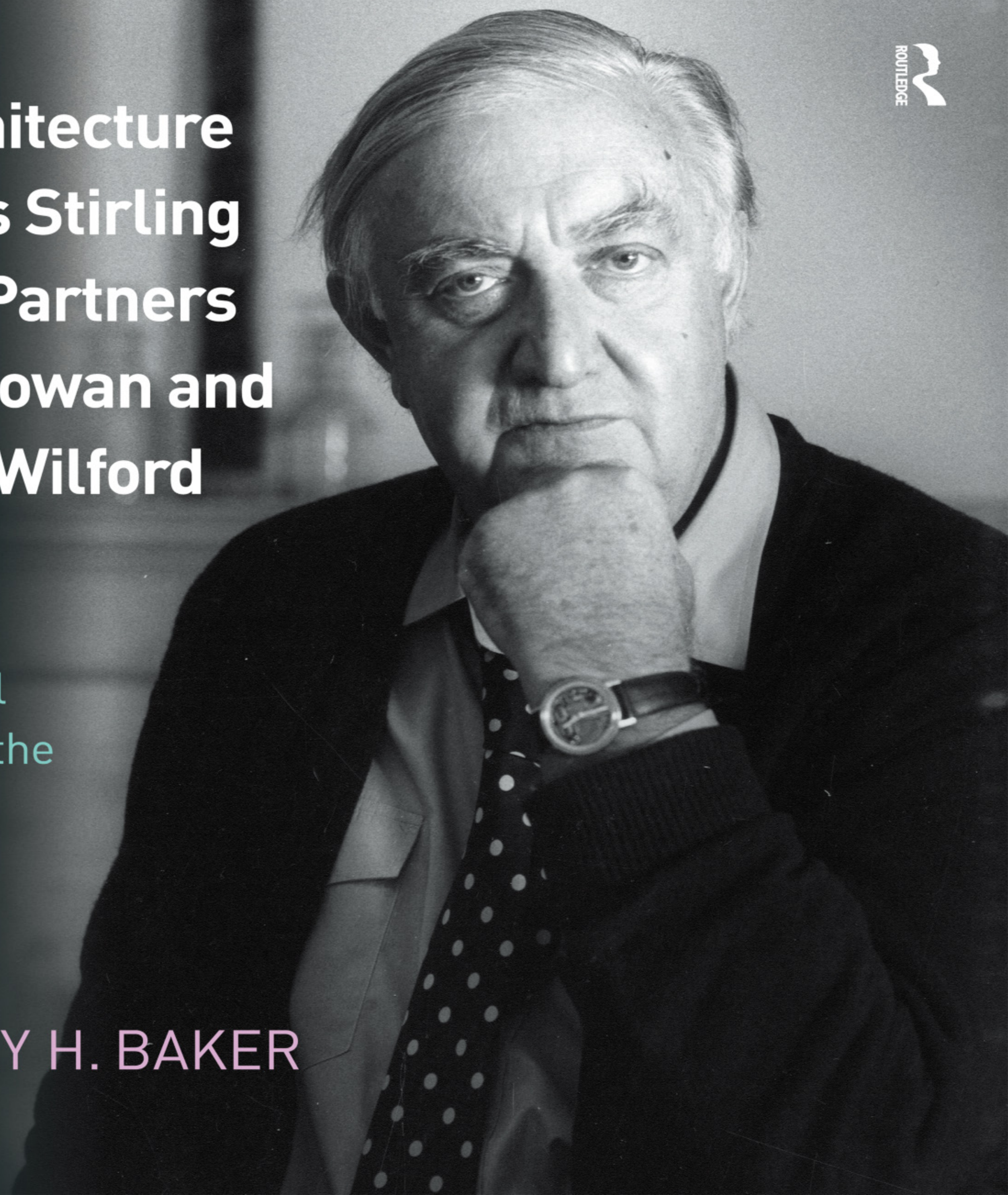
The Architecture of James Stirling and His Partners James Gowan and Michael Wilford

A Study of Architectural Creativity in the Twentieth Century

GEOFFREY H. BAKER



THE ARCHITECTURE OF JAMES STIRLING AND HIS PARTNERS JAMES GOWAN AND MICHAEL WILFORD

For my grandchildren, Michelle, Alex, Abigail and Zachary

THE ARCHITECTURE OF JAMES STIRLING AND HIS PARTNERS JAMES GOWAN AND MICHAEL WILFORD

A Study of Architectural Creativity in the Twentieth Century

GEOFFREY H. BAKER

LONDON AND NEW YORK

First published 2011 by Ashgate Publishing

Published 2016 by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN
711 Third Avenue, New York, NY 10017, USA

Routledge is an imprint of the Taylor & Francis Group, an informa business

Copyright © 2011 Geoffrey H. Baker

Geoffrey H. Baker has asserted his right under the Copyright, Designs and Patents Act, 1988, to be identified as the author of this work.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Notice:
Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

The author and publisher gratefully acknowledge the permission granted to reproduce the copyright material in this book. Every effort has been made to trace and to obtain all permissions for the use of copyright material. Due to the manner in which some images have been sourced over a number of years, it has not been possible to record the source of every image or to include full reference details. The publisher apologizes for any errors or omissions and would be grateful if notified of any corrections that should be incorporated in future reprints or editions of this book.

British Library Cataloguing in Publication Data
Baker, Geoffrey H. (Geoffrey Howard)
The architecture of James Stirling and his partners James Gowan and Michael Wilford : a study of architectural creativity in the twentieth century.
1. Stirling, James (James Frazer)--Criticism and interpretation. 2. Stirling, James (James Frazer)--Aesthetics. 3. Stirling, James (James Frazer)--Friends and associates. 4. Gowan, James. 5. Wilford, Michael, 1938-
6. Architecture, Modern--20th century.
I. Title
720.9'2-dc22

Library of Congress Cataloging-in-Publication Data
Baker, Geoffrey H. (Geoffrey Howard)
The architecture of James Stirling and his partners James Gowan and Michael Wilford : a study of architectural creativity in the twentieth century / by Geoffrey Howard Baker.
p. cm.
Includes index.
ISBN 978-1-4094-0926-7 (hardback) 1. James Stirling, Michael Wilford, and Associates--Criticism and interpretation. 2. Stirling, James (James Frazer)--Criticism and interpretation. 3. Architecture, Postmodern--Great Britain. 4. Gowan, James. 5. Wilford, Michael, 1938- I. Title. II. Title: Study of architectural creativity in the twentieth century.
NA997.J34B335 2011
720.92--dc22

2010046222

ISBN 9781409409267 (hbk)

Contents

Preface and Acknowledgements *vii*
Prologue and Introduction *xiii*

PART I EDUCATION

1 James Stirling's Formative Years 3

2 Stirling's Assessment of Modernity 23

PART II JAMES STIRLING AND JAMES GOWAN

3 Laying the Foundations for a Fresh Approach to Design: Research and Development in Architectural Practice 35

4 Variations on the Square as an Archetype 65

5 A Heroic Architecture of Planes and Light: Early Modernism's Functional Paradigm Reinvented 87

PART III JAMES STIRLING

Cambridge Analysis *107*

Florey Analysis *131*

6 The Sixties:
A New Architectural Language 155

7 An Architecture of Context and Association 173

PART IV JAMES STIRLING AND MICHAEL WILFORD

8 From Greenfield to the City 197

PART V AN OVERVIEW OF STIRLING'S APPROACH TO DESIGN

9 Function, Form and Meaning 211

Stuttgart Analysis *249*

10 James Stirling and Classical Architecture 303

11 James Stirling: Interests and Influences 339

12 Circular Forms in Stirling's Late Work 369

13 Interview with Michael Wilford, October 1998 379

Braun AG Analysis *397*

Conclusion – James Stirling: Last of the Masters 453

Colour Illustrations *467*

Illustration Sources *479*

Index *483*

Preface and Acknowledgements

This project was supported by a grant from
the Graham Foundation for Advanced Studies in Fine Arts

Eighteen years have now passed since James Stirling's untimely death in 1992. His work seems a distant memory. New kinds of architecture are in being, and fresh names fire the enthusiasm of students as Stirling once did. Amongst them are Rem Koolhaas, Herzog and de Meuron, Renzo Piano, Steven Holl and Zaha Hadid; it seems a bygone era when the Leicester University Engineering Building caused the kind of stir we associate with Frank Gehry's Guggenheim Museum at Bilbao.

Stirling's timeframe (four decades of practice beginning in the fifties) places his work alongside that generation of architects who faced the challenges that followed the Second World War. They link him to the masters of modern architecture who dominated the scene mid-century; Frank Lloyd Wright, Mies van der Rohe, Alvar Aalto, Louis Kahn and Le Corbusier. Perhaps only those of us who lived through that period fully understand his importance and stature at a time of enormous upheaval, turmoil and transformation.

I met James Stirling twice. The first occasion was unexpected. I was taking photos inside the newly completed Cambridge History Faculty Building. It was 1964, and this stunning masterpiece gripped me with its dramatic forms and spaces. It was not yet opened, the Reading Room empty of furniture. I was setting up my camera, engrossed with this sophisticated monument to modernity, when a very angry young man came rushing towards me bellowing 'what the hell do you think you are doing?' This scary moment broke my reverie. 'You must have permission to take photographs' he shouted. Suitably chastened and unnerved I apologized, explaining that I did have the necessary permission. Glowering, he walked away. The meeting left its mark. I was absolutely within my rights and was as furious as he was.

The last time I met James Stirling was in the Fitzroy Square office of Stirling/Wilford in 1987. An article of mine had been published in *Architectural Design* about his competition entry for the extension to London's National Gallery. Several months later I thought it worth getting his reaction as I had set out what I thought were the main design moves. Recalling the earlier encounter, I was apprehensive and ready for anything when I telephoned him. I asked if he had read the article. 'Yes', he boomed in his most forthright manner; 'it was very good'.

He invited me to the Stirling/Wilford office where, over a mug of tea, we had an engaging and lively conversation. He had read the piece several times and was surprised I revealed design subtleties that he hadn't realized at the time. He felt I understood most of the design moves and the intuitive processes involved. With some hesitation I mentioned that I would like my study to continue and take the form of a book. How would he feel about that? We were sat facing away from each other at the corner of a table and he turned and looked me full in the face saying – always a man of few words – 'Yes please'.

It was a poignant moment and as memorable as our first meeting (of which I didn't remind him). Later he wrote a most generous foreword to my introductory reader *Design Strategies in Architecture: an approach to the analysis of form* and we corresponded about my intended book.[1] The last time we spoke, he rang me in the United States and asked my permission to reproduce my National Gallery Extension article in a special issue of *Architecture and Urbanism* (spring 1990).

I was looking forward to having more contact with him on writing the book, but this was delayed, and I was shocked and saddened to learn of his death in June 1992. On reading the moving tributes to this larger than life and colourful personality I was glad to have experienced, however briefly, both the fierce anger and the warmth and generosity of the man who many believe to be the finest British architect since Edwin Lutyens.

With a sabbatical from Tulane University, I began serious work on the book in 1998. With the help of a grant from the Graham Foundation,

I visited Stirling/Wilford buildings in Britain, the United States and Germany, and must thank Daniela Sorgan for facilitating my visit to Melsungen and Christopher Dyer for helping with my documentation of the Braun Factory. I must also thank Gerhard Schewitz for showing me round Braun HQ and Laurence Bain for his kind assistance during my visit to the British Embassy in Berlin. Thanks are also due to Manuel Schupp for showing me round the New State Gallery in Stuttgart and to Dr Von Hoist, Deputy Director of the gallery, for kindly agreeing to discuss the building in an interview.

I am especially grateful to Lady Mary Stirling, for allowing me to intrude on her privacy, for sharing her recollections of her late husband, for allowing me access to his library, and for providing illustrative material. I must thank everyone in the office of Michael Wilford and Partners who have helped me in all kinds of ways, especially:

Michael Wilford, for giving unstintingly of his time in arranging access to material in the archive of the James Stirling Foundation, for arranging visits to buildings by Stirling/Wilford and for giving me the opportunity to see models of projects and other material. I would also like to express my appreciation of the time given for two lengthy interviews and for his continuing interest in my endeavour.

Russell Bevington, senior partner with Michael Wilford, for sharing with me many entertaining recollections of what it was like to work with James Stirling. I must also thank him for his discussion of the design approach of the Stirling Wilford office, for his identification of sketches done by members of office teams working on museum projects in Dusseldorf and Stuttgart and for drawing my attention to works by George Steiner that address the creative process.

I must also give thanks to Stirling's first partner in practice, James Gowan, who has regaled me with entertaining and informative recollections about the time the two men spent together. I am also grateful to Mr Gowan for helpful comments on the manuscript of an intended earlier book on the architecture of Stirling and Gowan. Thanks are also due to Leon Krier for his thoughts on his period in the Stirling office.

Special thanks are due to Laura Parker, for giving so generously of her time during my searches at the archive of the James Stirling Foundation. This eased my task considerably. Laura's patience and good humour were some of the many 'rewards' I experienced whilst undertaking this project.

Over the years many have helped with the preparation of material for the book. I must single out Graham Miller for his meticulous analytical survey of the Florey Building, Queen's College, Oxford. This study, which I tutored when Graham was a student at Brighton Polytechnic, formed the basis for my own investigation of that building.

I must thank Dean Donald Gatzke at Tulane University for assistance during the entire project. Others who deserve thanks at Tulane are librarian Francis Hecker and the many faculty and students who contributed to my knowledge of the Stirling Wilford practice. For special mention I must single out David Goldwasser, for his drawings of the Stuttgart State Gallery and Chamber Theatre, and James Mattern, Alfred Silva, Nancy Blanckfard and Maura Crisham for drawings of buildings by Stirling/Wilford.

Jean Middleton, librarian at the University of Brighton provided invaluable help in retrieving source material and I must thank Nelson Benzing of the University of North Carolina for anecdotal material about James Stirling. Philip Smithies deserves my thanks for a piece in this book in which he recalls his experience of Stirling's furniture collection and working in the Stirling/Wilford office. I am grateful to him for allowing me to include his drawings of the Stirling home in this publication.

I must thank Howard Schubert, Curator, Prints and Drawings Collection,

Centre Canadien d'Architecture and Elspeth Cowell for their most valuable assistance with all my queries regarding the James Stirling Archive.

I must also thank Valerie Rose and Aimée Feenan, my editors at Ashgate Publishing, for all their patience and assistance steering this book through the various stages of publication.

I must express enormous gratitude to my son-in-law Matt Brandt, whose technical support in the preparation of this book has been invaluable. Without his help the book could not have been written.

Finally, it is impossible for me to thank adequately my wife Carolynn, whose critical comments inform all my writing. More than that, I value her constant support, encouragement and active help of all kinds.

Geoffrey H. Baker
Hove, April 2011

ENDNOTES

1 During the autumn of 1987, James Stirling wrote the following Foreword to my book *Design Strategies in Architecture: an approach to the analysis of form*:

I was surprised and delighted when Geoffrey Baker's analysis of our design for the National Gallery extension appeared in Architectural Design *(January and February editions 1987), and I am pleased he has included it in this publication. I felt he had 'understood' most of the formal design moves we made in evolving the scheme, indeed he interpreted several design subtleties which I only felt intuitively, and until his exposition had not fully perceived. It seems he is able to clarify and describe a work of Modern Architecture in ways that others such as Wittkower have been able to do for historic buildings.*

Surely his method and skill in explaining the design intentions which lead to the appearance of a new building is of more value to the public than the gratuitous jottings of the architectural journalists, who seem always (in the UK) to be writing from predetermined and irrelevant viewpoints. An exception (in the US) is Ada Louise Huxtable who is able to visit a building without dragging behind her a sackful of prejudices.

