

PLANS AND VALUES

91

by

MAXIMILIAN GUENTER ERICH MEYER

Dipl.Ing., Technische Universitaet Muenchen, 1977

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARCHITECTURE

in

THE FACULTY OF GRADUATE STUDIES

(School of Architecture)

We accept this thesis as conforming
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THE UNIVERSITY OF BRITISH COLUMBIA

July, 1979

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ABSTRACT

Floorplans in buildings are prestructured not only by functional restrictions, but also by attitudes towards preferred conditions. The attitudes are implicit in social and cultural traditions; yet not always are they explicitly stated as program intentions. Each type of institution adheres to a cultural value orientation which defines organisational contexts as preferred paradigms for intended functions, expected activity and supporting conditions.

The starting point of this thesis lies in social theory which is used to define four major types of value orientations describing paradigms for human interaction in social organisations. These four are Control, Integration, Prestige and Profit. The main body of this work consists of an application of these four value orientations to the physical attributes of an assortment of building plans for each of four different genotypic organisations: prisons, schools, offices and shopping centres.

A building plan is seen as a number of places organized and interrelated by a circulation system. Five generic

conditions, of plans of building circulation systems, orient users through various stages towards, into and within the organisational environment. These are location, boundary, layout, paths and edges.

The results of analyses of the above parameters show that characteristic conditions of plans essentially support organisational goals and values. The environment created responds to the value intentions of organisations and to the value orientations of users, as well as or instead of functional considerations. For example, the superordinate value orientation of a prison is control, and path (corridor) arrangements reinforce this orientation no matter how dysfunctional they may otherwise be.

It is concluded that the value orientations of an institution tie its organisational context to the conditions of a corresponding physical environment. The value orientations are thus pertinent to the rules of building owners, building programmers, and the results illuminate how assumed values condition the way so-called functional requirements are interpreted in institutional architecture.

TABLE OF CONTENTS

Chapter 1	1
INTRODUCTION	1
1 Problem And General Background	1
2 Background Literature	3
3 Objectives	6
3.1 Deduction Of Hypothesis	6
3.2 Limitation Of Concern	9
3.3 Hypothesis	18
CHAPTER 2	22
THE CORRECTIONAL INSTITUTION AND THE CONTROL VALUE .	22
1 Introduction	22
2 The Location Of The Correctional Institution .	28
3 The Size Of The Prison Grounds And The Definition Of Its Boundaries	33
4 The Layout Of The Territory And The Designation Of Places	38
4.1 General Principles	38
4.2 Core-places	43
4.3 The Locus Of Power	47
4.4 Support-places	51
4.5 Summary Of This Section	52
5 Paths And The Flow Of Institutional Activity .	52
6 Edges Defining The Cells	57
7 Summary	67
CHAPTER 3	71
THE EDUCATIONAL INSTITUTION AND THE INTEGRATIVE VALUE	71

1	Introduction	71
2	The Location of the Educational Institution ..	75
3	Boundary and Size of the Institutional Territory	79
4	The Layout of the Plan and the Designation of Places	84
4.1	General Principles	84
4.2	Social Integration: Differentiating the Plan according to Participants	90
4.3	Scholastic Integration	93
4.4	The Locus of Power	97
4.5	Summary of This Section	99
5	Paths and the orientation of institutional Activity	100
6	The Edges defining the activity units	107
7	Summary	113
CHAPTER 4		119
OFFICES AND THE PRESTIGE VALUE		119
1	Introduction	119
2	The Location Of The Office	124
3	Boundaries And Size Of The Office Building	129
4	The Layout Of The Plan And The Designation Of Places	134
4.1	General Principles	135
4.2	Core Places And The Locus Of Power	139
4.3	Support Places	145

4.4	Summary Of This Section	150
5	Paths And The Workflow Line	151
6	The Edges Of The Individual Workstation	158
7	Summary	164
CHAPTER 5	173
	SHOPPING CENTRES AND THE PROFIT VALUE	173
1	Introduction	173
2	The location of the commercial Enterprise, Specifically the Shopping Center .	177
3	The Outside Perimeter and The Inside Boundary of the Shopping Center ...	183
4	The Layout of The Shopping Center and the Designation of Places	189
4.1	Shop Mix and Arrangement	189
4.2	Magnets	191
4.3	Support and Delivery Areas	196
4.4	Administration of the Shopping Center ...	198
4.5	Summary of this Section	199
5	Paths and the Direction of Activity	199
6	The Edges of Shops and the Exchange Process ..	205
7	Summary	213
CHAPTER 6	220
	CONCLUSIONS	220
1	Introduction	220
2	Achievement of Objectives	221
2.1	The Nature of Values	221

2.2	The Generic Conditions	222
2.2.1	General Remarks:	222
2.2.2	Summary and Comparison:	225
3	Implications and Remarks	231
4	Recommendations	235
	Bibliography	237

LIST OF TABLES

Page

Chapter 2. The correctional Institution

Table 2-1	Location of correctional institutions, Nagel, p. 48	30
Table 2-2	Perimeter security, Nagel, p. 62	35
Table 2-3	Basic design forms, Nagel, p. 46	40

Chapter 4. Office Buildings

Table 4-1	Reasons for being downtown, City of Vancouver Planning Department, <u>Office Space Demand</u> (Aug. 1973), p. 36	125
Table 4-2	Space needs for private offices, John E. Browne, <u>The Open Plan Office -- Principles and Design</u> , (London, The Institute of Office Management, 1970), p.25	158

Chapter 5. Shopping Centres

Table 5-1	Consumption patterns Jones, p. 45.	181
Table 5-2	Space budget, Jones, p. 43.	189
Table 5-3	Shop unit dimensions Jones, p. 115.	190

LIST OF FIGURES

Page

Chapter 1. Introduction

Figure 1-1	Interrelation of social and spatial context with plan conditions	9
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Chapter 2. The Correctional Institution

Figure 2-1	Seagoville Correctional Institution, Texas, aerial view, U.S. Bureau of Prisons, p. 104	30
Figure 2-2	Federal Penitentiary, Atlanta, aerial view, U.S. Bureau of Prisons, p. 41.	30
Figure 2-3	Federal Prison, Alcatraz, aerial view, U.S. Bureau of Prisons, p. 44	30
Figure 2-4	State Prison, Trenton, plan 1836-1917, U.S. Bureau of Prisons, p. 37	31
Figure 2-5	Sing Sing prison, plan, U.S. Bureau of Prisons, p. 37	31
Figure 2-6	State Prison, Jackson, Michigan, aerial view, U.S. Bureau of Prisons, p. 68	35
Figure 2-7	25-inmate jail, plan excerpt, U.S. Bureau of Prisons, p. 173	36
Figure 2-8	Informal visiting room, interior view, Nagel, p. 104	37

Figure 2-9	Semi-formal visiting room, interior view, Nagel, p. 104	37
Figure 2-10	Formal visiting room, interior view, Nagel, p. 103	37
Figure 2-11	Federal Reformatory, Alderson, plan, U.S. Bureau of Prisons, p. 133	39
Figure 2-12	Federal Prison, Alcatraz, plan, U.S. Bureau of Prisons, p. 45	39
Figure 2-13	Bordentown Prison Farm, plan, U.S. Bureau of Prisons, p. 95	41
Figure 2-14	Federal Correctional Institution, Danbury, Conn., plan, U.S. Bureau of Prisons, p. 91	41
Figure 2-15	Sierra Conservation Center, Jamestown, plan, Nagel, p. 43.	42
Figure 2-16	Disciplinary Barracks, Camp Cooke, plan, U.S. Bureau Of Prisons, p. 77	42
Figure 2-17	Proposed Super Security Institution, plan, U.S. Bureau of Prisons, p. 47.	43
Figure 2-18	State Penitentiary, Vienna, Ill., plan, Nagel, p. 44	44
Figure 2-19	Correction Center, Yardville, N.J., plan, Nagel, p. 43	44
Figure 2-20	Campe Cooke, plan excerpt, op.cit.	45
Figure 2-21	Bordentown, plan excerpt, op.cit.	45
Figure 2-22	County jail, Ipswich, England, plan, Johnston, p. 22.	47
Figure 2-23	State Prison, Trenton, plan 1836, Johnston, p. 30	47
Figure 2-24	State Penitentiary, Stateville, aerial view, Johnston, p. 19	47
Figure 2-25	Louisiana State Penitentiary, Angola, plan, Johnston, p. 48	47
Figure 2-26	Proposed Federal Juvenile Center, plan excerpt, U.S. Bureau of Prisons, p. 147	48

Figure 2-27	New Jersey State Prison, Leesburg, plan, Nagel, p. 75	48
Figure 2-28	Leesburg, plan excerpt, op.cit.	48
Figure 2-29	Reception and medical center, Lake Butler, plan excerpt, Nagel, p. 72	49
Figure 2-30	State Penitentiary, Stateville, interior view, Johnston, p. 19	49
Figure 2-31	Federal Penitentiary, Atlanta, plan, U.S. Bureau of Prisons, p. 41	51
Figure 2-32	State Penitentiary, Graterford, Penn., plan, U.S. Bureau of Prisons, p. 67	51
Figure 2-33	Proposed Super Security Institution, plan excerpt, U.S. Bureau of Prisons, p. 54	53
Figure 2-34	Bentham's Panopticon prison, plan excerpt, Johnston, p. 18	56
Figure 2-35	Armed supervision galleries, Super Security Institution, schematic plan, U.S. Bureau of Prisons, p. 53	56
Figure 2-36	Proposed Super Security Institution, section cell block, U.S. Bureau of Prisons, p. 50	59
Figure 2-37	Proposed Super Security Institution, interior view, U.S. Bureau of Prisons, p. 50	59
Figure 2-38	Segregation cells, standard detail, plan, U.S. Bureau of Prisons, p. 213	62
Figure 2-39	Segregation cells, ibid., section	62
Figure 2-40	Inside Cells, standard detail, section, U.S. Bureau of Prisons, p. 208	62
Figure 2-41	Outside cells, standard detail, section, U.S. Bureau of Prisons, p. 203	62
Figure 2-42	Open Dormitory, standard detail, plan, U.S. Bureau of Prisons, p. 197	64
Figure 2-43	Dormitory cubicles, standard detail, plan, U.S. Bureau of Prisons, p. 201	64

Figure 2-44	Dormitory squadrooms, standard detail, plan, U.S. Bureau of Prisons, p. 200	64
Figure 2-45	Youth Center, Morgantown, West Virginia, plan, Nagel, p. 74	65

Chapter 3. The Educational Institution

Figure 3-1	Camden, New Jersey, schematic plan, Columbia University, p. 9	76
Figure 3-2	Integrated school site, schematic plan, Roth, p. 23	76
Figure 3-3	Billy's drawing, Coles, p. 54	78
Figure 3-4	The City as a School, plan, Woods, p. 123	78
Figure 3-5	Hawthorne School, Utah, plan, William G. Bruce, <u>Grade School Buildings</u> , (Milwaukee, The Bruce Publishing Co., 1914), p. 55	82
Figure 3-6	Belaire School, plan, Profiles of Significant Schools, Belaire Elementary School, San Angelo, Texas, (New York, Educational Facilities Laboratories, Sept. 60), p. 7	82
Figure 3-7	Madisonville School, Ohio, plan, Bruce, p. 20	82
Figure 3-8	High school commons, schematic plan, Profiles of Significant Schools, Rich Township, p. 11	82
Figure 3-9	St. Thomas of Canterbury School, Manchester, England, plan excerpt, Pearson, p. 62.	83
Figure 3-10	Martin Luther King, Jr., High School, New York City, plan excerpt, <u>Architectural Record</u> , 1976/6, p. 129	85
Figure 3-11	Eynsham Elementary School, England, plan, Pearson, pp. 50-51	86

Figure 3-12	Evelyn Lowe School, London, England, plan Pearson, pp. 44-45	86
Figure 3-13	Cassady School, Camden, plan, Columbia University, p. 22	87
Figure 3-14	Hillsdale High School, altered plan, Profiles of Significant Schools, Hillsdale High School, p. 14.	88
Figure 3-15	East Rochester School, New Hampshire, plan, Engelhardt, p. 73	90
Figure 3-16	Bellamy School, Tampa, Florida, plan, <u>Architectural Record</u> 1976/6, p. 119	90
Figure 3-17	Eynsham School, <i>ibid.</i> , plan excerpt	91
Figure 3-18	Fredrick Harrison School, Stapleford, England, plan, Pearson, p. 59	91
Figure 3-19	Nagele school, Holland, plan, Otto, Part I, p. 2	93
Figure 3-20	Martin Luther King, Jr., High School, <i>ibid.</i> , plan	95
Figure 3-21	Timberline High School, Washington, plan, American Association of School Administrators, p. 94.	95
Figure 3-22	Lyon School, St. Louis, Mo., plan, Bruce, p. 97	96
Figure 3-23	Primary School, Compton, England, plan, Pearson, pp. 70-71	100
Figure 3-24	Evelyn Lowe School, <i>ibid.</i> , plan excerpt	101
Figure 3-25	Saginaw School, Michigan, schematic section grade 5, Profiles of Significant Schools, Saginaw Township, p. 5	102
Figure 3-26	Saginaw School, <i>ibid.</i> , schematic section, grade 6,	102
Figure 3-27	Saginaw School, <i>ibid.</i> , schematic section, grade 7 and 8,	102
Figure 3-28	School near Zurich, Switzerland, perspective section, Otto, p. 13	103

Figure 3-29	Hillsdale High School, <i>ibid.</i> , original plan,	103
Figure 3-30	Daylight contours, schematic plan, Roth, p. 54	106
Figure 3-31	Brize Norton Primary School, England, plan, Pearson, p. 40	107
Figure 3-32	The Lancastrian system, plan, Maurice Smith, "Not Writing on Built-Form, in <u>Harvard Educational Review</u> , p. 73	109
Figure 3-33	School near Zurich, Switzerland, plan, Otto, p. 14	109
Figure 3-34	Flexible furniture, schematic plan, American Association of School Administrators, p. 33	109
Figure 3-35	Mother of God Academy, Stanford, Connecticut, interior view, Curtis and Smith, p. 147	110
Figure 3-36	Montessori School, Delft, Holland, interior view, Hertzberger, p. 63	110

Chapter 4. Office Buildings

Figure 4-1	Decisions and risks, schema, Dale, p. 129	121
Figure 4-2	Organisation chart, schema, Office Administration Handbook, p. 27.	121
Figure 4-3	Office employment in the U.S., map, Daniels, p. 97.	124
Figure 4-4	Office and retail location, schematic map, City Planning Department, <u>Redevelopment in Downtown Vancouver</u> , Report No. 5, (Vancouver, City Planning Department, July 1964), pp. 12 and 15	126
Figure 4-5	John Deere & Co., Moline, Illinois, site plan, Hohl, p. 74	127
Figure 4-6	Baroque castle, view, Hohl, p. 11	127

Figure 4-7	Knights of Columbus, New Haven, Conn., view, Mildred F. Schmertz, comp., <u>Office Building Design</u> , second ed., (New York, McGraw-Hill, 1975), p. 95	130
Figure 4-8	Chase Manhattan Bank, New York, plan plaza, Hohl, p. 122	130
Figure 4-9	Connecticut General Insurance, Bloomfield, view, Hohl, p. 11.	131
Figure 4-10	ABC Company, plan excerpt, Saphier, p. 76.	131
Figure 4-11	Hoffman-LaRoche, Nutley, N.J., first, typical and executive floor plans, Schmertz, p. 46.	132
Figure 4-12	Double zone layout, plan, Joedicke, p. 29	135
Figure 4-13	Triple zone layout, plan, Joedicke, p. 33	135
Figure 4-14	Single zone layout, plan, Joedicke, p. 29	135
Figure 4-15	Location of building facilities, two plans, Robichaud, p. 119	136
Figure 4-16	Mile High Centre, Denver, plan, Joedicke, p. 34	136
Figure 4-17	Australia Square Office Centre, typical plan, Hohl, p. 160	136
Figure 4-18	Grids, schematic plan, Duffy et al., <u>Planning Office Space</u> (1976), p. 53	137
Figure 4-19	Planning grid, open offices, schematic plan, Joedicke, p. 18	137
Figure 4-20	Planning grid, private offices, schematic plan, Joedicke, p. 19	137
Figure 4-21	Organisation structure, schema, Forrest, p. 20	139
Figure 4-22	Rechtsschutz AG, West Germany, view, Steele, p. 50	139

Figure 4-23	Stacking plan, schematic section, Gensler, p. 21	140
Figure 4-24	Noxell Offices, Cockeysville, Maryland, upper and lower level plans, Schmertz, p. 39.	140
Figure 4-25	John Deere & Co., first and typical floor plan, Hohl, p. 77	141
Figure 4-26	Office for Minoru Yamasaki, plan, Schmertz, p. 51	141
Figure 4-27	General Connecticut Insurance Co., plan, Joedicke, p. 213	141
Figure 4-28	Krupp AG, West Germany, typical plan, A. Wankum, "Layout Planning in the Landscaped Office", in <u>Office Landscaping</u> , Anbar Monographs, (London, Anbar Publications, 1966), p. 33.	142
Figure 4-29	Ford Werke AG, West Germany, plan, Business Equipment Manufacturers Association (BEMA), <u>Improving Office Environment</u> , (Elmhurst, Ill., The Business Press, 1969), pp. 18-19.	142
Figure 4-30	Krupp AG., plan excerpt, Wankum, p. 33	146
Figure 4-31	Chase Manhattan Bank, N.Y.C., top and executive (17th) floor plans, Hohl, p. 122	149
Figure 4-32	Osram Office, Munich, ground floor plan, Hohl, p. 59	149
Figure 4-33	CitiCorp Building, plaza plan, <u>Architectural Record</u> , 163 (June 1978), p. 111	149
Figure 4-34a	ABC Corporation, organisation chart, Saphier, p. 66.	151
Figure 4-35b	ABC Corporation, plan, Saphier, p. 68	151
Figure 4-35	Insurance claim center, two department plans, Office Administration Handbook, p. 898.	152
Figure 4-36	Hypothetical building scheme, section, Saphier, p. 54.	152

Figure 4-37	12 steps to a layout, plan, Office Buildings, Architectural Record, pp. 234-235.	155
Figure 4-38	Krupp AG, plan with workflow lines, Forrest, p. 54	156
Figure 4-39	Cellular office layout, plan, Office Buildings, Architectural Record, pp. 234-235.	156
Figure 4-40	Space standards, diagram, Duffy et al., Planning Office Space (1976), p. 92	158
Figure 4-41	Osram Office, top floor plan, Hohl, p. 59 ..	161
Figure 4-42	Torrington Company, Conn., upper level plan, Hohl, p. 17.	161
Figure 4-43	"Loyalty", aphorism, Cameron, p. 43,	162

Chapter 5. Shopping Centers

Figure 5-1	Market location, schematic site plan, Helga M. Richards, <u>How to Plan Your Market</u> , (London, Longmans, Green & Co., 1957), p. 5	177
Figure 5-2	Market subdivision, schematic plan, Richards, p. 25.	177
Figure 5-3	Land value and location, schematic plan, Richards, p. 25	178
Figure 5-4	Shopping center access, Lion, p. 14	179
Figure 5-5	System of central places, schema, Beavon, p. 29	179
Figure 5-6	Location and relative accessibility, schema, Jones, p. 50	182
Figure 5-7	Crossroads center, Oklahoma City, site plan, Redstone, p. 308.	184
Figure 5-8	Randhurst shopping center, Illinois, site plan, Gosling, p. 34.	187

Figure 5-9	Service layout, shop in Ghana, plan, Richards, p. 45.	187
Figure 5-10	Self-service layout, supermarket, schematic plan, Zimmerman, p. 202.	191
Figure 5-11	Magnet location, schemata, Darlow, p. 16	191
Figure 5-12	Exton Square, Pennsylvania, plan, Redstone, p. 162	192
Figure 5-13	The Esplanade, Oxnard, California, site plan excerpt, Redstone, pp. 180-181.	192
Figure 5-14	Supermarket, schematic plan, Zimmerman, p. 197	193
Figure 5-15	La Puente shopping center, California, plan, Gosling, p. 41.	194
Figure 5-16	Location of stores in the mall, schematic plan, Lion, p. 24.	197
Figure 5-17	North Park shopping center, Texas, site plan, Gosling, p. 33.	200
Figure 5-18	Woodfield Mall, Schaumburg, Illinois, plan excerpt, Redstone, p. 19	200
Figure 5-19	Mall courts, schematic plan and section, Lion, p. 41.	201
Figure 5-20	Escalators, schematic plan, Lion, p. 70.	201
Figure 5-21	Sandwell Centre, West Bromwich, England, site plan, Darlow, p. 217.	203
Figure 5-22	Trucking tunnels, plan excerpt of the Ala Moana shopping center, Honolulu, Redstone, p. 147.	203
Figure 5-23	Eastridge shopping center, San Jose, California, plan, Gosling, p. 42.	205
Figure 5-24	Store fronts, schemata, Andersen, p. 23.	205

Figure 5-25	The Children's Place, Willowbrook center, Wayne Township, N.J., plan, Redstone, p. 247.	206
Figure 5-26	Airport boutique, Main Place Mall, Buffalo, N.Y., view, Redstone, p. 236.	206
Figure 5-27	Paraphernalia boutique, New York City, plan, Gosling, p. 143.	208
Figure 5-28	ELNA sewing machine shop, Vienna, plan, Kaspar, p. 59	208
Figure 5-29	Jewellers shop, Mannheim, plan, Kaspar, p. 79	208
Figure 5-30	Very Very Terry Jerry boutique, The Cannery, San Francisco, plan, Redstone, p. 283	209
Figure 5-31	Galt Toyshop, service layout, plan, Gosling, p. 133	211
Figure 5-32	Galt Toyshop, self-serve layout, plan, Gosling, p. 134	211
Figure 5-33	Just Looking Boutique, London, plan, Gosling, p. 137	211

Chapter 6. Conclusions

Figure 6-1	Graphic summary	223
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CHAPTER 1

INTRODUCTION

1 Problem and General Background

Formulated in broadest terms, this thesis tries to establish a relation between architecture and human interaction.

One reason for architecture is provision of climatic shelter. It can also be viewed as the creation of places for specific tasks or functions as stated in space programs. Both these views -- shelter and function -- draw attention to further aspects: the organisation of sheltering places and the resulting possibilities for human interaction.

Shelter and functional ties are prerequisites for human interaction in buildings; the latter also impart certain limitations on the kind of interaction that is likely to take place. Architecture, then, is viewed as a social art, in the sense that it regulates and orients social contact. In this study I try to show that arrangements for social contacts in and around buildings -- or their absence -- are

neither accidental nor whimsical but rather relate to cultural assumptions about buildings.

This study also has implications for the designer's role: "The designer's mission is to delineate the human behaviour that must be accommodated and the realization of a system of energy and matter which supports these behaviours."¹ The study outlines criteria to assist the designer in this mission. They find their application more in comparison and interpretation of interrelated behavioural settings than in the measuring of functional quantities. They presuppose less technical in-house knowledge, but rest on the much broader and common parameters of orienting and regulating social contact. The criteria can be a basis for discussion for those involved in the planning of buildings and for the general public which uses them.

The link between institutional program and architecture setting is seen in the interpretation of a value orientation, which singles out the sorts of relationships that are more desirable. In an architectural plan, the crucial elements pertaining to these relationships are contained in the circulation system, which orients users into or towards places within an organizational context. These physical places are in turn related to positions or statuses within an institution. It is the hypothesis of this thesis that social models of institutions are reflected in architectural reality.

2 Background Literature

There is considerable literature presenting different viewpoints about plans and circulation and on potential user response to plans. In this context here I shall only mention some of the major developments and indicate their relation to this study.

Some viewpoints have no pronounced interest in human interaction, seeing plans as a result of necessary structural support and climatic enclosure.² The architect's mission stops with the creation of a shelter.

Another view concentrates more on the implementation of space requirements. Connection charts and diagrammatic layouts -- at times compiled by computer -- are design methods associated with such a view.³ Here plans are seen as the result of the most efficient implementation and interconnection of organisational functions. This socio-technical view reduces human interaction to the performance of specific tasks and interactions; it reduces the design of plans to exercises in bi- and tri-dimensional geometry.⁴

Lynn Moseley proposes a method for the planning of buildings on the basis of analysis of circulation costs. The total amount of unit traffic to any one place, multiplied by the access distances to it, provide a rough estimate of the amount of mechanical energy spent as circulation cost. In circulation planning, this product should remain a constant. In an office building, for example, the executive receives only a few callers and sits

far away, while the receptionist sits close to the main circulation arteries where she receives many callers.⁵ Moseley's parameters, of course, over-simplify the interactions in an organisation. For example, the locations of a receptionist and an executive are not only a result of rational computations but also of prestige differentiations. Executives are not supposed to respond to as many indiscriminated contacts as their secretaries. Even in the open landscape concept of office planning (*bureaulandschaft*) which is presumably based only on performance interrelation and efficiency, private offices for executives are planned at peripheral or more remote locations.

In other cases, Moseley's parameters are actually contradicted in plans to advance organisational goals. In the supermarket, for example, the most frequently bought items of the daily diet are not close to the entrance, but toward the back perimeter of the sales area, as to encourage circulation through the store.

In the following chapters efficiency is seen as the realization of organisational values and goals and not as the minimizing of mechanical energy.

A fourth orientation toward circulation planning draws attention to creative analogies. For example, Le Corbusier's plan for the *Maison la Roche* allegedly derives from a symbolic analogy with Duchamp's "Nude descending a staircase".⁶ Analogies also may be drawn between Le Corbusier's own painting and some of his floorplans.⁷ In

these cases, formal aesthetic configurations become the basis of plans and human interaction is not the primary concern.

In the following section I will try to show a direct analogy between organizational goals and the circulation system on the basis of preferred and desired activity.

A fifth view approaches circulation planning through established patterns of use and places. "A Pattern Language" by Christopher Alexander, presents a catalogue of places for human activities.⁸ Numerous standard situations -- e.g., the location of auto parking -- are grouped into sets referring to different scales and phases of the planning and design process. The generic patterns are posited as universal and therefore largely independent of institutional context. In contrast, this thesis argues that organizational values shape circulation patterns and space arrangements, depending on the kinds and qualities of interaction and freedom which are desired.⁹

In reviewing prominent works on human spatial behaviour, Baldassare finds that earlier studies from the 1960s looked at spatial behaviour more in uni-dimensional and deterministic terms.¹⁰ Absent throughout these discussions are any thorough considerations of social position, social organisation, or rationale for choice of interactants.¹¹ One of the orientations of more recent developments sees human spatial behaviour mediated by roles and symbolic meanings.

It is the general intent of this thesis to investigate the manipulation of the design of plans through different types of social organisation. This concern is more pertinent to the content of this thesis, as it stresses the importance of the social situation, in which groups gradually define the appropriate roles and the activities occurring in their territories. Thus the physical interrelation of places for roles are both a means for the designer and programmer to elicit certain behaviours and a means for the user to orient his role expectations, founded in the socialization process.

3 Objectives

In the following chapters I shall discuss four different types of social organisations and their respective spatial contexts. My investigations are essentially limited to analyses of circulation areas in plans as a means to bring people together or to separate them from each other, depending on the value orientation of the organisation.

3.1 Deduction of Hypothesis

In the context of this thesis, human interaction in organisations is based on the adoption of roles. These generate the expectations or conditions in the physical environment such that the roles can be adequately exacted.

A social structure will generate role behaviour on the part of its members, norms which prescribe the

behaviour, and values that justify them. These will serve the function of tying people together to form and maintain an integrated system of behaviour.¹²

Norms are of a cognitive nature; they are based on beliefs and knowledge. Expressions, manners and taste are of a cathetic nature; they are based on what is rewarding, delightful or familiar. Values are standards with which to weigh the merit of intentions and the acceptability of alternatives.

An element of a shared symbol system which serves as a criterion or standard for selection amongst the alternatives of orientation which are intrinsically open in a situation may be called a value.¹³

Roles in institutions are modeled on beliefs that they are instrumental, that they are rewarding when well acted, and that they are intrinsically proper, appropriate, or "right" in the institutional context, which I refer to as a value orientation.

John Dewey, the American pragmatic philosopher, substitutes the word "price" for "value". Within a given context -- social and environmental -- certain activities and the necessary physical conditions are priced higher than others.¹⁴ In this sense a plan is a selection of desired conditions selected in terms of other opportunities considered less valuable. A plan singles out places designated to activities on the basis of a value orientation.

Reduced to the simplest possible terms ... a social system consists in a plurality of

individual actors interacting with each other in a situation which has at least a physical or environmental aspect ..."¹⁵

A social system contains social organisations. Within these, people behave in an interrelated fashion according to a consensus of purposeful activity. This activity takes place in a spatial context.

Since roles are enacted in a spatial context, individuals must obtain varying degrees of physical separation or closeness to others in order to engage in their activities.¹⁶

Both its spatial context and its purposeful activity are part of orientational systems of an organisation or subgroup; the context and activity are reinforced in the socialisation process.¹⁷ In a building we look for conditions which we expect to find. Spatial contexts and purposeful activities reveal the structure of an organisation and confirm our expectations with respect to it. In what follows, contingent and purposeful behavior in insitutions is denoted by the word "role". The basis for selecting a role is called a "value". The spatial context within which roles are enacted is called "position". Positions are located in "places" in plans. A social organisation is seen as an interrelation of roles selected on the bais of a value orientation. The plan of the building housing an organisation is an interrelation of positions. In orienting to various positions and in interacting roles between positions, people make use of the circulation system (see graphic illustration in Figure 1-1).

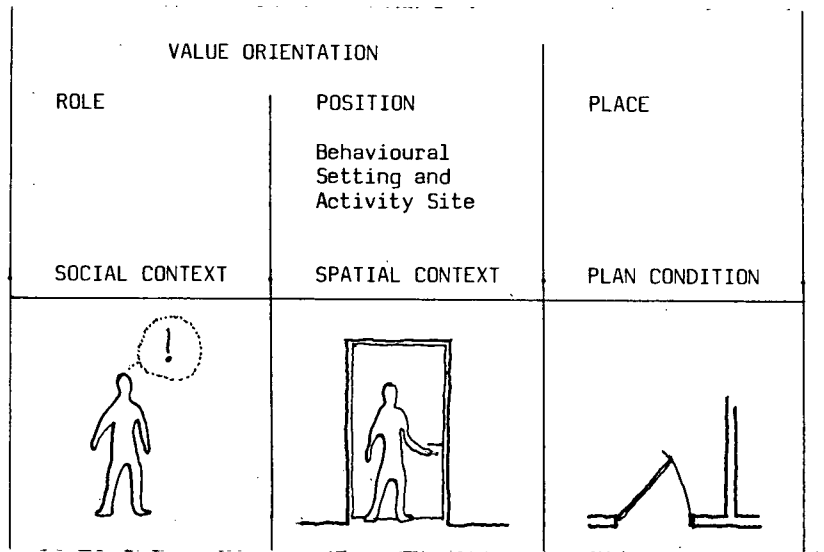


Figure 1-1. Interrelation of social and spatial context with plan conditions

3.2 Limitation of concern

In the following chapters I limited my concern to four different value orientations. The rationale for my selection is partly borrowed from Talcott Parsons.