Dr Baker's article on the National Gallery project was like a breeze of fresh air, and I believe his ability to analyse and explain an architect's formal ambitions en route to a building form should be a basic credential and a responsibility for architectural writers, and should form a foundation for their criticism.

So I hope that Dr Baker's skill will be appreciated by a new generation of architectural critics, that they will have a deeper and more sophisticated understanding of the design process related to a particular building, and that they will be able to communicate this to the intelligent reader who is surely striving to understand Modern Architecture.

For architectural students this publication is, of course, essential study matter.

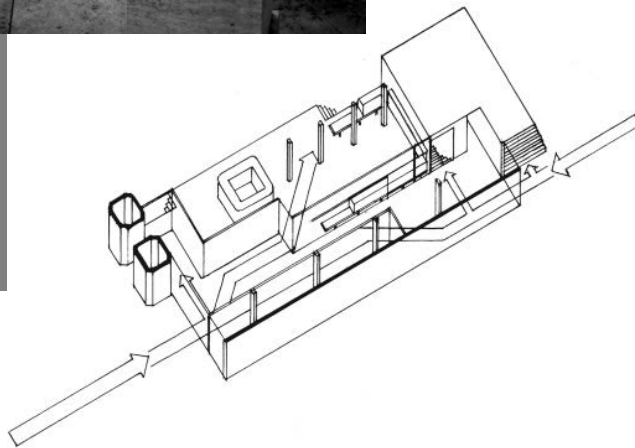
James Stirling

This page intentionally left blank

Prologue and Introduction

Staatsgalerie Stuttgart (1977–84)

James Stirling and Michael Wilford in 1980 at their office in 75 Gloucester Place



Cambridge entry sequence

This page intentionally left blank

PROLOGUE

> *Show me ad hoc architecture by an architect and I will show you relationships that may be subliminal or subversive, but they are there. Or it is not architecture.*
>
> Ada Louise Huxtable, 'A Style Crystallized', *Architectural Design Profile*, 1982, 88

My interest in architectural articulation began with the mysteries surrounding Le Corbusier's output. With the help of a diagrammatic technique devised by Peter Eisenman[1] I found a way to unlock the puzzle, and have used this many times.

There are a number of reasons why I wanted to write about Stirling. His work is entertaining and has an ebullience that makes visits to his buildings memorable. They have a powerful presence that stays in the mind. They have colour, action and are full of discoveries. They can be funny and serious at the same time. They are unpredictable and sometimes extraordinarily dramatic. So I was drawn to Stirling because his roots connect him with Le Corbusier. In many ways he's similar, controlling our experiences to maximize emotional impact as we move through his buildings.

Steeped in history, Le Corbusier created an architectural language that could move us as he had been moved by the Parthenon. Stirling understood that and followed the same path, producing modern masterpieces, dazzling in their inventiveness, that would have resonances of the Pantheon, and of great historical figures such as Soane, Vanbrugh and Hawksmoor. This singles him out from other great twentieth-century architects – because he believed this acknowledgement of our heritage was worthwhile – and could evoke this without resorting to mimesis.

Analytical approach

Michael Wilford believes that drawing was the key to the conceptual process of their office;[2] the Stirling office always worked this way, by drawing with the pencil. He and his colleagues created primarily through drawings that became the subject of discussion. If this was Stirling's preferred method, it is also mine. As an architect I prefer to 'speak' through drawings. In explaining architecture, for me description (though necessary and essential) cannot match the clarity and directness of drawings to explain complex articulation. This book therefore, sets out to reveal, by discussion and diagrammatic analysis, the design strategies pursued over his lifetime by James Stirling, his partners James Gowan and Michael Wilford, and those who have worked with him. The structure of the book identifies the various stages of this development and selectively chosen examples explain it.

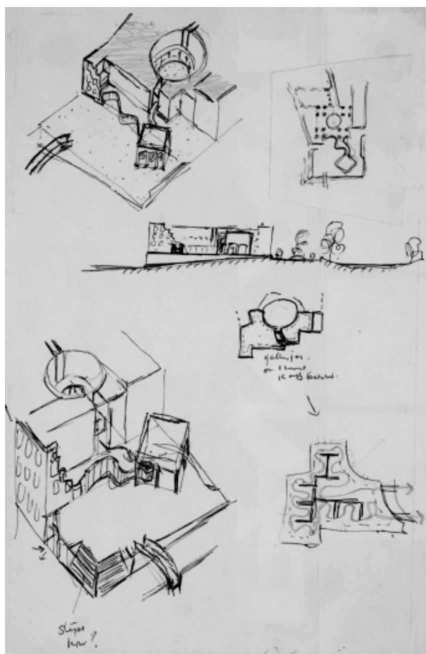
Frequently I use the name Stirling when referring to the work by Stirling and Gowan or Stirling/Wilford. In so doing I recognize that he worked closely with others, and that his partners played a key role. When he was working with James Gowan or Michael Wilford, designs often had joint authorship. When one partner is known to be the main author of a concept, his name will be used.

A distinction is made between Stirling's intentions as seen in the final product and those paths of creative discovery that lead towards this. The contention is that the conceptual process, although important, is a difficult area because so many factors impinge on it. It is well nigh impossible to document, and attempts to do this can cloud the real issues, where intuition may be a prime source of inspiration. As Stirling described his approach:

> *I think it's largely intuitive. I go through a thought process and make doodles of different possibilities. Then, when one begins to understand what one is actually aiming for, one begins to intellectualize about it. It's a combination of what's coming out of the ends of my fingers and what I'm thinking at the time. I generally do that in the office, sometimes in aeroplanes. First I do that alone, then I talk to people about it and ask them to take the concepts and continue with the process; it becomes interactive.*[3]

Very small sketches, sometimes done during travel, can summarize the essence of a concept. Several remain to confirm this <P.1>.

For the artist, the intuitive source is founded on experience and judgment. His instincts will guide him, giving his work a unique quality, an amalgam that encapsulates personality, environment, loves and hates, observation, and the confluence of ideas surrounding his artistic milieu. His intuition will have a critical dimension that, in searching for something as yet undefined, rejects all that is inadequate. This critical 'corrective' is the key. The great architect will not pursue second rate investigations. He seeks a higher goal and will not take less. The final outcome connects meditations and reflections about a project to a lifetime of experience. It is what really matters. It is how artists are ultimately judged.



P.1 Sketch by James Stirling on an airline ticket of the Nordrhein-Westfalen Museum at Dusseldorf (1975)

In analysis I focus on the final work. Using diagrams, an attempt is made to understand the problem (including the site) and discover those moves that produce a symphonic composition. This is done by dissection, separating the pieces to show how they relate to each other and to the whole. As with music, this can be broken down and examined. With music, we can play excerpts from the score; the architectural equivalent is to look at various parts and see how they relate to each other.[4] The complexities of three dimensional form are demanding on the reader. To counter this, diagrams must be clear and sequential, building up the argument step by step.

If analysis is perceptive, intuitive moves can be revealed at a subconscious level of which the designer is unaware. The analyses focus on geometry and try to demonstrate the hierarchy of importance – central to the strategic intent. Stirling graded elements in order of importance; at Leicester, the engineering shed (primarily designed by James Gowan) was secondary to the teaching tower. In a general comment about design Stirling explained that 'there ought to be a gradation between highly thought out and detailed spaces, to spaces which are unthought out and not detailed, because in so doing, you are trying to express the importance and non-importance of the different parts'.[5]

Attribution

Looking at Stirling's practice, discovering who did what is not easy (even for those involved). During his years with Gowan the work was shared. Following that Stirling became the inspirational leader of design. When he became a full partner, Michael Wilford gradually took a greater role in overseeing projects and increasingly in design, largely responsible at a conceptual level for several important buildings. With Stirling's death in 1992 the practice continued for several years under Wilford's direction, with Russell Bevington and Laurence Bain as senior partners.

It is all too easy, given the charismatic, formidable presence of James Stirling, and his staggering design intelligence, to focus only on the master. But this would be unfair. The work does not emanate from a single design genius surrounded by enablers. Stirling was an outstanding teacher who liked to share the creative adventure with his colleagues. He needed people around him with ideas and liked to bounce his own thoughts off them. This led to an atelier ambience, with contributions from many in the office. James Gowan was very important to Stirling's personal

development, an ideal partner in his early days in practice – and working alongside him, as Michael Wilford did over a 30-year period, Wilford became far more than Stirling's aid.

Mary Stirling stresses the importance of Wilford to Stirling,[6] and as with Gowan, this symbiotic relationship, with shared strengths, was valued by Stirling. Other similar partnerships spring to mind. Nicholas Hawksmoor (1661–1736), from whom Stirling drew inspiration, was, from the age of about 18, assistant to Sir Christopher Wren, and later to Sir John Vanbrugh. Like Wilford, he had practical ability from the start. What Hawksmoor learned from Wren and Vanbrugh is apparent in his own work, especially in his London churches, whose eccentricities seem to be echoed in Stirling's projects. Hawksmoor designed Queen's College, Oxford, the dormitory addition to which was designed by Stirling/Wilford (1966–71).

Stirling shared Hawksmoor's interest in antiquity, whilst Wilford follows the modern canon, each architect having his own personal style and agenda, but the seamless continuity of the design philosophy of the practice after Stirling's death shows how much Wilford absorbed and how far he has been able to implement its credo. His works confirm the validity of the ethos and how the assistant, like Hawksmoor, became an important architect in his own right[7] <P.2>.

P.2 Michael Wilford, British Embassy, Berlin (1998–2000)

Having written extensively about Le Corbusier, Stirling for me 'carried on the torch' of Corbu. At a very deep level he believed in the same fundamentals of modernism. They each saw architecture in terms of a morality whose integrity depended on a correct reading of the modern world. Wilford has continued the methodology and reasoning he helped to formulate over many years. How could it be otherwise after working for three decades alongside Stirling, who, to quote Sir Richard Rogers, was: 'without doubt the greatest British architect of the twentieth century, and seen by the rest of the world as being the most important architect of his generation'.[8]

Arrangement of the book

The book is arranged in five parts. Part I looks at James Stirling's formative years at the Liverpool School of Architecture. This looks at the architectural milieu in which his philosophy evolved, attempting to explain his critical response to the tensions of a confused but stimulating period. In Part II, the fruitful and rewarding collaboration with James Gowan is traced in investigations and projects that complete Stirling's early research into architecture. The research leads to international acclaim with the Flats at Ham Common, followed by their first masterpiece, the Leicester University Engineering Building. In Part III, following the breakup of the partnership with James Gowan, Stirling continues the design vocabulary of Leicester with university commissions at Cambridge and Oxford. Part IV documents the collaboration with Michael Wilford that shifts the emphasis towards the city as context, looking at Stirling's growing interest in the classical canon that leads to a further masterpiece, the State Galley and Chamber Theatre at Stuttgart. In Part V, an overview looks at Stirling's attitude towards function, form and meaning, examining his third and last masterpiece, the Headquarters for Braun AG at Melsungen. A survey of his interests and those who influenced him is followed by an interview with Michael Wilford. The conclusion summarizes his achievement.

INTRODUCTION

James Stirling arrived on the architectural scene just after the Second World War when modern architecture was undergoing a period of re-assessment. His work may be seen as a penetrating critique of modernism's early phase and a thoughtful and innovative modification of many of its basic principles. He understood the problems associated with such masters as Le Corbusier and Mies van der Rohe but believed passionately in the functional theory that underpinned the Modern Movement.

Judiciously drawing on historical precedent, his later buildings communicate with a wide audience without compromising the tenets of modernism in any way. The Stuttgart State Gallery typifies the way his mature work resonates with a sense of historical continuity, confidently reinterpreted in the spirit of our times <I.1>. Such buildings respond to their contexts with a rich sculpting of forms and spaces that sparkle with the vitality of modernism. He saw them as 'gifts to the city', especially in the way, to paraphrase his partner Michael Wilford, 'they transform pre-existing situations into richer dialogues between past and present without the use of ingratiating historical pastiche, nor by undue deference to the status quo'.[9]

I.1 James Stirling, Michael Wilford and Associates, Staatsgalerie, Stuttgart

I.2 Stirling and Gowan, Leicester University Engineering Building (1959–63)

James Frazer Stirling was born in Glasgow in 1924. He began his private architectural practice with James Gowan in 1956, a partnership dissolved in 1963. From 1971 until 1992 he was in partnership with Michael Wilford. During these years his oeuvre presents us with a critical appraisal and selective assimilation of various trends and movements experienced during his career.

In this, his work contributes, in a distinctive way, to what Sigfried Giedion termed 'The growth of a New Tradition' (the subtitle of his seminal work, *Space Time and Architecture*).[10] As Colin St John Wilson has pointed out, Stirling's birth in 1924 coincided with 'a time when architecture plunged into the most profound revaluation in 500 years', when in 'the Modernist adventure, Form and Function were not merely initiated but were crowned there and then by instant and archetypal masterpieces'.[11]

The part played by James Stirling in this process has been highlighted by Francesco Dal Co, who refers to 'the fundamental role that destructive minds have for the development of modern culture'. Dal Co cites the two buildings that first gained Stirling international recognition:

> *The laboratories for the University of Leicester and the Library in Cambridge are masterpieces that brought an era to a close. And to conclude an age is a privilege that only a really destructive mind can claim. Leicester and Cambridge: a laboriously constructed tradition was there reduced to a heap of rubble. The certitudes of modern architectural culture were exposed to the most aggressive criticism.*[12] <I.2> <I.3>

Stirling's sagacious critique of modernism, however, did not seek to undermine its functional ethos. As he later explained:

> *for me, "functionalism" remains the guiding principle, and, I hope, the basis of our concepts (which can include reference and association where it enlightens). Indeed I regard the very theory of functionalism as the major contribution to architectural progress.*[13]

This affirmation of functionalism as a constant amongst the changes that have taken place in modern architecture must be understood alongside the changes and progress evident throughout Stirling's work. Although his earlier buildings such as Leicester and Cambridge represent a significant breakthrough in the redefinition of the functionalist canon, they were far removed from the synthesis apparent in his late period. In his mature work we discover the functionalist credo extended to embrace many more layers of meaning as he engaged with the contextual and historical aspects of the city.

Although he refused to be aligned with Brutalism or Post-modernism, his work betrays a debt to each. Michael Wilford has termed him a 'magpie', and in response to Kristian Gullichsen's assertion that Modernism 'is a goldmine which it would be foolish not to ignore'. Colin St John Wilson points out that he knows of 'no other architect who has availed himself of the treasures in that goldmine more deeply or with such total self-assurance than Stirling'.[14]

The undeniably romantic bias of Stirling's late work, drawing on interests suppressed at the beginning of his career, gains in impact because of the tension between this romanticism and the rigorous functionalism that underlies it. Stirling's skill in exploiting the potential conflict between these two states not only highlights this as a condition of twentieth-century pluralism, but demonstrates his flair as an artist.