For him the social system consists of a plurality of actors, who in their interactions are oriented by values which comprise complementary expectations for roles and responses (sanctions).¹⁸ Such value-orientations are institutionalized, which means that the values are internalized and that expectations of incumbents of respective roles are expressed and explicit.¹⁹ For the maintenance of the social system, it is essential that these value orientations are routinely realized in its interactive system.²⁰ Tendencies to deviate from these accepted ways of action poses functional problems for the system.²¹ As a

basis for resolution of these problems, i.e., to adapt and incorporate potential conflicts (Parsons here uses the word "integration" in a very wide meaning)²², the institutionalized value orientations work as established and codified mechanisms.²³ In the following I am concerned with four such functional problems and the respective problem solving mechanisms.

a) The allocation problem

Resources and facilities are necessary to perform functions; rewards are necessary to motivate the individual. Both of them are limited in supply.²⁴ Therefore it is essential to regulate who is to get what, who is to do what and under which conditions.²⁵ The institutional screening mechanisms for distributing power govern the allocation of facilities and rewards and thereby influence the working order of a social system.²⁶ Specifically, through the allocation of prestige ranks, actors are rewarded with qualified access to facilities and further rewards.²⁷

This hierarchical ordering we may call prestige, which is the relative esteem in which an individual is held in an ordered total system of differentiated evaluation.²⁸

In Chapter 5 I shall look at the prestige hierarchy of administrative organisations in office buildings.

b) The exchange mechanism

facilities and rewards belong to the category of

"possessions", the rights of which are transferable from one actor to another through the process of exchange.²⁹ Possessions are significant as means to further goals. "...Immediate gratifications are renounced in the interest of the prospectively larger gains to be derived from the attainment of the goals..."³⁰ In a modern industrial society with an elaborate division of labour, it is extremely important for the order and stability of the system³¹ that there are mechanisms regulating the exchange of products and services.³² Within the instrumental division of labour is inherent the possible orientation towards monetary gain.³³

The structural focus of the orientation to profit is, of course, the phenomenon of instrumental exchange, which, as we have seen, has some place in every social system.³⁴

In Chapter 6 I shall look at shopping centres as organisations and buildings established predominantly for exchange and profit.

c) Socialization

Through the process of socialization the individual acquires the requisite orientations for satisfactory role performances.³⁵ In this process, the need of a child becomes culturally shaped and organized so that it seeks gratification in a direction compatible with its integration into the social system.³⁶ This way, under "normal conditions", the individual's hopes or claims for allocations will not greatly exceed what he or she

receives.³⁷ Thus,

...the allocation of personnel between roles in the social system and the socialization process of the individual are clearly the same processes viewed in different perspectives...³⁸

Parsons makes clear that the socialization process aims at integration of the child into a complex social system,³⁹ through the family, school, playgrounds and the community.⁴⁰ Socialization is defined,

by those mechanisms necessary to maintain a stable and institutionally integrated social system through the formation of a given set of appropriate personality systems and the specification of their role-orientation ...⁴¹

In Chapter 3 I shall look at the school and the schoolhouse in terms of the integration of the student into the social system, achieved through the process of socialization.

d) Violation and enforcement of value standards

A social system tries to maintain an equilibrium in the interactive processes through social control.⁴² Social control supports members in their beliefs about proper behaviour, and reduces the need for aggressive or defensive reaction.⁴³ To some extent, a certain permissiveness is sometimes needed to tolerate certain deviations due to "special circumstances". Yet this permissiveness must be strictly limited so as not to encourage deviance.⁴⁴

Failure of the mechanism of socialization to motivate conformity with expectations creates tendencies to deviant behaviour which, beyond certain critical points, would be disruptive of the social order or equilibrium.⁴⁵

if certain value orientations are not internalized -- as in the criminal -- and the social norms are violated, more effective means of control have to be introduced.⁴⁶ One such means is insulation, preventing potentially conflicting elements from coming into contact with other elements or members of society, in order to prevent an open conflict.⁴⁷ One other means is the deprivation of the claim to legitimacy.⁴⁸ Furthermore, punishment

...is a ritual expression of the sentiments which uphold the institutionalized values which the criminal has violated. You are either with us or against us... The definition of acts as criminal is the type case of the very broad category of mechanisms of control of the most familiar kind, where normative patterns are 'enforced' by the attachment of specific negative sanctions to their violation,...⁴⁹

In Chapter 2 I shall discuss the prison and the prison organisation in terms of these negative sanctions as a mechanism of control.

In this thesis I am not concerned with an individual's personal construct or his personal perception of his role or position. I am more concerned with the social organisation of which the individual is part by membership and made part of by means of socialization. Therefore I am talking about types of roles within an organisation.

The circulation system orients and regulates interaction between positions. Positions are embedded in activity sites.

An activity site is a physical area within organizational boundaries, in which a prescribed activity recurrently and regularly takes place. This site is then linked to other sites to form the organizational environment.⁵⁰ The activity site concept is based on Barker's idea of a behavioural setting.⁵¹

Activity site is a standard place for standing (routine, receiving) behaviour. A related cluster of activity units is denoted as an "activity unit" within this study.

For the purpose of this thesis the discussion of the circulation system is limited to five generic attributes. Each orients or regulates the interaction within or between activity sites or activity units. Some of these five conditions are an adaptation of Kevin Lynch's elements of the city image. Others relate more to the concept of the activity site. Lynch identified five key elements of the city image: paths, edges, districts, nodes, and landmarks.⁵² The analytical framework of each of the succeeding chapters is adapted from his five-part model. An adaption of Lynch's elements was considered necessary, because his elements describe orientation without referring to specific destinations or goals. In this thesis a sequential orientation towards positions is considered a necessary assumption. Lynch's elements describe a set of conditions rather than a sequence of conditions. The elements relate mostly to the public realms of the city. Roles and positions are more prescribed and enforced as within an institutional building than in public spaces outside institutions.

Lynch sees paths as "channels along which the observer customarily, occasionally, or potentially moves". In the context of this study, paths are seen as channels shaping the flow of activity within an organization.

Edges in Lynch's sense are more or less penetrable boundaries or seams along which two regions are joined together. In the context of this thesis, boundaries are the limits of an institutional site vis a vis the outside environment. Edges, on the other hand, are treated as the limits of activity settings inside of the institution.

Lynch's element called "district" refers to an area that one can enter, that is "recognizable as having some common, identifying characteristic". Entering into the inside of a place means penetrating its boundary. The inside itself is seen as an organization of places and is described in succeeding chapters as "layout".

A district is identified by its character, Lynch says, which is often "used for exterior reference if visible from the outside". The problem of site location for an institution is one of situating a facility or complex in some district which is conducive to achievements of its basic value orientation. However, in the case of a shopping centre, the preferred location is likely to be not a district but rather a nodal centre of gravity in a network of vehicular paths.

Lynch's element of nodes describes "...strategic spots

in a city into which an observer can enter, and which are the intensive foci to and from which he is travelling."⁵³ "Core-places", as used in this thesis, describe such nodes within the organizational territory and its layout.

Lynch's element termed "landmark" was considered inappropriate to the analysis of organisational plans since an image usually is associated with the elevation of a building. Also, perceptual quality of a building as an image does not predominate over the functional aspects of its plan. Thus people could orient towards a landmark, but hardly connect it with specific positions they could act from or interact with. In some places in the text, reference is made to an image attached to the outside of an activity site, as for example in a shop entrance. The effect of images on role selection and activity orientation is an aspect requiring much more attention than it was possible to give within this present study.

The five generic conditions within the circulation system are defined as follows.

- 1) Location of the organisation within the regional environment, in some districts. This refers to planning considerations as to WHERE the organizational goals could be best realized and organizational interaction concentrated. It also relates to the orienting user, as to WHERE one would look for a specific organization.

- 2) Boundary describes the marking of the organization's territory and the organizational concern as defined vis a vis the outside public. It relates to the definition of organisational activity within a certain area and the facilitation of desired outside-inside interaction, or reception rituals. It relates to HOW such interaction shall be facilitated and HOW an orienting individual could enter and participate in organizational activity.

- 3) Layout refers to the subdivisions of the territory into various zones and activity units. How many and what kind of positions are created. WHERE does what take place in the keyplan. Specifically WHERE are the units located which deliver the organizational goal, or which stand in direct relation to goal delivery. These "nodes" I called "Core-Places".
 What other units are necessary to maintain the organizational system or to compensate for the goal orientation. These units are located in "Support-Places". Where is the activating authority located, or the "locus of power".
 The subdivision and designation of places relates to planning decisions as to WHERE it is considered best to have what kind of activity. For the interacting user this means WHERE one would go to do what.

- 4) Paths link the various activity units to form the organizational environment and regulate the flow of

organizational activity. The conditions of paths refer to the mode of movement and the possible choice of destination. For the user these conditions determine HOW to get from position to position.

- 5) Edges are the physical definitions of an activity site or activity unit. Conditions such as permeability, size, orientation and privacy will describe the type of role and the type of position as an integral part within the organizational system.

3.3. Hypothesis

The conditions indicate the kinds of contacts which can be made within the constraint of various positions in the organizational environment. The organizational environment is formed according to the types of roles and positions necessary to realize organisational goals; these point back to decisions based on a value orientation.

The following four chapters discuss the value of orientations -- control, integration, prestige, profit -- and are divided into seven sections. In each chapter an introductory section will identify the value orientation in the respective organizational system. The following five sections will discuss each of the five conditions -- location, boundary, layout, paths, edges. A final summary will illustrate the effect of the value orientation on the five conditions.

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CHAPTER 2

THE CORRECTIONAL INSTITUTION AND THE CONTROL VALUE

1 Introduction

In this chapter I shall focus on the control goals of correctional institutions, showing that the execution of control is facilitated by the physical building plant.

Control through confinement is a relatively recent phenomenon of penal philosophy, approximately 200 years old. Previously the executors of sentences made use of more economic and less time consuming measures, such as restitution, exile, corporal and capital punishment. Only debtors were confined, until someone could bail them out. Apart from these the social system of those days held little interest in those convicted.

Toward the end of the eighteenth century the Age of Enlightenment took a more profound interest in the "human values" of those they convicted. In particular the Pennsylvania Quakers created their now famous penitentiary, where the convicted were to be "bettered" by enlightening

their guilty conscience in penitence. In this they were controlled and assisted through solitary confinement, supplemented by a rudimentary supply of food, clothing and exercise.

*This solitary system had its difficulties however, as it proved almost impossible physically to wholly isolate prisoners from each other. Accordingly, the solitary system was succeeded by the "silent" system, which relied on rigid control of prisoners to enforce the rules against communication between prisoners. This was supplemented by concealment in dress (e.g. masks and homogeneous uniforms) and token architectural barriers (e.g., screens or thick walls). Thus the original goal of the Quakers -- to encourage penitence -- was ironically subverted by a subordinate instrumental goal: the restriction of the free will of the prisoners. To support a higher goal, a restrictive one was adopted which was antithetic to the original idea of volitional penitence through greater understanding of the divine creeds.

Another philosophy implicit in the spread of control practices in the nineteenth century was that exemplified by the Panopticon of Jeremy Bentham. This prison model, discussed later, sought to reify an authoritarian, hierarchical and centrist cosmology. The prison governor sat in the centre of a miniature universe, complete and autonomous in itself, with prison officers patrolling the circular corridors around him. They were assisting the

governor in constant supervision of the prisoners, who represented the third tier in this cosmos.¹

It was, by implication, to be made clear to the prisoners that society is orderly and controlled, not like the anarchy which usually typified the environments whence prisoners originated. Here in prison, in other words, untrained and undisciplined transgressors were to realize the eminence and power of social authority. Inexorable scrutiny and prompt negative reinforcement of transgression from social rules -- i.e., tight control -- were to advance this awareness.

Thus, some estimable but antithetic philosophies for redemption of criminals -- one based upon unworldly penitence and the other based upon worldly socialization -- called for incarceration as a necessary first step. The one called for isolation; the other, for orderly adoption of social roles. Penitence called for silence, resulting in rigid control and punishment of communication among candidates for remorse; and socialization called for hierarchical supervision and negative reinforcement of deviation based on a calculus of pleasure and pain worked out by the Benthamite Utilitarians.

Accordingly the two philosophies converged to a single concern: control. In the past two hundred years, concern for control has dominated prison design almost to the denial of all other concerns. Insofar as the control is not internalized by prisoners, and not based upon prisoner

concerns but rather upon the exigencies of authority and its power to punish, so control in prison can be said to be based upon tyranny. This outcome is in contrast to prison conditions two centuries before, at the onset of reform through penitence or socialization. At that time, prisons were mainly stockades, warehouses or holding pens for debtors or those under arrest, while dungeons were tombs both figuratively and literally. In neither prisons nor dungeons was control of the prisoner's psyche, volition or behaviour a matter of concern. Two hundred years later, the devices of the tyrant -- surveillance, segregation, subversion, punishment and uniformity -- are intrinsic concerns in the design of prisons in the western world.*2

Therefore

...in reality there is every reason to believe that prisons are primarily designed and organized to pursue effective custodial control. That is the dominant concern of the public they were established to serve, and, therefore, the major concern of any prison official who wishes to remain employed.³

Recently though there has been another shift in values which views those in conflict with the established legal consensus not as guilty but as in need of readjustment and education. The attempt to create corresponding conditions has lead to the correctional institution of the "motel-type".⁴ This supports activities more characteristic of a boarding school than the classic penitentiary.

Between the values of control and rehabilitation, the prison finds itself in a fundamental dualism. The

institution has responsibility to one outside public, demanding absolute safe keeping (control goal), yet it also has responsibility towards another public which demands that inmates -- they are no longer called convicts -- be treated in compliance with the humanitarian ideals of the enlightened democracy (rehabilitation goals).

As I have indicated in the beginning, I shall focus mainly on the control goal for the purpose of illustrating its effect on the building plans. I understand control to mean the assumed right to inspect and survey all items under jurisdiction, especially those entering or leaving the territory. Control also connotes the power to dominate and to punish, by limiting the activity of those confined.

In support of these three aspects of control, the plans of the confining institutions create the places which define the roles and positions of those controlling and of those being controlled. They establish the places necessary to inspect ongoing activity and they facilitate dominance and punishment by keeping the inmates in place.

They make control more economical by physical arrangements that can be an effective substitute for the presence of a guard, thereby cutting down on wage expenses. This is important as approximately 75% of the total budget for the maintenance of American prisons in 1975 was spent in personnel costs.⁵

The interpretations of plans for the physical design of prisons also makes possible a better understanding of

diffuse control values. Thus, the question of how much and what kind of control can be partially answered by interpreting the designation and character of physical places within the institutional system.

In the following sections I shall discuss prisons through the variation of building plans -- ranging from maximum to minimum security -- in terms of the concerns to survey and to dominate so as to control. The plans, then, are a result of intentional decisions made on the basis of valuing certain conditions higher than others. In the subsequent sections I shall elaborate on the following aspects of plans:

Section 2. The location of the correctional institution in the regional environment as a response to the ascribed clientele, i.e. the funding public or the confined inmate;

Section 3. The parameters defining the size of the prison grounds, and the institutional boundaries enclosing the territory occupied by the prison;

Section 4. The layout of this territory with respect to the designation of places for institutionalized activities;

Section 5. The flow of institutional activity along paths between designated places;

Section 6. The edges between activity units and the occupants of respective places;

Section 7. Summary of the points discussed above.

2 The Location of the Correctional Institution

Even today many correctional facilities are planned by government organs vicariously for the public and the inmates. An expert body of senior public servants dominates the process, by assessing the need for construction or renewal of facilities and compiling a program based on traditional paradigm solutions for the designing architects. Thus the concrete system perpetuates itself through creating the same specific conditions which have become part of an in-house know-how. Only broad concepts enter the discussion within the general public, who can, therefore, address the inmate's needs only on such a general level.

The recent change in values has inspired a more open planning process, where policy makers and practitioners discuss correctional concepts, and not physical answers, with the programmers and architects in a "consultative process".⁶ Then the diffuse control goal is discussed more specifically and some of the traditional building solutions become susceptible to re-evaluation.

Within this recent discussion a relocation of the prison has been considered. Presently most existing prisons are located away from metropolitan areas. This is a direct response to the funding public, who is willing to put up with the perceived danger and ugliness of prisons if these are essential to the local job market.⁷ When the concerns of the general public dominates the considerations for the location of the prison, a rural site removes most everyday

fears as well as reduces costs through cheap labour and land.

As a consequence of the recent shift in values the discussion focusses on the discovered rights of the inmate, who no longer is seen as a uniform member of a homogeneous class of deviants, but as an individual of personal construct and with multiple ties to his sociocultural environment. As most inmates come from a metropolitan environment, an urban location of the prison would be appropriate.⁸

For a long time only one general criterion determined the location of the prison -- it could be anywhere, as long as it was far away (see Table 2-1, page 30). The isolated location provides a buffer zone between the institution and the outside world and also facilitates inspection (see Figures 2-1 to 2-3, page 30). The prevailing barren stillness and unobstructed lines of vision, "permitting guards to observe persons approaching, or when the event occurs, prisoners leaving"⁹ supports the concern with safety not only through the outside perimeter, but also through an effective surveillance of the interior areas, without complicating scheduled activities or inhibiting growth of the facility.

In regard to the surveillance of the interior, the early city prisons encountered tremendous problems when both the city and the inmate population were growing; the former was closing in on the walls outside and the latter,



LOCATIONS OF 23 NEW CORRECTIONAL INSTITUTIONS FOR MEN

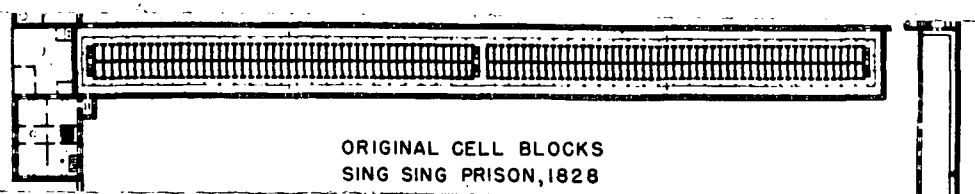
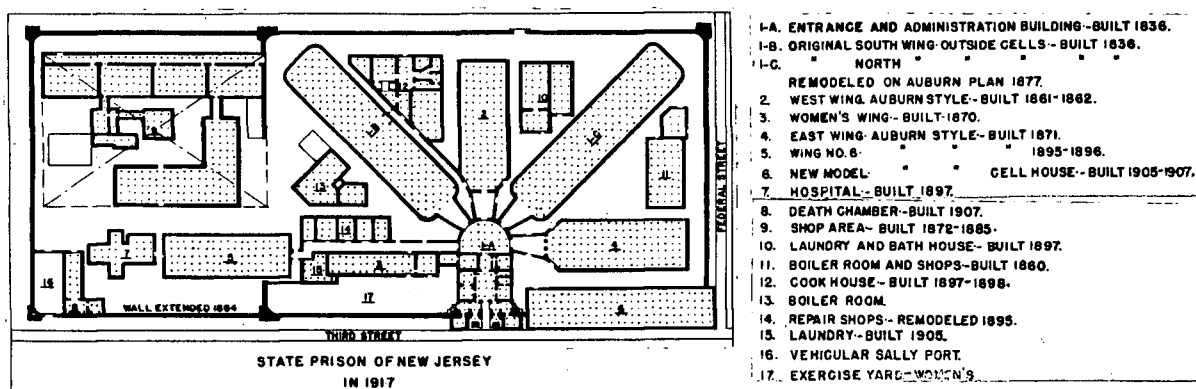
		ROAD MILES TO STATE'S LARGEST CITY	POPULATION OF SUPPORTING COMMUNITY	PERCENT MINORITY INMATES	PERCENT MINORITY STAFF
EAST	MAX SECURITY	125	3,000	55	1
	MAX SECURITY	35	6,000	42	9
	MAX/MED SECURITY	70	2,500	49	11
	MAX/MED SECURITY	40	4,000	50	20
	MED SECURITY	140	2,500	54	4
	MED SECURITY	100	35,000	65	1
	MED SECURITY	30	3,200	2	0
	SOUTH	MAX SECURITY	450	1,300	51
MAX SECURITY		240	8,000	54	0
MAX SECURITY		65	2,500	55	11
MED SECURITY		110	9,000	unknown	unknown
MIN SECURITY		100	2,500	50	20
MIDWEST	MED SECURITY	275	44,000	unknown	unknown
	MED SECURITY	236	6,000	52	25
	MED SECURITY	157	13,000	45	7
	MED SECURITY	90	2,500	24	6
	MIN SECURITY	455	2,500	40	5
WEST	MAX/MED SECURITY	172	6,500	unknown	unknown
	MED SECURITY	435	15,000	20	1
	MED SECURITY	425	2,000	52	5
	MED SECURITY	120	9,000	31	2
	MED/MIN SECURITY	33	20,000	59	14
	MIN SECURITY	60	27,000	49	17
	AVERAGE	172	9,900	45	8

Above, Figure 2-1. Seagoville
 Middle, Figure 2-2. Atlanta
 Below, Figure 2-3. Alcatraz

Table 2-1. Locations

threatening to burst them from inside. Inspection had nearly become impossible, for example, in Trenton, where numerous buildings obstructed the lines of vision. Then inspection was intensified to a general dominance, limiting even sanctioned activities, such as physical exercise (see Figure 2-4, page 31).¹⁰

In addition, the space for solitary confinement was no longer available. Double and triple occupancy rendered very unfavourable conditions for penitence. The Sing Sing Prison



Above, Figure 2-4. Trenton 1836-1917

Below, Figure 2-5. Sing Sing

(see Figure 2-5) shows the attempt to combine the limitations of space with the valued concept of penitence. Yet the walls keeping each inmate in place were so close together that the desire to communicate had to be inhibited by the dominating "rule of silence", creating a much more unstable situation than the previous one in Pennsylvania.

Thus the bucolic setting at that time was not only a response to the desires and anxieties of citizens, but also necessary to create new conditions in an altered situation, which could yet facilitate the valued old intentions. These still largely centred on control, which had become increasingly difficult to maintain in the old location.

With the recent accent on rehabilitation, control is specifically tied to a certain misbehaviour of the particular inmate. There is little need for a general

confinement or the inspection and dominance of all activities. With a diminishing interest in control, the factors which led the prison into the wastelands may not be so decisive any more.

If one values the rehabilitation of inmates into the socio-cultural environment, then the price is to refrain from an overemphasis on control. For location this means that future prisons might be built in the city, so as to help their prisoners to readjust their habits while being close to family and friends. This price for urban location may seem high, yet the solution is actually economical, as prisons could increasingly make use of the existing urban infrastructure, such as universities or clinics.¹¹

In this section I have discussed prison location as a result of emphasis upon control and of material and economic conditions. Due to recent evaluative decisions, today certain urban locations are priced higher than other rural ones. If the emphasis on control permeates all aspects of prison life then the chosen location has to support control uncompromisingly; if the emphasis on control is limited to particular issues (e.g., escape) then it is possible for the selected location to facilitate specified non-control goals, such as rehabilitation.

3 The Size of the Prison Grounds and the Definition of its Boundaries

With an orientation towards control the size of the domain inside the prison perimeter depends on the concern for levels of inspection and dominance. Both aspects are very high in the maximum security prisons, and most activities are restricted. The fewer the number of activities tolerated, the easier it becomes to survey the remaining ones. Therefore maximum security prisons are assigned three times as many inmates as minimum security prisons. There a higher tolerance for activities increases the workload of the guards, who are expected to function as rehabilitation officers. And yet, risk of failing to notice violations of existing rules increases if groups become too large. If the size is not right, the price paid to create the environment will not live up to the valued expectations, i.e., effective control and a possible reintegration of the inmate.¹²

Recently a different parameter was proposed, determining size on the basis of the number of inmates from the immediate surrounding region. This reflects a shift of values from optimization of control by authority to facilitating access between an inmate and his relatives.¹³

I shall next discuss the effect of different scopes of control on the institutional boundary and its permeability for intermural exchange. At most times the institution defines its boundary at the perimeter of its occupied

territory. Usually it is impossible to penetrate into the territory without a ritual marking the crossing of the boundary at specified ports of entry (e.g., sally ports).

In some of the minimum security campus-type prisons the perimeter is not substantially defined. Here the concern to segregate is not extended over all prisoners but limited to those in specially designated buildings. A controlled boundary exists only around these units inside the overall grounds (see section 4.2, Core-places).

Yet in most prisons a complete enclosure of the territory defines the absolute separation of interior and exterior movements, at all times, with or without the presence of a guard. Depending on the perceived security risk, visual control by guards is intensified and the boundary is reinforced (see Table 2-2, page 35).

The simplest form of boundary is a fence, which can be raised to 14 feet, making it insurmountable. If this does not satisfy the security need, a second fence can be added with a narrow buffer between the two. This in-between "no man's land" is covered with white sand to reveal anything that moves between the fences.¹⁴ Sometimes solid walls are erected instead of fences. These then limit visual contact with the outside world. Reduced visual contact is sometimes considered an advantage, as when a prison is located in an urban setting. The walls have been raised up to 33 feet in height. Eventually they have proven to be very costly, especially when the enclosed territory is large.¹⁵ One

TYPE	PERIMETER SECURITY			
	MALE ADULT	FEMALE ADULT	JUVENILE	TOTAL
DOUBLE FENCE WITH TOWERS	19	0	3	22
DOUBLE FENCE WITHOUT TOWERS	0	0	2	2
SINGLE FENCE WITH BARBED WIRE	1	3	2	6
BUILDING FORMS SECURITY	4	1	2	7
BUILDING SUPPLEMENTED BY FENCE	3	1	0	4
OPEN	6	0	12	18
WALLED	1	0	0	1
TOTAL	34	5	21	60



Table 2-2. Perimeter security

Figure 2-6. Jackson

solution to this problem is attempted in the State Prison at Jackson, Michigan, where the outer walls of the two cellhouses also define 3000 feet of the prison perimeter (see Figure 2-6).¹⁶

The use of buildings to provide a security perimeter at a smaller scale is very common in the courtyard-type prison. Sometimes, as at Danbury, the perimeter buildings are augmented by fencing.

The maximum security prison of the telephone pole-type is a closed institution, in which the inmates are allowed to enter outdoor spaces only for scheduled activities. Nevertheless, such prisons are also likely to have rigidly defined territorial boundaries which dominate the interior grounds. It is characteristic of an emphasis upon control that confining and surveillance measures are doubled, tripled or quadrupled for security, leaving no flexibility as to what are the desired and sanctioned activities. Domination of the territory increases with the desire to

control. It is epitomized by the guardtowers defining the presence and place of the guards who very often are triple-checking the system boundary.

While the outside boundary dominates those inside and keeps them in place, the entrances are highly important places facilitating inspection of the limited amount of tolerated traffic. There is usually one entrance for pedestrians and one for vehicles. The separation has to be made, as both modes of transportation require different procedures of examination and different sized "sally ports". Essentially these sally ports are places defined by two walls and a gate on each of the remaining sides. Whatever enters a sally port -- vehicles or men -- is closely examined before it can resume motion in either direction.¹⁷

Most prisons try to control all inside-outside interaction. This becomes more difficult when outsiders are temporarily allowed into the defined territory. Therefore, most prisons have special places for meetings between inmates and their visitors, so as to permit inspection and dominance of their interactions (see Figure 2-7).

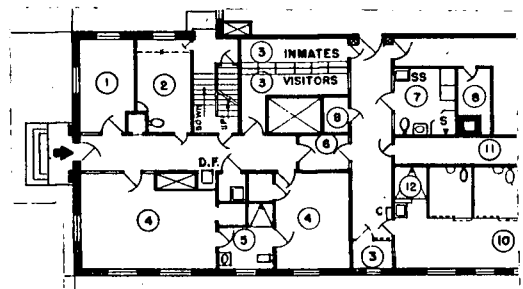


Figure 2-7. Visiting room, plan

In institutions with low security rating a visitor may receive "free grounds" after the usual ritual of

registration and inspection when crossing the boundary. For example, at the Mississippi Prison Farm at Parchman the inmate is even allowed to spend time unwatched with his mate in a place called "the red houses".



Left, Figure 2-8. Informal visiting room
 Middle, Figure 2-9. Semi-formal visiting room
 Right, Figure 2-10. Formal visiting room

Visiting rooms vary in form depending upon the extent to which interaction in them must be inspected or dominated and restricted for security reasons. At one end of the scale, in the informal visiting room, the guest and the inmate share the same place and are allowed to converse casually (see Figure 2-8). In the semi-formal arrangement a table forms a barrier dividing the room. There, inmate and visitor are only allowed to move within the areas on their respective sides (see Figure 2-9). Finally, in the formal visiting room, visitor and inmate are totally separated by a more or less transparent wall and converse with each other over an intercom (see Figure 2-10).

Here as in the prison boundary, which I also discussed

in this section, the floorplan defines places facilitating an increasing dominance of the intermural activities, by limiting them to those sanctioned by the institution.

4 The Layout of the Territory and the Designation of Places

In this section I shall discuss the location of places within the institutional territory and the uses to which they are assigned.

After some remarks on the overall layout I shall focus on the places controlled most extensively (core places), those marking the location of the authority (locus of power), and those places which support the functioning of the system as a people processing institution, for activities such as feeding and health care (support places).

4.1 General principles

The arrangement of a stable number of activity units in a prison reflects the scope of control sought by means of limiting the activity in areas by surrounding them with security zones. These areas may at first be clustered and finally integrated so as to consolidate the foci of security. In a campus layout with a low security rating like the Reformatory for Women at Alderson, West Virginia, the major activity units -- inmate and staff housing, work, eating, administration, recreation, etc., -- are loosely clustered into groups (see Figure 2-11, page 39). There are no security zones separating these clusters. Territorial

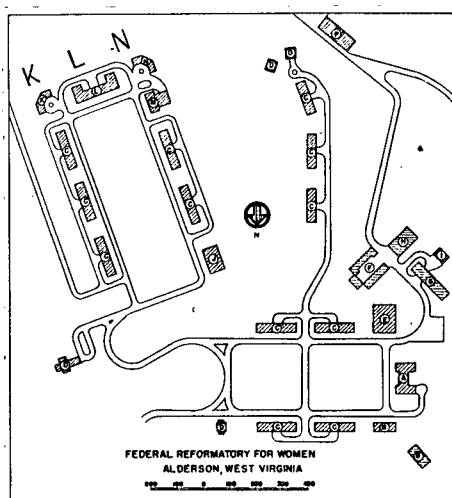


Figure 2-11. Alderson

control is specifically limited to some units or buildings in the top left corner of the plan, such as decreased privilege cottage (K), the reception (L) and admission buildings (N).

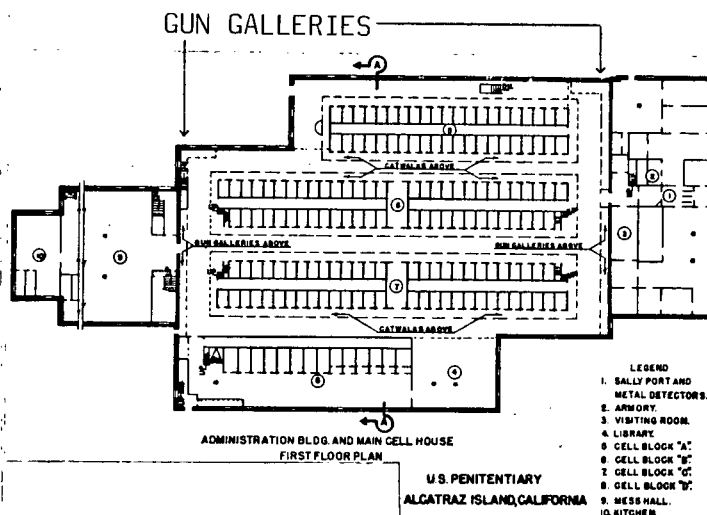


Figure 2-12. Alcatraz

A contrary case is that of Alcatraz (Figure 2-12), the former American Super Security Institution for adult male felons. There, control was diffuse and all-encompassing. The prison had major activity units like those at Alderson. However, its activity units were strongly separated from each other, each forming an individual security zone for housing, feeding, administration and custody. Furthermore, these zones were immediately adjoining, with no uncontrolled space between them. Together they are surrounded by the building walls, which described a larger security zone, especially when seen from outside.

The variety between these two examples is manifold. Yet as Table 2-3 (page 40) shows, preference is given to three basic types of layout: the campus layout for a minimum

BASIC DESIGN FORMS OF 60 NEW CORRECTIONAL CENTERS				
TYPE	MAXIMUM SECURITY	MEDIUM SECURITY	OPEN	TOTAL
RADIAL	1	0	0	1
PANOPTICON	0	0	0	0
TELEPHONE POLE	10	8	0	18
HIGH-RISE	0	1	0	1
COURTYARD	4	5	1	10
CAMPUS	2	11	17	30
TOTAL	17	25	18	60

Table 2-3. Design Forms

security rating, the courtyard layout for medium and maximum security, and the telephone pole layout for maximum security. They also mark the major steps towards increasing inspection and dominance in the designation of places and their activities.

The marking of an outside boundary is the first step towards a defined security zone. Yet at the Bordentown Prison Farm, New Jersey, the farm buildings are still outside the security zone (see Figure 2-13, page 41). The area inside the fence is differentiated into a northern shop and a very concentrated southern housing area. Here activity units are still separated into at least three adjoining security zones.

In the typical courtyard layout, for example at Danbury, Connecticut (see Figure 2-14, page 41), most activity units are placed in one large complex surrounding an interior courtyard as a recreation space of lower security rating. If there is still an outside fence, we have one security zone within another one, as for example in Danbury. There is a further inside area separated from the rest and designated to shop activities. At another

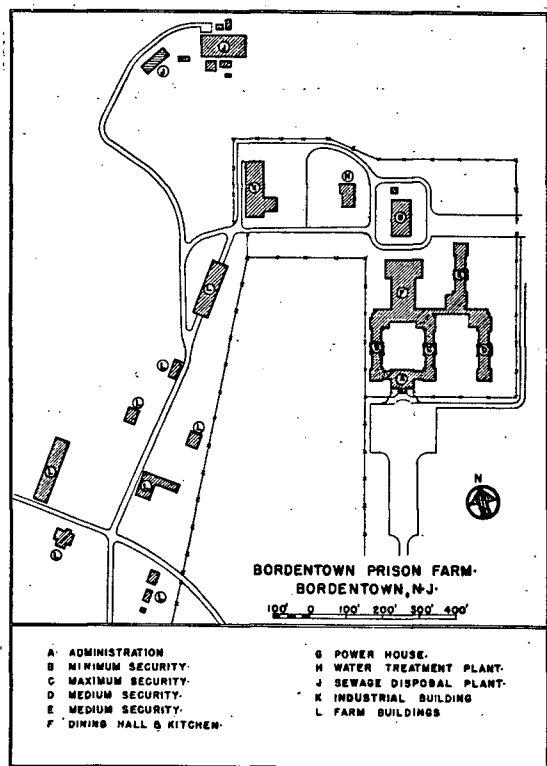


Figure 2-13. Bordentown

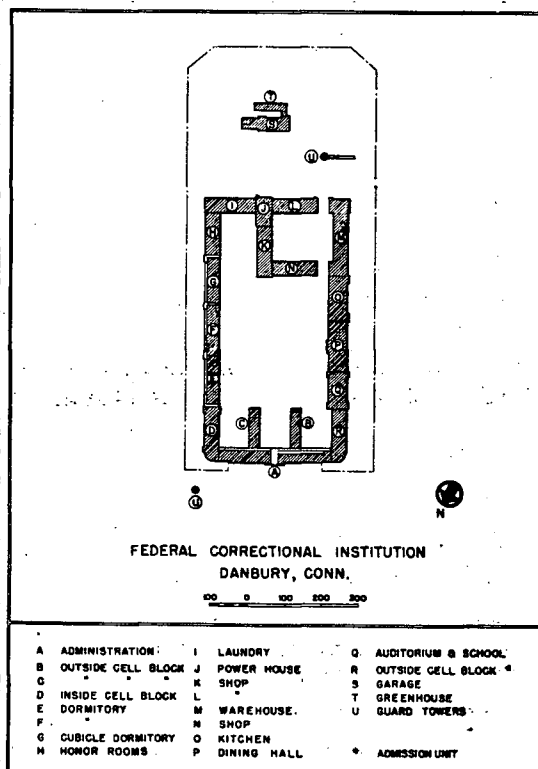


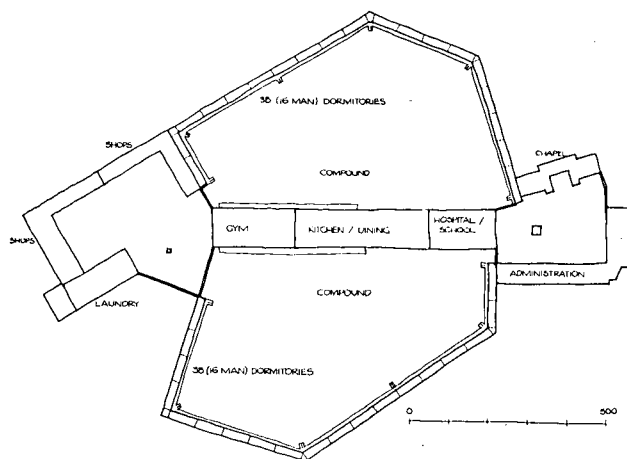
Figure 2-14. Danbury

courtyard prison at Jamestown, California (Figure 2-15, page 42), the shop zone is outside of the main courtyard.

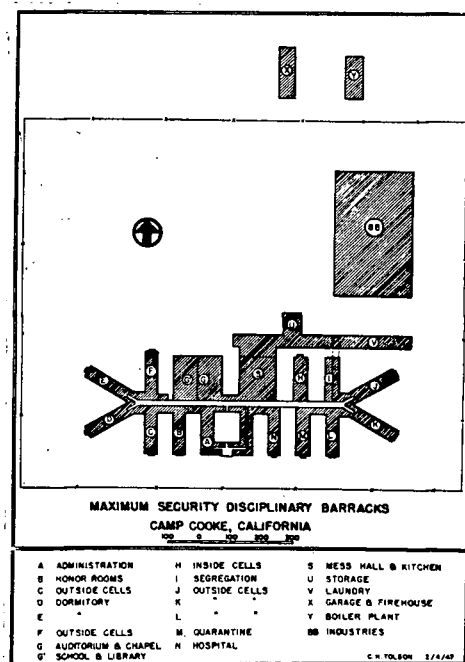
In the maximum security telephone pole layout most activity units are condensed into one major security zone defined by the building, which is further subdivided inside. The building is surrounded by an outer security zone which often includes shops and areas for outdoor recreation. See, for example, the maximum security disciplinary barracks at Camp Cooke, California (Figure 2-16, page 42).

In the plans for a Super Security Institution (see Figure 2-17, page 43) even the shops (R, on the east side of the building) are linked to the other activity units. Also the exercise yard (H, in the west) is linked to the main

Sierra Conservation Center,
Jamestown, California



Above, Figure 2-15. Jamestown
Right, Figure 2-16. Camp Cooke



complex of buildings through a separate control zone (Z).

As security zones become increasingly interlocked all activities are subjected to inspection and dominance. Yet even in the plans for the Super Security Institution (see Figure 2-17, page 43), some units were completely separated whenever their inclusion in any of the defined zones was considered a hazard or inconvenience; the powerhouse and the administration were moved outside the perimeter walls.

A diffuse control orientation dominates all activities in an institution by restricting them to narrowly defined places and times. There are no residual places and no uncontrolled times: housing is limited to sleeping, eating to eating, and work to work. The possible scope of activities gets less as control increases and condenses all units into a tightly controlled security zone.

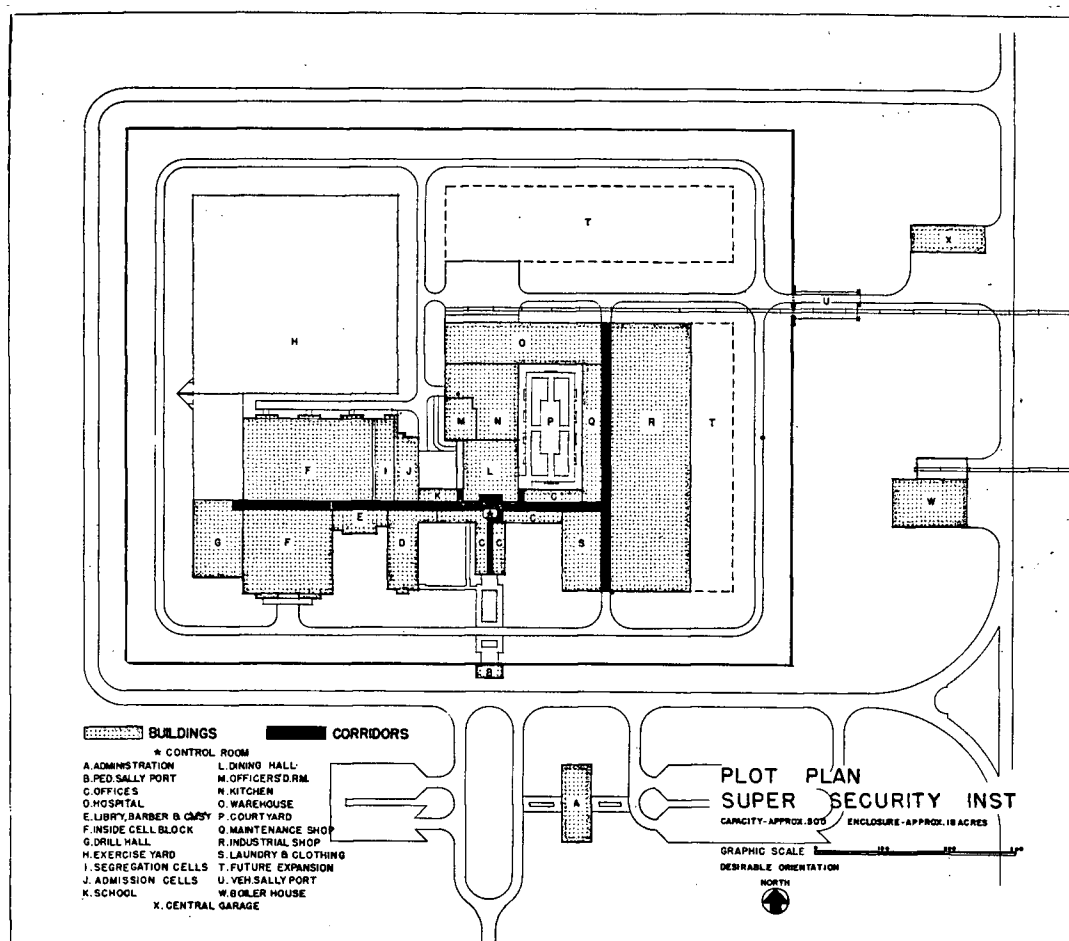


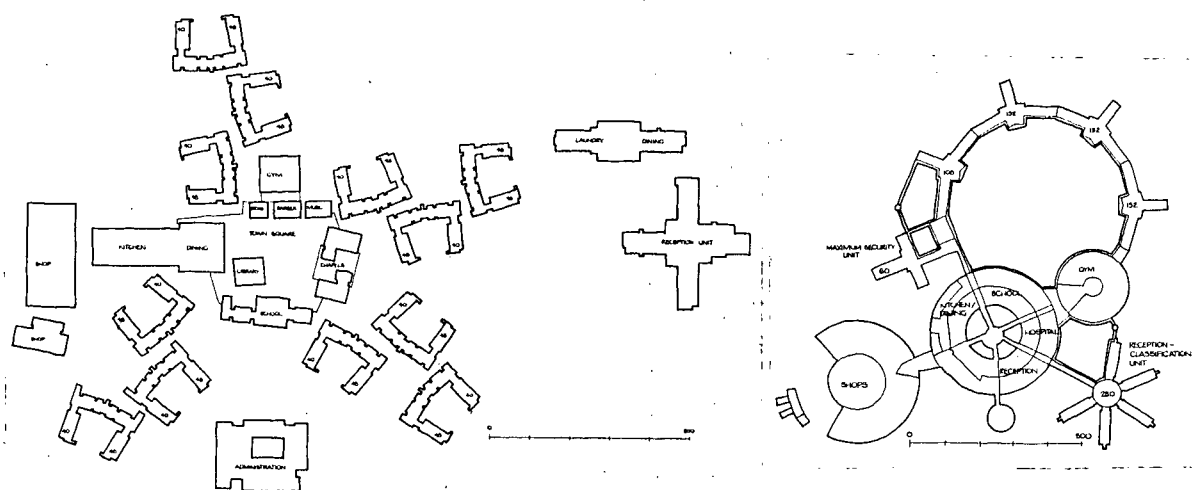
Figure 2-17. Super Security Institution

4.2 Core-places

Even in the minimum security prisons some zones are subjected to a maximum of control. One is the classification unit, a prison within the prison, which can be found in most institutions. In the classification procedure newly-arrived inmates are, for a number of weeks, segregated, scrutinized and differentiated according to sex, age, background, offence and escape risk, in relation to the specific institution's control goals and resources.

When each inmate enters the prison system he is subjected to three months of intensive scrutiny and testing. It is an effort to evaluate a man and how he will perform, both in prison and after he is released. Because each new arrival is an unknown commodity, Custody and Control demand excessive security until all tests have been completed at the Diagnostic Centre.¹⁹

This results in a segregation of the reception unit from the rest of the prison. See, for example, in the campus plan of the Illinois State Penitentiary at Vienna (far right of Figure 2-18), or in the courtyard type plan of the Correction Center at Yardville, New Jersey (lower right of Figure 2-19).



Left, Figure 2-18. Vienna, Illinois
Right, Figure 2-19. Yardville

Another core-place is the segregation unit, also called " ...administrative quarantine, adjustment unit, Siberia, the Box... and most frequently the Hole."²⁰ This is the place for the notorious troublemakers, prisoners with mental disorders, political activists, homosexuals, escape-prone inmates and those who committed a crime within the prison.²¹

The location of this unit close to the classification unit may be due to a similar security rating, but can also give the new inmate an idea of what to expect if he does not comply with the set rules. See, for example, the Alderson Reformatory (Figure 2-11, page 39), Camp Cooke (Figure 2-20) and the Super Security Institution (Figure 2-17, page 43 Yet

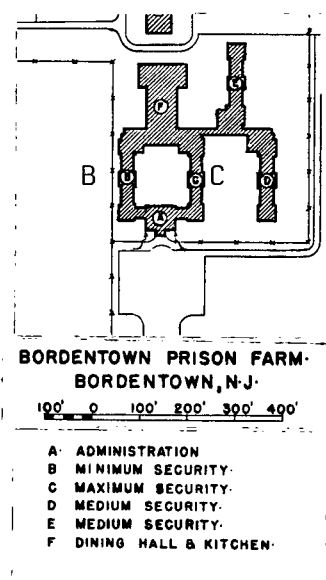
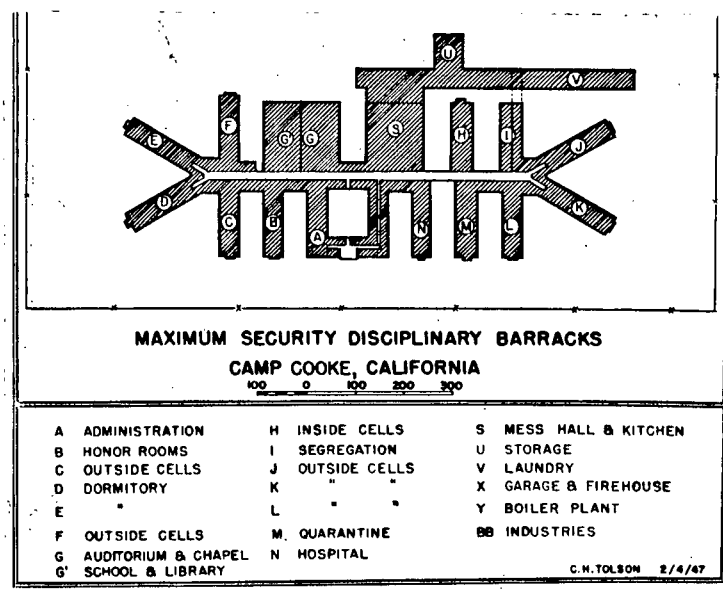


Figure 2-20. Camp Cooke

Figure 2-21. Bordentown

also the pre-release honour rooms are frequently located within the same security zone, which might suggest that trust is a luxury that most prisons cannot afford. Rather, administration may see itself as a "gateway" as well as a power centre -- that is, gate control is part and parcel of its power. See, for example, the Bordentown Prison Farm (Figure 2-21).

In maximum security prisons, especially, the mess halls receive maximum attention, as here the institution faces the

difficulty of inspecting and dominating a large number of inmates. Therefore mess halls are located near the control room and endowed with extra provisions for control:

Some have catwalks from which armed guards maintain close scrutiny. In others, elevated control rooms from which tear gas and, if need be, bullets can be sprayed upon disorderly prisoners.²²

Also to keep the security hazard low, mess halls are built as small as possible:

There's room for eight hundred men in the mess hall at one time; and that's all they want there at any one time -- more would be dangerous in case of a riot. So they have to stagger the units to eat, and it takes about an hour and a half to feed the whole joint....²³

Here too, increased control considerations lead to a segregation of inmates within the prison.

4.3 The locus of power

With an increasing public interest in the prison system and its establishment as a producing and consuming institution, the role of the administration became twofold. On the one hand it has had to execute control over the inmates; on the other, to represent the institution before the general and business public. Gradually the two different functions have been institutionalized into a place for the controlling guards and another place for the representing administration.²⁴

For example, in the County Jail at Ipswich, England, 1783-1790 (see Figure 2-22, page 47), the governor and his household, who were responsible for the care and control of

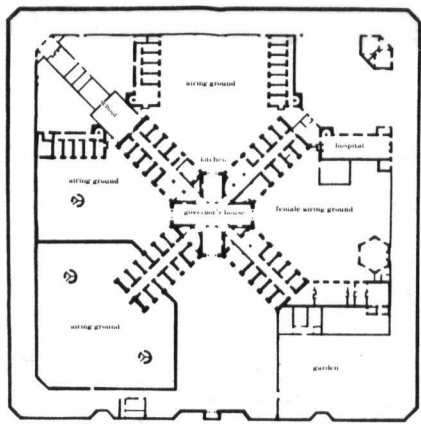


Figure 2-22. Ipswich 1790

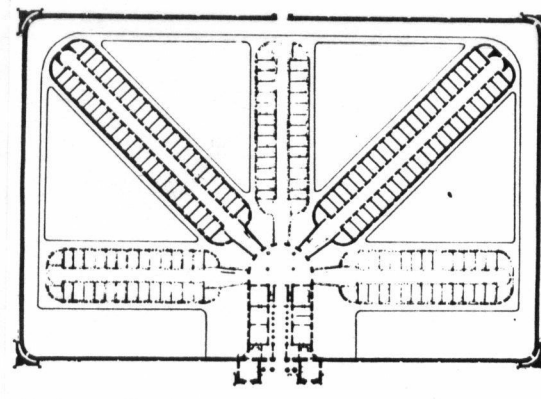


Figure 2-23. Trenton 1836

convicts, were in the centre of the prison.

In the early Trenton New Jersey plan, 1833-36 (Figure 2-23), the locus of authority was placed less centrally towards the gate, while still maintaining visual control at the centre of the converging corridors.



Figure 2-24. Stateville 1919

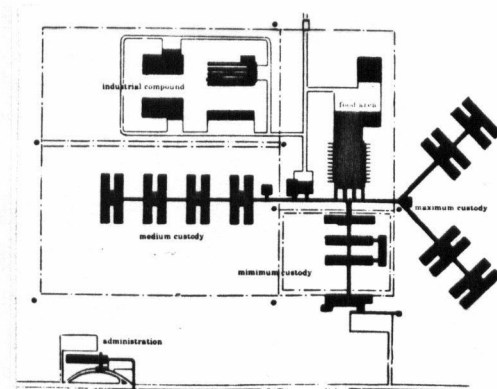
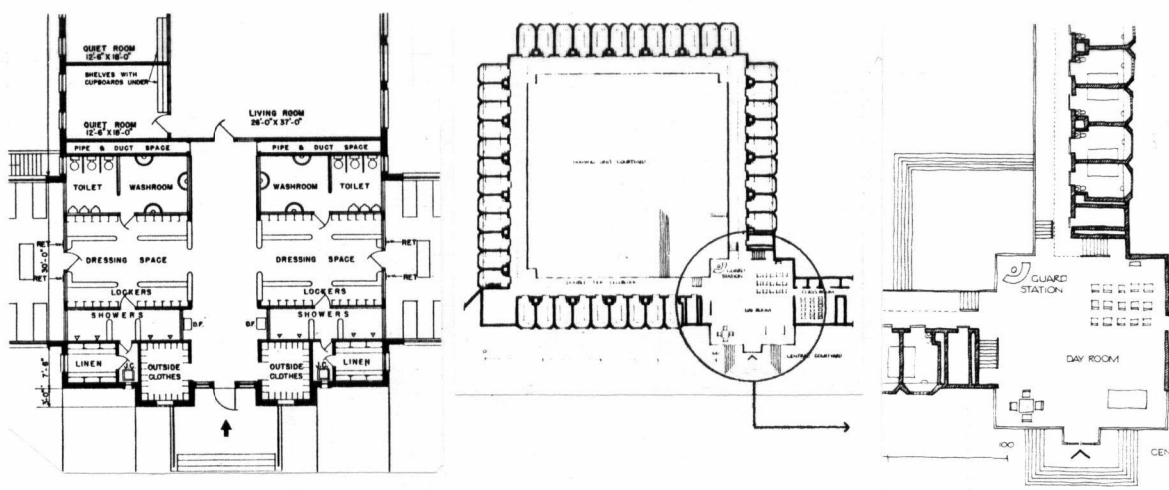


Figure 2-25. Angola 1955

Still later, at Stateville, Illinois, 1919 (see Figure 2-24), the authority is separated into two parties: the guards in the centre of the prison structure and the administration, which performs a representative role, in front of the prison walls.

More recently the administration has been completely separated from the prison structure, as in the Louisiana State Penitentiary at Angola, 1955 (see Figure 2-25, page 47). With the authority outside the security perimeter, visiting business agents are spared the ritual frisking and stripping to which everybody entering the inside zone is subjected, in order to prevent the passing of contraband.

Independently one can also trace the institutionalisation of control as a function of varying security ratings in places assigned to security forces. In the plan for a relatively low security reformatory proposed by the United States Bureau of Prisons (see Figure 2-26), the controlling officer has no place or office in the cottage he is assigned to. He is expected to patrol up and down a central hall.²⁵



Left, Figure 2-26. Reformatory
Middle, Figures 2-27, 28. Leesburg

In the State Prison at Leesburg, New Jersey (see

Figures 2-27, 2-28, page 48), the guard occupies a desk in the protruding inner corner of the elevated dayroom. From there he can control access and egress and survey the adjoining corridors, but is also accessible to the inmates using the dayroom. Here the guard functions also as a rehabilitation counsellor. Similar conditions exist at the Reception Centre at Lake Butler, Florida (see Figure 2-29),

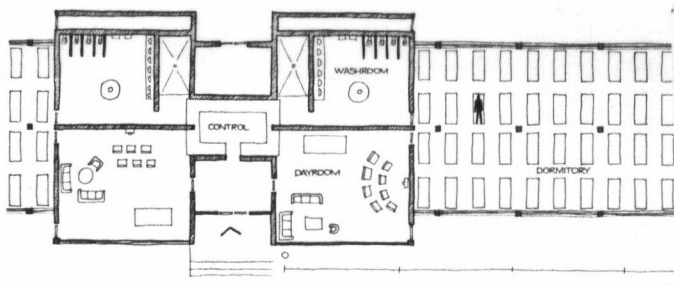


Figure 2-29. Lake Butler



Figure 2-30. Stateville

yet the separation between the guard and the inmates is more pronounced.

At Stateville, a maximum security institution (see Figure 2-30), the separation of inmates and guard is complete. Here the place for the guard, a small control tower, is in the centre of the structure surrounded by a large circular monitor space, separating him from the inmates placed in the cells on the outside. Incidentally, the layout of the Stateville prison closely resembles the famous Panopticon Prison of Jeremy Bentham, discussed later in this text (see Figure 2-34, page 56).

A study by Presthold, Taylor and Shannon (1976) points to the fact that the mode in which control is

institutionalized within the building structure has a decisive effect on inmate and staff behaviour. The study draws its conclusions from observing the change of behaviour which resulted when an institution was moved from a barracks-type plant to a new structure. In the dormitories of the old plant and in the places between these, the guards unobtrusively mixed with the talking and playing inmates. Both viewed the situation as sympathetic and secure. In the new institution the guards were assigned a specific place in the centre of a three-winged star-plan. They were separated by glass walls from the adjoining dayrooms and private cells. The resulting situation revealed a stronger opposition between inmates and staff and a feeling of hostility, even amongst the inmates themselves: interaction receded and the staff dressed again in uniform.²⁶

4.4 Support-places

Prisons are total institutions; they seek autonomy and complete separation from the world outside. Therefore all the essential means for maintaining the life and security of the inmates have to be included within the prison walls. These are the supporting places. The desire to control gradually dominates all supporting places.

A few hundred years ago prisons were by no means as total, in the sense of the above definition, as they are now. They were, at best, holes for safekeeping, providing only bread and water, sometimes not even that to those without money.²⁷ As a breakthrough, the humanizing

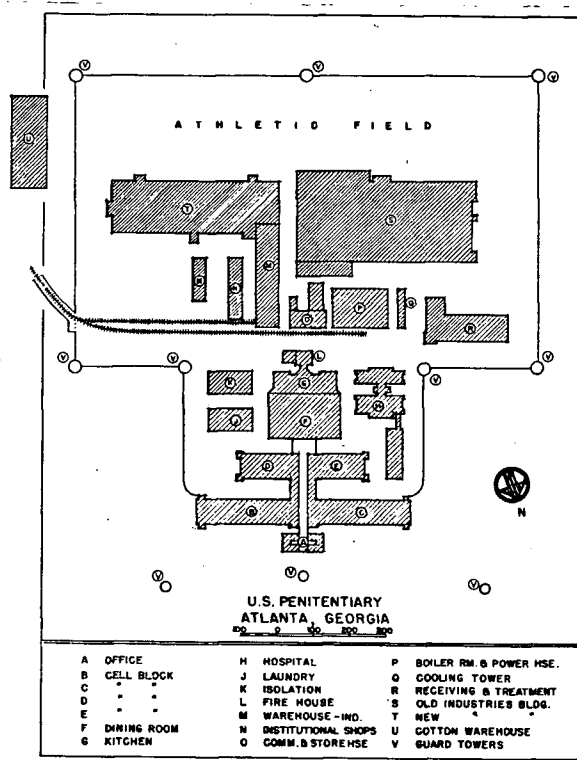


Figure 2-31. Atlanta

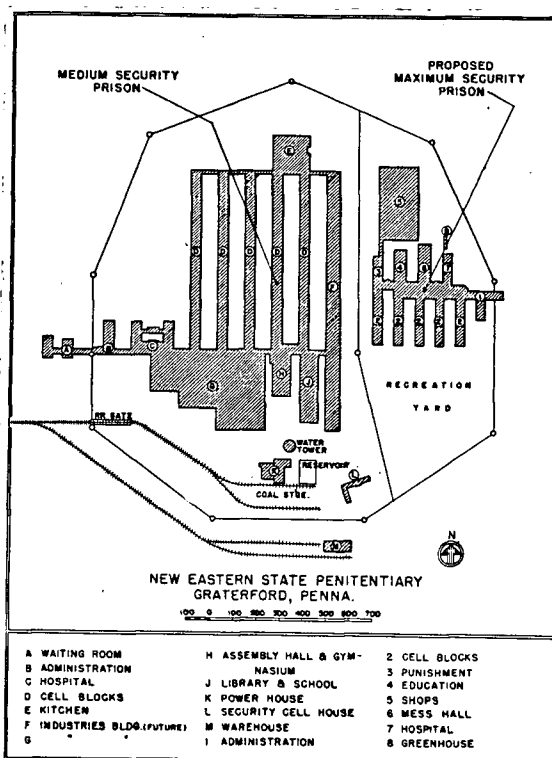


Figure 2-32. Graterford

Pennsylvania system in 1829 made a point of providing food, clothing and work to all inmates. In improving prisons -- and turning them into a total institution -- hospitals, libraries, chapels, auditoriums and classrooms were included within the walls, as well as barbers, dental offices, photo studios, etc. While these support places are still largely independent units within the territory of the Atlanta prison (see Figure 2-31), they are mostly incorporated within the inner security zone in the Graterford, Pennsylvania prison structure (see Figure 2-32). Thus the activities they support are subjected to increasing control. In the planned Super Security Institution (see Figure 2-17, page 43) all of these supporting units are intimately married to the central control corridor.