Juhani Pallasmaa reminds us (with reference to Stirling) that:

> *Great architecture presents an authentic image of life. In fact it derives from a sense of life rather than intellectual fabrication. Stirling's work is charged with vitality and empathy. In all its formal radicality it is tolerant and accepts the irrationalities and absurdities of life with a healing sense of humour.*[15]

The way in which an artist engages with the life force has much to do with his personality and temperament. Colin St John Wilson refers to how 'the chemistry of Stirling's temperament, compounded as it was of wildly contrasted elements, had a direct bearing on his architecture in a deeply radical way'. Wilson mentions Stirling's part in the D-Day landings, when as a paratrooper he had been involved in violent hand to hand conflict, contrasting this with an occasion in Wilson's garden when he

I.3 James Stirling, History Faculty Building, Cambridge (1963–67)

tenderly returned a young nestling to a tree. Recalling his outrageous sense of humour, Wilson points out that 'what is then truly remarkable is that all these conflicting elements in Stirling's temperament flowed without inhibition into his architecture' giving rise 'to building forms that elicit what Adrian Stokes called the feel of a body surviving in a remote transposition'.[16]

In fact, Stirling's temperament, as expressed in his courageously defiant stance, self-confidence, and refusal to follow current trends, colour all his readings of architecture. There is a sense of continuity in his work so that right from the beginning, as a student at Liverpool, we discern the boldness, assurance and innate command of his medium that would take him to a position of leadership amongst his peers.

ENDNOTES

1 Peter Eisenman, 'The formal Basis of Modern Architecture', doctoral dissertation, University of Cambridge, August 1963. The basic notion, of considering a project initially in generic terms, this then being taken further as site, programme, form and space impact the concept, owes its origin to Eisenman. This was published as a facsimile copy in 2006 by Lars Muller.

2 'Throughout every stage of the design process we draw every probable option for each part of the project. All our staff are creative architects who think and invent as they draw and because there is a minimum of mechanical drafting we find that computers, which cannot think laterally, are of little use to us in the creative process … We have a partiality for axonometric drawings because they enable us to set out the spaces, surfaces and volumes of a design in a single image which has no distortion, and gives an accurate reading of the building …'. This shows 'how complex assemblies, interlocking functions and constructional sequences will actually work … We have therefore developed the "axo" as one of our key working tools'. Michael Wilford, Introduction, *James Stirling Michael Wilford and Associates: Buildings and Projects 1975–1992*, Thames and Hudson, London, 1994, 5.

3 'Stirling Stuff', James Stirling in conversation with Sunan Prasad and Satish Grover, published in *Architecture and Design* (New Delhi) no. 5, July–August 1987. Quoted from *Stirling: Writings on Architecture*, edited by Robert Maxwell, Skira, Milan, 1988, 242–243.

4 The architect Frank Lyons explains this as 'a way of examining buildings that opens up the complexities of a contemporary building without destroying its integrity or layering it with superfluous historical interpretations … Within this methodology a building may be examined against its own criteria and if necessary against those of the building's context. For me this became the perfect tool. I felt like one of Galileo's assistants must have felt when he invented the telescope, suddenly I was able to open up the delights of a building, exploring how one set of ideas could be reinforced in innumerable ways within a design, finding layers of consistencies supportive of the whole'. Frank Lyons, 'The Flower and the Bulldozer; Cosmic Philosophy of Henryk Skolimowski', *Shining a Light on Humane Architecture* (a book celebrating the life and work of Henryk Skolimowski).

For examples of this technique see Baker, G.H., *Le Corbusier: an analysis of form*, Third Edition, E and FN Spon, London, 1996, and *Design Strategies in Architecture: an approach to the analysis of form*, Second Edition, E and FN Spon, London, 1996. 'Churchill College revisited', *RIBA Journal*, vol. 87, no. 11, 1980, 45–47, 'Form following function? Design strategies as shown in Ahrends, Burton and Koralek's Chichester Theological College and Trinity College, Dublin, Library', *Architects' Journal*, vol. 172, no. 47, 19th November 1980, 976–977. 'James Stirling and the promenade architecturale', and 'Stuttgart promenade', *Architectural Review* (Special Issue), *James Stirling*, vol. 191, no. 1150, 1992, 72–78. 'A Formal Analysis of Stirling's Unsuccessful Proposal for the National Gallery Extension, London', *Architectural Design, Post-Modernism and Discontinuity*, Academy Editions, *Architectural Design Profile*, no. 65, London, 1987, 68–79. Also published in *Architecture and Urbanism*, Extra Edition, *Recent Work of James Stirling, Michael Wilford and Associates*, spring 1990, 117–135. 'The Sainsbury Wing at the National Gallery, by Venturi, Scott Brown and Associates', *Architectural De-*

sign, *New Museums*, Academy Editions, London, 1991, 16–19. See also, *Chichester Theological College, A discussion of the work of Ahrends, Burton and Koralek*, and *Portsmouth Polytechnic Library*, by ABK, videos produced at Brighton Polytechnic; *Atheneum: Analysis of Form: Richard Meier*, a video made in the USA with a grant from the Graham Foundation.

5 James Stirling, op. cit., 239–240.

6 Mary Stirling, in conversation with the author, October 1999.

7 See especially Michael Wilford's British Embassy in Berlin (2000) and his extension to the Braun complex at Melsungen.

8 On the day that James Stirling died, the BBC showed a film about his work produced by Michael Blackwood in 1987. Before this, Richard Rogers paid a tribute that included this quotation.

9 Michael Wilford, Introduction, *James Stirling, Michael Wilford and Associates: Buildings and Projects 1975–1992*, Thames and Hudson, London, 1994, 5–6.

10 S. Giedion, *Space Time and Architecture,* Cambridge, Mass., 1941 (1967).

11 C. St John Wilson, 'James Stirling: In Memoriam', *Architectural Review*, December 1992, 18.

12 F. Dal Co, 'A real destructive mind', memorial event for James Stirling at the Royal Academy, London, 2nd November 1992. Transcript taken from *Architectural Review*, December 1992, 4.

13 James Stirling, 'Design Philosophy and Recent Work', in *Architectural Design Profile*, no. 85, *Architectural Design*, vol. 60, 5–6/1990, 13.

14 C. St John Wilson, op. cit., 20.

15 J. Pallasimaa, 'a revelation', James Stirling: In memorium, *Architectural Review,* December 1992, 9.

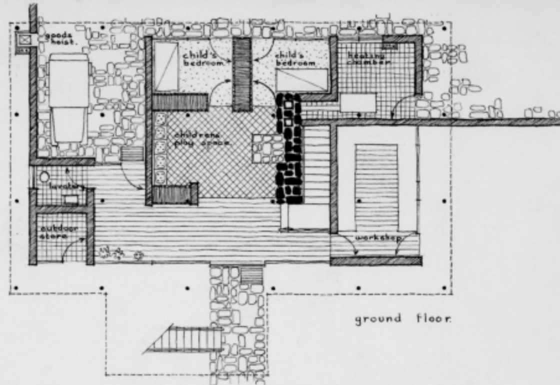
16 C. St John Wilson, op. cit., 19.

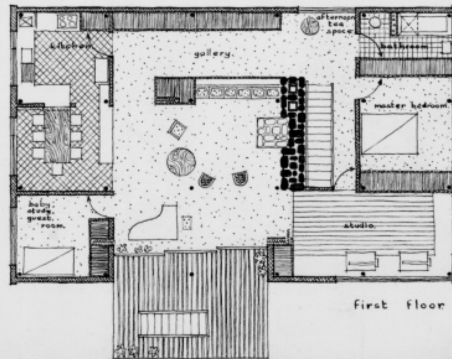
This page intentionally left blank

Part I Education

This page intentionally left blank

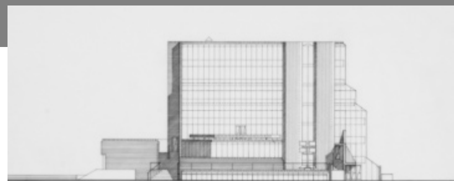
1 James Stirling's Formative Years





James Frazer Stirling, House for the Architect, New England: plans (1949)

James Frazer Stirling, photographer, view of Mosley Colliery, Tyldesley, England (n.d.)



James Stirling, History Faculty Building, Cambridge (1963–67)

Staatsgalerie, Stuttgart (1977–84)

This page intentionally left blank

JAMES STIRLING AND THE LIVERPOOL SCHOOL OF ARCHITECTURE

Beginnings

Unlike some twentieth-century architects for whom theoretical discourse has formed a necessary base for action, James Stirling was always suspicious of theory per se. He called it 'bullshit', always rejecting ideology for the process of design itself. It was by tackling architectural problems that he developed his understanding of his art, like Lutyens, relying on the security of his intuition. And, like Lutyens, he wrote little and expounded rarely and then briefly, about his work, distrusting those who wrote about him in a trendy, obscure fashion.

Stirling began his course in architecture at Liverpool University in September 1946, and as an ex-serviceman was allowed to complete the course in four years. His mature approach can be linked to his beginning architecture school following war service. He was recovering from wounds sustained in the D-Day landings, convalescing at Harewood House in Yorkshire, when he decided to become an architect. As Mary Stirling points out; 'this was a tremendously interesting generation because of the social mix-up; people from all classes were invalided in grand country houses and exposed to unfamiliar situations'.[1] Exposure to other existential conditions of war and wealth gave an entirely different perspective to the university experience. Instead of being carefree undergraduates, enjoying university life, these veterans were very seriously pursuing a professional qualification. They were determined to make the most of the educational opportunity.

Stirling has described the atmosphere at the Liverpool school when he was there:

> *The School of Architecture was in a tremendous ferment as the revolution of modern architecture had just hit it, secondhand and rather late. There was furious debate as to the validity of the modern movement, tempers were heated and discussion was intense. Some staff resigned and a few students went off to other schools; at any rate I was left with a deep conviction of the moral rightness of the new architecture.*[2]

Stirling's Liverpool background was important to his development in several ways. Under Sir Charles Reilly, the School of Architecture had become a leading academy in the Beaux-Arts tradition and in the days of his successor, Lionel Budden, Liverpool students carried off the Rome Prize with monotonous regularity. As a student, Stirling was exposed to an eclectic mix of sources, historical and modern, and as he later recalled 'one had to be good in many styles. In the first year we did renderings of classical orders followed by the design of an antique fountain, and at the end of that year we had to design a house in the manner of C.F.A. Voysey, quite a span of history'.[3]

Influences at Liverpool

He explains how 'we oscillated backwards and forwards between the antique and the just arrived Modern Movement' a pattern of oscillation between past and present that became evident in the work of his late period. He was most influenced by Le Corbusier's *Towards a New Architecture* and Saxi and Wittkower's *British Art and the Mediterranean*, two sides of the architectural coin that remind us of his open-ended viewpoint.

The influence of these two books, at opposite poles in the architectural spectrum, does much to explain Stirling's approach to his vocation. Saxi and Wittkower, focusing on the eighteenth century, set out to show 'the extent to which English art is indebted to Greece and Italy'.[4] This lavishly illustrated book traces the classical derivation of much English art and architecture, and the Mediterranean influence is traced back long before the Roman invasion, showing sculpture, art and architecture that have permeated the English culture for over 2,000 years. Illustrating Italian models used by Inigo Jones and Wren's reliance on Rome for his design of St Paul's Cathedral, the book argues for a deep empathy between England

and the Mediterranean region, an empathy felt by Stirling at a visceral level. His love of Italy extended throughout his life, nourished by his enjoyment of its artists, architects and towns and cities.

The book also celebrates the achievements of English architects such as Sir John Vanbrugh, who 'possessed a sense not only for the arrangement and piling up of masses, but also for what might be called architectural drama to a larger degree than any other English architect'. The authors cite Vanbrugh's Belvedere at Claremont House, Esher, in Surrey (1715): 'The bastion-like belvedere, with its four towers is a good example of Vanbrugh's peculiar archaism, which is a free interpretation of medieval castle architecture', Vanbrugh's architecture being 'conceived in blocks and designed to be seen from many viewpoints'.[5]

Given Stirling's propensity towards the bold and dramatic, and his love of historic architecture, selection of such a book is not surprising. Nor is his other choice, Le Corbusier's *Towards a New Architecture*, which offered the theoretical basis for the works illustrated in his *Oeuvre Complète* series. Two books, one revering an English tradition, the other a poetic and impassioned plea for an architecture that would capture the spirit of the twentieth century, provided the greatest influence on the young James Stirling.

The range of his interests is revealing, and included Mackintosh and Hoffman, the Italian rationalists, and later, when he moved to London, Hawksmoor, Archer and Vanbrugh, these architects admired for 'the ad-hoc technique which allowed them to design with elements of Roman, French and Gothic sometimes in the same building'.[6]

In 1948 Stirling was selected as one of three students to visit the United States, seeing buildings by Wright, Gropius, Breuer, Howe and Lescaze and other modernists. On this visit he found the turn-of-the-century shingle houses of New Haven more interesting than Saarinen or SOM – the current heroes.[7] He was impressed by a 'limited period of Frank Lloyd Wright's production, particularly the concrete block houses around Los Angeles' and he noted the 'way out' aspect of New York Art Deco buildings such as the Chrysler Tower. He also admired Wright's Johnson Wax HQ at Racine, Wisconsin, but was not impressed by Aalto's Dormitories at MIT.

Interests in English castles, French chateaux, Bavarian Roccoco, Italian gardens, Venetian palazzi and English country houses confirm the range of Stirling's eclecticism. He revealed this at the RIBA on receiving the Royal Gold Medal for architecture in 1980 and illustrated his talk with his German competitions, the extension to Rice University School of Architecture and the Stuttgart Staatsgalerie, examples that inferred easily discernible connections between the catholicity of his sources and the works themselves.

Stirling's architectural education was never confined to academe, and when he moved to London in the autumn of 1950, he learned about the Russian Constructivists; he 'devoured' a book on Asplund and in the early fifties he developed an interest 'in all things vernacular from the very small – farms, barns and village housing to the very large – warehouses, industrial buildings, engineering structures, including the great railway and exhibition sheds'.

He later became interested in the 'stripey brick and tile architects like Butterfield, Street and Scott'. He also enjoyed the Soane Museum, Neo-classical architects like Candy and Goodridge and their German counterparts, Gilly, Weinbrenner, Von Klenze and Schinkel.[8]

The Liverpool and Manchester schools

Several of Stirling's student projects at Liverpool University have survived and are preserved in the archive of the James Stirling Foundation.[9] As my architectural training at Manchester University began in 1951, the year after Stirling qualified, Stirling's work, not dissimilar in design technique or presentation from the ongoing approach at Manchester, affords a fascinating area of comparison. Each school at that time had a strong Beaux-Arts bias; planning and presentation were important and the Classical Composition, rendered in

sepia, was a key subject of study as was shadow projection in the form of sciagraphy.

There was a strong academic bias to each school and the history of architecture formed the bedrock of understanding. Manchester was directed during the post-Second World War period by Reginald Annandale Cordingley, a Rome scholar in 1923, who encouraged a thorough grounding in historical studies. Leslie Martin's Masters thesis formed part of this tradition and Thomas Howarth completed his doctoral study of Charles Rennie Mackintosh whilst teaching the first year at Manchester. But Liverpool had an emerging academic star of prescient brilliance in the person of Colin Rowe, who became a member of staff in 1948 having studied at the Warburg Institute under Rudolf Wittkower. Mary Stirling cites Rowe as 'a tremendous influence' on Stirling, introducing him to the view that modern architecture could be linked to the Italian Renaissance and Mannerism.[10] Rowe's article 'The mathematics of the ideal villa' alerted Stirling to a mathematical relationship between Palladio's Villa Malcontenta and Le Corbusier's Villa Stein de-Monzie. Rowe's teaching enabled Stirling to see the Modern Movement through a filter of informed historical awareness, alerting him to that inclusive view of architecture that was to colour all his thinking.

It was an annoyance at Manchester that Liverpool managed to win the Rome Scholarship in Architecture so many times, a tide that turned in the fifties with a succession of Manchester wins that included Michael McKinnel (later a member of the team that won the Boston City Hall competition). Norman Foster was a student at Manchester at this time, evidence of the educational influence of these northern universities during the immediate post-war period.

THE ARCHIVE OF THE JAMES STIRLING FOUNDATION

The visual material

At the James Stirling Foundation we encounter with early flowerings of a precocious talent alongside sophisticated works by a Master of modern architecture <C.1>. Compressed together, in files, drawers and boxes are a life's work. It is an epic demonstration of commitment to the creative act. The archive is silent testimony to that mystery, and as George Steiner reminds us, 'We lack the right word for the extreme energizing and governance of instinct, for the ordered enlistment of intuition, which marks the artist'.[11]

My first impression was how very similar were the problems set at Liverpool to the ones I was doing at Manchester University a few years later. The design studio curricula in the schools of architecture at Manchester and Liverpool resembled each other. Another compelling impression of the work on view is that of continuity, continuity of intention from early student beginnings to the works of maturity. A consistently diligent attention to detail is evident throughout – in projects done later in Stirling's office this is in parallel with a remarkable breadth of enquiry. At project level this separates the work of an acknowledged genius from that of most architects. The vast amount of material confirms a compulsion to reach the highest artistic level, regardless of the commercial exigencies of professional financial survival. If there is one thread running through all the work, from earliest beginnings to the great works, it's a search for perfection, a steadfast pursuance of the sublime.

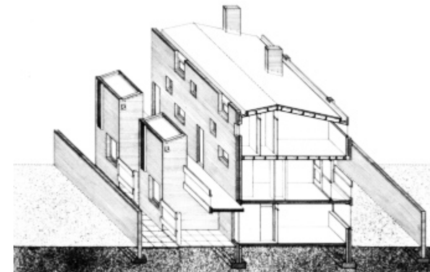
This is not an easy quest and the material preserved in the archive tells us of struggle, persistent struggle to finally achieve the goal. Sketches, not always by Stirling, explore all kinds of alternative solutions in the expectation that the right one will emerge. There are many stages and sometimes many people involved in different ways. Stirling, in his practice, first with James Gowan, then with Michael Wilford, Russell Bevington, Laurence Bain, and along the way Leon Krier and many others, did not work alone.

He designed from the programme but looked for inspiration in innumerable sources, across the spectrum of history and from what he observed around him. Two areas of material in

the archive are revealing. One can be observed in his personal photographs, the other in the all-pervasive use of colour in sketches, projects and the buildings documented in the collection.

1.1 James Frazer Stirling, photographer, houses in Avenham, Preston, England (1957–61)

1.2 James Frazer Stirling, photographer (presumed), Stirling and Gowan, views of housing redevelopment at Avenham, Preston, England (1959 or after)



1.3 Housing at Avenham, Preston, England: section through ground floor apartment and maisonette above

Stirling's personal photographs

His personal photographs are informative in their choice of subject. We see the underpinnings of his architectural philosophy as he selects aspects of form, construction, texture and how things are built of interest to him. He was drawn to the functional essence of buildings. For example, his photo of housing at Avenham, Preston <1.1> shows a layering of brick gables and chimneys with strong shadows that reveal the forms, with a roof profile showing apparently random additions whose vitality is born is purpose. There's a vigorous interplay of vertical brick planes, chimneys and sloping roofs. Windows are not 'composed' but placed where needed; a garage and other buildings are set at a different angle. There's a certain amount of clutter in this random grouping. It speaks of honesty, integrity and unselfconscious vitality. In his response to this local context, the Infill Housing, with James Gowan Stirling interprets this by staying close to the precedent <1.2>. Windows are distributed – not randomly but according to need in a lively way. The façade is modelled to replicate the layering evident in his photo of Avenham housing, with an elevated street-deck resting on the projecting kitchens of the flats below. The kitchen structure is carried up, outside the deck to form a coal hole and dustbin niche facing the door of the maisonette above <1.3>. As the architects explain: 'these terraces have the air of a vernacular tradition craftily re-assessed in terms of a society in transition'. In Stirling's photo of an elevation <1.4>, the wall, on a slope, has windows at differing heights as Stirling and Gowan emulate the vitality of vernacular idiosyncrasy – windows are 'set at different heights above the floors to give a switchback up-and-down rhythm that looks – repeat, looks – slackly wilful, whatever inner logic may underlie it'.[12]

Conversant with Le Corbusier's celebration of industrial buildings such as grain elevators in *Vers une Architecture*, Stirling discovered a fine example of the genre at Mosley Common Colliery, Tyldesley, in Lancashire <chapter cover page>. The various functions are stated clearly. A concrete frame structure is set behind another frame – a timber fence. Conveyors add powerful energy and a contrasting hopper has sculptural prominence. Mark Girouard mentions that shortly after he qualified, Stirling was driving in the Wigan area with

George Hayes when they saw a colliery. Hayes described it as 'one of those marvellous conglomerations of industrial buildings, with gantries that crashed down, things going up – it was industrial architecture at its very best, and he (Stirling) stopped and took some photographs of it, and raved about it'.[13] The concrete hopper on the right of the photo re-appears in a transformed state three decades later as a support column at the State Gallery in Stuttgart (1977–83) <chapter cover page> <C.23>.

His photo of kilns has contrasting chimneys and domes evocative of mosques; informal yet monumental, with a unity that is visually arresting – the texture, pattern and placement of the tiles as a 'wall' in front of a kiln forms an ambiguous image that seems integral to the structural honesty of the kilns <1.5>. The acute observation of an unusual but telling kind of integrity is a characteristic of these explorations – the open-endedness of which reveals a central pillar of Stirling's thought patterns. For Stirling the act of building was without boundaries or conventional classification. His personal photography is an important part of the archive that we will return to in Chapter 11.

1.5 James Frazer Stirling, photographer, view of kilns, United Kingdom (1950s–1970s)

1.4 James Frazer Stirling, photographer (presumed), Stirling and Gowan, views of housing redevelopment at Avenham, Preston, England (1959 or after)

The Stirling office

In his office Stirling created a studio where an open discussion could take place, where ideas could be tossed around. Russell Bevington points out that this was always based on drawings. It was never just an intellectual conversation. Nevertheless, the intensely personal nature of Stirling's own standards of excellence dominates the archive. He was the final arbiter, frequently, though not always, the initiator of ideas.

But ideas went both ways as members of the office would sometimes criticize Stirling's concepts. As Russell Bevington recalls:

> *If you didn't like something he was drawing, or proposing be drawn, the trick was to say "that's the way Rossi would do it". "OK then we'll change it". He would sit down with you and say "how could we do this? We could do it like this, or this, and he could just go on, five, six, seven, eight alternatives, but I don't like any of those so you guys go away and think of something different". So he was always challenging himself, and always challenging*

us. But once he had made his mind up, he never went back. If he ever thought that we should reconsider, think about this, he never said it. Once it was fixed we never reconsidered.[14]

Bevington continues:

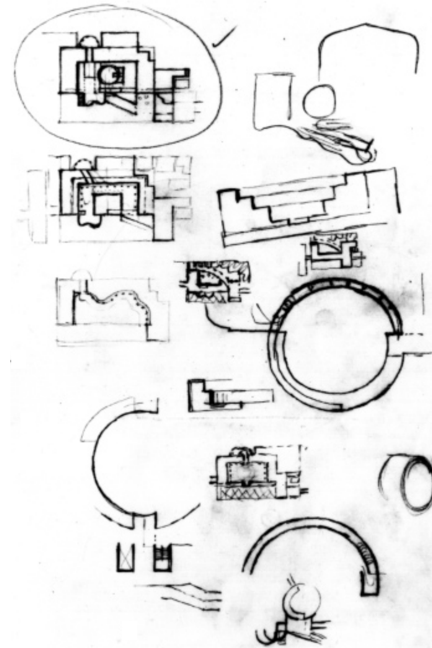
But Jim liked being fed. An extreme example of the way Jim could operate is The Regional Centre in Tuscany, outside Florence. Initially Ulli Shaad worked on this, with myself and John Tuomey. We all took the brief and we all did an individual scheme. Ulli Shaad did four towers, which follows on from Siemens. John Tuomey did a slab block, perhaps reminiscent of Churchill College. Each of these schemes contained the whole brief; and I did a square, also containing the whole brief. We pinned them up. Jim came down, we talked them through and he just said "Fine". Off he went. Next morning he came in, "Why don't we take the slab block, the square and the four towers and combine them". So all three designs were incorporated into the final concept. This was Jim's genius, to be able to pull things together, to see further than the rest of us.

Bevington provides another insight into the way Stirling worked by describing an aspect of the drawing sequence for the Staatsgalerie:

The thing with Jim was, he never drew a grid. He got a design, then you get developed plans, and you'd obviously develop sections in parallel, and I can remember, we'd all think, we're doing pretty well here. Then you'd arrange the sequence of galleries, because for a long time that would just have been a diagrammatic horseshoe. So then you subdivide it; it was chronological and the areas were given by the client. Then Jim would say "Well this is all fine, now let's try and make it into a building". And then he would start talking about grids. The galleries have laylights in and he wanted the grid for every laylight to be the same. So at that point things start adjusting again in order to organize this. And he would never allow you to think about structure. So the wall of the galleries above the lecture theatre is a very complicated affair. It's quite amazing because it's a beam spanning the space below. Jim did not let structure inhibit the design in any way.

Drawing

The nature of much of the work in the archive is communicated by the pencil, certainly at conceptual stages. Stirling, at the early stages of a design liked to work with small sketches, of a manageable size. These would be done by many people <1.6> (including Stirling) then reviewed by his selecting the most promising idea, sometimes circling it and giving a tick. Larger drawings, under drawings as they were called, would follow. From initial rough sketches an idea is progressively refined until final drawings emerge. These take the form of working drawings and presentation drawings, usually of great beauty. Such presentation drawings (again done by many people) celebrate the end of the quest for perfection.



1.6 Sketches by Ulrich Schaad of the Staatsgalerie, Stuttgart (1977–84)
Note: Top left sketch circled and ticked by James Stirling.

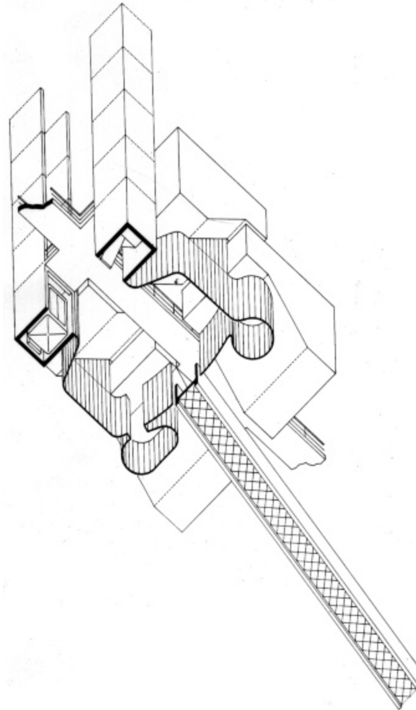
Like the application of travertine and sandstone to give the final gloss to a building, such drawings represent the artistic apotheosis of a creative journey that has reached its own fulfilment. This independence, of drawings of projects whether built or not, discloses the true nature of such drawings. They confirm

the pursuance of an aesthetic journey that can only be seen as high art.

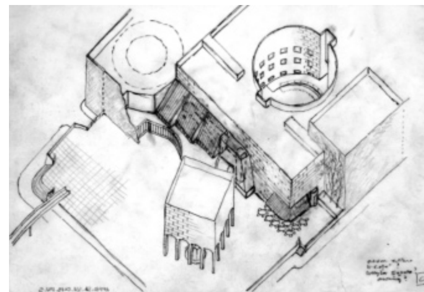
Perspective and axonometric line drawings done by Leon Krier for the publication of *James Stirling: Buildings and Projects 1950–74*, consolidate and confirm the artistic quality of the works themselves <1.7>. Such images, in elementary form in the perspectives drawn by Robert Maxwell for Stirling's thesis, have their own value in being the medium through which creative discovery takes place. Whether pre or post project is less important than the existence of these drawings as beautiful objects in their own right that consummate the creative act. In this they contribute in a major way to the mystery.

These drawings further the process of creative exploration by revealing other dimensions. Stirling's axonometric of the Core and Crosswall House (1951) <1.8> fully explains a three dimensionality not evident in the plans and elevations. The concept can be understood as a piece of sculpture. The same is true of a down view of the Dusseldorf Museum project <1.9> or the 'sculptural composite' showing the relationship of the Staatsgalerie drum to its neighbouring ramp and entry foyer <1.10>.