4.5 Summary of this section

In this section I have shown how the preference for control encroaches on the disposition of the assigned territories. With an increasing desire to inspect and dominate, prison planners incorporate more and more activities into a double and triple checked environment. The conditions created are such that all activities deemed less secure are increasingly debarred.

5 Paths and the Flow of Institutional Activity

The activity units laid out on the assigned territory are connected by paths, which direct the interaction between them. In this section I shall discuss the effect of the control orientation on the freedom to choose destinations and the tolerated modes of movement between them. Specifically, I shall show that the desire to inspect leads to a visual domination of paths and restriction of all movements within them till there is hardly any movement at all.

In a campus layout inmates are usually allowed free grounds; see, for example, the Alderson plan (Figure 2-11, page 39) or the State Penitentiary at Vienna (Figure 2-18, page 44). There the inmates have a choice of path and a choice of destination. The time schedule may limit the latter considerably.

The courtyard-type plan introduces a rigid definition of an outer perimeter. Here the free grounds are limited to

the inner security zone enclosed by building structures. The latter also link all activity units internally. It is thus possible to restrict all movement to the inside corridors. The choice of path, then, would be limited to a clockwise or counterclockwise direction. One can compare the Yardville plan (Figure 2-19, page 44) with the Danbury plan (Figure 2-14, page 41). With respect to formal differences in courtyards and surrounding corridors, the Danbury plan seems to suggest the possibility of a shortcut through the courtyard; the unified circle of Yardville stresses the importance of inside connections.

The tightest system to control the movement on paths is provided by the telephone pole plan. In this layout one central corridor usually bisects the corridors of the perpendicular side-wings; see, for example, the plan of Camp Cooke Disciplinary Barracks (Figure 2-20, page 42).

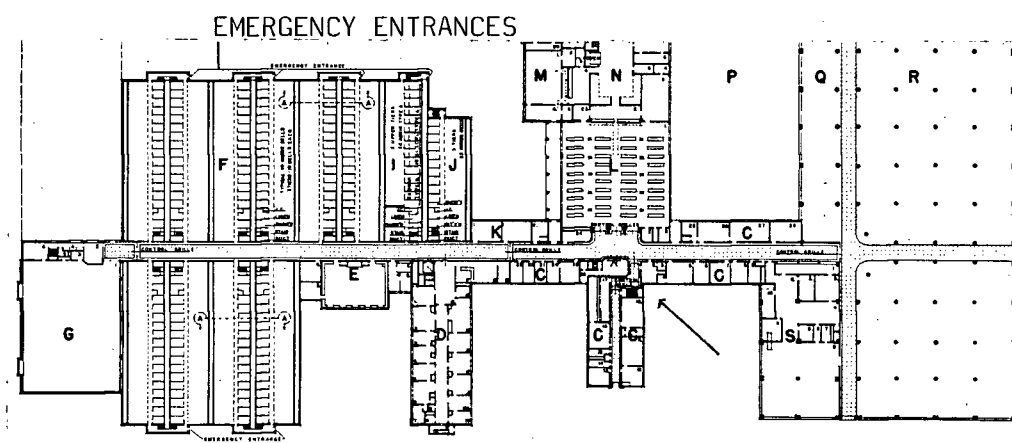


Figure 2-33. Super Security Institution

In the proposed Super Security Institution (Figure 2-33), all movement from housing to mess hall, shops, library,

classrooms, hospital, and gymnasium is channelled along the central corridor. Only for the purpose of outside recreation are the inmates allowed outside this system. In most telephone pole plans there is only one path to choose. Furthermore, the choice of a destination can at any time be limited by closing of the entrances to the side corridors with grills or guard stations. This telephone-pole circulation arrangement also facilitates the control of the mode of movement; any allowed trip can easily be restricted to a direct progression from origin to destination. All in-between stopovers are eliminated, which effectively reduces any casual interaction between the various activity units. Casual interaction is further restricted by sealing off activity units with thick walls, leaving only their well-guarded entrances open.

The speed of motion and the number of inmates moving together is also very often controlled. Dunn, a former inmate, writes about his early morning trip to the mess hall:

The hallway, from which the various cellblocks and units branch off, is a quarter of a mile long ... Bulls are standing about every thirty feet along the corridor, watching the guys and harrassing them, telling them to walk two abreast if they bunch up ...²⁸

It is harder to maintain such a marching order on stairs, as any intentional or unintentional stumbling inmate could cause confusion and collisions. Therefore stairs between the major units are considered a security hazard and

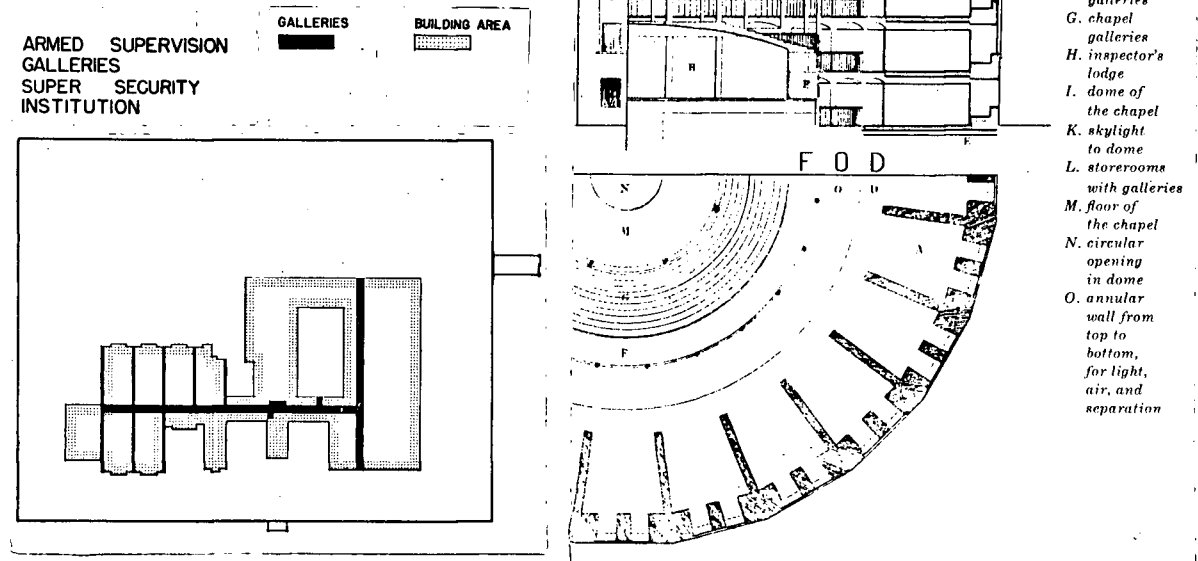
eliminated.²⁹

In the planned Super Security Institution the dominance of the guards was to be reinforced further by cross-corridor grills. These were to curtail the distance that any group of inmates could progress down the central spine, thereby limiting the momentum to be gained by charging inmates. The cross-corridor grills in effect form a series of interlocking sally ports between various security zones. The location of the central control room in or next to the central corridor facilitates surveillance of all activities outside and between the designated activity units. (See, for example, the Super Security Institution plan in Figures 2-17 and 2-33; the control room is marked by an asterisk.) In this sense the corridor is a materialisation of line of vision. It is no longer just a means of travel. Quite the contrary: pedestrians or handtrucks using the corridor might be considered dysfunctional as they might obstruct the view.

As control increases, the basic stratification of the prison between those controlling and those being controlled becomes more pronounced. A double circulating system, also called "double tracking", is a physical manifestation of this schism by status. One hundred and fifty years ago the plans for Bentham's Panopticon Prison (see Figure 2-34) included a double circulation system: one system of inspection galleries (F) and one of cell galleries (D), the latter separated by a glass wall (O) from the former.³⁰

In the Federal Penitentiary at Alcatraz -- now closed

Figure 2-34. Panopticon
Figure 2-35. Galleries



-- and in the proposed Super Security Institution the paths of the armed guards are separated from the rest of the circulation system. At Alcatraz there was a rather primitive installation of caged-in catwalks for the guards at both ends of the cellhouse (see Figure 2-12, page 39). In the plans for the Super Security Institution considerable sophistication was attained (see Figure 2-35). Not only were the guard corridors completely enclosed, leaving only small slots for surveillance and firing a gun, but they also form a complete circulation system running between double walls throughout the institution, with the only entrance and exit in the control room.³¹

The desire to inspect all movements eventually leads to

their channeling into increasingly fewer paths, which then are dominated by the authority. The system then suffers severely from overdetermination, as

the condition in which everything -- decisions, space, movement, and responsibility -- is clearly or narrowly defined. All activities are scheduled. Social contacts are predetermined... It is a condition in which groups can easily be supervised, where authority can be maintained, and one in which accountability for personal action lies beyond the individual.³²

6 Edges Defining the Cells

Here I shall discuss the edges surrounding the basic planning units, the cells and their occupants. The security classification of prisoners defines the type of cell and the size, goals and security rating of the whole institution. Generally these edges have to facilitate a number of things:

- 1) hold the inmate in place (dominate)
- 2) allow visual surveillance of his activities in the cell (inspect)
- 3) define "private" territory (protecting rights of inmate).

These aspects receive different attention with the various levels of control.

With little official control the inmate may be granted considerable control over his territory, for example in the honour or prerelease rooms. As the concern of authority to inspect mounts, the occupant's control of cell space decreases in favour of the prison authority. The defining edges of his cell become more transparent to supervisory

surveillance and access. For example, the outside cell or room with window for natural light is almost universal in low and medium security institutions, but it tends to disappear from plans for high security prisons.

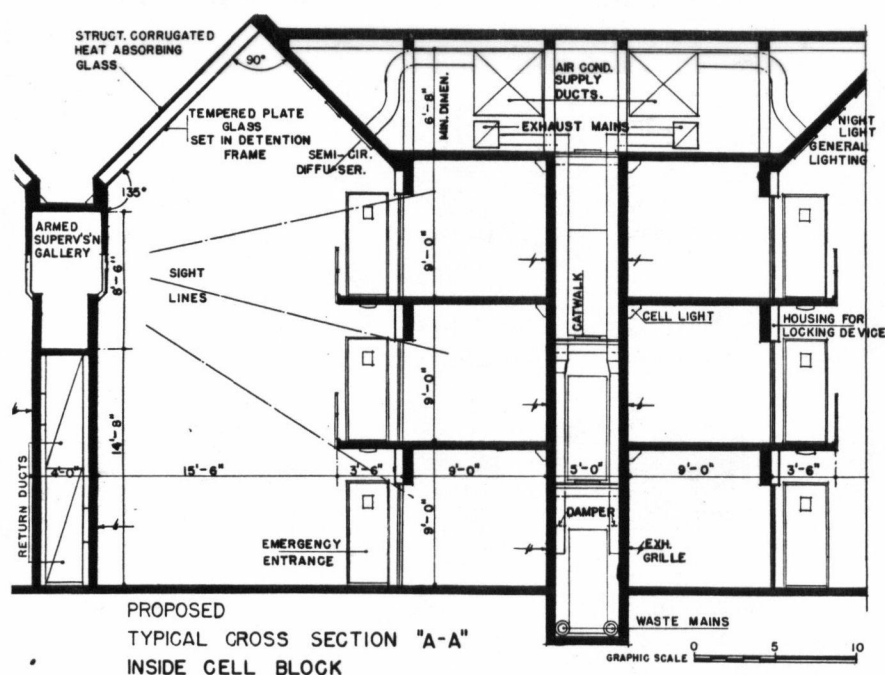
When increased surveillance and loss of privacy is coupled with the dominance by the authority, as in the telephone pole prison, the inmates' territorial rights rapidly decrease. The edges in high security prisons make open provisions for surveillance but they also function to keep the occupant in place and finally to remove him from any outside stimulation, thereby limiting his possibility to act and react. The extreme examples of this are the segregation units which can be found in most prisons (see Section 4 above, for discussion of segregation units).

Yet while segregation units are limited to one part of the building or just one unit in low security institutions, their conditions, in effect, prevail in all cells of the Super Security Institution; here there is little difference between the segregation cells marked I on the plan and the regular accommodation marked F (see Figure 2-33, page 53).

All cells are removed from the outside walls. This is the case in many maximum security prisons which use the inside cell-block as a regular means of accommodation (see, for example, Figure 2-20. Camp Cooke, page 45). At Alcatraz (Figure 2-12, page 39) and in the Super Security Institution these cell blocks are concentrated into a hall, eliminating the outside spaces between buildings. The

latter goes even one step further than Alcatraz by introducing another edge between each half of the cellblocks, consisting of a double wall containing the corridor for the armed guards (see Figure 2-36). The rationale for this wall is that in the Alcatraz system,

the cellblocks have had open spaces all around them, thus making it possible for inmates freely to circulate around and between the cellblocks... This is what happened in the riot at Alcatraz in the spring of 1946... in the [proposed Super Security Institution] it is completely impossible for inmates to circulate around a cellblock or hide behind it."³³



Left, Figure 2-36. Section, Super Security Institution
Right, Figure 2-37. Perspective, cellblock

As already mentioned in Section 4, it is characteristic of increasing control to doublecheck the security system. This often means double walls. Thus in the planned Super Security Institution, the cellblocks were separated by a

monitor space with double walls in front and double walls in back, defining guard and utility corridors (see Figure 2-36, page 59). Each cellblock is therefore a sealed off unit inhabited by a number of inmates small enough to be held in check. There are no windows; a skylight illumines the block, but bars the inhabitants from the stimulation of a view (see Figure 2-37, page 59).

[When] an inmate leaves the main corridor and enters his block, he cannot get out of this block except thorough the one well-guarded door which he used in entering.³⁴

There is another door, though, labelled "emergency entrance" in the plan (see Figure 2-33, page 53). The operative word is "entrance". A state of emergency is not determined by those inside, but by those outside, so the door is flush on the inside, with the hardware on the outside. Another rationale for this door is that "[if] inmates riot, they usually block the main entrance with all the movable furniture."³⁵

These are the overall conditions in the Super Security Institution, where the doubling of edges facilitates the desire to keep inmates in their place. There is little distinction made between the accommodations allowed to various individual inmates. Yet even maximum security prisons have segregation cells, isolating the inmates even more than the "ordinary" cells. These cells are found in all prisons where the authority introduces a hierarchy of cells, both to respond to various needs for control and also

to introduce a reward system for inmates complying with the institutional processes.

The restraint rooms are the bottom of the line (see Figures 2-38 and 2-39, page 62). These give no privileges and allow complete domination of the inmate's activities. Ordinarily a restraint room includes a vestibule between the grill of the cell and the wall to the catwalk or corridor. It includes individual forced air ventilation, heating coils in the floor and a small window in the outer cell door; the window can be shut by the guard, leaving the inmate in complete darkness. In the most severe types, there is no furniture, there is a floor drain instead of the toilet, and walls and floor are finished in terrazzo, which can be easily washed down with a hose installed outside the cell. All the inmate has left is his own body, enough air to breathe, a bearable temperature, and enough calories to keep him alive. For him the circulation system is reduced to a couple of pipes for warmth and air and a couple of holes: the foodpass for incoming calories and the floordrain for outgoing wastes (see Figure 2-39, page 62).

The first relaxation of control is the removal of one edge, the vestibule. We then have a regular inside cell with an inside toilet ("wet" cell) and a front grill directly adjoining the catwalk in the monitor space (see Figure 2-40, page 62). Here the inmate can get some stimulation from inside the cellblock.

The next relaxation and removal of another edge is

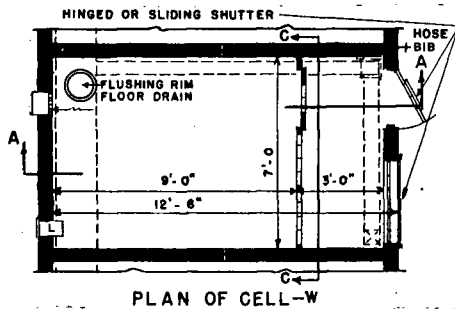


Figure 2-38.
Segregation cell

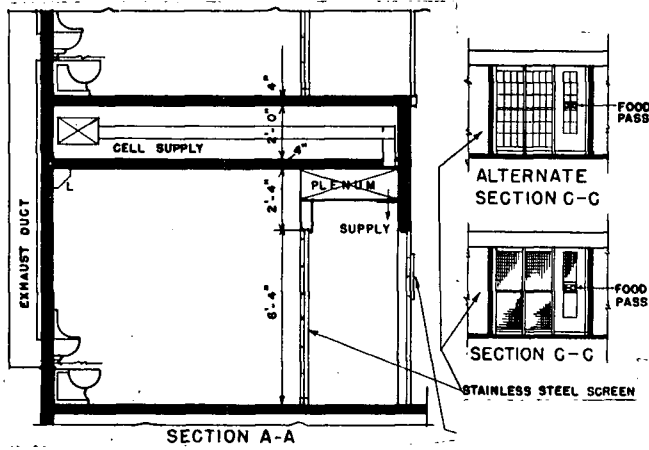


Figure 2-39.
Segregation cell

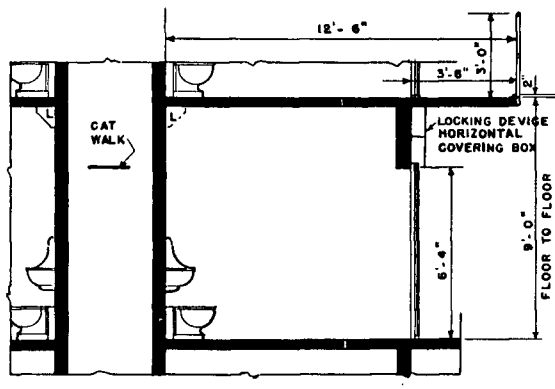


Figure 2-40.
Inside cell

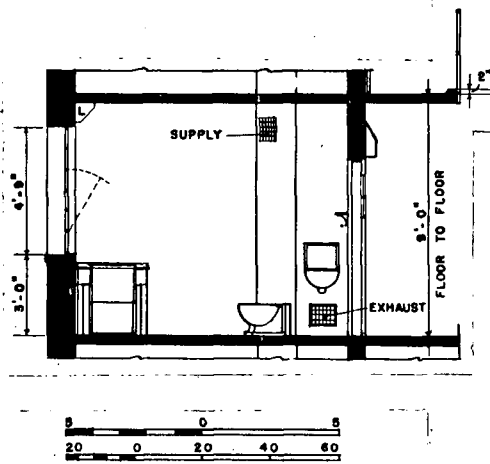


Figure 2-41.
Outside cell

allowance for an outside cell, where the cell wall is identical with the outside building wall (see Figure 2-41, page 62). Here the inmate can receive some outside stimuli from the ebb and flow of the heavens, the weather and the seasons. Also the wall to the corridor may be solid, with a door of steel and an observation panel, granting considerable privacy.³⁶ With the outside cell may also come a separation of functions in the form of a dayroom. This room is in the same security zone as the cells -- at the end of each cellblock -- allowing some informal interaction, as the prisoners can pass from cell to dayroom without passing any security check.³⁷

The next step up in the hierarchy of confinement means a breakdown of the walls separating the inmates from each other, as in a dormitory. There are two opposing views concerning dormitories. The first interprets the conditions as a relaxation of control and as an encouragement to increased human interaction; the other sees the breakdown of walls between the prisoners as a threatening exposure to each others' pugnacious ambitions.³⁸

While dormitories reflect a decrease in dominance, they also grant little privacy. This is partly accommodated through interior subdivisions, which introduce edges between the inmates and reduce the overall density in the dormitories. Thus within a dormitory system there may be an open dormitory (Figure 2-42, page 64), a dormitory with cubicles (Figure 2-43) and a dormitory with squadrooms

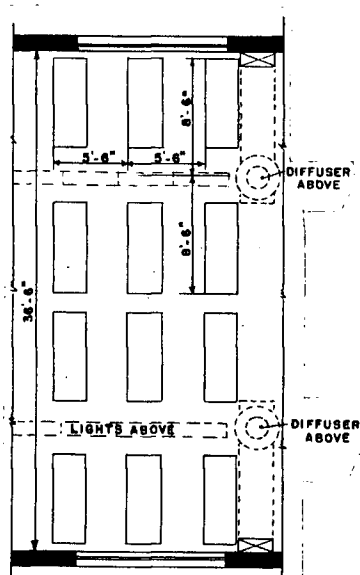


Figure 2-42.
Open dormitories

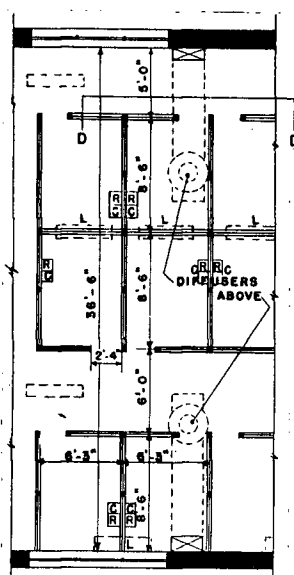


Figure 2-43.
Cubicles

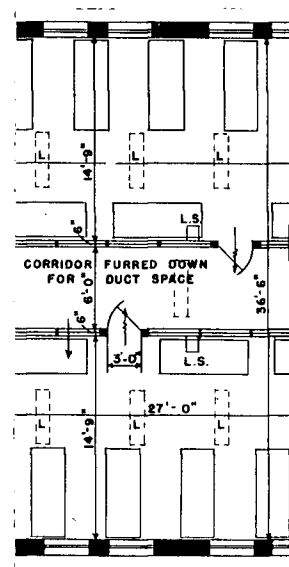


Figure 2-44.
Squad rooms

(Figure 2-44). The density decreases from 50 to 100 square feet per inmate, while the privacy increases from open dorm to squadrooms. Dormitories are mainly a means of stretching the budget, as they are much lower in construction cost than tool-proof cages.³⁹

The final step in confinement is the so called honour room; these are "dry" cells (without a toilet) with a wooden door to which the inmate holds the key. Here the occupant controls the edge of his territory and has freedom of a certain area, as he no longer needs a guard to lock or unlock his door. Depending upon the security zoning, this area can reach as far as the dayroom, the showers and toilets, or as far as the prison perimeter.

Most prisons make use of this hierarchy of cells and their multiplicity of edges, yet any move up or down the

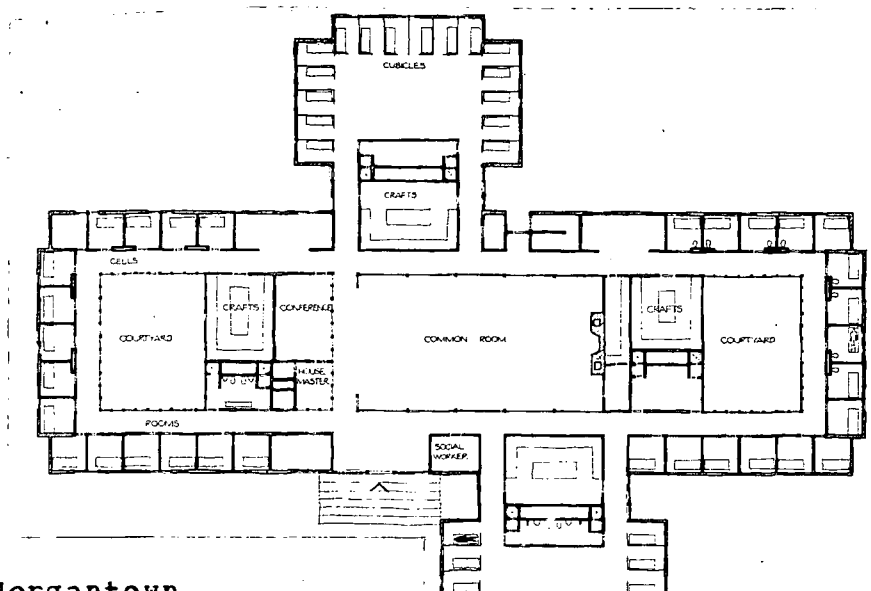


Figure 2-45. Morgantown

hierarchy of confinement depends totally on the discretion of the authority. Some more recent institutions have introduced a "token economy". Here the moves up or down the hierarchy are decided on a more objective basis, the accumulation of tokens based on positive or negative behaviour. At the J. F. Kennedy Youth Centre at Morgantown, West Virginia (see Figure 2-45), the inmates "buy" dormitory space or a private room with the tokens they have been awarded for work and good behaviour.⁴⁰ Here the prestige attached to certain places within the institution becomes a working parameter for controlling inmates' behaviour.

Another institution, the Purdy Women's Correctional Institution in Washington, attempts to institutionalize the reintegration of inmates into the social system. Their prerelease apartments, located adjacent to the main

institution, are almost like homes, containing a kitchen, dinette, living room, two double bedrooms and a bath.⁴¹ Yet Robert Sommer says: "A prison can never be like home, nor can any college dormitory, a school building, or a motel."⁴²

In this section I have tried to show how the increase of control can be traced also within the small scale of the individual unit as experienced by the occupant. Within the general characteristic of doublechecking the system in order to inspect and to dominate, the doubling of edges reflects on a small scale similar procedures as discussed above in the sections on boundaries and layout. Similar to the conditions set by the paths, the doubling of edges reflects a concentration on the main objective: to limit activity in order to control.

7 Summary

In this chapter I have tried to show how the plan of the prison supports the control orientation of the acting authority. I centred on the aspects of inspection and domination, to investigate their effect on the physical plan. During the various stages of the argument one can discern a gradual increase of measures prohibiting interaction and activity. These range in scope from inspection to dominance, from specific control to an all-encompassing diffuse control.

Thus the first restriction is the removal of the prison from the social centres of activity into a rural setting.

The next is a definition of a territorial boundary within which activity is tolerated. The third step is to limit the paths the inmate is allowed to travel and to direct the activity still tolerated. The last step is to remove the inmate from all edges of his confining cage by creating a void around him, which separates him from anything happening outside of his cage. At this stage we have the prison within the prison. There the circulation system is not a system of access, but a system to prevent access by means of a series of buffer zones, voids, double walls, double ports and double checks.

Notes

1. Aldous Huxley, Prisons (London: Trianon Press, 1949), p. 13.
2. For the text between the asterisks on the two preceding pages, I am greatly indebted to R. W. Seaton.
3. Charles W. Thomas and David M. Petersen, Prison Organization and Inmate Subcultures, The Bobbs Merrill Studies in Sociology (Indianapolis: The Bobbs-Merill Co., 1977), pp. 27 and 35.
4. Robert Sommer, Tight Spaces: Hard Architecture and How to Humanize It (Englewood Cliffs, N. J.: Prentice-Hall, 1974), p. 47.
5. Thomas and Petersen, op. cit., p. 13.
6. K. L. McReynolds, "Designing a Correctional Facility", Federal Probation 37 (4, 1973), pp. 26-34.
7. William G. Nagel, The New Red Barn: A Critical Look at the Modern American Prison (New York: Walker and Company, 1949) p. 37.
8. Ibid., pp. 47 and 148.
9. Ibid., p. 60.
10. U. S. Bureau of Prisons, Handbook of Correctional Institution Design and Construction (Washington, D.C.: Federal Bureau of Prisons, 1949), p. 37.
11. W.T. McGrath, "Criteria for Prison Location and Structure", Canadian Journal of Criminology and Correction, 7, No. 2 (1965), pp. 149-152. See also Nagel, op. cit., p. 126 etc.
12. U. S. Bureau of Prisons, op. cit., pp. 6-7.
13. Nagel, op. cit., pp. 56-57.

14. Ibid., p. 60.
15. U. S. Bureau of Prisons, op. cit., p. 62, mentions the prison wall of the Attica State Prison, N.Y., which was 6700 feet long and consumed 14% of the total construction costs.
16. Ibid., p. 67.
17. Ibid., p. 220.
18. Nagel, op. cit., p. 108.
19. Anthony J. Manocchio and Jimmy Dunn, The Time Game: Two Views of a Prison (Beverly Hills, California: Sage Publications, 1970), p. 215.
20. Nagel, op. cit., p. 80.
21. Ibid., p. 84.
22. Ibid., p. 88.
23. Manocchio and Dunn, op. cit., p. 40.
24. Ibid., pp. 46-47, on the dress code of prison staff: the guards wear uniforms, while the warden and associate warden wear suits.
25. U. S. Bureau of Prisons, op. cit., p. 148.
26. Perry H. Prestholdt, Robert R. Taylor and William T. Shannon, "The Correctional Environment and Human Behaviour: A Comparative Study of Two Prisons for Women", in The Behavioural Basis of Design, Book I: Selected Papers, eds. Peter Suedfeld and James A. Russell (Strousburg, Pa.: Dowden, Hutchinson and Ross, 1976), pp. 145-149.
27. Norman Johnston, The Human Cage: A Brief History of Prison Architecture (New York: Walker and Company, 1973), p. 15.
28. Manocchio, op. cit., p. 39.
29. U. S. Bureau of Prisons, op. cit., p. 73.
30. Johnston, op. cit., pp. 19-20.

31. U. S. Bureau of Prisons, op. cit., p. 52.
32. Nagel, op. cit., p. 40
33. U. S. Bureau of Prisons, op. cit., p. 48.
34. Ibid., p. 51.
35. Ibid., p. 196.
36. Nagel, op. cit., p. 70.
37. U.S. Bureau of Prisons, op. cit., pp. 201 and 215.
38. The first view was held by the United States Bureau of Prisons and is supported by Prestholdt, Taylor and Shannon; the second view is supported by Nagel.
39. Nagel, op. cit., p. 72.
40. Ibid, pp. 133-134. Also on p. 132, he mentions the highrise prison at Morganton, North Carolina, where a move up in the hierarchy results in a move down to a lower floor and closer to the exit.
41. Ibid, p. 76.
42. Sommer, op. cit., p. 48.