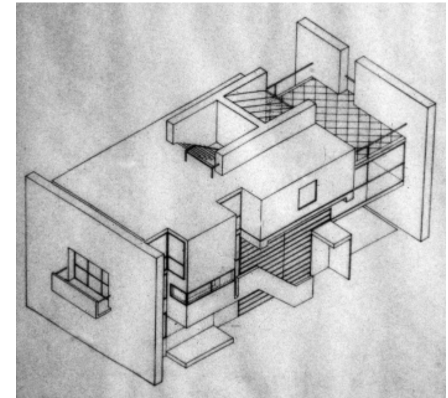
Shapes are abstracted to highlight the precision of this relationship and drawn so as to intensify the clarity of the concept. Selective emphasis, exaggeration and simplification underlines those features seen as important. Such drawings help to crystallize the creative



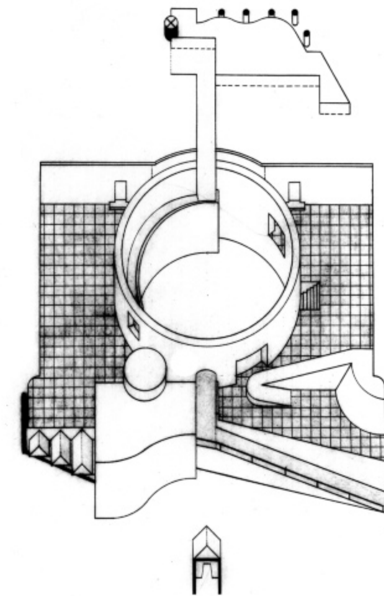
1.7 Sketch by Leon Krier of Stirling's competition entry for Sheffield University



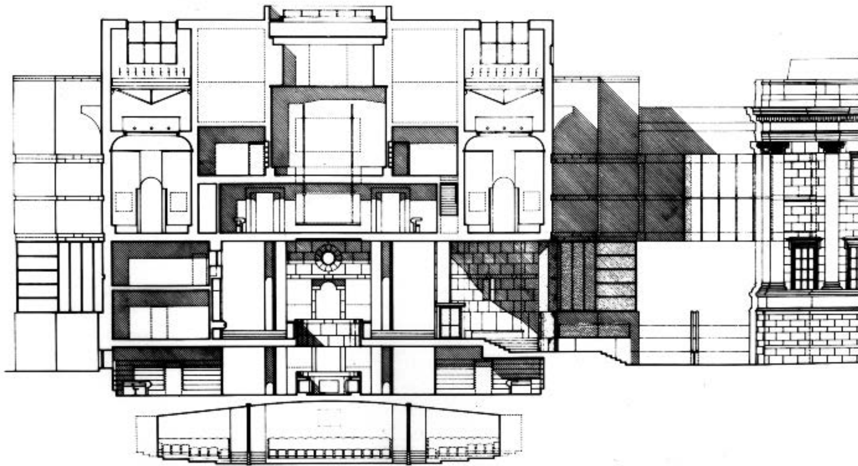
1.9 James Stirling and Michael Wilford, Nordrhein-Westfalen Museum, Dusseldorf: axonometric (1975)



1.8 James Stirling, Core and Crosswall House (1951)



1.10 Sculptural 'composite' of Staatsgalerie, Stuttgart



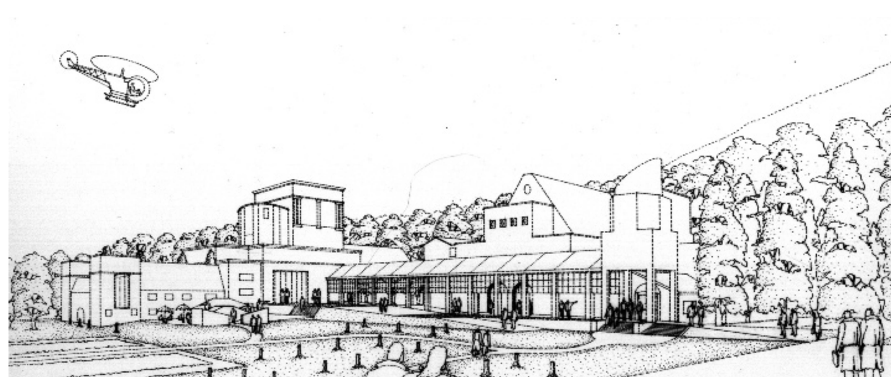
1.11 James Stirling, Michael Wilford and Associates, cross section of the National Gallery extension (1985)

outcome, a summary that highlights its salient features. The drawings become indispensable to the investigation, intrinsic to the cognitive iconography that they represent.

Post-competition drawings for the extension to the National Gallery (hung in the Fitzroy Square office) sanctify the search for the sublime <1.11>. They confirm the architects' vision. Stirling helped to colour them himself and such drawings signify his 'betrothal' to the work. In so doing they confirm his whole state of being as an artist and his search for a fusion between modernism and the glories of past architecture. They pay homage to his perception of architecture as part of a historical continuum, in their sectional elegance connecting in spirit with Soane's No. 13 Lincoln's Inn Fields. Drawings capture elusive nuances of mood with techniques that may affirm either an architect or a period, as, for example in the drawing of the Glyndebourne Opera House, that evokes drawings of work by Karl Friedrich Schinkel <1.12>. These changes in technique reflect changes in Stirling's view of his art, as the later drawings have a softness that reflects his romantic stance.

The archive induces a profound awareness of what George Steiner argues is 'the kinship of art with the calling on mystery in the matter of the world and of man'.[15] Steiner argues that the arts now fulfil our desire for contact with the divine that was formerly the province of religion. In the James Stirling archive, one confronts something beyond ourselves, into which we can be initiated by the artist. The sense of the sublime can be related to our search for intangibles of the spirit. As Steiner explains:

> *The gravity and constancy at the heart of major forms and of our understanding of them are religious in a … diffuse sense. They enact … a root impulse of the human spirit to explore possibilities of meaning and truth that lie outside empirical seizure or proof,*[16]



1.12 James Stirling, Michael Wilford and Associates, Opera House, Glyndebourne, England (1988)

and:

> *... it is the enterprise and spirit of the aesthetic to quicken into lit presence the continuum between temporality and eternity, between matter and spirit, between man and "the other". It is in this common and exact sense that poesis opens on to, is underwritten by, the religious and metaphysical, The questions: "What is poetry, music, art?", "How can they not be?" "How do they act upon us and how do we interpret their action?", are, ultimately theological questions.*[17]

JAMES STIRLING'S STUDENT PORTFOLIO

The beginnings of Stirling's creative voyage are found in his student portfolio; there is a visceral sense of that persistence and commitment needed to advance intellectual and aesthetic development. Amongst the material is a model for 'A house for the architect James Stirling', done in his fourth year. It was carefully stored in a small, hand crafted box and is so perfectly preserved that it resembles those rare collectors items, prized when the original containers are still intact <1.13> <C.4>.

1.13 James Frazer Stirling, House for the Architect: model, probably late autumn 1948
Note: See also illustration C.4 in plate section.

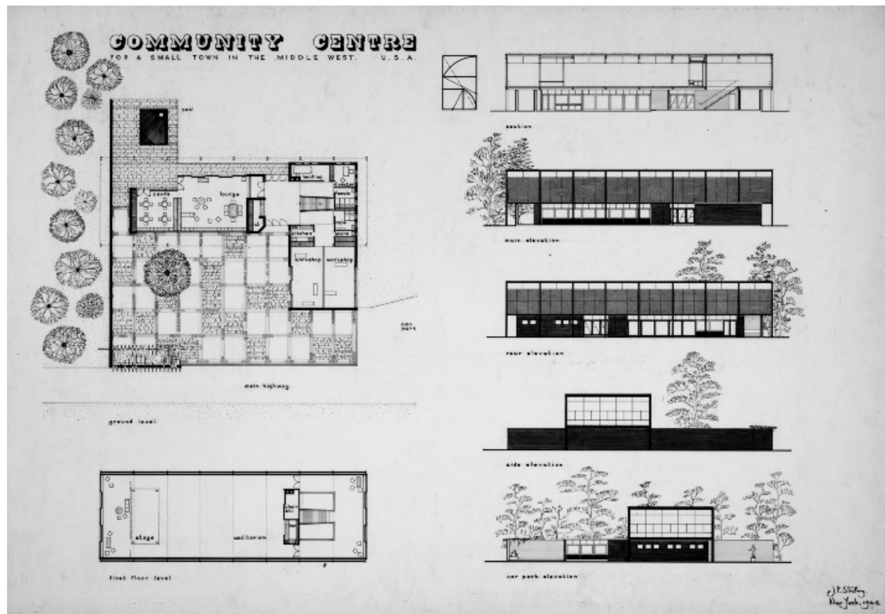
Colour

Stirling's plans of the house for the architect <chapter cover page> reveal resemblances, in planning and drafting technique, to Marcel Breuer's house at New Canaan, Conn., USA (1947–48). As in Breuer's house, there is a central stone fireplace, but unique to Stirling's presentation, is the second element found throughout the archive, the use of colour as a major statement. The model, has red on the doors, blue and yellow on panels with yellow window surrounds. The importance of colour to Stirling is clearly evident in a striking undated sketch <1.14> <C.2>.

Stirling's 1948 trip to the USA made a big impression on him and for a time he was enthusiastic about the work of Frank Lloyd Wright. The sketch is an intriguing fantasy; perhaps a lively parody of Wright's 'Falling Water' as it depicts a horizontal house with exaggerated masonry joints, continuous windows below the eaves and a projecting deck beside a waterfall. It may have been a sketch design when he was a student at Liverpool.

1.14 James Frazer Stirling, sketch, possibly a parody of Frank Lloyd Wright's 'Falling Water' (n.d.)
Note: See also illustration C.2 in plate section.

The house has a green copper roof and is set on rocks overlooking a stream next to a quaint, cartoon-like stone bridge. The deck is crudely supported on a stone pier that projects out into the waterfall. Behind the house a snowcapped moonscape of mountains rise in contrast to the horizontal of the house. Stirling clearly enjoys splashing on the colour – and sculpting all kinds of forms. The sky is fiery orange – the sun yellow. It's an extravaganza of raw colours clashing joyfully. The bridge is pink and a fallen tree gives an early hint



1.15 James Frazer Stirling, Community Centre for a small town in the Middle West, USA: plans, sections and elevations, signed J.F. Stirling, New York (fall 1948)

of his trademark Stirling green. Next to the bridge there's a silhouette of a tree with a 'mouth', 'ears' and a 'tail'. A large rock in the foreground is in multi-coloured contrasting hues. The effect is almost three dimensional, surreal and dreamlike. He was a joker, and the boldness, vibrant colour, exaggeration, sense of fantasy, humour and sheer exuberance are pure Stirling.

The extrovert Stirling, as we know from what he wore, was 'wired' for colour – he had no fear of it. On the contrary he uses it in this sketch and in many of his buildings to 'assault' our senses with the kind of emotional impact we might associate with a Van Gogh – so much so that Mary Stirling thought he may have been colour blind.[18] He liked the clash of opposing primary colours. On seeing this sketch we are bound to think of the Staatsgalerie, with its pink and blue handrails, blue and red painted steel canopies, brightly coloured extract ducts and the vivid green floor and window mullions in the entry pavilion <C.19–24>. His university buildings were bright red <C.7> <C8> <C.10> <C.11–16>; Runcorn Housing used blues, greens and yellows; inside the drum of No. 1 Poultry are dark purple glazed tiles with yellow, and red window frames[19] <C.31>. For Stirling, colour, in all its manifestations seems to represent a celebration of life itself.

Early designs

In his third year design for a Comm unity Centre for a Small Town in the Middle West (1948), Stirling places the centre in an L shape around a courtyard using a Miesian steel frame with golden section proportions (a diagram to the left of the section demonstrates how the dimensions for one façade were established) <1.15>.

In his fourth year Stirling designed a more complex project for an Organic Chemistry Laboratory for a Northern University (1949). The solution is workmanlike, a building that fulfils its purpose simply and without rhetoric. The language is that of the modernist vertical slab arranged to a structural grid, its modular rhythm punctuated on elevation by vertical circulation. A circulation spine runs along the ground floor of the slab with an entry foyer looking onto a court. Two major elements project from the slab at ground level, a lecture theatre alongside a court on one side, countered on the opposite side by a one storey double–banked block of rooms. The composition is carefully balanced, the lecture theatre, by its fan shape and sloping underside contrasting with the vertical slab[20] <1.16> <1.17>.

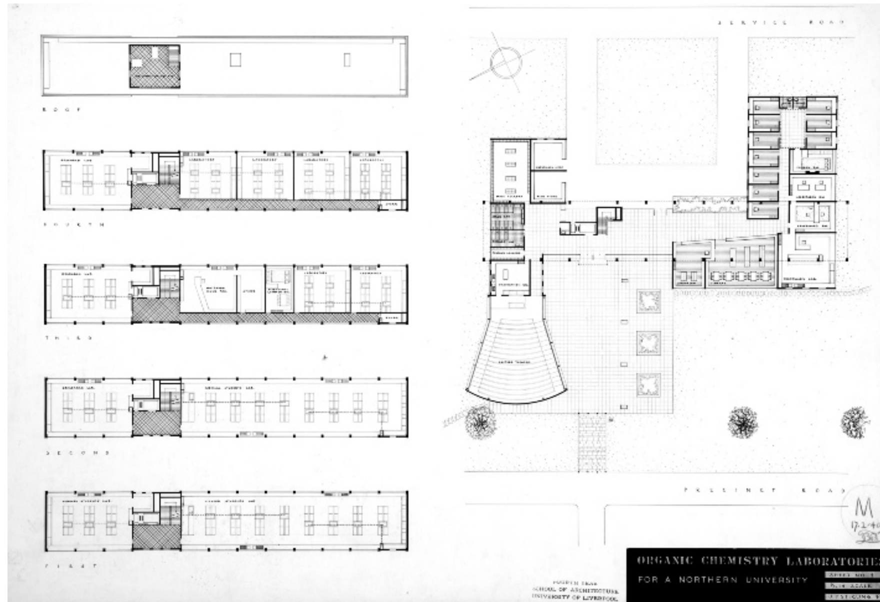
This functional credo, in which the programme leads directly to the solution is a guiding principle in his student work, and is true of his thesis. It is a design method that remained

essentially the same some 25 years later with the design for the Neue Staatsgalerie at Stuttgart. As Russell Bevington recalls:

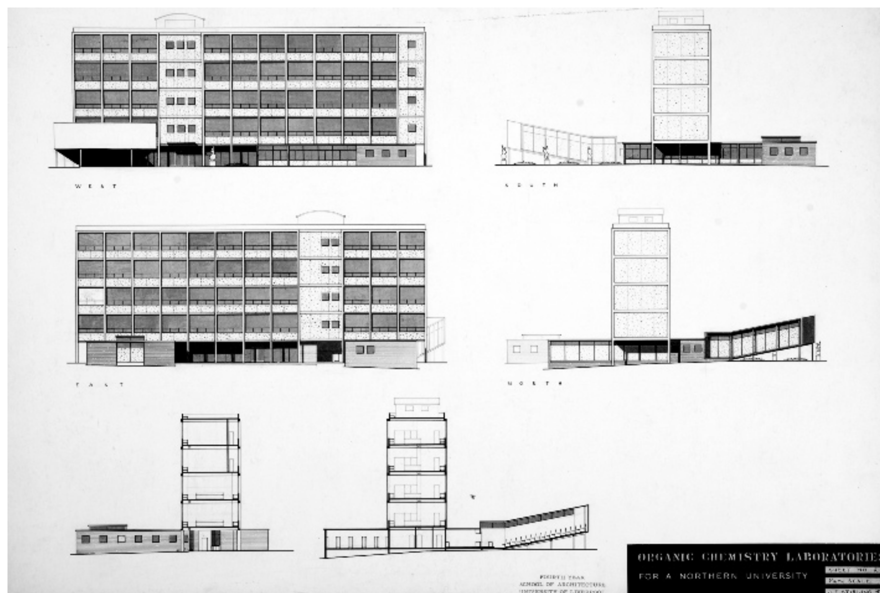
> *Jim had a very clear method of working. He liked to get the organization set out in terms of how many floors and so on. Everything had to be based on a functional logic so that the design evolved according to what the programme demanded. The organization was the critical thing, the relationship between the parts. Once you got that sorted out we went back to the (conceptual) sketches.*

Describing the Neue Staatsgalerie, he continues:

> *What Jim would have liked most is a square, a square in the middle, a cube for the entrance and then he would take it from there. This would be circular (the central drum) this we can do with a bit of a wiggle (the entry foyer) and so on. So he would be diagrammatically organizing and arranging the building and thinking about this route through. But the route through, which was primary in the brief, essential it was achieved, was the last thing we worried about. So Jim would say "whatever you do don't worry about that route through the building". So he didn't want a route established to generate the building. "Get the building and then we'll see how we can lay a*



***1.16** James Frazer Stirling, Organic Chemistry Laboratories for a Northern University, England: floor plans (1949), signed 'J.F. Stirling 4Y'*