I wish my school to be
 as free as it could be
 unless we broke a rule
 and destroyed the privilege¹

CHAPTER 3

THE EDUCATIONAL INSTITUTION AND THE INTEGRATIVE VALUE

1 Introduction

In this chapter I shall discuss the schoolbuilding. Schools facilitate the integrative value orientation. This is a predisposition contrary to the previously discussed control orientation. In many ways the argument here will complement the one in the previous chapter. I will focus here on plans based on power shared in the combined wishes of those the institution is assigned to process. If the prison plan is shaped to dominate the processed, the schoolhouse should connect and serve the processed.

One of the reasons for the growth of the educational institution is an increase in tasks and responsibilities which were previously assigned to other institutions.² In social systems with little division of labour, the tasks of integrating the learner -- young and old -- is assigned to the family or clan. They take the responsibility of

acquainting the individual with the existing culture and the body of knowledge. With an increasing division of labour, exposure to the body of knowledge becomes selective; learning is a privilege reflecting the amount of social support given to the individual by the class he belongs to.³ If the time and resources for education and learning are not equally available to all, a basic stratification of the social system into the "poor and ignorant" and the "rich and knowing" perpetuates itself. These conditions were prevalent, for example, in France before the revolution⁴ and prevail presently in underdeveloped nations like India. Later, in the western world, enlightened policies have pointed to the basic injustice and have supported the institutionalisation of education by the corporate state throughout the social system. In taking care of the various aspects of the socialisation process the state tries to offer equal opportunity and access to all ascribed members.

But it also creates a split between the primary socializing unit, the family, and the social system, by taking some of the concerns and decisions out of reach of the individual family and delegating it to the complex system of educational administration. Increasingly the educational institution assumes and is given more functions and competence.

Today the homes are few where true assistance in education is offered to the child. The essential factor of education is the school, apart from the street.⁵

Yet schools have to be responsive to those they serve and to be loyal to the values they are assigned to represent. As we live in a culture with a plurality of values, the concepts of the most proper ways of educating the individual are constantly changing.

Education for a long time was based on the authority of the teacher to impart knowledge. Gradually it was realized that the pupil was capable of deciding as well, and a "democratic teaching style" was conceived, which would integrate all participants with each other. In a further step all lasting decisions were viewed as manipulative and as inhibiting equal opportunity.⁶ Today the most valued conditions are those providing the least resistance to change and the best possibilities to integrate new ideas.

Schools are instruments for improving society and therefore cannot be allowed to stagnate. They must be in a continuous state of self-renewal.⁷

However, all integration has essentially to fulfil two major functions: one was and still is the scholastic function of preparing the student in symbol management, by teaching him at least an accepted minimum of skills, such as "'reading, 'riting and 'rithmetic": the other is predominant in the early stages of socialisation. The child as a social being is assisted by the school in its emotional development.⁸ The school integrates the individual according to his own personal potential. This social function attempts to reduce individual differences or disadvantages

due to heritage or the primary socialisation in early childhood.⁹ These two integrative functions, scholastic and social, generate the complexity of the educational system. The general openness and adaptation to the individual person has to be coupled with integrating this person's activities into the system of social values and instrumental skills. Here I shall take integration to mean the bringing together of different parts and participants and the removal of barriers between them.¹⁰

The scope of integration in schools is reflected in various building plans, ranging from an open elementary school to a high school with specific departments. Interpretation of such building plans renders more specific an understanding of the integrative orientation, by pointing to the integrated parts and showing the barriers that participating parts are allowed in order to define themselves as subunits within the whole. Depending on the scope of the integrative functions, the building plan sets the conditions for exploration, by linking the activity places with each other without setting up any directive or selective barriers for participants. In some other settings the plan conditions will favour advance of the specific requirements of individual parts; in such instances exploration is directed towards the internal growth within these units.

The following sections discuss aspects of plans similar to those talked about in the previous chapter. Keyplans of

various schools are examined in terms of their potential for implementing the integrative value orientation. The sections include:

Section 2. The location of the school within the social and physical community it was established to serve;

Section 3. Its institutional boundary and the entries through it;

Section 4. The layout of the school property with respect to designation and non-designation of places;

Section 5. The orientation of activities along paths;

Section 6. The edges between the basic units;

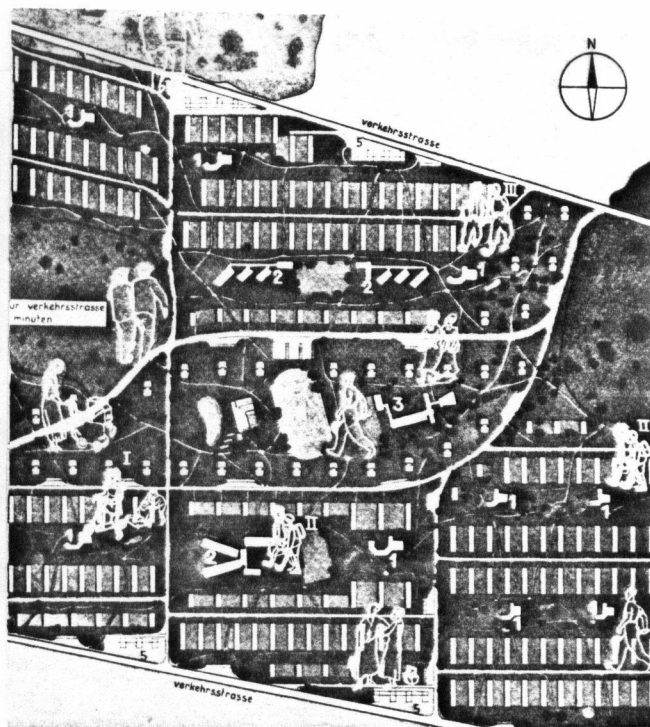
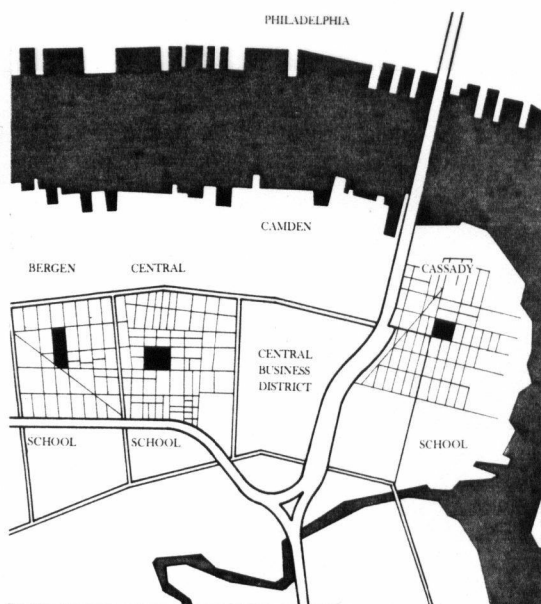
Section 7. Summary of this chapter.

2 The Location of the Educational Institution

Socially, the school stands between the family unit and the social system the individual is to be integrated into. Physically, "the association of school to neighbourhood and neighbourhood to community... [established] a continuity in pattern of social organisation" (see Figure 3-1, on page 76).¹¹

Before a general awareness of the disadvantages of urban life, schools were located "on some of the most striking and dominant sites of a town."¹² Then the location was more a matter of pride and authority and less one of social obligations to the child.

More recently pedagogical considerations form the



Left, Figure 3-1. School, district, city

Right, Figure 3-2. Neighbourhood with integrated schools

central basis of site selection; the school should be close to the children, usually within a safe walking distance between the school and the residential neighbourhood (see Figure 3-2). The tolerated walking distance increases with the gradual loosening of emotional family ties as the child is integrated into the social system. A nursery should be within sight or hearing of the home residence -- up to 1000 feet -- the primary school within an easy walk of up to one-half of a mile and the secondary school up to one mile distant.¹³

Around a secondary school the density of student population within the ideal perimeter may not be sufficient to make it economically viable. In that case bussing may be

necessary. (In the U. S. bussing is also necessary for reasons of integration.) Bussing calls for proximity to feeder roads. However, the way to school should be as safe as possible and therefore not close to major thoroughfares and other traffic hazards ¹⁴ (see Figure 3-2, page ..).

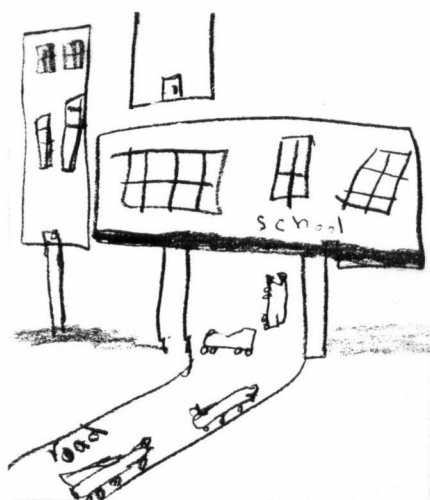
This points to a major problem faced in the selection of the location for the school. On the one hand it should integrate the child with the daily life of the community. On the other hand it should filter the situations the child is confronted with, to facilitate easy and safe access and dissociate the educational environment from the undesirable pollutions of modern living. Also, the recreational value of a site contributes to its selection. Yet these considerations support the criticism against the increasing segregation of educational facilities from the core of its community:

[Education]... ceased to be conterminous with the entire field of experience of the society and became limited to the field of experiences permitted by the institution.¹⁵

The ultimate consequence of unconditional integration would be the "city as a school".

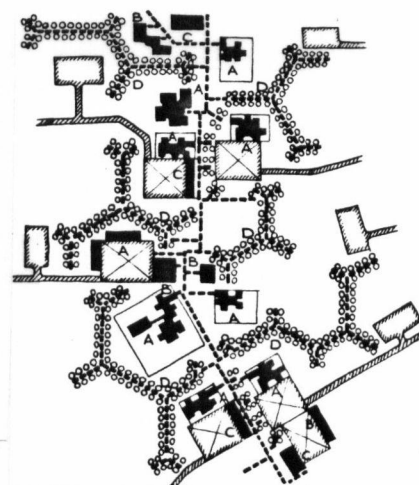
A good school would have a road going right through it, or under it, and you could see cars and stores and people, and they'd be looking at you, and then you wouldn't have to take a bus and go way out into nowhere, just because you're going to school.¹⁶ (See Figure 3-3, page 78.)

In his project "The City as a School" for the City of Caen,



Left, Figure 3-3. Billy's drawing
Right, Figure 3-4. City as a school

A EDUCATIONAL FACILITIES
B ANCILLARIES
C COMMERCE
D DWELLINGS



France, Shadrach Woods proposed an urban structure determined by a linear circulating system linking a number of interspersed educational facilities (A), shops (C), social services (B), and residential units (D) (see Figure 3-4)

In such a system one can imagine a constantly adaptable educational experience....places for teaching and learning being formed and modified by the participants.¹⁷

These ideals are partly accommodated in many schools, through their giving open access to the whole community during non-school hours.

Any community financing the building of a school can receive compensation for the expenditure not only through the education of their children, but also through the planned use of the building for adult activities.¹⁸

Then the location of the school will not only respond to the needs of the child, but also to members of the community. Thus through strategic location near the centre of gravity

of a community the school can help integrate children with adults through their sharing of common spaces. The school is sited to be a focus of community, planned by community members and located amidst residential areas. Such a school is easily accessible from the home. Interrelation with the structure of the city is common in smaller communities. There is, however, no reason why the school cannot serve a similar integrative function in large cities, given its location near a stable centre of gravity.

3 Boundary and Size of the Institutional Territory

In this section I shall discuss the size of the institution and its boundaries.

The size of the school derives from the number of pupils in relation to pedagogical values for helping the individual to integrate into the social system. Such assistance inversely depends in part on the size of classrooms and the size of schools. Smaller schools, for example, require that pupils play more social roles in them.¹⁹ At the same time, the larger the classroom and schoolhouse, the more economical it is to provide special classes and resources which support teaching. Accordingly the desirable size of schools must be decided somewhat arbitrarily: for example, 500-600 students for an elementary school, 1200-1800 for a middle school and up to 6000 for a high school. These numbers determine in turn the size of

the school districts, which may either be a subdivision within a larger city or, via bussing, an integration of smaller settlements or minorities into a larger community.²⁰

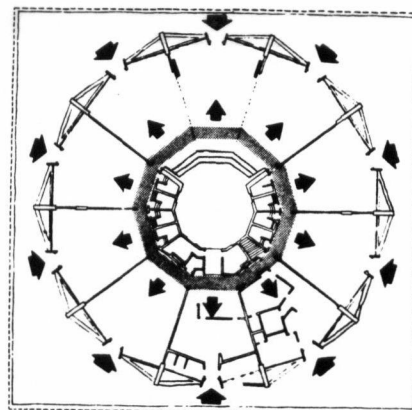
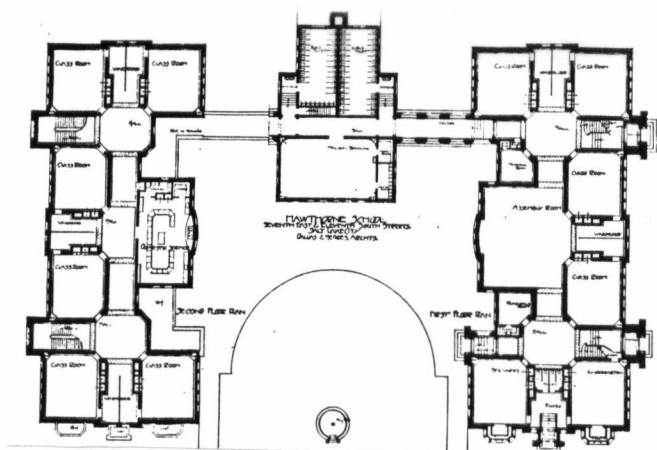
A school usually lacks physically defined strong boundaries. For the most part, boundaries are symbolic -- e.g., partial fencing -- or for administrative purposes. The outermost of these definitions are the attendance boundaries, limiting the school district and orienting children to their respective institutions. School district boundaries may be associated with physical elements of the environment, e.g., highways, as an administrative convenience. Thus a "neighbourhood" may be defined as an arbitrary area of 5000 inhabitants served by one elementary school for 500 pupils.²¹

Usually the school grounds surrounding a neighbourhood school are deliberately rather than administratively defined, especially if a school is located close to heavily trafficked roads. Usually an easily permeable boundary for pedestrians serves to warn participants of the outside hazard and to define the limits of institutional responsibility. The definition often takes the form of a 4-foot fence, which at playgrounds may be raised up to 6 feet.²² As more recent locations for newer school buildings tend to avoid heavy traffic, the fence is replaced by planting or large open spaces inaccessible to vehicles (see Figure 3-2, page 76). These open spaces usually are allocated to the pleasure and recreation of all age groups

in the community.²³ A closer definition of a school is "its building walls". During business hours these are permeable to all who have business in the school, but not to casual visitors except on invitation. The exterior walls also delimit a climatic environment enveloping activity units like classrooms, administration offices and locker rooms.

These three definitions -- school district, schoolgrounds, building walls -- describe different degrees of boundedness. They ordinarily are permeable to those who wish to enter on business, but not to casual visitation.

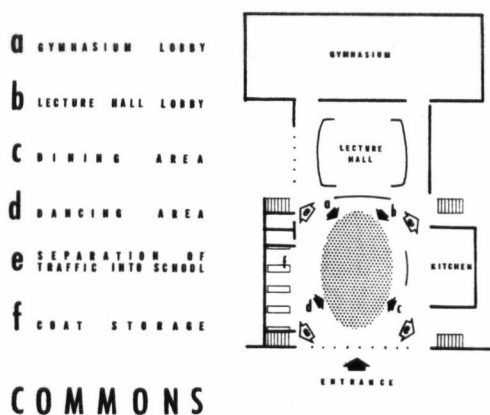
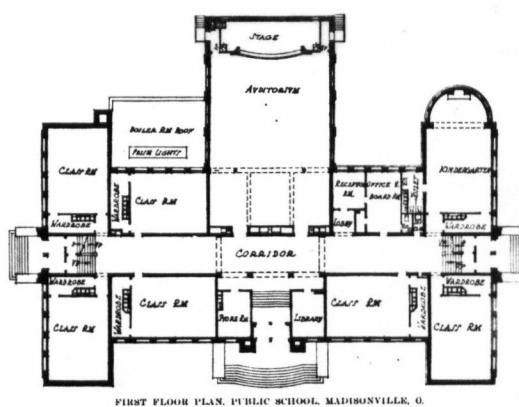
The openness of an institution, facilitated by easy access through a multiplicity of entrances into the building, is partly a sham. If one penetrates further into the building, one might encounter institutional barriers, which sharply limit access times to the gymnasium or the classrooms, for example. I shall discuss this in Section 4 on layout. By way of arbitrary examples, the Hawthorne School in Salt Lake City, Utah has 10 entrances (Figure 3-5, page 82). The more recent St. Thomas of Canterbury, Manchester, England has 12 entrances (Figure 3-9, page 83). The Belaire Elementary School, San Angelo, Texas has one separate entrance for each of its classrooms (Figure 3-6). In schools like these there is no rigid regulation of inside-outside interaction. Rather, there is a gradual transition from interior to exterior activity areas and hence to the surrounding community. At the same time the use of these activity areas is sharply defined during



Left, Figure 3-5. Hawthorne School
Right, Figure 3-6. Belaire School

business hours and often not extended beyond these.

The assembly hall or the auditorium is a place with a designated purpose of addressing and integrating the whole school-oriented community. In most schools these are near the centre of the structure but also close to the main entrance as, for example, in the Madisonville School, Ohio or the Rich Township High School in Illinois (see Figures 3-7 and 3-8)



Left, Figure 3-7. Madisonville School
Right, Figure 3-8. Rich Township School.

While the auditorium has a main social function of getting people together, the library, usually in a similar

location, centres more on the scholastic functions of the school community; its materials are mainly didactic.

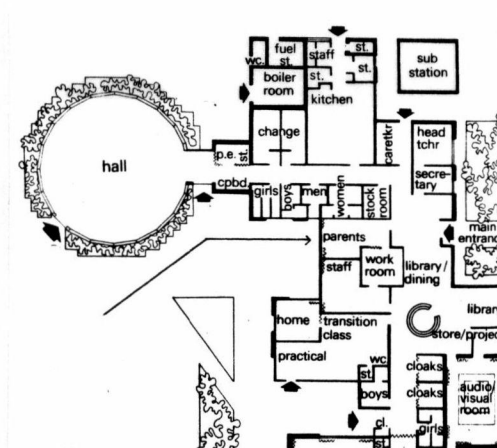


Figure 3-9. St. Thomas of Canterbury School, Manchester

Only rarely are places oriented towards parents. The St. Thomas of Canterbury School designates a special lounge to the parents of the children, who are thereby encouraged to partake in the school's activities and to assist the full-time personnel²⁴ (see Figure 3-9). At the Primary School at Compton, London, there is a parents' waiting room adjoining the nursery classrooms.

Even though most schools with a nursery or kindergarten do not make such definite provisions, they still maintain the proximity of beginners' classrooms to a side entrance. See, for example, the Madisonville School in Figure 3-7, page 82). This consideration acknowledges the strong ties between mothers and young children.

The administration office in a school usually is located near the main entrance and in its representative role serves to orient outside-inside interaction. Generally everybody has access to the school. Yet at most times

outside-inside interaction is oriented functionally towards specific class units. These units in turn draw upon the community for functional support of both the propaedeutic and integrative missions of a school.

4 The Layout of the Plan and the Designation of Places

Here I shall discuss the layout of the schoolhouse plan with respect to the integrative function of the school. I begin with a few general remarks on the distribution of non-designated and designated areas, depending on whether unconditional or specific integration is sought. I shall then focus on two different principles of organizing the available area.

4.1 General principles

When formal introduction to academic skills is dominant the area of a school plan is more likely to be subdivided into individually designated places, while open areas tend to disappear. The need then arises to connect and tie these individual classroom units into one whole. At the opposite extreme, where emphasis lies on socializing children, formal classrooms tend to disappear and teaching takes place in open classrooms.

Two extremes of these contrasting arrangements are the "city as a school" and the departmental high school. In the first case the institution refrains from marking an institutional territory. The richness of the educational experience arises from the richness of the surrounding

social system in which the school is administratively embedded.²⁵ In the second case the plan reveals a great number of individual units connect by corridors. The whole

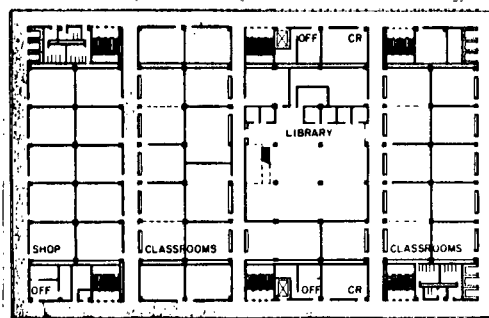
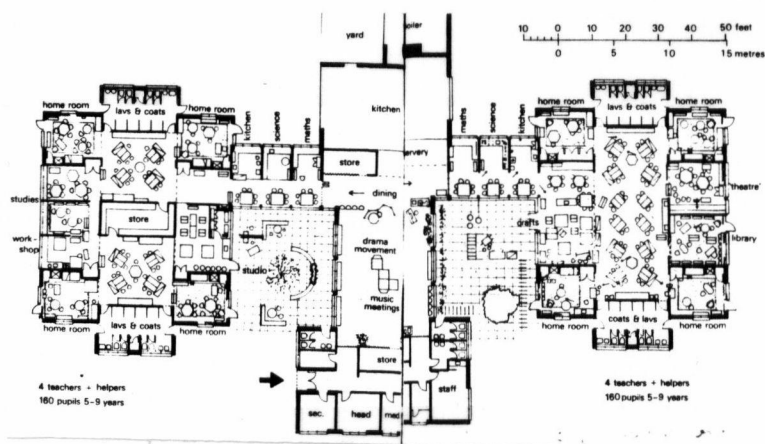


Figure 3-10. Martin Luther King, Jr., High School, second floor

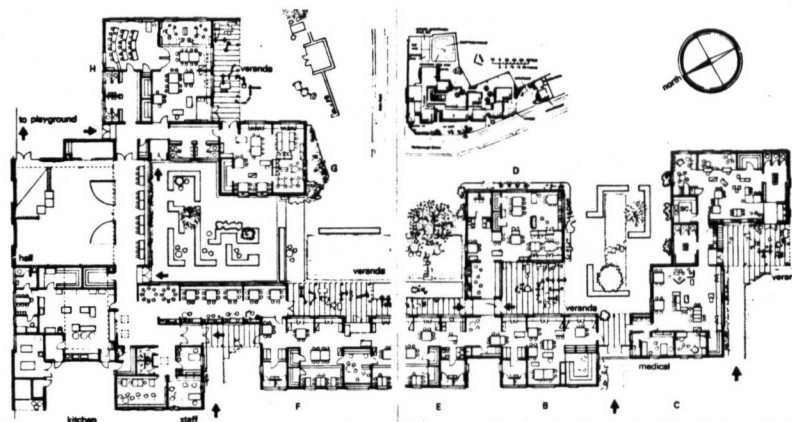
school is essentially defined by its network of corridors. These are mainly allocated to facilitate movement between the individual class units. See, for example, the Martin Luther King, Jr., High School, New York City (Figure 3-10).

The open plan school comes closest to the city as a school. In the Elementary School at Tampa, Florida (Figure 3-15, page 90), for example, only one-third of the available area is allocated to specific units. The rest is open activity area, usable at the discretion of the participants.²⁶ See here also the East Rochester School, New Hampshire (Figure 3-16, page 90) and the Brize Norton School in England (Figure 3-31, page 107).

In the Eynsham School, England a greater number of designated areas are located on the outside of the plan, leaving the central areas open as an activity zone. This zone is also the circulation system integrating the units into one whole²⁷ (see Figure 3-11, page 86).



Above, Figure 3-11. Eynsham School



Below, Figure 3-12. E. Lowe School

The Evelyn Lowe Primary School in London (see Figure 3-12) is subdivided into four major units: a nursery (A, C), a long wing for juniors (B, E, F, D), one for seniors (H, G), and a central hall with adjoining dining and staff rooms and a verandah. In this school, accordingly, activity spaces are more defined. The formal classroom places are differentiated into open and closed units; however, the latter are relatively few and integrated with the former through an angular corridor. This corridor is circulation system and activity space at the same time.

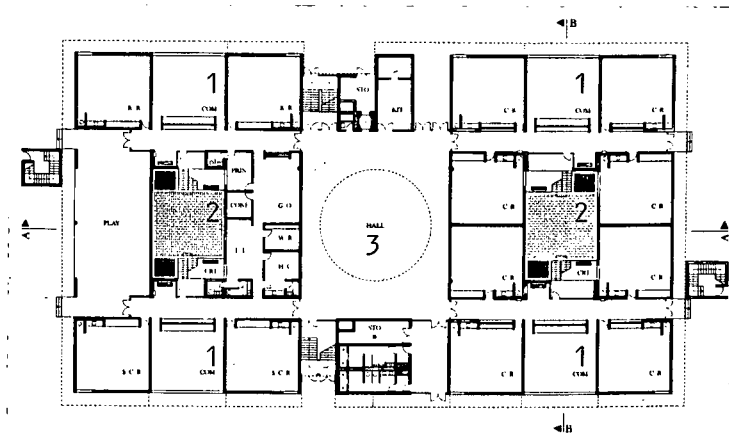


Figure 3-13. Cassady School

In the Cassady School, New Jersey, activity is separated into classrooms and a circulation system which ties these into a whole. Part of this system includes three different kinds of open places: the common rooms (1), the courtyards (2), and the community hall (3). The plan (see Figure 3-13) renders two major units on each of two levels grouped around an interior courtyard. Each of these units contains four classrooms and a common room. Here, within the majority of designated units, there is a diversity of, unfortunately separated, open spaces. These form part of the circulation system, which integrates all units within the school and the school with the outside community.²⁸

Finally, when looking at new plans for the Hillsdale High School (Figure 3-14, page 88), one finds most spaces enclosed and designated for an activity centering on teaching contents. The open areas are reduced to a central lobby and a grid system of corridors.

Sometimes the integrative orientation focuses more on specific parts; then the unrestricted openness of the plan

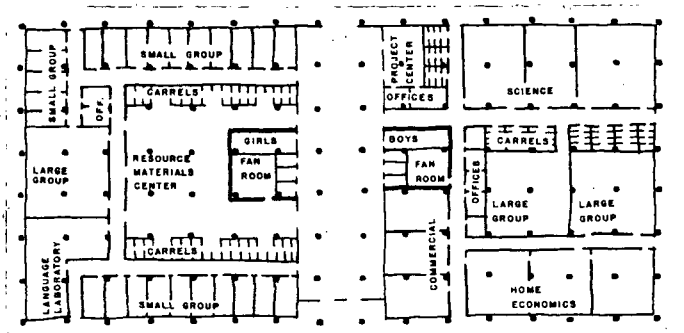


Figure 3-14. Hillsdale High School, new plan

is modified. Increasingly the conditions required by the specific parts determine the layout of the plan; it is, in turn subdivided into an increasing number of individual units. While the prison with its high concern for control compacts the activity units together, the differentiated school apparently expands them. However, the more that subunits are to be integrated, the greater the necessity for an independent circulation system.

The school plans discussed follow roughly a development from a general social integration to a specific scholastic integration. In the former, the layout is determined by not narrowly designating places to participants and putting little or no limit to their activities. In the latter, the plan is dominated by the special activity units with associated particular participants. That is, the traditional classroom system determines both the participants and the activities they should take part in. At the same time it limits the choice of participants as to what they shall do in the space.

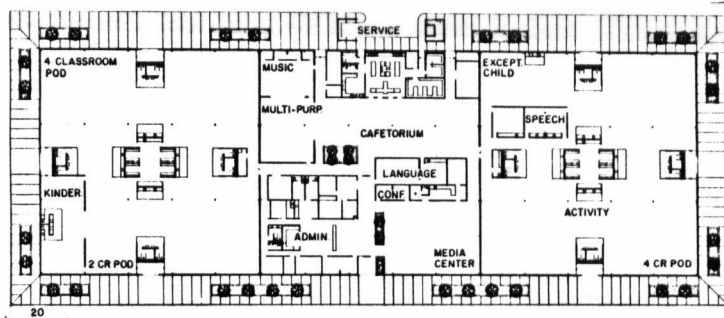
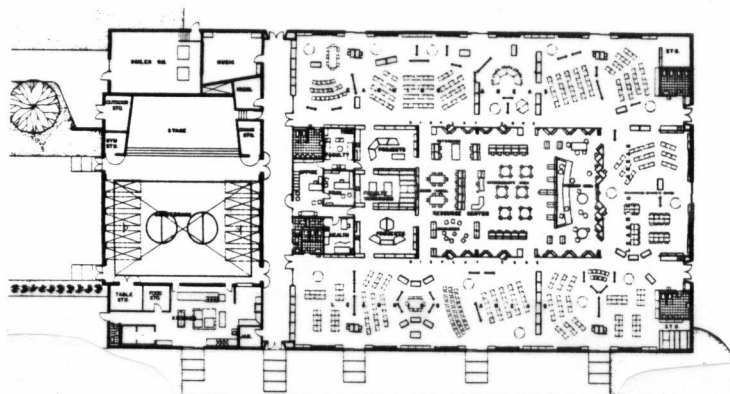
In the following I shall discuss these two principles -- social integration and scholastic integration -- with respect to specific core-places, specific support-places and

non-designated, open spaces. In the previous chapter I discussed core- and support-places in separate subsections; here I shall discuss them within the two subsections devoted to each of the pedagogical principles.

4.2 Social integration: differentiating the plan according to participants

When social integration is of prime concern, as it often is in primary schools, the goal is to integrate participants and refrain as much as possible from a constriction of their activities.²⁹ This is best realized in the open-plan school. There the work areas are learning zones, i.e., areas open to a mutltiplicity of activities and extending throughout a major part of the plan. The more enclosed areas are those which either house activities which would distract from the goal, such as noise from making music or eating, or which are essential to maintain the system, such as lavatories and administration, (see for example, the East Rochester School, New Hampshire, Figure 3-15, or the Bellamy Elementary School at Tampa, Florida, Figure 3-16, page 90). The resource centre takes a varying position: in Rochester it is centrally located and integrated into the primary activity zone; in the Bellamy plan it is more defined and can be considered a supporting unit.

This open-plan layout can suffer from a lack of orientation, as participants can not necessarily identify with a definite place. In partial compensation the Bellamy

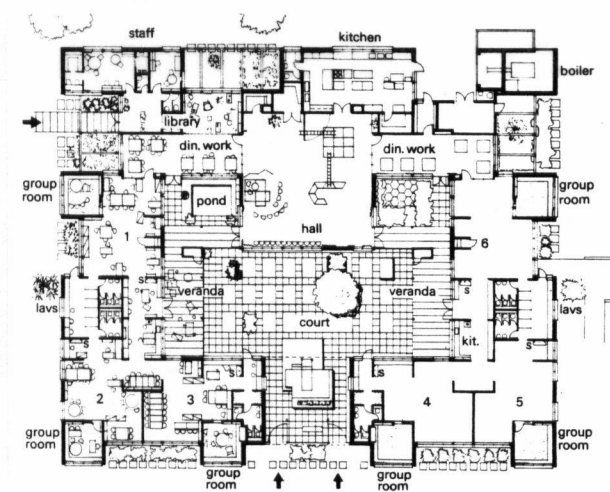
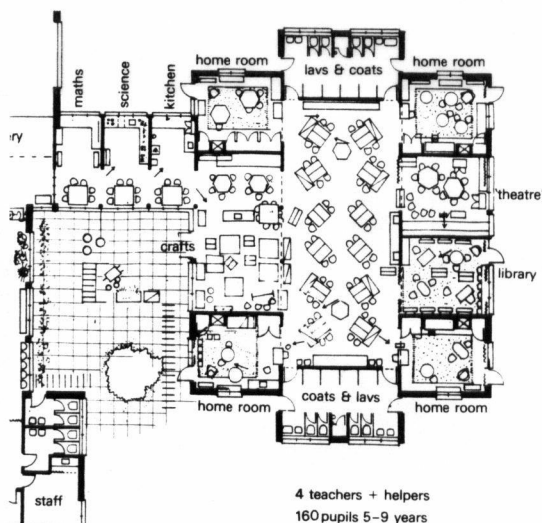


Top, Figure 3-15. East Rochester School
 Bottom, Figure 3-16. Bellamy School

School plan defines places for a kindergarten and for exceptional children. Compared with other layouts, the open plan school appears to lack core places. The open activity zones support many activities, with a few activities accommodated in special units.

On the other hand, the "home-base" model of the Eynsham School (see Figure 3-17, page 91) tries to create a feeling of belonging and to further a sense of responsibility in the children. At the same time the institution tries to remain open to a multiplicity of activities. Here the home rooms, assigned to a group of 40 pupils from the ages of 5-9, are the core places. In the home rooms there are family sessions at the beginning and end of each day. Then children discuss individual progress and difficulties.³⁰

From these places the children venture into the open activity space and the supporting special units, such as theatre or library. At Eynsham the core places are rather small and fulfill only the basic need for an orienting place with a minimum of structural coercion for the individual.



Left, Figure 3-17. Eynsham School
Right, Figure 3-18. F. Harrison School

In contrast in, the house plan -- for example the Fredrick Harrison Infants School in Stapleford, England (see Figure 3-18) -- each core place is expanded to contain a number of supporting places within its defining edges. Each group is assigned a subplace for general teaching and a homing area.³¹ Here the school plan starts to split up into less interdependent units. Integration between the houses of the participating groups is facilitated by short corridors, which also contain science bays. Furthermore the units are clustered around the central court, hall and dining facilities, which are the only open units not

allocated to a special group of participants. When definition of subgroups of participants becomes of a necessary concern, supporting units and open spaces are assimilated into the subunits the open plan integrating all participants is eventually replaced by the houseplan, which in effect constitutes an agglomeration of quasi-autonomous sub-units.

4.3 Scholastic Integration: differentiating the plan according to special activity units

Special activity units, though merely a small part of activity in the social integration, become the core of activities in some schools. The deciding parameters for the layout are the specific kind of activities that members should take part in. The multipurpose activity spaces, which were paramount in supporting the integration of participants, are de-emphasized in residual spaces or are designated as supporting functions, such as the cafeteria or the resource centre.

In the school at Nagele, Holland, institutional core activities are designated to classrooms (No. 1 in Figure 3-19, page 93). These retain a corner for group work as a support for activities not directly connected to classroom teaching (3). In this school the area in front of each classroom is a place for open group activity (11); this in turn is integrated into the circulation system leading to a central multipurpose room (2).³² Essentially there are two systems: an open circulation system supporting social

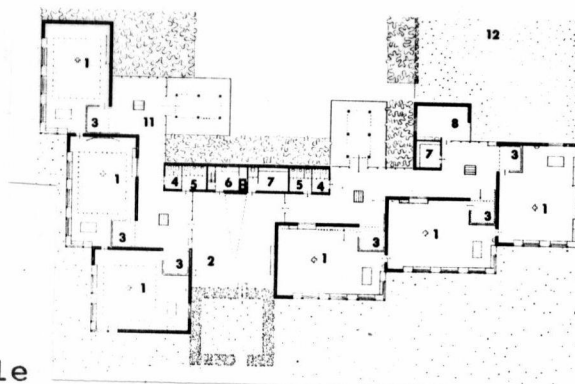


Figure 3-19. School at Nagele

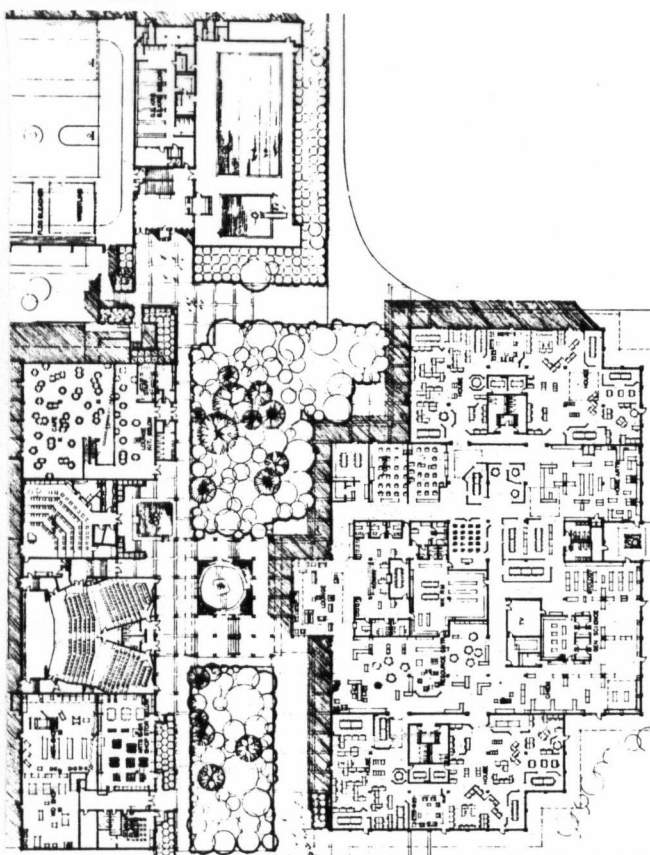
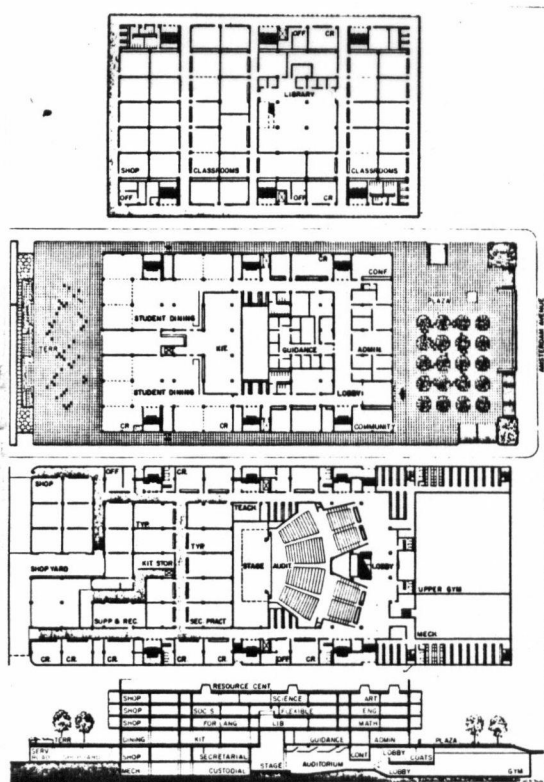
integration and an adjoining system of classrooms as independent units for teaching and learning. The Cassady School, previously mentioned, follows a similar layout (see Figure 3-13, page 87). However the Cassady School, with 28 classes, is much larger than Nagele. Nagele has only six classes and its major units are more separated from each other. Its social integrative units -- commonrooms, courtyards, community hall -- are only linked to the rest of the circulation and activities by bottleneck corridors and doorways, rendering them as separated units rather than part of the circulation system.

Once the focus of a school lies with specific academic activities, more units are necessary to allow a range of activities large enough to accommodate the concerns of most participants. For example, in the Martin Luther King, Jr., High School, New York City (see Figure 3-20, page 95), the layout shows a great number of places for the various group sizes. These places are repeated throughout the various departments, devoted to instruction of particular academic subjects in specific ways. Each department is a school in

the school, linked with the others by a system of corridors. There is a guidance centre in order to orient the participants within the system of specific activities. Therefore there are no open integrative places, other than the straight corridors, the lobby and to a degree the student dining area, which permits some informal activity. The auditorium, in a separately defined location and by virtue of its specialized form, provides only room for specific uses.

Places facilitating the scholastic integration are more enclosed in independent units. The bringing together of parts and participants is designated to a separate circulation system. If this system contains non-designated areas or residual space, it can support the integration of other than specified activities.

In order to clarify the point I would like to contrast the plan of the Martin Luther King, Jr., High School (Figure 3-20, page 95) with that of the Timberline High School (see Figure 3-21, page 95). The Timberline school follows the house system. The one big structure on the left side of the plan contains all houses with some supporting activity units, such as science or home arts rooms. A separate structure houses other supporting units such as music, auditorium, gymnasium and pool.³³ Here the core activity centres on integrating all participants of a group, regardless of the subjects there are to be taught. In contrast, at Martin Luther, the core activity centres on



Left, Figure 3-20. Martin Luther King, Jr., High School
 Right, Figure 3-21. Timberline High School

teaching the departmental subjects.

At Timberline, the supporting units for special activities are an extension of the general activity of the houses. At Martin Luther, most activities take place within the framework of the highly specialized places. Support takes the form of delegating participants to the various special units, by the guidance centre and by the administration.

At Timberline the circulation system is open and interrelated with the activities of the houses which it connects. At Martin Luther, the circulation system is closed and open activities are limited to the lobby and to

the student cafeteria.

4.4 The locus of power

The authority designates and supports the places supplied by the plan. Specifically, it manages a working organisation, bringing together physical parts and participants.

In the traditional classroom system the authority is intimately married to the various activity units. Each of the teachers has authority over his classroom; his presence is asserted by his desk.³⁴ This view of the centrality of the teacher's and administrator's authority is supported when the teachers' room and principal's office are in the midst of and immediately adjacent to classrooms and away from the entrances. This is illustrated by their second floor location in the Lyon School, Saint Louis, Missouri (see Figure 3-22).

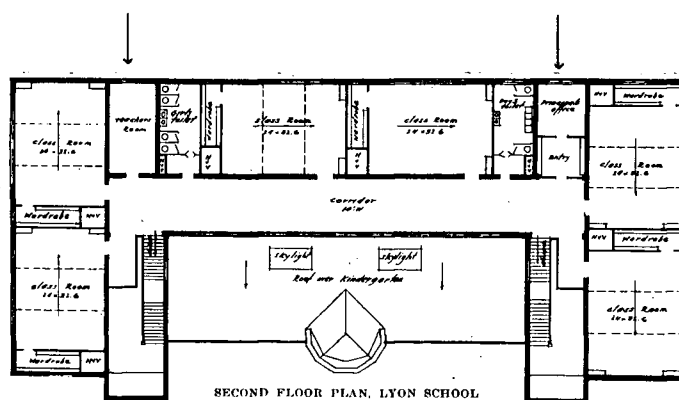


Figure 3-22. Lyon School

An alternative view is for the principal to give more authority to teachers. In such instances the principal's authority tends to merge into supporting administration. Then his office need no longer be embedded among teaching

spaces. See, for example, the open-plan Elementary School at Tampa, Florida (Figure 3-16, page 90), or the Martin Luther King, Jr., High School, New York City (Figure 3-20, page 95). In such places the major function of the administration is to facilitate change of activities and goals, to perform public relations, to help orient individuals, to "iron out the bugs" and to remove barriers between the different parts.³⁵ To facilitate these functions the administration is a concentrated unit, closely connected to the entrance and the circulation system. See, for example, the plan of the Timberline High School (Figure 3-21), the similar location, yet different relation to other units in the Martin Luther King, Jr., High School (Figure 3-20) or the plan of the Cassady School (Figure 3-13, page 87).

Openness and flexibility between different activities appears associated with a separation of directing administration offices from the area of activity units. It further appears to favour such offices as a general support to which participants can turn if need be.

4.5 Summary of this section

The social integrative orientation assigns places to groups of members. As this goal becomes more pronounced, the designated places encompass more of the available area with more defined unit spaces. Scholastic integration assigns places to specific activities. The greater the number of specific units, the less room there is for

unspecified activities and the more specialized becomes the circulation system that ties specialized places together. As schools take on the responsibility of deciding what is good to take part in and who should participate, their goals become increasingly specific. When the integration of parts gets more specific, the plans correspondingly show a diminishing amount of open space for unconditional integration.

When new schools are built, places are designed to facilitate their designated roles as well as possible. Yet, the most open schoolhouse will only be partially successful if its participating actors cannot relate to the designations of places. Or, in the opposite way, not specifically designed buildings can integrate their participants and activities, if places are used in flexible and multi-functional ways.

The best school, architecturally, that I ever saw or worked in was not designed as a school at all. It was the Commonwealth School in Boston... the building... is full of "wasted" space, "unusable" space -- stairs, stair landings, little corridors, closets, bathrooms....a great deal of the most important intellectual and social life of the school goes on in them...One student filled a bathtub with cushions and made that her reading and study space.³⁶

5 Paths and the Orientation of Institutional Activity

In this section I shall discuss paths as a system of orientation in schools, both for physical access and to encourage participation:

... the more active approach to learning...expressed itself in the urgent need for more floorspace...satisfied simply by opening the classroom doors and letting out the children into neighbouring corridors...³⁷

As the activity units in a school become more numerous and specific, physical access becomes more salient than the participation function.

At the Eynsham School (Figure 3-17, page 91) paths are little-defined and the flow of activity is relatively open. Apart from two short corridors connecting the two major units of the school with the central hall, no barriers are set up to channel or direct activity; the pupils are free to interact in the central activity space. The Evelyn Lowe School (Figure 3-24, page 101) grants similar freedom, yet shows a linear organisation in contrast to the central one at Eynsham. At the Evelyn Lowe School, the individual is progressively exposed to a series of activities, while in the latter, participants are surrounded by the activities. In both these cases, however, paths are multifunctional and intimately connected with interrelated activity bays or units.

In the Cassady School, New Jersey (Figure 3-13, page 87), the system of paths promotes passage between specific units, but the paths do not specifically serve to expose the pedestrians to adjoining activity units.

When the activities in the school are specifically selected and defined, paths are increasingly used just for

locomotion. They no longer assist participants in becoming incidentally acquainted with each other and with the peripheral activities they pass. The organisational schedule tends to be fixed with respect to activities, places and participants. Pedestrian circulation is planned on the basis of a destination orientation rather than on an encounter orientation. See, for example, the Martin Luther King, Jr., High School (Figure 3-20, page 95), where the grid system of paths aims at circulation efficiency and spatial order.

In the open plan schools, paths are laid out to facilitate and stimulate exploration of all ongoing activities. When the scholastic function is more dominant, paths are laid out in terms of participants' needs to move between specific destinations.

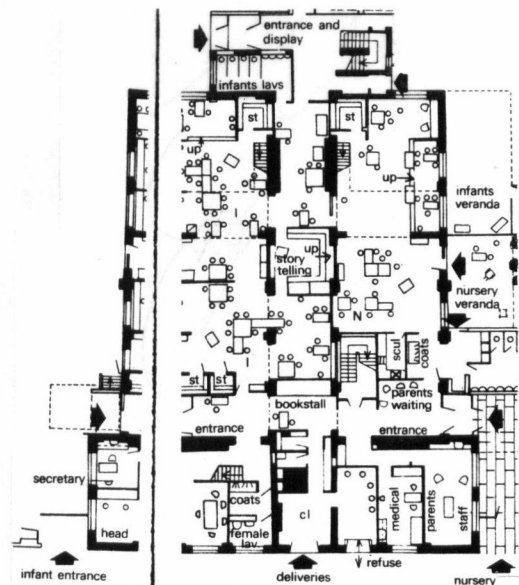


Figure 3-23. Compton School

To adapt the paths of the traditional classroom system to the idea of free exploration, "the central corridor can

be opened up by simply removing corridor walls."³⁸ See, for example, the remodelled Primary School at Compton, England (Figure 3-23, page 100). There the paths are not only a transportation system, but also an interpenetrative system on the principle of osmosis.³⁹ In the East Rochester Elementary School (Figure 3-15, page 90) the open plan does not define any permanent paths. Rather, paths are a result of the arrangement of furniture. Exposure to and separation of integrated paths is flexible and not defined by the building structure. At the Evelyn Lowe School, London, England (Figure 3-24, page ..), the walls defining the corridors are perpendicular to the direction of motion, rendering the corridors rather as a series of gateways between activity places. Here the pedestrian is exposed to the activities in the adjoining bays. The small corridors at the Harrison Infants School (Figure 3-18, page 91) follow a similar principle.

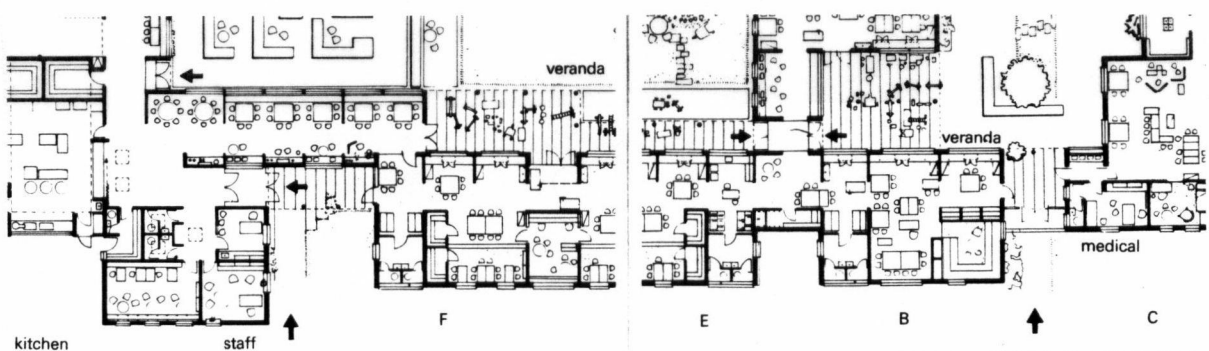
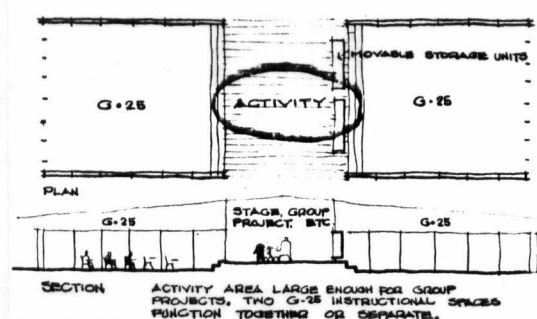
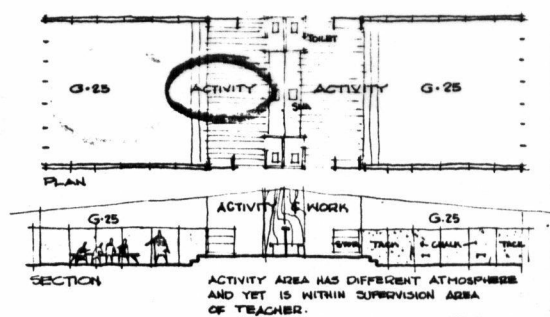


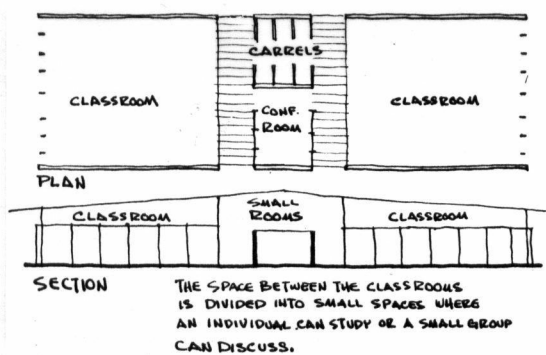
Figure 3-24. Evelyn Lowe School

The multiple use of corridors is more differentiated in the Saginaw School, Michigan. Here the space between two rows of classrooms is divided in the middle to supply

project areas for the fifth grade (Figure 3-25, page 102). In the sixth grade the same space is left open to facilitate team teaching (Figure 3-26). In the seventh and eighth grades, the common space is given over to individual study rooms, responding to the need for more specialized studies (Figure 3-27). In this school the character of paths relates to the integration of specific activities, ranging from a mere definition of territory for fifth graders to a facilitation of scholastic activities among seventh and eighth graders.⁴⁰



Figures 3-25, 26, 27.
Saginaw School, sections
clockwise fifth, sixth,
and eighth grades



In a small school near Zurich, Switzerland (Figure 3-28, page 103), the paths connecting the units in a split-level plan can also be used as an auditorium. At the Harrison school (Figure 3-18, page 91) and at the Evelyn Lowe School (Figure 3-24, page 101), the dining areas are part of the paths and an indication of their multifunctional uses.

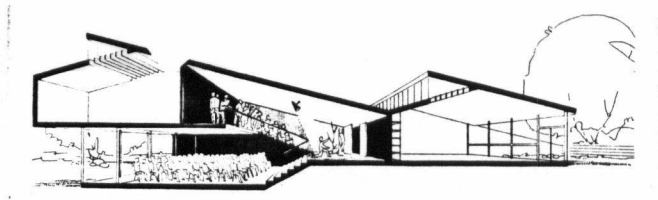


Figure 3-28. School near Zurich

Residual space can be seen as an encouragement for undefined activities. Even though the layout of the Nagele School (Figure 3-19, page 93) facilitates a classroom organisation, there is ample residual space in the group activity areas. These are part of the circulation system and give place to unscheduled activities flowing in and out of classrooms. In the first layout of the Hillsdale High School, San Mateo, California (Figure 3-29), the wall panels of the corridor follow a zig-zag pattern. This provides additional space in front of classrooms, establishes an identity of place and adds a more pleasant view, to the otherwise straight corridors.⁴¹ In the more defined



Figure 3-29. Hillsdale High School, old plan layouts, residual places or multifunctional designations facilitate similar intentions. However, with an increase in units and specific designations, paths are increasingly

limited to locomotion.

In principle there should be no double tracking, no separation of paths for various groups of participants, as the function of paths should be to bring participants together. In practice, however, the numerous entrances into the circulation system can stratify participants entering and exiting from the system at different points without being exposed to other than their own classmates. See, for example, the Evelyn Lowe School (Figures 3-24, page 101) or the Compton Primary School (Figure 3-23). Even though all participants in principle have access to all parts, and even though parts eventually meet in the central supporting units, there is still a differentiation of sections within these three schools. Especially at Evelyn Lowe the stratification is reinforced, as the sections are separated by exterior vestibules. At the Eynsham School (Figure 3-11, page 86) all activities converge in the central spaces, which are integrated with one hall between them. More or less the same thing occurs in the open plan at Tampa, Florida, or Rochester, New Hampshire (Figures 3-16 and 3-15). The stratification on paths in the school does not entail complete separation of those with power and those without, which characterizes some prisons. However through the length of paths and the many entrances, a stratification into different groups seems apparent as, for example, in the Evelyn Lowe School (Figure 3-12 and 3-24).

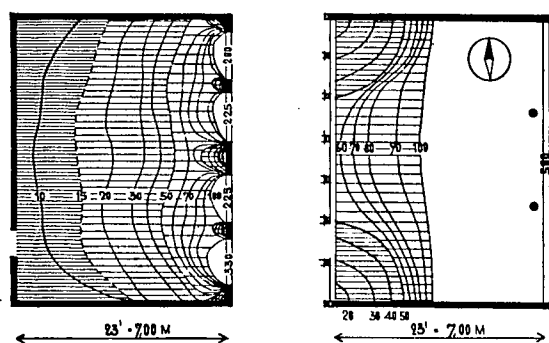
One problem of paths in the school is distance:

And the corridors, they're just too long and you practically should have a card to travel from one part of the building to the next. My older brother, he's in the sixth grade, and it's like he's across the country from me. I never see him except when school is out. Then everyone wakes up.⁴²

Inside paths in the school plan may be laid out to bring together activity units and their participants; scale sets a limit to this endeavour. If the number of units or the number of participants gets too big, size considerations will lead to a stratification of the integrated parts. Furthermore, stairs are an obstacle for the child, which sharply delimits vertical integration within the school organisation.⁴³ Some elementary schools are of a split level type to diminish the vertical segregation characterizing school buildings of two or more storeys.

6 The Edges Defining the Activity Units

In the traditional classroom system the ideas about who should participate in what kind of activity were rather set. There the defining edges linked participants more with exterior nature than with others inside. The viewpoint was that each classroom should provide a view of natural green, fresh air and natural light, preferably from two sides.⁴⁴ See, for example, the school near Zurich (Figure 3-28 and 3-33, page 103). There the walls integrate the students with the natural environment, but they also separate them from each other. For sufficient natural lighting, the average



Daylight contours in foot candles for conventional (left) and modern classroom with bilateral lighting (right). Minimum required 30 ft.c.

Figure 3-30. Daylight contours

26-30 foot wide classroom requires windows, an additional outside wall, or a clerestorey, for skylights. Light from one side wall will only illuminate half of the area with more than the required 30 footcandles. This varies, though, with the size of windows, the height and the colour of the walls⁴⁵ (see figure 3-30). These required conditions severely limit the possible dimensions of classrooms and the possibility of connecting or adding units horizontally or vertically. With the open school concept, the idea of exposing participants to each other gained in importance relative to the rather rudimentary exposure to the natural environment.⁴⁷ There also occurred a change in building codes, as now artificial lighting and air conditioning could substitute for natural sources of light and ventilation.⁴⁷

The principle of the flexible edges in the open plan can be illustrated by the plan of the small Brize Norton Primary School in England (see Figure 3-31, page 107). Furnishings define areas without creating unmovable edges. A carpet defines a comfortable area and a chalkboard, a demonstration area. Yet the same places could be used differently at another time. Places and roles of

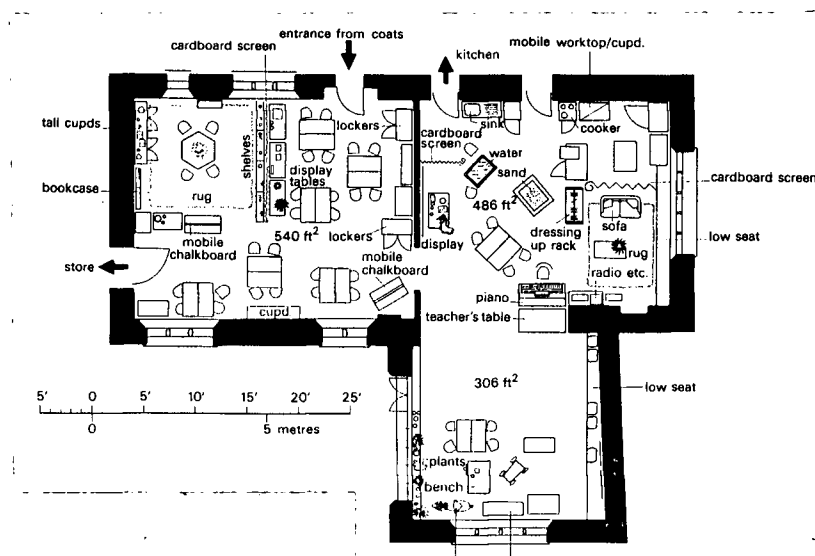


Figure 3-31. Brize Norton School

participants are flexible.

One problem in the open-plan school design is control of noise. Yet in the traditional classroom, too, any noise is relatively noticeable due to the norm of silence. Research on noise levels in open-plan schools and traditional classrooms schools supports this notion. Noise is equally noticeable in traditional classrooms and in open-plan schools. In both kinds of environment roughly half of those noticing noise find it distracting.⁴⁸ Nevertheless, noise reduction has been more of an issue in the open-plan school; therefore, music, shops, and cafeterias are isolated from the rest of the units. In addition to absorbent ceilings and carpets, air-conditioning may be used to mask distracting sounds with the "white noise" of droning fans.⁴⁹ Then equal opportunity results in an equal disadvantage. Loud participants are drowned out by the hum-

drum of the ventilators, while the still ones must learn to live with the drone.⁵¹

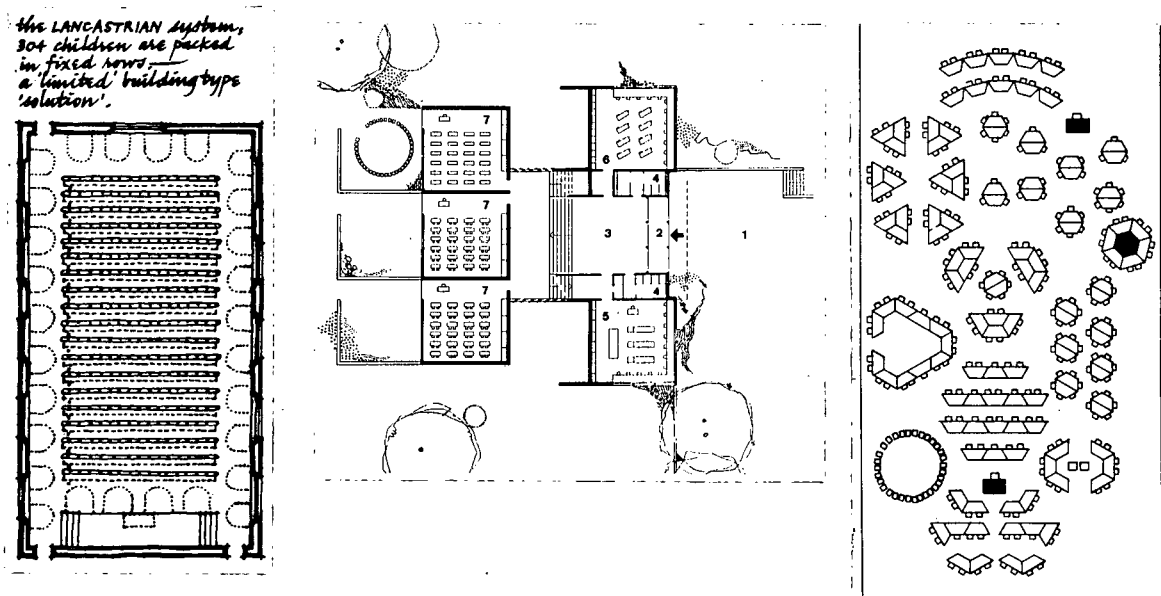
The open-plan is based on the flexibility and permeability of edges. The corresponding social organisation promotes opportunity for students to adapt and participate. It entails also a shift in the role of teachers from authority to organizers.⁵¹

In the classroom, roles and positions are defined by custom and design.⁵² The traditional rectangular classroom supports a view of the student as an empty organism, which is to be conditioned to the "right" responses, much like Pavlov's dogs. "It was no accident that the materials and methods of instruction and the form of the classroom were teacher-centred."⁵³ See here, for example, the Lancastrian system, wherein 304 children were packed into fixed rows (Figure 3-32, page 109).