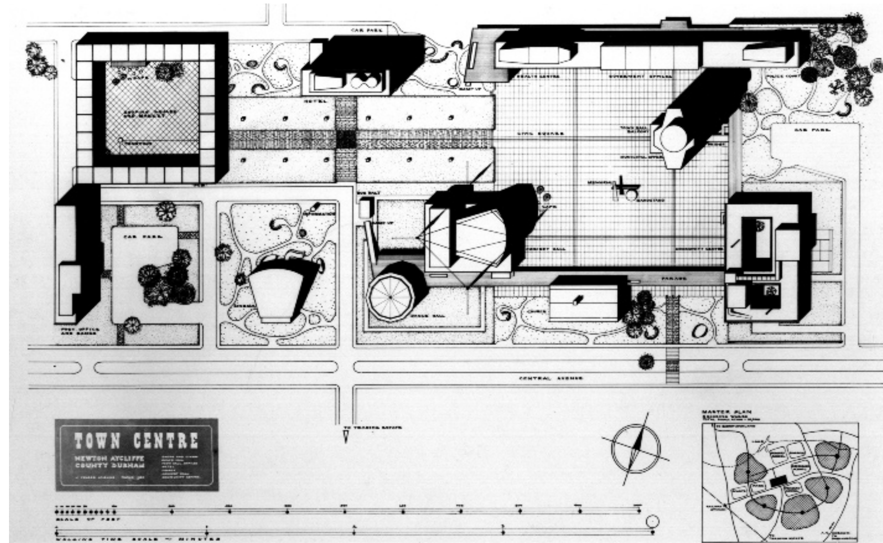
***1.17** James Frazer Stirling, Organic Chemistry Laboratories for a Northern University, England: elevations and sections (1949)*

route through the building". A big thing I learned from Jim was that you go one step at a time.[21]

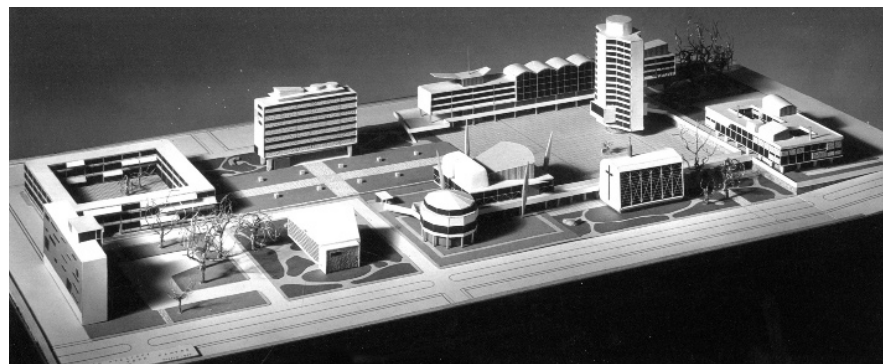
JAMES STIRLING'S THESIS

Stirling's thesis consolidates his design skills. A Community Centre as part of a Town Centre for Newton Aycliffe, County Durham, was a good vehicle to demonstrate his method of working and his command of his medium. It tested strategic and detailed planning skills and the result shows a mature understanding of the problem. At the beginning of his career it also reflects Stirling's commitment to architecture's potential for social and cultural enrichment, something very much in the minds of the post-war generation. It demonstrates Stirling's belief that architecture was not just an ego trip, an opportunity for self-expression, but was first and foremost a service to mankind, to which he dedicated his considerable skills as a designer.

In embryo, the town centre crystallizes themes that persist in his life's work. It is well organized, axes controlling the plan, with key buildings carefully placed and appropriate spaces and routes. Volumes are clearly stated in true Stirling fashion, and each piece in the town centre is placed to support the whole in a positive way that recognizes its symbolic importance <1.18> <1.19>.



1.18 James Frazer Stirling, Town Centre and Community Centre, Newton Aycliffe: final plan for Town Centre (1949–50)



1.19 James Frazer Stirling, Town Centre and Community Centre, Newton Aycliffe: view of model of Town Centre (1949–50)

The rectangular site has two main axes, one leading from the shopping square along a pedestrianized promenade, into the lowered main square, terminating at the tower containing the Town Hall and Municipal Offices. The square is enclosed to the north by a Health Centre, offices and a Police Court. At one corner, a Concert Hall at a centre of gravity overlooks the square. Four pylons held by cables surround the hall giving it a festive air reminiscent of the Skylon that would feature in the Festival of Britain on the south

bank of the Thames in London the following year.[22]

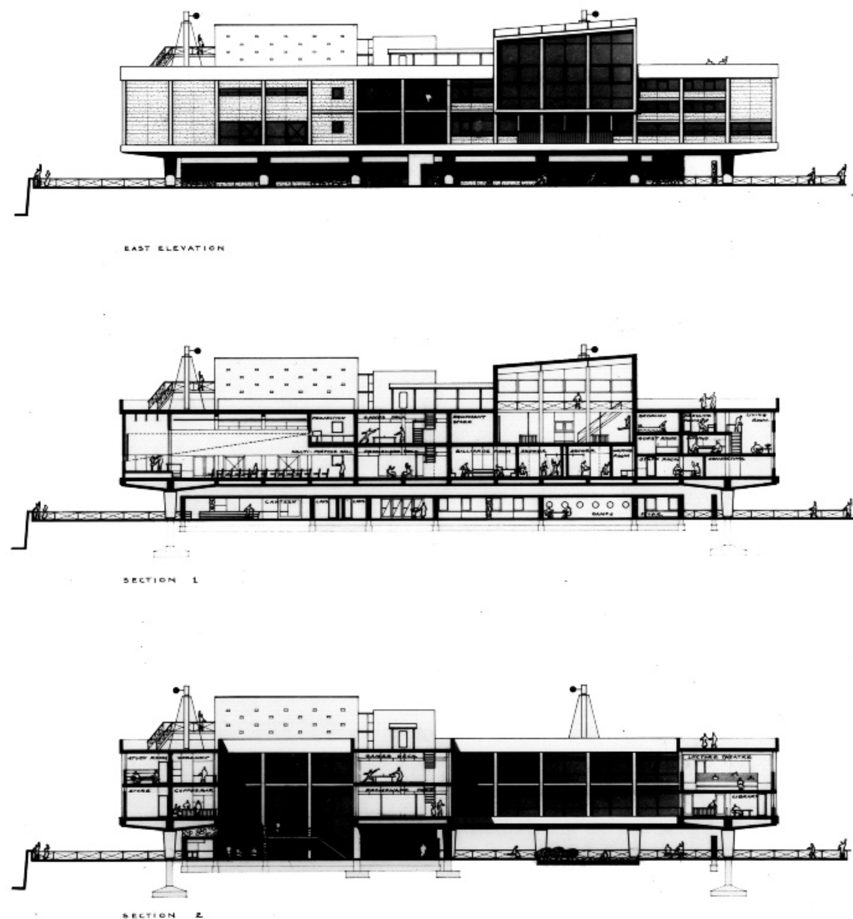
Alongside the Concert Hall, a second axis, a raised parade supported by sturdy columns, also overlooks the square and leads to Stirling's detailed design for a Community Centre. Elevated, it contains the eastern end of the square. A Dance Hall and Church, located at ground level but adjacent to the parade are aligned along this axis, the circular Dance Hall turning movement onto the parade.

The planning reminds us of the Beaux-Arts tradition at Liverpool and it was on to this framework the Modern Movement was gradually assimilated. The organizational hierarchy and axial ordering confirm that Stirling, through the influence of Colin Rowe and others had a good grounding in the classical tenets of design. The layout acknowledges the role of every building, elevational treatment drawing inspiration from leading practices of the day such as Powell and Moya or Gollins Melville and Ward.

If most of the elevations are schematic, the east elevation to the slab containing the Post Office and Banks, is not. Stirling treats the outer membrane of the building as a flexible skin so that windows can assume the position and size needed for each specific use.[23]

Although only a diagram of intent, this is a sophisticated concept with unusual attention to detail, sensitive to the treatment of the ground plane, to public convenience, with carefully organized paths and gardens and such necessities as a strategically located bus halt. There is a mature awareness of how architecture can enhance the public domain by respecting civic dignity, cultural amenity and both utilitarian and symbolic needs. Choice of a Community Centre for detailed development reminds us that this is where the architect may enhance life in the fullest sense, in contrast to some recent thesis choices, that, in the author's experience have frequently been geared to suit current stylistic trends, self-indulgently exploring form whilst studiously avoiding the realities of life.

How far this particular pendulum has swung in five decades, is illumi-



1.20 James Frazer Stirling, Community Centre, Newton Aycliffe, thesis presentation: east elevation and sections 1 and 2

nated by a conversation with Russell Bevington. Stirling, following his conscience, and the sense of social responsibility of his day, methodically evolves a solution from programmatic demands, deliberately sublimating formal expression until such needs are satisfied. In the current climate of the nineties, students were deliberately encouraged to take an opposite approach. To quote Bevington:

> *I do a certain amount of external examining (at Architectural Schools) and students want to arrive at the finished thing. They get something in their head and wish to wilfully produce a form. I've seen galleries on eighteen floors, all staircases and core; they wanted to do a tower building regardless of the brief.*[24]

In Stirling's Community Centre, first impressions include a sense of the meticulous care with which every space is considered, outside and inside, and the importance of communicating how they are used. Elevations sparkle with colour and are brought to life by figures resembling those on Le Corbusier's drawings <1.20>. The presentation is helped by the precision of zipatone.[25]

The appearance of the building is Corbusian, with its pilotis and reinforced concrete construction. A rhythm of structural bays clad in glazing or precast concrete slabs might be associated with the south elevation of the Pavillon Suisse,[26] and a courtyard is a good way to admitting light. But it was Mies van der Rohe, not Le Corbusier, who used the horizontal slab with courtyards. Referring to his use of *pilotis* Stirling wrote:

> *The natural outcome of placing a building on stilts is to make it hover, that is if the object on the posts has direction horizontal outwards all round. To put a box on edge (that is with greater height than breadth) on stilts is to contradict its verticality, this form should plunge into the ground like a spear. To place it on posts is against its direction. Only forms like a slab on its side, a table top, or a lying book can be placed on posts.*

In his Community Centre Stirling separates the containing walls on the ground floor of the form of the structure and follows Le Corbusier's *plan libre* principle. Entry is on the parade axis, neatly locking the building into the master plan and forming a circulation axis that splits the courtyard in two <1.21>. Stirling divides the rectangle into three bays to the north west of the axis and two to the south east. Rejecting any Miesian formula that produces a formal straitjacket, Stirling has one court longitudinal on the linear axis, the other lateral on the cross axis. This allows him to arrange an entrance hall on the circulation axis with a generous space adjacent for stairs that look on to the lateral court. Having three bays of the centre to the north west enables the bulk of the building to 'belong' to the main square that it overlooks. Also, the northern edge of the centre is aligned with the northern edge of the Concert Hall so that the two buildings contain the southern part of the court.

The hovering horizontal plane of the landing, the rubble wall below and glazed connections with the court are reminiscent of Frank Lloyd Wright, providing an internal/external experience of some richness. From the stair landing there are views into the court and towards entry, with a further view down from the first floor foyer leading to the restaurant.

At roof level are squash courts, a sunbathing terrace, a tennis court and a shuffleboard area, promoting Le Corbusier's view of architecture as health-giving, liberating mankind with happiness through recreation. A clue to Stirling's destiny and the sense of continuity in his work occurs with the revolving weather vanes on the roof of the complex, later appearing above the extract flue to the kitchen on the raised podium of the Florey Building at Queen's College Oxford.

The thesis absorbs many current influences, but Stirling was unhappy with the inefficiency of Le Corbusier's *plan libre* as used by him in his thesis:

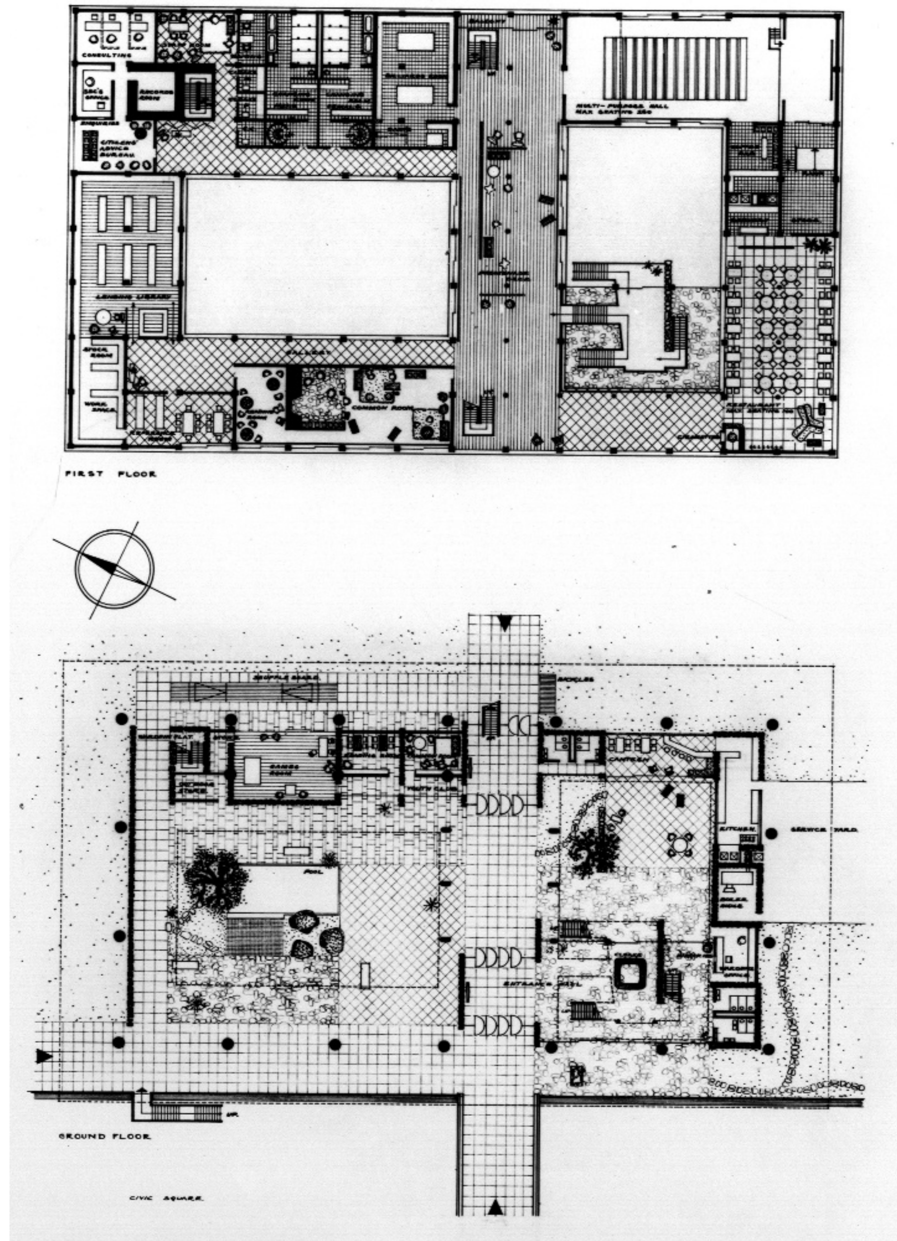
> *Rooms and circulation were intermixed and no doubt compromised each other functionally, which is always the case*

with a plan libre. Circulation is excessive and varied types of accommodation are fitted into a rectangle; "compressed" is a more operative word, describing the forcing of volumes as different as restaurants, an assembly hall, libraries, offices, into a constricting space.[27]

This critique is justified and he did not repeat the error, but it does throw into sharp focus the lack of flexibility in Mies van der Rohe's planning, an approach later (in 1954) to be canonized in England in the Smithsons' Hunstanton School. A comparison between that plan and Stirling's thesis reminds us of his different approach and how he came to distance himself from the Smithsons and their New Brutalist ideology.