In the 1930s Gestalt psychology pointed to the need to relate stimuli to a configuration of gestalt. The infant was no longer empty, but full of needs, values, persuasions and projections. The child was seen as an "active learner", striving to give form to its world, inside and outside. The directional rectangle was replaced by the square.

The teacher-centred classroom became the pupil centred classroom...[furniture]...could be shifted at will according not only to the requirements of the teacher but, even more important, to the needs of the pupil...⁵⁴

Practically, though, the traditional system of the



Left, Figure 3-32. Lancastrian system
 Middle, Figure 3-33. School near Zurich
 Right, Figure 3-34. Trapezoidal furniture

directional classroom was still a powerful image.

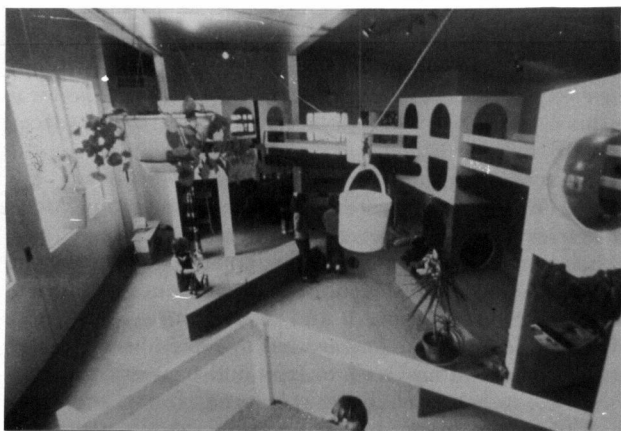
The wall with the chalk board is designated the front of the room (many teachers don't recognize that this needn't be the case...The notion that there is a "front of the class" and the authoritarian mode of delivering knowledge received from above to students who are below -- both go together.⁵⁵

See for example the architect's rendering of the floorplans for the school near Zurich (Figure 3-33), where square classrooms are furnished rectangularly.

The next shift came with the use of different furniture to realize the multidirectional potential of the square classroom. Tables in such classrooms are trapezoidal and can be arranged to form a polygon (Figure 3-34). The corresponding philosophy sees the child as a social organism, each person in the classroom being a stimulus to

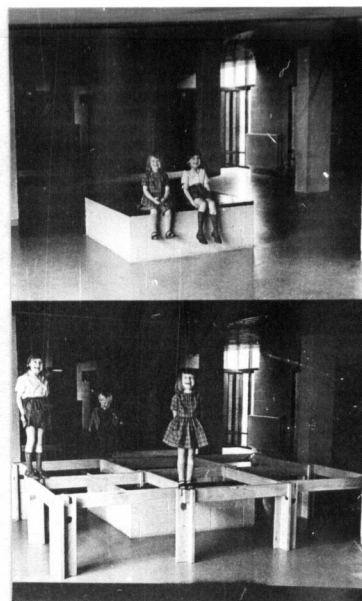
every other person. Students now would be learning as much from each other as from the teacher. Thus everybody faced everybody.⁵⁶

In the open classroom the child can explore the environment as a problem finding and stimulus seeking organism. The edges of the activity units should not direct but facilitate exploration. Curtis and Smith, in their



Above, Figure 3-35. Mother of God Academy

Right, Figure 3-36. Montessori school



project for the Mother of God Academy in Stamford, Connecticut (Figure 3-35), have replaced the one level classroom by a multilevel three-dimensional structure of towers and catwalks enclosed in acrylic.

In such a classroom the teacher does not have to function as the "director" of the children and the program but has to establish a different role...Math took on a new dimension now that it could be learned sitting high up in a tower or lying flat on on a velvety, carpeted catwalk.⁵⁷

In the "city as a school" there are no institutional boundaries; the limitations or the richness of the

integrated parts is not derived from institutional goals but is more or less identical with the social reality.⁵⁸ The idea in the open school is to bring the individual together with as many others as possible and to remove edges that might inhibit participants in their exploration of activities. Openness of the plan can stimulate, but it can also inhibit by being disorienting. "Without features, landmarks or objects, our surroundings became bland, sterile, unprovocative and unevocative."⁵⁹ In the Montessori School, Delft, Holland (see Figure 3-36, page 110), a concrete block sits right in the middle of the central hall. Hertzberger, the architect, says that the concrete block is essential, as:

Flexibility leaves every theoretical possibility open, in the sense that nothing is a priori excluded but, on the other hand, it does not initiate anything either.⁶⁰

Edges define the places for roles which participants are expected to assume. In the traditional classroom system and also in the departmental high school, the roles are set and edges keep activities inside the units. In the open-plan school, various roles are tried out by the students. The edges are movable and encourage exploration, but they have to provide a background to orient exploration.

Gradually the child learns, however, to distinguish between stable and mobile objects, and to use the former as a frame of reference for the latter. The development of the concept of place, and of space as a system of places is therefore a necessary condition for finding an existential foothold.⁶¹

7 Summary

The school is the place where children are assisted in finding social and academic footholds. The institution has policies and intentions concerning the conditions which produce more valued results. The building plan sets these intentions in place.

It often does so by being located in the middle of the neighbourhood and by keeping its boundaries open. In a layout where an integrative orientation is specified, places in the plan are designed to bring participants or activities together. However, when more specific academic goals are formulated, these determine school layout toward single function subplaces, with little space allowed for informal or occasional exchange.

According to a focus on serial integration of child development, paths are laid out to facilitate exploration and orientation. However, more specific academic goals will demand more definite paths in order to regulate flow between classes.

The school, especially the elementary school, has increasingly taken on the role of the home and the family socialisation. The more time children spend in such schools, the more these schools attempt to be a substitute for home. For home.

...if I could build a new school, I'd make it pleasant-like... I'd have us sit around a table, and maybe we could have cookies. I'd have the teacher be better. She could laugh a lot, and there wouldn't be a clock up there, making noise

every minute that goes by... You know what? I'd like to be able to take off my shoes and relax. The floor is so cold, you can't do that now... [in the new school you]... Just look up and see the sky and the clouds and the sun...and you'd like it better, being in school.⁶²

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CHAPTER 4

OFFICES AND THE PRESTIGE VALUE

1 Introduction

In the two preceding chapters organisations were categorized in terms of a general predisposition to control or to integrate. Activity was either generally inhibited or encouraged. Here in this chapter the defining orientation is posited in terms of prestige hierarchy. Activity is seen as the interrelation between hierarchical positions.

There are many examples of social organisations with a pronounced hierarchy for regulating organisational processes from input of raw material to the final delivery of a product. However not all organisations rely solely on a hierarchy for control. For example, in a manufacturing process, the finished product is partly a result of established routines and may be rather independent of the positions of those that produce it. In an office, the finished product -- information or service -- depends partly on the discretion and position of the managing officials.

For example, information passed out by a section supervisor will usually have less weight than that passed by a department manager, if only because of differences in the scope of their responsibilities and concerns. In the following pages I shall discuss office plans in relation to the hierarchy of prestige positions.

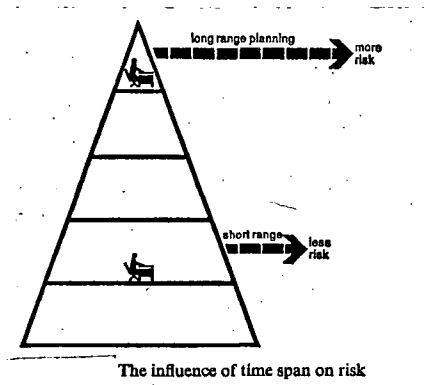
These positions were little differentiated in the time of the industrial revolution. Clerical work was considered of little importance, as it did not render any direct profits. Offices were dark and gloomy places directly connected to factories or service centres.¹ With the growth of industrialisation and vertical and horizontal integration of corporations, the simple production or service centre became increasingly interwoven with other centres and other processes in the social system. The free enterprise was tied by regulations to the state, by capital to the financiers, and through the market mechanisms to suppliers, buyers, workers, shipping agents, etc. This led to an increase in management and administrative tasks, which gradually became indispensable to any major enterprise.²

Office tasks evolved around the receiving, recording, arranging, giving and safeguarding of information, transactions, plans and directives.³ Numerous inventions have made data processing easier, such as the typewriter or electronic data processing machines. The workflow between the various positions in paper assembly-lines has been studied and streamlined by efficiency experts.⁴

The population of office workers has been steadily increasing relative to the rest of the workforce. Industry is increasingly dependent on sophisticated management skills and on the data and data processing technology which support these skills.⁵ The simple seat-of-the-pants, off-the-top-of-the-head management and accounting techniques of the early industrial age have turned into sophisticated operations. Today "...the office is the peak of a pyramid of work and money and decision."⁶

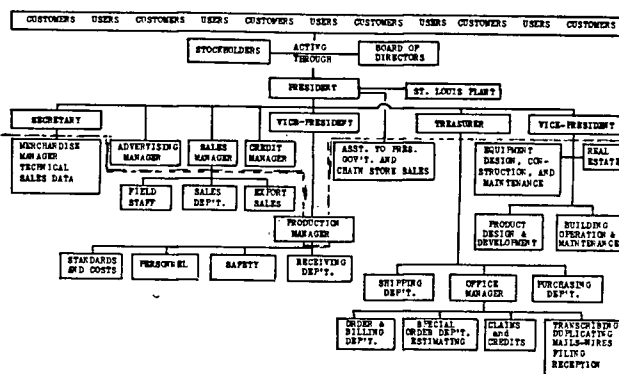
In present day organisations the functional processing of data is combined with decision making to direct the processes of the whole corporate enterprise. Roles, therefore, contain both a functional aspect, referring to the division of labour, and a scalar aspect, referring to super- and subordination.⁷ Functional importance is measured on the basis of skills and efficiency in performing prescribed activities. Scalar importance refers to the responsibility and risk involved with discretionary activities (see Figure 4-1, page 121). In this chapter I shall focus more on scalar importance, based on the power to delegate tasks to others and to retain discretion in decision making. Scalar importance refers to the right to take initiative and the obligation to report to superiors.⁸

As an official advances up the hierarchy, prescribed activities are increasingly replaced by discretionary ones. However, there is a fundamental difference between the line-



THE COMPANY ORGANIZATION CHART

Oxford Filing Supply Company



This chart shows lines of authority. It does not attempt to show lines of contact. In the transaction of business, there must necessarily be contacts, by each department or division of the company, with practically all other departments. All departments and individuals must work together as a team.

Left, Figure 4-1. Decisions and risks

Right, Figure 4-2. Organisation chart

executives and the rest of the staff and staff executives.

Nobody in particular seems to exercise "the authority", and yet authority is exercised, and we can identify people who do not participate in its exercise.⁹

Line executives are those who supervise activities that contribute directly to the profits of the company, while staff executives are those who contribute indirectly by providing services or advice to the line organisation.¹⁰

With the dotted line in the organisation chart of the Oxford Filing Supply Company, I have illustrated this differentiation graphically (see Figure 4-2).

In the following sections I shall discuss the prestige hierarchy in the office. Prestige I shall understand to mean the power "to influence", or "a reputation based on high achievement".¹¹ Specifically, persons with high prestige are:

- 1) an object of admiration;
- 2) an object of deference to which others will yield with courtesy;
- 3) an object of imitation;
- 4) a source of suggestion, "in that the ideas they express are accepted more readily than the same ideas expressed by others", and
- 5) finally they are a centre of attraction as prestige is contagious. "Those who associate with people of high prestige participate in that prestige."¹²

On the basis of these five characteristics I shall elaborate on the effect of prestige, as the power to influence, on concrete office plans. It is one characteristic of physical places to identify prestige in people. Conversely the occupied place becomes associated with the position of the occupant. For example, the president's office conveys a certain prestige, regardless of the presence of the president. The prestige hierarchy is established according to the breadth of responsibilities. Plans set this hierarchy in place, following as closely as possible the positions as defined in the organisational chart.

In the following sections I will discuss office plans with respect to defining places and positions and their prestige content in relation to each other. The sections will refer to the same conditions in plans as elaborated on in the chapters on prisons and schools:

Section 2. The selection of location responding to prestige concerns;

Section 3. The building shell and its boundaries;

Section 4. The layout of office plans and the designation of places to facilitate the delegation of power and execution of tasks;

Section 5. The paths facilitating the hierarchical processes;

Section 6. The edges defining and embellishing the individual work-station;

Section 7. Summary of this chapter.

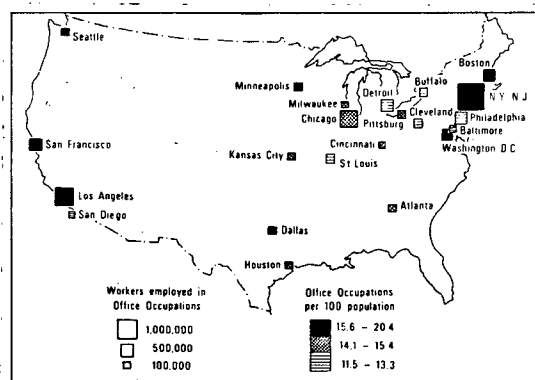
2 The Location of the Office

In selecting the appropriate geographic location for a new office building, two considerations are decisive: the internal corporate processes and the external context within which the corporation operates.¹³ The former predominate, for example, in the pure industrial office, when office location is predetermined to be close to the manufacturing plant. A similar case is the office of local sales-representatives, which will properly be located in the area they attend to. In both cases, prestige considerations have only secondary bearing on geographic site selection.

In contrast is the location of head offices where the external context becomes important. In a head office the corporation competes with others for a share of a certain business volume. Not to be at the "right place" means to be

left out, when clients are calling. Therefore there is a tendency for headoffices to cluster geographically in a few large cities. This is reflected in the fact that on a national scale in the United States, a few cities share a high concentration of office employees (see Figure 4-3).

Figure 4-3. Office employment in the United States



Office Employment in Metropolitan Areas with Over 1 Million Population, United States—1960

On a metropolitan scale the Central Business District is the favorite location for office buildings, especially those of financing, insurance or government organisations. In research on "Reasons for Being in Downtown Vancouver", corporations most frequently mentioned the contact with external organisations, the centrality of location, the general convenience and the prestige of being downtown¹⁴ (see Table 4-1, page 125). Essentially these reasons underline the wish to be close and to be considered close to the centre of things. The closeness to impressive corporations, the giants, will enhance their own reputation.

A central location renders advantages from agglomeration economics; the proximity to metropolitan amenities will be considered as an attraction by staff and

REASONS GIVEN FOR BEING DOWNTOWN: PERCENTAGE OF FIRMS BY GROUPED S.I.C.

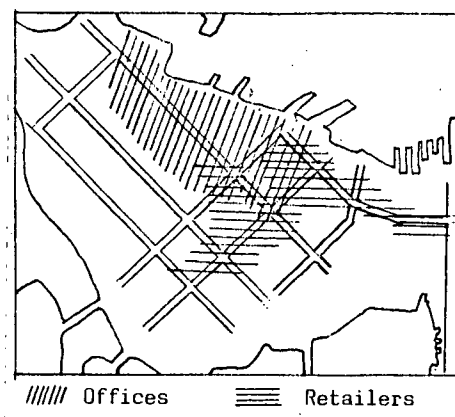
REASONS GIVEN	METAL AND MINING	FORESTRY AND PAPER	ELECTRONIC COMMUNICATION	BANKING	CREDIT - SECURITY DEALERS, ETC.	INSURANCE	REAL ESTATE	ADVERTISING	BUSINESS SERVICES	MEDICAL	LEGAL	MISC. ENG., ARCH., ETC.	FEDERAL GOVERNMENT	PROVINCIAL GOVERNMENT	MANUFACTURER AGENTS	TRANSPORTATION	LARGE SINGLE OFFICES	TOTAL NUMBER OF FIRMS	REASON GIVEN
Contact with external firms & organizations	67	33	100	67	67	100	100	50	67	50	100	67	33	67	50	67	*	32	
Contact with internal departments	*	*	*	67	*	*	*	*	*	*	33	*	33	33	*	33	*	6	
Contact with parent & associate companies	33	*	100	33	33	33	*	50	*	*	*	*	*	*	*	*	*	7	
Supply of staff	*	*	*	67	33	*	*	*	*	*	*	33	*	*	*	33	50	7	
Tradition	*	*	100	33	*	*	*	*	*	*	*	67	33	50	*	25	9		
Prestige	33	33	*	100	*	*	33	80	33	50	*	*	*	*	50	33	50	13	
Contact with federal government	*	*	*	33	*	*	*	*	*	*	*	33	*	*	33	*	3		
Contact with provincial government	33	*	*	*	33	*	*	*	*	33	*	*	33	*	*	*	4		
Proximity to hotels, restaurants, clubs, etc.	*	33	*	67	*	33	*	33	50	*	*	*	33	*	*	*	7		
General Convenience	33	*	100	33	*	*	*	33	50	67	67	*	67	100	33	50	18		
Centrality of location	33	33	*	33	100	33	*	33	67	100	33	*	33	67	*	33	50	19	
External company policy	33	*	*	67	*	33	*	*	*	*	*	67	67	*	33	*	9		
Ownership of building	*	*	*	33	*	33	*	*	*	*	*	*	33	*	67	25	6		
Inertia	*	*	*	*	*	*	*	*	*	*	33	*	*	*	*	25	2		
No reason/no good reason	*	*	*	*	*	33	*	*	*	*	33	*	*	*	*	*	2		
CONSIDER IT ESSENTIAL TO BE DOWNTOWN	33	33	100	100	*	100	33	*	33	100	67	*	33	*	50	67	*	19	

Note: percentages refer to low absolute numbers of firms from the sample.

Table 4-1. Reasons for being downtown

clients.¹⁵ The giant corporations agglomerate in the business district, followed by a number of smaller service or supply firms, such as barristers, consultants, accountants, stockbrokers, data processing firms, printers, messengers, lunchrooms, etc. In the central business district these services are readily available. Distance from the agglomeration is likely to result in delays, higher costs, in-house services, and a weakening of the competitive position and reputation. The New York Stock Exchange requires every prospective member to open an office in the downtown Manhattan area.¹⁶ Prestige requires participation, in order to maintain reputation and influence. The downtown location brings the office close to public transportation, to commercial and short-time recreational facilities. This helps to attract and keep valuable and loyal staff; it also provides additional attraction to out-of-town visitors.¹⁷

Figure 4-4. Office and retail location in downtown Vancouver



However a map plotting office and retail offices in downtown Vancouver shows that the two only adjoin. Prestige is not necessarily enhanced by the hustle and bustle of retail facilities (see Figure 4-4). Lately though, retail outlets are located in the office district, to liven the often desolate streetscape (see Figure 4-33, page 149).

The concentration of offices within a defined area also facilitates associations and the sharing of information on the executive level. Despite the numerous communication media, reputable administrators still like to meet with peers on a face-to-face level.¹⁸ There is the need to know another person's attitudinal position on many issues in order to predict the action he may take in any situation.¹⁹

For some companies it is essential to be downtown and they are willing to pay the high land prices and the resulting high rents. Others look for alternatives.²⁰ Office parks try to offer one such alternative on the basis of lower land prices and more space to expand the premises if need be.²¹ Basically they are a speculative enterprise and try to create a nucleus for the development of a new

peripheral business district, with power to impress similar to that of downtown. Their success and failure is strongly influenced by how many important companies will choose to locate in such office parks.

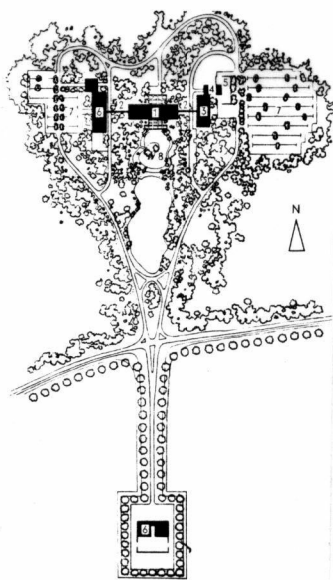


Figure 4-5.
John Deere Co.



Figure 4-6.
Baroque castle

In the suburban office, the corporation displays high achievement by occupying a site of more quieting amenities. Here prosperity is not the demonstration of power to compete, but power to afford not to compete. The iconic message is not the phallic tower downtown, but the princely residence among conspicuous prestigious lawns, well tended by gardeners²² (see Figure 4-5, the John Deere Company, Moline, Illinois; Figure 4-6, a princely baroque residence). Consider also, for example, the General Connecticut Insurance Company (Figure 4-9, page 131) or other prestigious companies such as the General Foods Corporation Headquarters in White Plains, New York.²³

In contrast, a central location reinforces the company prestige through close association with an "in-group", formed together with other prestigious firms. In this setting, company prestige may be advanced in the form of new

landmarks, which also usually provide better working facilities and cheaper operating costs. The effects of prestige on this scale are thriving business relations, a sense of urgency, and a high "esprit de corps" creating a well functioning workforce.

3 Boundaries and Size of the Office Building

In this section I will discuss the parameters defining the size of the occupied building and its boundaries. One has to differentiate between the perceived impressive outside boundary of the building shell and the multiplicity of the inside boundaries differentiating access into various prestige positions.

The size of the built area is determined by the corporate processes which require a certain number of workstations. These are multiplied by the different floorspace areas as assigned to various positions in the hierarchy, plus up to 30% for circulation and employee facilities. However, highrise corporate headquarters downtown typically exceed corporate space requirements.²⁴

This is partly due to the high cost of land and the possibility for rental return. Yet with an increase in height, construction costs for usable floorspace increase considerably. Therefore an increase in size beyond a certain number of floors must be justified on other than economic grounds; for example, the height will make the

building look more impressive.²⁵ Through its height the outside building shell serves as a landmark, demonstrating the prestige of those it is allocated to.²⁶ For example, almost half of the famous Chase Manhattan Bank Building is sublet to other firms, whose prestige will be inflated by associating with the famous bank.²⁷ See also the schematic stacking plan for a highrise office building in Figure 4-23, page 140. Downtown highrise corporate headquarters reflect a recent aspect of conspicuous consumption.²⁸ Capital invested into an impressive office building is frozen and cannot be used for productive equipment.²⁹ The display of ability to afford the large amounts of sunk capital for a highrise may reinforce company prestige and thereby enhance its borrowing powers. The idea of the landmark also applies to the pure rental office building. An impressive outside shell will attract potential tenants and thereby serve to increase the profits of the owner and landlord. In its capacity to impress, the landmark can also be a trademark or a means for business promotion.³⁰ See, for example, the Knights of Columbus Building in New Haven, Connecticut, for the organisation of the same name (Figure 4-7, page 130). In some cases the company name affixed to the occupied building becomes a defining element for the whole community surrounding it. For example, Leverkusen in West Germany is commonly known as Bayer Leverkusen, as it is the location of the famous Bayer combine.³¹

The building shell represents the corporation to the

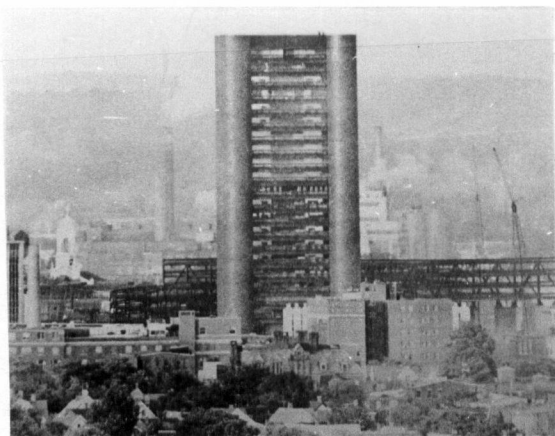


Figure 4-7. Knights of Columbus

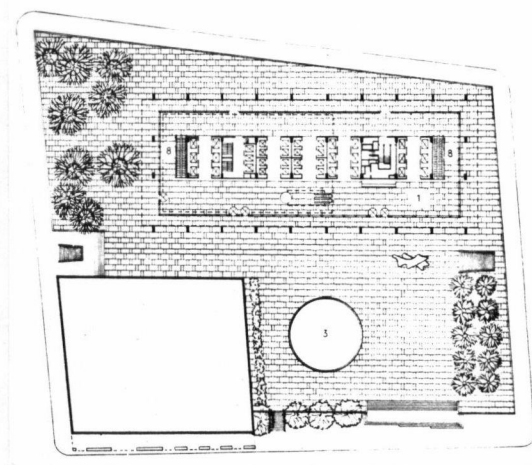


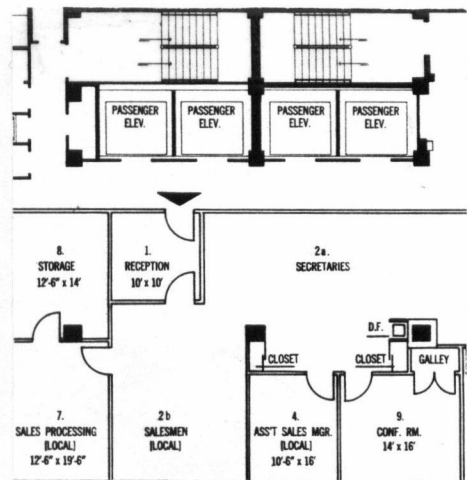
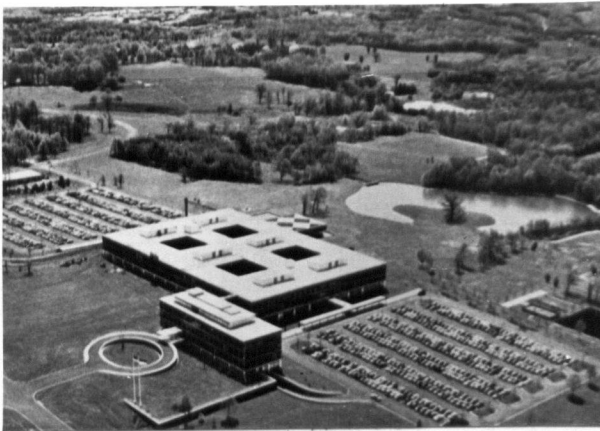
Figure 4-8. Chase Manhattan Bank, Lobby Plan

outside public. Except on the ground floor, though, it is not a boundary as it does not separate those inside from anything but outside air. Rather, the boundaries are inside, their permeability decreasing with increasing prestige of those behind them.

The ground floor entrance to the lobby of the highrise is the first of those boundaries. There, in most cases, the structure is recessed, making way for a semi-public promenade. This, together with the landscaping, fountains and benches "... provides a popular counterpart to the prestige effect of the executive suites ..."³² The lobby is a terminal for the elevators (see Figure 4-8, the plaza level floor of the Chase Manhattan Bank, New York City). The elevators are vertical paths leading deeper into the organisation. A guard or receptionist usually seated in front of the elevators makes sure unobtrusively that everybody knows where they are going and that they are on

the premises for legitimate reasons.

In contrast, in the suburban office the process of entering starts long before the lobby. Consider, for example, the circular driveway to the executive wing at the General Connecticut Insurance Company, Bloomfield, Connecticut (Figure 4-9). There the entrances are differentiated. Staff enters from the parking lots into the side of the main structure. Executives drive into the underground parking garage of their separate wing.



Left, Figure 4-9. Connecticut Insurance
Right, Figure 4-10. ABC Company

To maintain the established prestige differentiation inside, outside visitors will be received differently according to their reputation and the importance of their business. Therefore reception rooms, as an inside boundary, differ in location and size depending on whom they are to receive.³³ In the one-company office buildings, visitors are often received in the downstairs main lobby.³⁴ In the multiple tenant building visitors will be received on the

specific floor of the firm. Layout and size of the reception room on a given floor will vary with the kind and number of expected visitors. It can be merely a small room with a few chairs, a table and a window to a secretary-cum-receptionist in an adjoining room (see Figure 4-10, page 131, the ABC Company). Alternatively, it can be a full size lobby with ample seating and a full-time receptionist attending to callers. If she does other tasks as well, the room has to be large enough to move her to a social distance of 7 to 12 feet. Otherwise she will be "virtually compelled to converse".³⁵ If there is only one reception area -- as in the small ABC Company -- there may be a problem of treating visitors according to their differing prestige positions. For example, the company may not want a messenger to use the phone freely, yet a visiting executive might feel insulted by a pay phone.³⁶

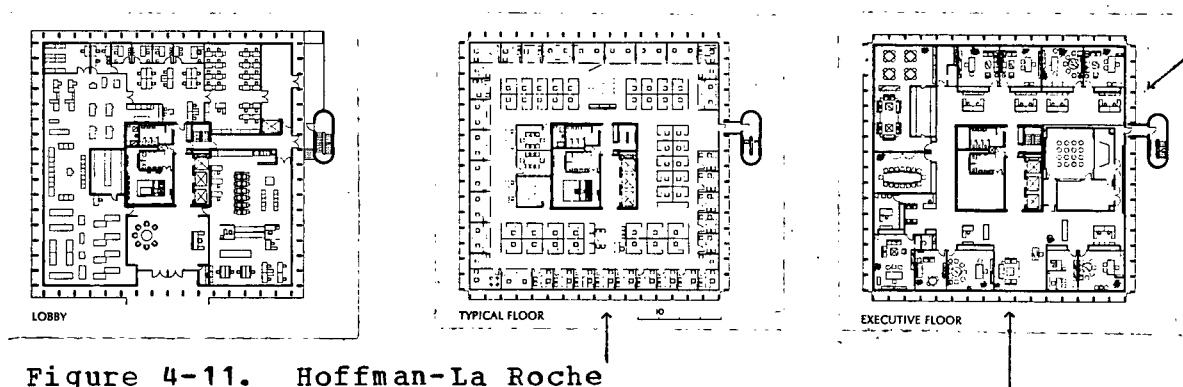


Figure 4-11. Hoffman-La Roche

At the Hoffman-La Roche offices in Nutley, New Jersey, reception areas are differentiated (Figure 4-11). Visitors are received in the ground floor lobby and delegated to the various officials and departments; the most commonly

frequented ones are located on the ground floor. The typical floors above also have a separate reception area outside the elevator landing. This area is bigger on the executive floor; in addition there is the personal reception through the private secretary outside of each executive office. A great part of the outside-inside interaction of the office happens via mail and telephone. Here, too, boundary differentiations as to who will attend to a phone call, who will answer a letter, etc., are made. However, the differentiation is more in the use of the medium and less in locus and character of the place.