Design principles

Stirling's thesis was well thought of at Liverpool and he qualified with distinction in the summer of 1950. What does it tell us about Stirling's education and his design approach? Obvious is the delight in solving an architectural problem beyond normal expectations in practical and aesthetic terms. The problem and its solution are closely intertwined, so that the integrity of the expression depends on a thorough understanding of the programme. Circulation will not simply be efficient, but must be enriching experientially.



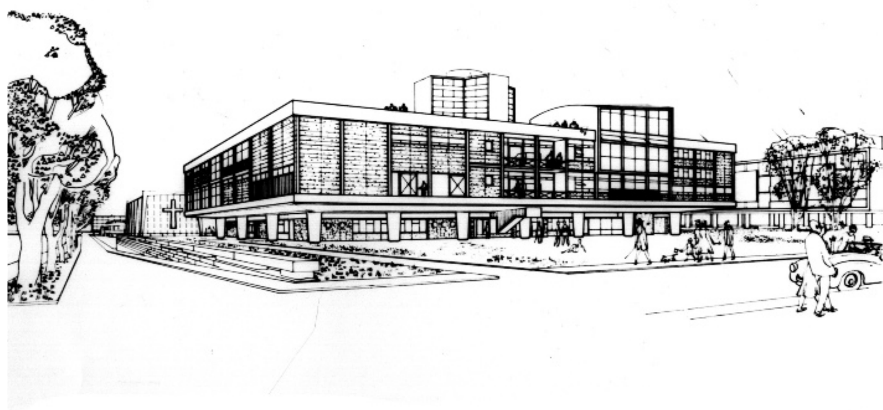
1.21 James Frazer Stirling, Community Centre, Newton Aycliffe, thesis presentation: ground and first floor plans

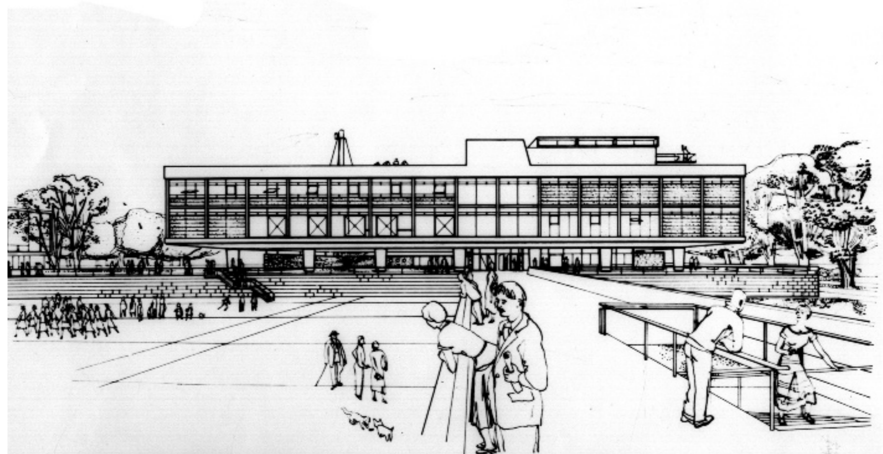
These were the ground rules of Stirling's understanding of his discipline in which architecture is seen as reality. Reality of structure, of floor surfaces and cladding materials and a reality of function in that every room must work. The medium of exploration is the pencil, drawings are carefully crafted. Sensitivity with the pencil will be communicated by osmosis into the building.

Presentation of the ideas is a priority, drawings being supplemented by models and perspectives. The handling of form relates volumes to spaces, using the axis as the means of control. Rhythms are important and the effect conveyed is one of *joie de vivre*, the drawings having a certain sparkle.

Missing from this student synthesis are those developments of the mind that would continue after graduation and throughout Stirling's lifespan. This embryonic statement confirmed that his brain was 'correctly wired' as far as the fundamentals are concerned. The thesis explores the architectural language of his day. It does so (uncharacteristically in terms of his later approach) in an uncritical 'Festival of Britain' mode that became known as Swedish Modern. His thesis, designed in 1951, could be regarded as 'picturesque', a term that, as the fifties progressed, would be condemned as lacking in rigour because it failed to implement the tough intellectual discipline evident in, for example, Le Corbusier's early modern works of the twenties <1.22>.

A close scrutiny of the architectural scene was about to be undertaken by an avant garde group of aesthetes and intellectuals in London, who would formulate the architectural philosophy that came to be known as the New Brutalism, a tough corrective of the polite modernism in vogue during the immediate post-war period. It was in this climate that Stirling's postgraduate education would continue.





1.22 James Frazer Stirling, Community Centre, Newton Aycliffe, thesis presentation: perspectives

ENDNOTES

1 In conversation with the author, October 1999.

2 Quoted from J. Jacobus, Introduction to *James Stirling: Buildings and Projects,* Oxford University Press, 1975, 14.

3 James Stirling, address given on receiving the Royal Gold Medal for Architecture, *RIBA Journal,* September 1980, 36.

4 From the Preface to F. Saxi and R. Wittkower's *British Art and the Mediterranean*, Oxford University Press, 1948.

5 Ibid., 81–82 and 49. Stirling's later work became very free in its inventive interpretations and was to a large extent an architecture of mass. Indirectly there are echoes of Vanbrugh and Hawksmoor. Castle Howard (1701–36) is also well illustrated in this large format book.

6 Stirling, op. cit., 36. In a BBC television documentary Stirling mentioned his fascination with Hawksmoor 'because Hawksmoor's attitude to history was modern'. Describing Hawksmoor's Christ Church at Spitalfields, he explains that 'it has an English Gothic Spire, French middle pieces, whilst the bottom is from Rome, in fact a collage'. *James Stirling,* a film produced and directed by Michael Blackwood, an *Omnibus* programme for the BBC, 1987.

7 James Stirling, Royal Gold Medal Address, op. cit., *RIBA Journal*, 36.

8 In his address, Stirling explained that he found the transition from Neo-classical to Romantic in the first half of the nineteenth century particularly interesting. He describes how 'the move from that sparse abstraction which somehow carried a maximum of emotive association to the break up of classicism with the incoming language of realism and naturalism was a fascinating circumstance which I think has parallels with architecture today'.

9 In 2001 the archive was acquired by the Canadian Centre for Architecture and is now housed in Montreal, Quebec.

10 In conversation with the author, October 1999.

11 G. Steiner, *Real Presences: Is there anything in what we say?* Faber and Faber, London, 1989, 12.

12 The architects' description.

13 Mark Girouard, *Big Jim: The Life and Work of James Stirling*, Chatto and Windus, London, 1998, 38.

14 Russell Bevington, in conversation with the author, August 1998.

15 Steiner, op. cit., 229.

16 Ibid., 225.

17 Ibid., 227.

18 Mary Stirling, in conversation with the author, August 1998.

19 The sketch reminds us that Stirling never liked to 'stay inside the box'. Cornell's Center for the Performing Arts (1983–1988) at Ithaca, may be seen as a fantasy based on an Italian hill town with its 'campanile', 'baptistery', twin 'basilicas', small 'piazza' and loggia. There is much levity in Stirling's approach to his subject; the Neue Staatsgalerie at Stuttgart is serious, with considerable gravitas, and also playful. In Michael Blackwood's television documentary Stirling describes the lift in the entrance foyer as 'a mechanized toy' that is 'better than many of the art works in the galleries', in fact it is 'a competing work of art'. Stirling goes on to express his displeasure at the placing of Joseph Beuys art in a corner room. This spoiled Stirling's intended axial vistas in the galleries. Explaining how Beuys insisted on this placement, Stirling retorts that he (Stirling) would not have given way to him. He makes these vitriolic comments as he passes Beuys exhibit, saying 'I think they should clear up all this garbage'.

20 This was a common approach to this sort of problem, one precursor being Le Corbusier's *Pavillon Suisse*, where the breakfast room contrasts with the slab block of student rooms.

21 Russell Bevington, in conversation with the author, August 1998.

22 There is also a similarity to Le Corbusier's *Temps Nouveau* Pavilion erected for the Paris International Exhibition of 1937. This lightweight structure used a system of pylons to support a canvas roof.

23 This stratagem was later used in the Poole College of Further Education competition entry (1952) and also for the Arthur M. Sackler Museum at Harvard University (1974–84). This early evidence of Stirling's capacity to envisage generic solutions to architectural problems is evident throughout his career, as time and time again, a concept will be reworked. Typical of this is the 'mine

shaft' gantry frame for the lift in the Olivetti HQ at Milton Keynes (1971), not used then as the project was aborted, but which re-appears in the Dusseldorf Museum competition entry (1975) and was finally built at the Neue Staatsgalerie in Stuttgart.

24 Russell Bevington, in conversation with the author, August 1998.

25 This was one of Stirling's discoveries in the United States during his visit there in 1948. For this information I am indebted to Marc Girouard, *Big Jim*: *The Life and Work of James Stirling,* Chatto and Windus, London, 1998, 46.

26 Although Stirling was not impressed with the *Pavilion Suisse* (he had seen it during a summer vacation in 1950) Girouard op. cit., 47, he does not quarrel with its bay structure, his critique being that it has 'little real innovation'.

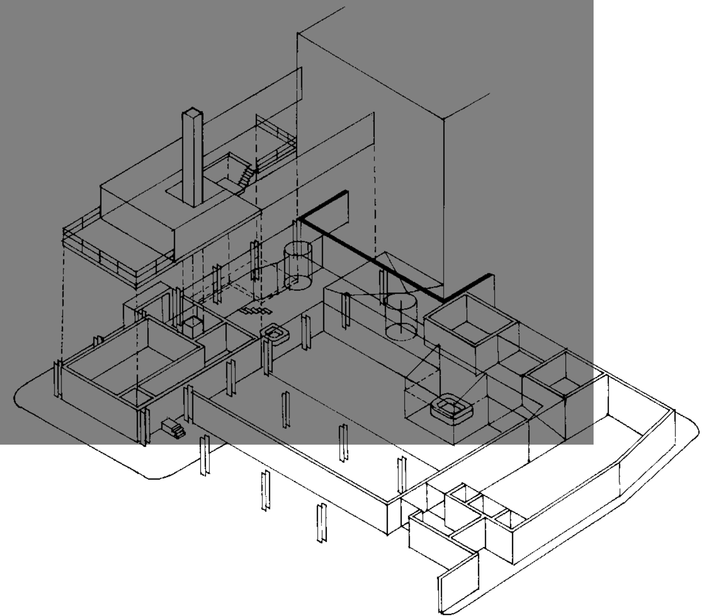
27 John Jacobus, op. cit., 15.

2 Stirling's Assessment of Modernity

James Frazer Stirling, photographer, view of Le Corbusier's Unite' d'habitation at Marseille

Our eyes are constructed to enable us to see forms in light.
Primary forms are beautiful forms because they can be clearly appreciated.
The elements of architecture are light and shade, walls and space.
By the use of raw materials and starting from conditions more or less utilitarian, you have established certain relationships which have aroused my emotions. This is architecture.

Le Corbusier, *Towards a New Architecture*



Early Corbusian space

This page intentionally left blank

THREE COMPETITIONS

- The Honan competition of the Liverpool Architectural Society for a Merseyside Film Institute, Merseyside, England (1950)
- Poole College of Further Education, Poole, England (1951)
- University of Sheffield competition (1953)

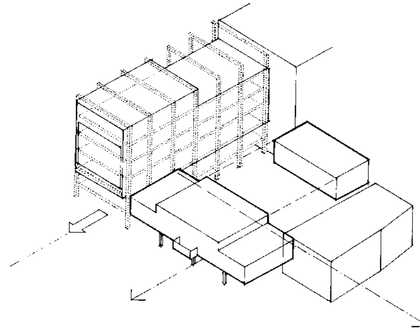
After graduation in 1950, Stirling spent the next five years formulating a design approach that could build on and extend the functionalist credo of the Modern Movement. The competition was his design laboratory. This was where his development took place and three competitions explain his emerging philosophy.

The Honan Competition,
October 1950 (Local competition)

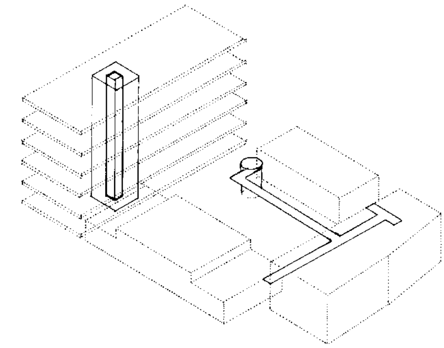
MERSEYSIDE FILM INSTITUTE COMPETITION

Design strategy

With the Honan competition for a Film Institute, Stirling advances his design strategy beyond his thesis, abandoning the *plan libre* to divide the accommodation into discrete volumetric components that each satisfy particular functions. A block of offices attached to a neighbouring building



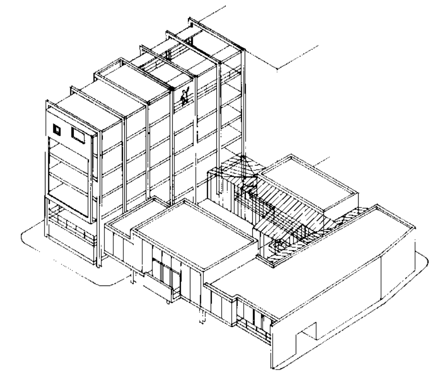
2.1 James Stirling: Honan Competition (1950), general massing



2.2 Main vertical and horizontal circulation

forms one end of a court containing clubrooms and an auditorium <2.1> (all analytical drawings are by the author). The role of circulation is clarified and expressed as a solid vertical core that pierces the office block and as a hovering horizontal ribbon that connects the various elements around the court <2.2>. In the court, the potency is enhanced by the contrast between the sculptural fact of the circulation and its being within a 'neutral' glass membrane <2.3>. This implementation of the Miesian core against skin principle is thus combined with the experiential possibilities of the promenade architecturale.

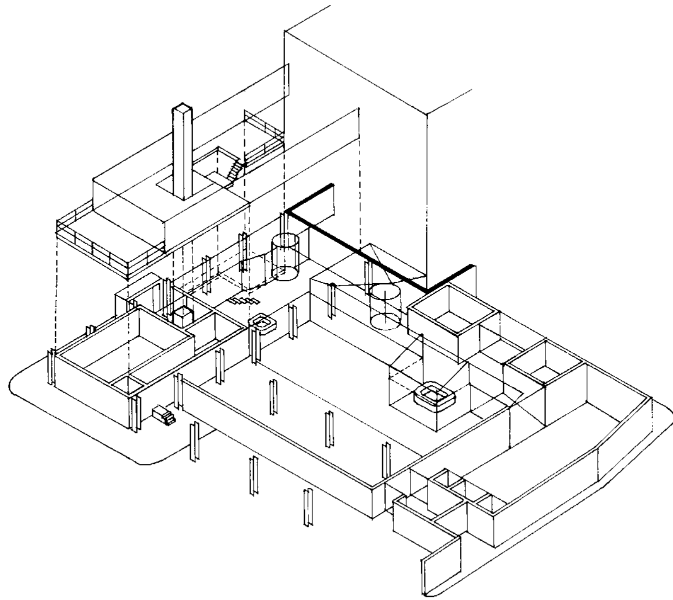
Significantly, in his first competition project, Stirling realizes the unique potential of glass for lyricism. Unlike Mies's static use of glass as a transparent container, Stirling uses it as a flexible means of contact with the surroundings. In the Film Institute, the glass umbrella around two sides of the court has



2.3 Glazed membrane covers circulation in court

that romantic quality we associate with the Victorian conservatory.

The glazed membrane acts as a 'web' that links the entrance foyer, the circulation route and the court, connecting them with the sky. This perception of the potential of glass to poetically transform the functional imperative so that it becomes charged with lyricism, would colour all Stirling's work, becoming a major source



2.4 Plans and cutaway axonometric of ground and first floors creates an early Corbusian space

of inspiration. It occurs across his output, from Leicester Engineering and the Cambridge History Faculty Building to the Tokyo International Forum and Kyoto Centre decades later.

The steel structure of the office building is positioned outside the façade, furthering the general theme of an honest expression of components that pragmatically frees the floors for internal subdivision. This rationale extends to the clear definition of the various elements and zones within the plan organization. As in his thesis the foyer becomes, as with so many later projects, a receptacle for such functional objects as a spiral stair and reception desks. And as in his thesis the foyer paving merges with the court <2.4>.

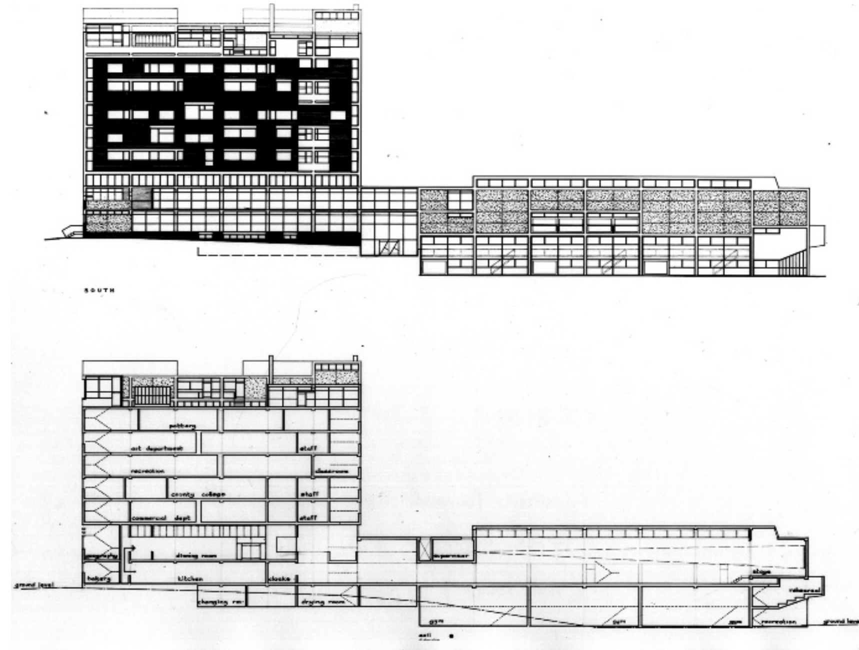
Stirling's knowledge of Le Corbusier's stratagems through the *Oeuvre Complète* is apparent, and the clear disposition of elements, with solid and transparent planes, distinct volumes and the independence of structure and skin, echoes Le Corbusier's Purist mode.

Stirling uses a cylindrical revolving door for entry, an early example of his choice of a motif that would be correct functionally and have sculptural value. This is repeated throughout his *oeuvre* – we find it in the entrance foyer to the Staatsgalerie (1977–84), at London's Clore Gallery at the Tate (1978–86), London's National Gallery Extension (1985) and in many more examples <2.5>.

Meticulous in its attention to functional minutiae, the Film Institute takes Stirling's thesis methodology into a more effective mode. Not only are functional needs met in greater detail, they contribute to a poetic that allows the parts to exist as independent entities in a state of balanced equilibrium. The parts themselves can be developed and rich contrasts are possible between them. A design philosophy was taking shape, not by intellectual theorizing but by an empirical approach that tested intuitive ideas in the cauldron of conceptual design, and in particular by care in addressing the requirements of the programme. It was through the

2.5 James Stirling and Michael Wilford, Stuttgart, State Gallery and Chamber Theatre (1977–84)

process of design on the drawing board, incorporating a critique of what he had done before, that his personal theory emerged.

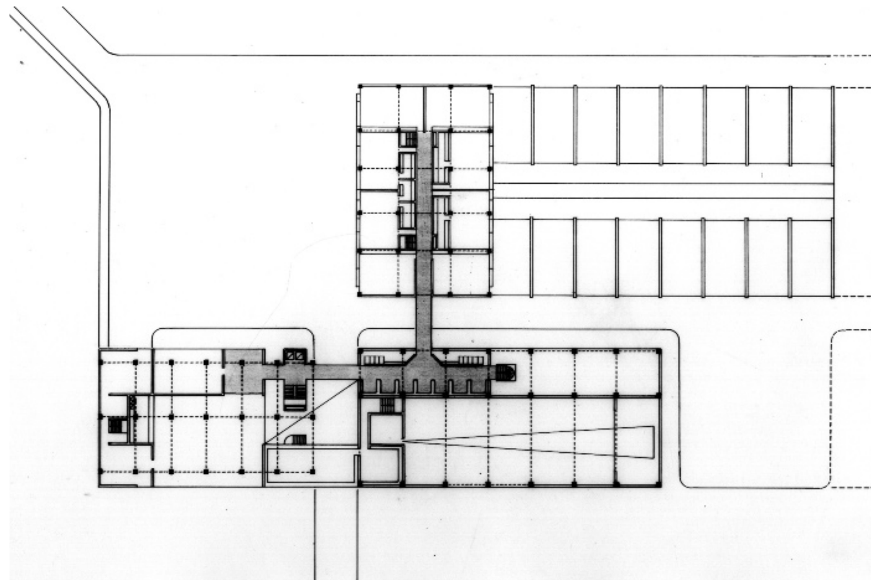


2.6 James Frazer Stirling, Poole College of Further Education: elevation and section (1951)

POOLE COLLEGE OF FURTHER EDUCATION

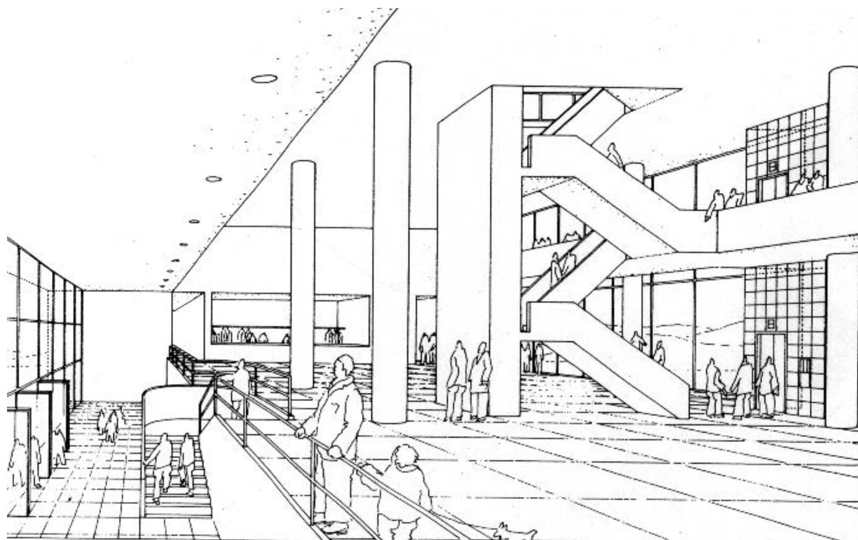
Design strategy

More complex than the Honan project the programme was a good vehicle to test out Stirling's avowed aim to 'extend the range and clientele of modern architecture'. Educational buildings of all kinds were going to be needed in the post-war society and their organizational and symbolic requirements were well suited to the frame and panel system that characterized the current architectural language in public buildings. As with the Honan project, Poole College of Further Education can be seen as another 'post graduate' design exercise, another 'test bed' for Stirling's emerging philosophy.



2.7 Second floor of complex

The site sloped from north to south and from west to east and, judging from Stirling's solution, the college offered courses in art, science, technical drawing and physical education. The art school was a major element, prioritized by Stirling by being placed in a tower block on the western side of the complex. The linear axis of this tower extends eastwards in the form of a lower



2.8 Entrance Hall drawing by Leon Krier

block, on the descending slope, separated from the tower by an entry point that occurs at the point of separation of the tower and lower blocks <2.6>. At right angles to this linear configuration Stirling places a second lower block to the north on the upper part of the north/south slope. The plan indicates the reasoning behind Stirling's intentions, namely to provide an economic circulation pattern with the minimum of potentially wasteful corridors <2.7>.

To unify the components in this sloping situation, he establishes a *piano nobile* at the upper level of the southern block, extending this below the tower, and connecting the three blocks by bridges at this level. The horizontal 'datum' established by the *piano nobile* enables the lower part of the southern block to accommodate an extra floor where the slope descends. Where the north block meets the low southern block, Stirling establishes a key nodal point in which the connecting corridors broaden on the linear axis to form locker areas opposite toilets. From this central gathering point, close to entry, the routes are very short to the rest of the complex. With massing and circulation, Stirling defines the organizational structure of the complex <2.8>.

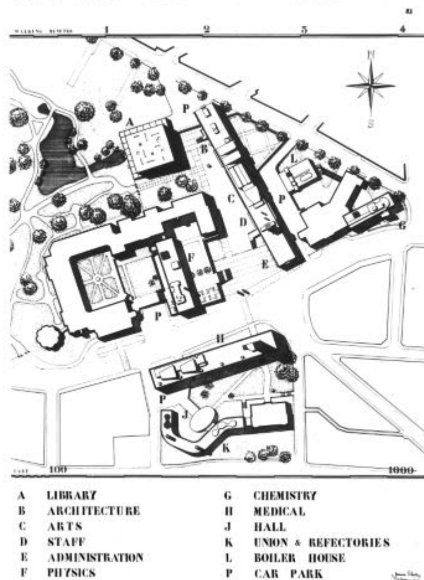
The frame structure is clad with precast concrete panels in the lower eastern block, this being the main alternative to the general glazing throughout. For the part of the tower block that comprises many different room sizes, Stirling uses a brick 'skin' to cover the façade, window sizes and placement being in accordance with the room requirements behind the façade <2.6>. He had used this system on the post office in his thesis in a similarly precise identification of functional specificity, a rejection of Le Corbusier's 'ribbon window' strategy that typifies his re-assessment of the master's modernist dictum.

The priorities are clear, the approach is precise and logical, with the important benefit of economy, seen by Stirling in cash-strapped post-war Britain as an obvious and necessary strategy. This was modern architecture as Le Corbusier had prescribed, based on a 'scientific' analysis of the programme leading to a precise definition of elements.

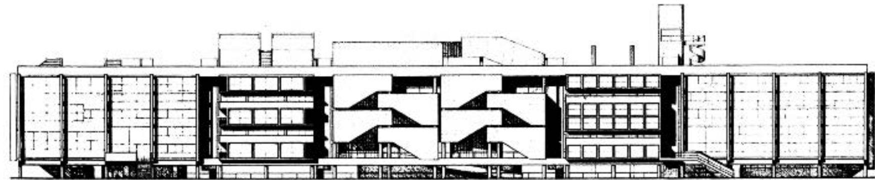
COMPETITION FOR UNIVERSITY OF SHEFFIELD

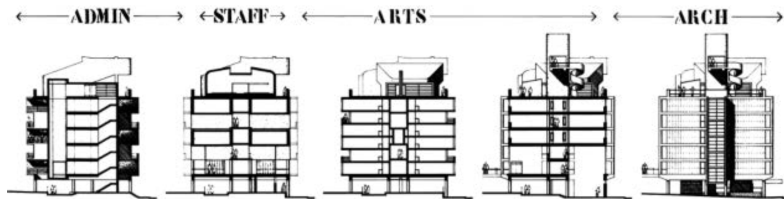
Design strategy

In his University of Sheffield competition entry, Stirling, assisted by Alan Cordingley, pulls together the various strands of his evolving design philosophy. There are powerful echoes of Le Corbusier's Unité d'Habitation at Marseilles which had begun construction in 1947 and was inaugurated in 1952. In the site layout, Stirling and Cordingley place Arts and Administration in a linear block, slightly tilted on plan to create a space leading towards the Library <2.9>. The Arts and administration block is axial and symmetrical, in this sense being an early precursor of those

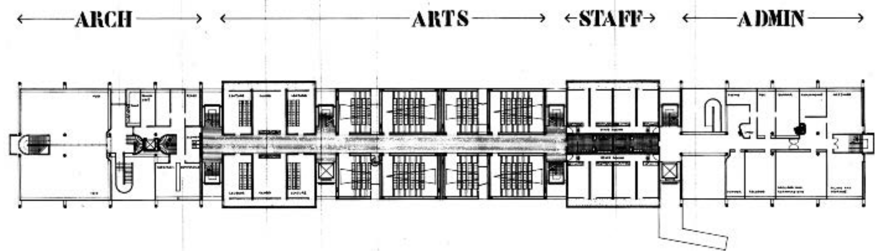


2.9 James Stirling, University of Sheffield Competition: site plan





2.10 Elevation towards campus and existing buildings and sections through the block



2.11 Second floor plan

symmetrical buildings that characterize Stirling's late 'classical' period <2.10>. His philosophy of form following function was well served by a programme that could be broken down into distinct components. An analysis of the brief revealed a programmatic hierarchy in which the building could be divided into five bays, each serving a different purpose <2.11>.

Stirling was happy to 'disprove two current trends in contemporary architecture'. In a talk at the AA in 1954, recorded in the Black Notebook[1] he comments on the winning design:

> *1. Dropping a curtain down the façade and disguising the interior (i.e. the winners) known as the "curtain wall". American back to Bauhaus origin. Entirely legitimate when all the accommodation is similar as in an office block, i.e. Lever House, N.Y. but could not possibly apply in this instance when the accommodation is of such highly diverse function.*
>
> *2. The "one idea approach" – or "I have an idea". Usually manifesting itself as a structural system or circulation effect. This approach would be legitimate where the accommodation was only one element, or one element dominating a number of minors i.e. Smithsons' Coventry Cathedral (structural). Entwistle Crystal palace (circulation).*[2]

Subdivision into component parts

The subdivision of the block is straightforward and legible; in the central primary zone are the lecture theatres; at each end flexible spaces serve diverse needs; between the two are more clearly defined teaching areas and staff rooms.