Prestige impresses and attracts. In the use of multiple boundaries the office differentiates who is to be attracted and how these people are to be impressed.

4 The Layout of the Plan and the Designation of Places

In the following section I shall look at the layout of the office plan. First I shall illustrate how the primary building shell supplies a framework within which prestige positions can be differentiated. Secondly, I will discuss the core-places. As the prestige orientation is related to power, the core-places often are the locus of power. Thirdly, I will describe auxiliary or support-places. These facilitate the deference to power, both in terms of communicating decisions and in terms of maintaining a receptive esprit de corps. In the prison and schools,

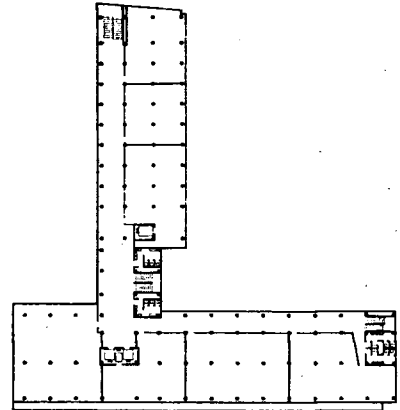
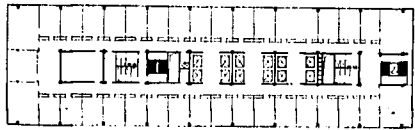
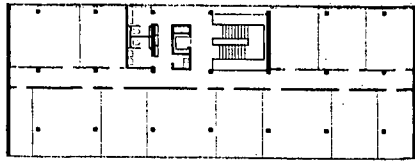
interaction was regulated categorically; in the office, interaction is differentiated according to a hierarchical graduation.

In totalitarian organisations with an inflexible hierarchy these relations can be set in place permanently. For example Hitler's idea of an organisation for the "millenium" was definitely reflected in the quarter-mile corridor to his office in the chancellory.³⁷ However, the office today is subject to the fluctuations of the free market economy; the layout of the plan has to accommodate these changes. Therefore specific prestige differentiations are increasingly expressed through the office scenery, a flexible system of movable partitions, furniture and accessories.³⁸

4.1 General principles

When determining the basic structure of a building, the number of workstations and their accommodation in the plan are of primary importance.³⁹ Basically there are two ways of accommodating workstations and differentiating positions: the open plan office landscaping or general office area and the subdivision of office space into different size private offices.

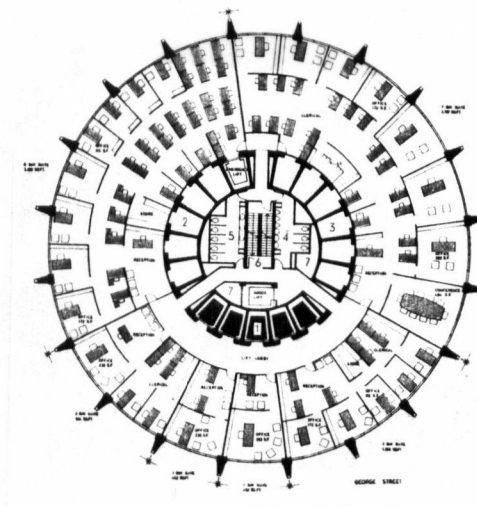
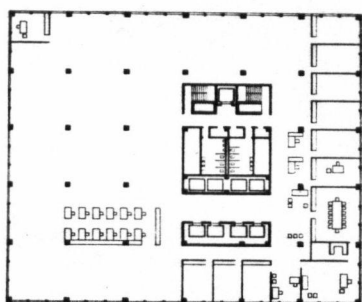
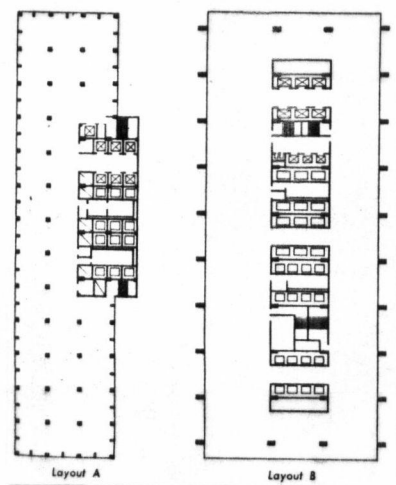
The double zone layout is common with a subdivision into private offices. A central corridor divides the floorspace area in the middle and leaves two zones along the windows for individually defined offices. Different sizes of assigned space will express prestige variations. In this



Above, Figure 4-12. Double zone layout
 Below, Figure 4-13. Triple zone layout
 Right, Figure 4-14. Single zone layout

type of layout the vertical circulation is located on one side of the double-loaded corridor (Figure 4-12). If the building increases in height, auxiliary areas for circulation and service installations require more space. As a result, the service core and vertical circulation move into the centre (Figure 4-13). The single zone layout, with a single loaded corridor, is an exception. It is only justified if large separate circulation areas are required for public visitors. Here the plan is divided into a semi-public corridor and a different in-house circulation behind the walls in the general office space⁴⁰ (Figure 4-14). The cellular layout into private offices is generally more expensive. Manning has found that the larger the corporation, the less space proportionally is allocated to private offices.⁴¹ Private offices give more privacy; since nine tenths of office costs are made up by salaries this quality may well be worth the extra cost.⁴² On the other

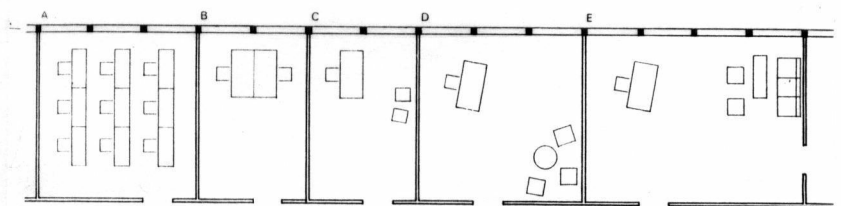
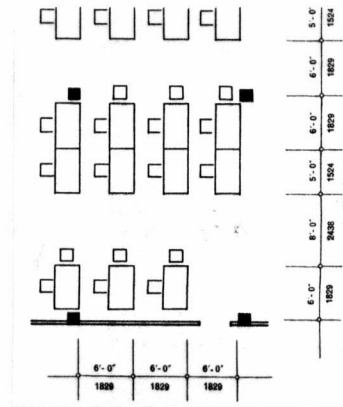
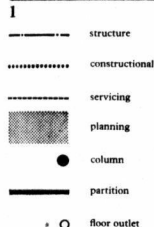
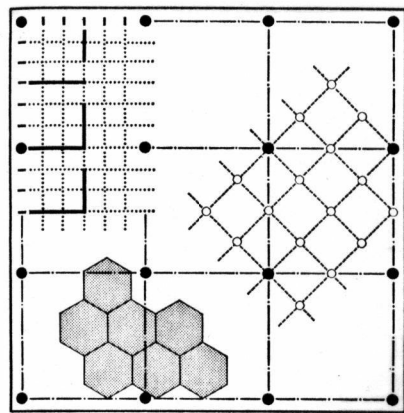
hand, private offices may inhibit the workflow and might even cause feelings of claustrophobia.⁴³



Above, Figure 4-15. Location of building facilities
 Below, Figure 4-16. Mile High Center
 Right, Figure 4-17. Australia Square

If the layout is adjusted to accommodate more office space the available floorspace changes from linear to areal. This can be done by moving the vertical core to the boundary (see Figure 4-15, A), or by changing the proportions of the whole building from rectangular to square (see the Mile High Center in Denver, Figure 4-16). The Australia Square Office Center in Sydney (see Figure 4-17) has a circular plan, which offers excellent possibilities for subdivision into smaller rental offices. Here prestige can be evenly

distributed among tenants; all can dispose of a valuable place by the windows with some remaining space for clerical staff nearer the circular corridor.



Left, Figure 4-18. Grids
Above Right, Figure 4-19. Open office layout
Below Right, Figure 4-20. Private office layout

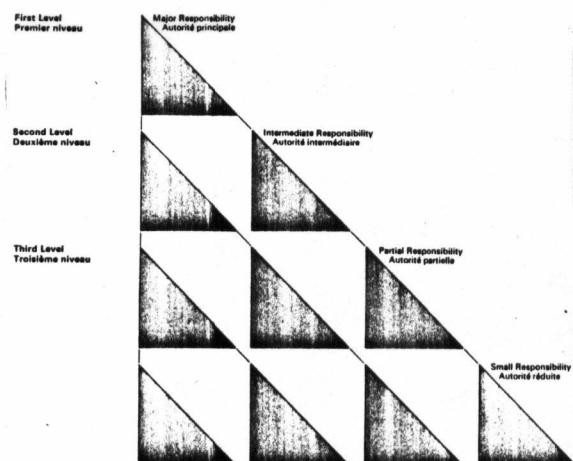
Duffy identifies four grids to be considered in office planning: structural, constructional, service and planning grids⁴⁴ (see Figure 4-18). The latter two grids are discussed later. The structural grid is a multiple of the size of the basic workstation -- a desk, a filing cabinet, a chair and access -- minimum area of 6 feet by 6-8 feet⁴⁵ (Figure 4-19). This grid is decisive for the placing of the clerical staff, especially in the general open office areas.

In private offices the constructional grid, especially the distance between window mullions, can be important. This module pertains especially to the layout of places for

higher staff and line officials (see Figure 4-20, page 137). Prestige is differentiated by the number of windows in the office occupied. Thus the structural grid applies more to the functional roles of lower staff, while the constructional grid is more amenable to grading the scalar position of higher officials.

4.2 Core places and the locus of power

The distribution of power in the headoffice usually follows a pyramidal organisation (see scheme in Figure 4-21). A literal translation of this hierarchy is found in the office of the Rechtsschutz AG in West Germany (see Figure 4-22). "Kramberg [the president of the company] says he ordered the staircase design to 'encourage ambition and provide a visual image of our organisation structure'".⁴⁶

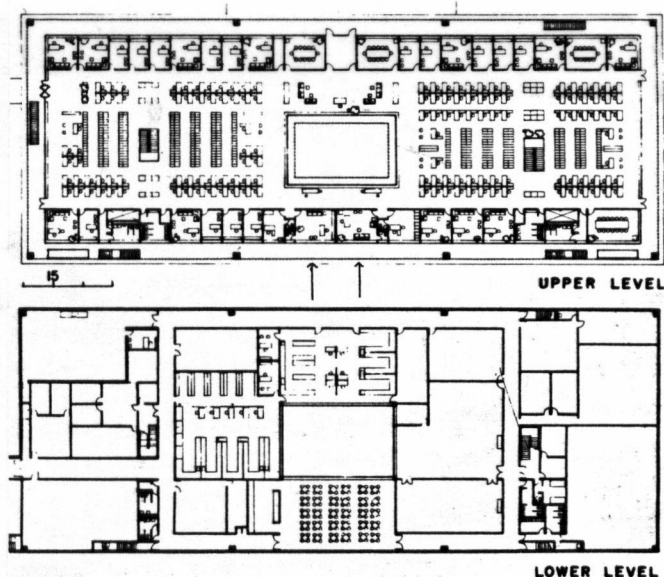
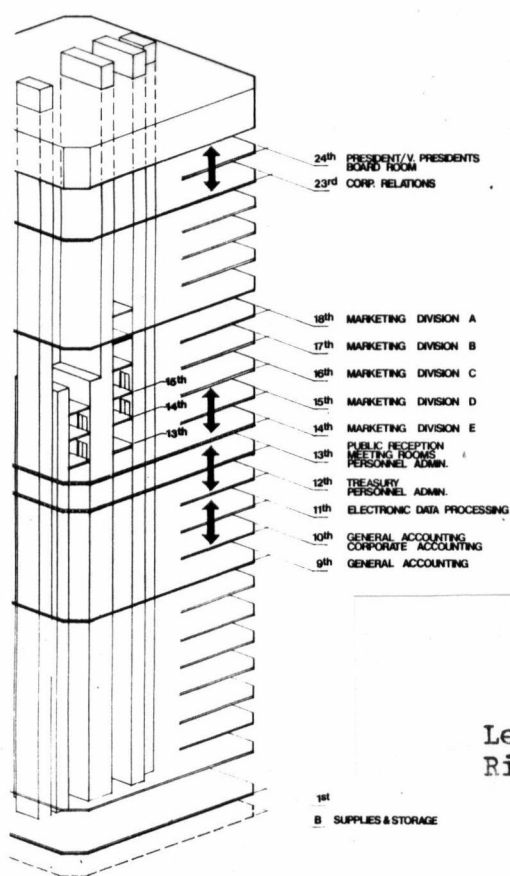


Left, Figure 4-21. Responsibility and hierarchy
Right, Figure 4-22. Rechtsschutz AG

Within the levels of the pyramid there is also a differentiation between advisory staff who primarily report and suggest, as contrasted with the line staff, who

primarily assign and delegate. A further distinction, at any level of command, lies between those who perform primary missions and those who provide mission support. The interior layout of office sections of different floors is likely to be differentiated accordingly, with advisory staff and support staff having smaller and less prestigious offices, yet still differentiated from the general office area, which is at the base of the pyramid, literally or figuratively. (An occasional exception is the office manager, who ordinarily provides an administrative support function. Because he usually controls office space allocation he sometimes treats himself well.)

In the highrise the line officials most often are accommodated on the upper floors, with the advisory and the clerical staff below. Generally upper floors are more desirable and are leased at higher rates.⁴⁷ At Arthur Andersen and Co., who rent the sixth to ninth floors of the Brunswick Building in Chicago, headquarters are on the ninth floor and local administration and office services in floors six through eight.⁴⁸ In Figure 4-23, a schematic stacking plan, the line is not only separated by one, but by five floors from the staff below. The floors in between are temporarily rented and available for expansion on a long term basis. In contrast, the executive floor of the Chase Manhattan Bank is not on the top, but in the middle of the occupied thirty floors, on floor number seventeen.⁴⁹ Here the impulses generated by the highest officials travel in

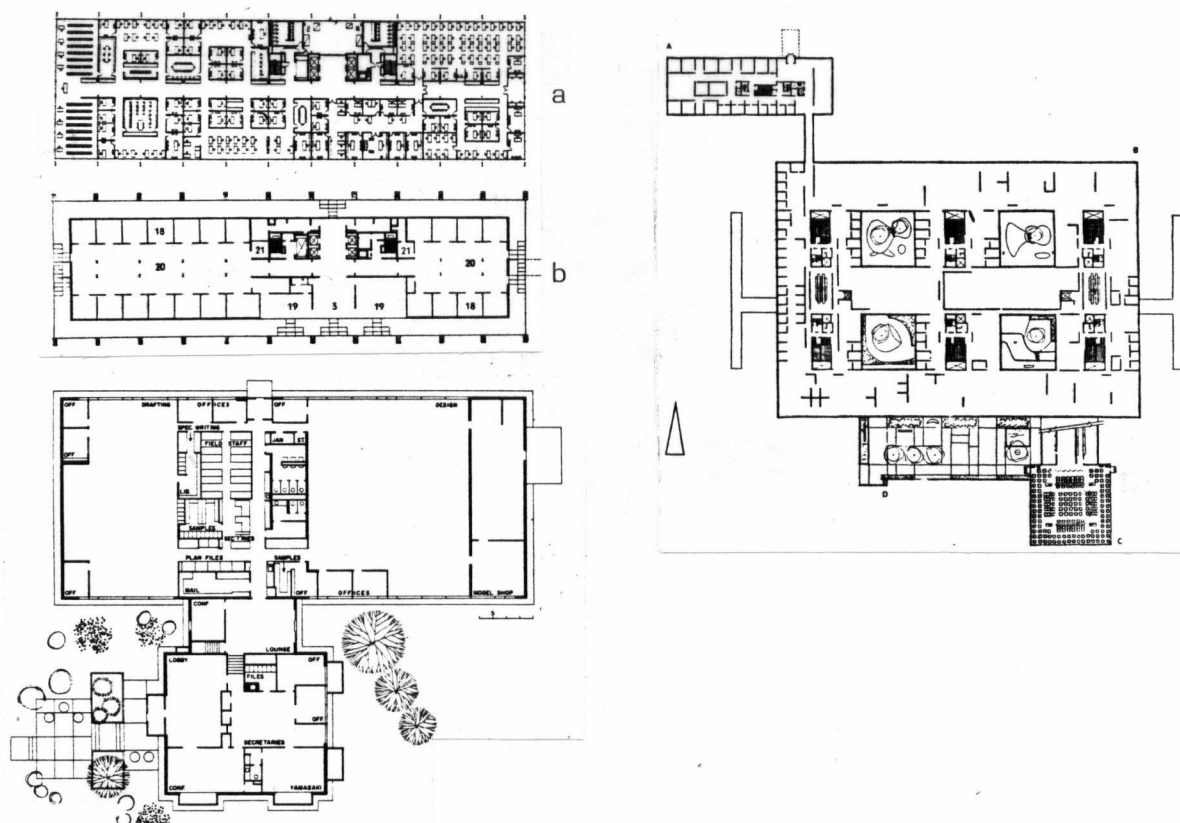


Left, Figure 4-23. Stacking plan
Right, Figure 4-24. Noxell Offices

two directions, and not only from the top down.

In the lowrise office building the differentiation is horizontal. On the upper level of the Noxell Office Building, Cockeysville, Maryland (Figure 4-24), management occupies the space by the windows while the rest of the staff is accommodated in the skylit general office space in the middle. The John Deere offices, Moline, Illinois, accommodate top line officials in a first floor, close to the garden (plan b in Figure 4-25). Their private offices are also located on the outside around a secretarial pool in the middle. In contrast, on the other floors, private offices of lower management are in the darker inside areas, leaving the amenity of the windows to the general office

staff (plan a). This contrast serves to illustrate the value of window view and natural light as an amenity so important that only top executives can be awarded exclusive access to it.

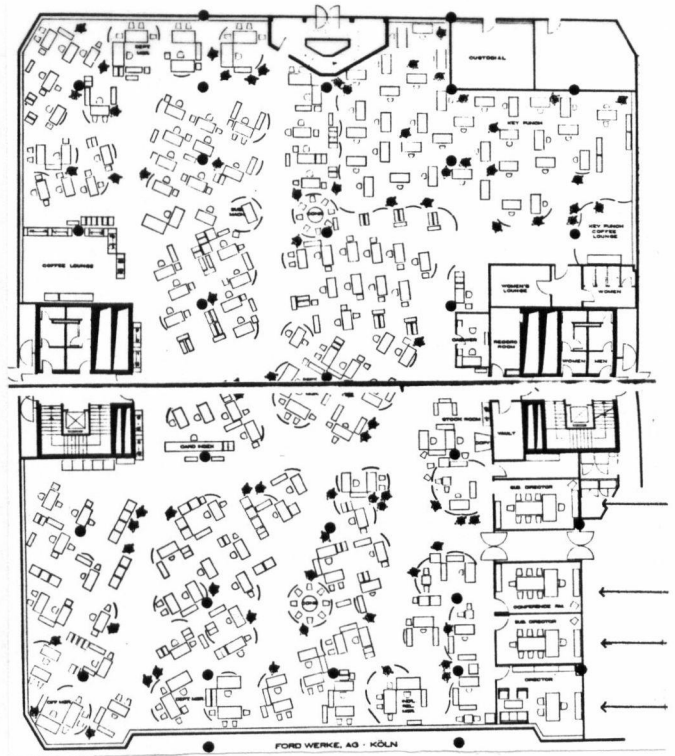
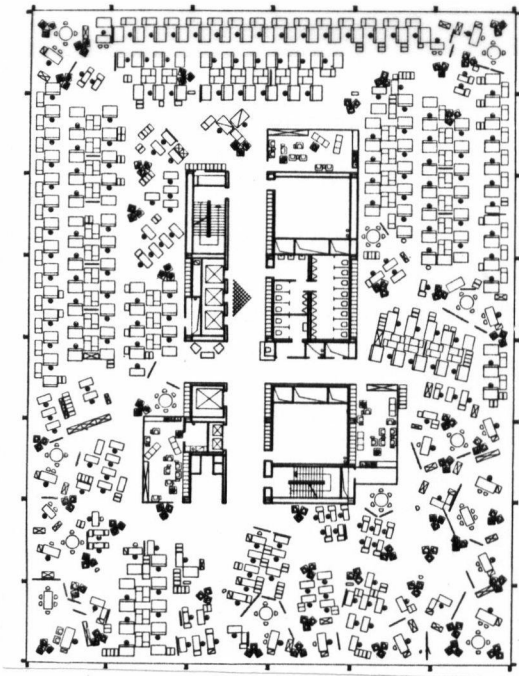


Above, Figure 4-25. John Deere and Company first (a) and typical floor (b)
 Below, Figure 4-26. Minoru Yamasaki office
 Right, Figure 4-27. Connecticut Insurance

The office for Minoru Yamasaki separates the owner and executive from the rest of the staff (Figure 4-26).

The layout of the General Connecticut Insurance Corporation (Figure 4-27, page 141) is derived from three clusters identified by the program. Cluster one compromises the private offices of the line and higher advisory staff officials, which are completely separated into a wing on the

northwestern corner of the plan. Cluster two contains the general office spaces in the longitudinal wings and cluster three, the places for the data processing equipment in the transverse wings.⁵⁰



Left, Figure 4-28. Krupp AG, typical plan

Right, Figure 4-29. Ford Werke, typical plan

In office landscaping many of those with power are located within the general office space but usually adjacent to the fenestrated outside of the building. At Krupp AG, West Germany (Figure 4-28, page 142), for instance, all four corners of the plan are given over to higher positions so that occupants can receive natural light from two sides. Other high officials cluster near the corners. Prestige is partly determined, apparently, not just by window space or office size, but also by physical proximity to powerful

figures -- or their offices.

Even with office landscaping there are private offices. They are fewer, as the line between top staff and the rest is drawn further up. At the Ford Werke AG, Cologne, West Germany (Figure 4-29, page 142), for example, only the director and three subdirectors have a walled private office. The director occupies an office in the corner. In this example and in many others, the highest officials reside in an office at a sheltered yet exclusive location. Usually they occupy a corner office. In other cases, as, for example, in the Noxell Offices (Figure 4-24, page 140), the largest private offices are located in the middle, opposite the interior courtyard. There they are sheltered from the general office area and are close to two outsides. Another physical identification of prestige is the density of occupied floor⁵¹ (see Table 4-2, page 153). Prestige is contagious and does not thrive in popular congestion. For example, in the Hoffman-La Roche offices, Nutley, New Jersey (Figure 4-11, page 132), the density of the lower office floors is five times greater than the density of the executive floor.

Prestige is the power to impress and suggest. Lower grades yield to higher grades with courtesy. In the office plan, the locus of power, which is also the generating force of activities, is clearly identified. In all cases, those with power share more amenities such as view, office size, light and low density. They are often easily

distinguishable from other workers through their position at prominent points or preferred zones of the plan, be it at the top, on the outside, at the corner or in a separate building.

4.3 Support places

Here I shall discuss the auxiliary places in the plan, which support the deference of prestige power by communicating decisions and maintaining a receptive esprit de corps. The most important auxiliary areas are the mechanical and electronic systems running throughout the building structure. The outside delivery of processed information greatly depends on well functioning communication via telephone or written documents. Internal integration is also facilitated by the electronic systems of a building, and a well tempered environment via the mechanical systems is necessary to maintain a receptive and well performing staff.

In these senses, these technical systems of the office building are truly supportive. The areas allocated to them stretch throughout the structure. These external systems facilitate flexible hook-ups, independent of the immediate hierarchical structure. They are an integral part of the planning process for a new building and usually have their own grid.⁵² They support the hierarchical structure by allowing highly selective private and rapid communication between positions without one functionary having to visit the other. Heating, ventilating and air conditioning (HVAC)

systems also support the dignity of office power through maintenance of an optimum working climate, permitting formal dress and brisk action. Within the support systems there are differentiations relating to the prestige hierarchy, even though they are less noticeable than space locations and allotments. For example, workstations along the windows often have individual thermostats and occupants can control their climatic environment more than those in the interior spaces.⁵³ They can do so even more if the windows are not sealed. High officials often have separate telephone lines, giving them the privilege to phone long distance. Often their telephones are coloured.

In the plans and sections of buildings, these technical systems show as double floors or as whole service floors. This is reminiscent of the service corridors and subfloors in noble residences of past centuries.⁵⁴ However the spatial dimensions of the ducts corridors and channels of today's service systems require much less space and substitute for many of the once lowest positions, such as servants, messengers or stokers.

There is always need for personal interaction within the office organisation. Conference rooms as places separated from specific positions, facilitate direct communication; there are different types in different locations in order to maintain the different prestige levels of participants. The auditorium, for example, is a place for mass-communication, public relations events or training

of old and new staff for better work performance. Depending on the prevalent use of the auditorium and on the kind of public the company tries to relate to, the auditorium may be located on the executive floor, or close to the public reception area.

Conference rooms vary in size and location. Most important for staff morale are staff meeting rooms. Here the impact of the suggestive power from top to bottom is

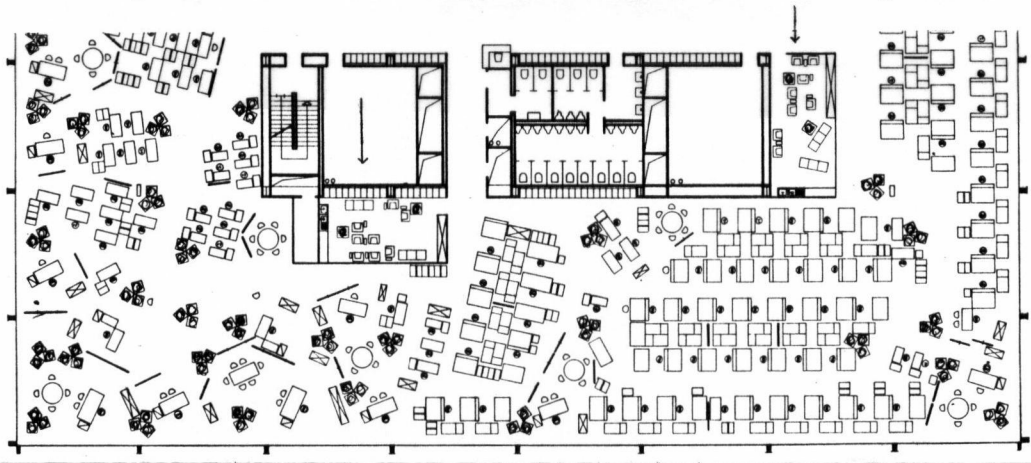
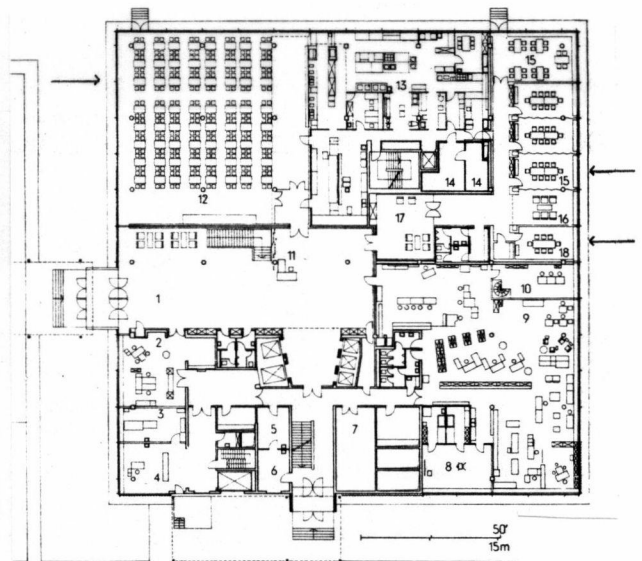
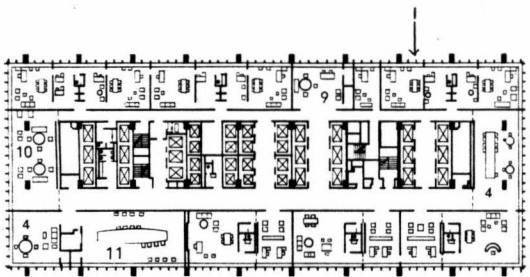
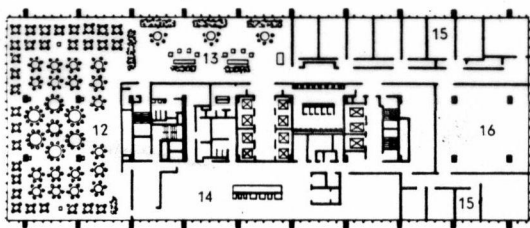


Figure 4-30. Krupp AG, plan excerpt

informally accelerated, while those at the lower levels get to participate in the prestige of their superiors.⁵⁵ Staff meetings also serve to let off steam.⁵⁶ In the typical office floor of Hoffman-La Roche (Figure 4-11, page ..), meeting rooms are adjoining the inside service core. In the Krupp AG office landscape they are also near the service core, next to the coffee lounges (Figure 4-30, page ..). They are furthest away from the windows, while the conference areas of the higher officials are by the windows. There prestige is shared more selectively between visiting clients and in-house peers. This arrangement once again

demonstrates the differentiation of office roles and positions in more or less preferred locations. It also shows the forceful prestige support deriving from exclusive or nearly exclusive access to a window. Private offices of line officials often have a small conference table inside. (See, for example, the executive floor of the Chase Manhattan Bank Offices, Figure 4-31, page 147, bottom; or the offices of the director and subdirectors at the Ford Werke AG, figures 4-29, page 142). The boardroom is typically the most prestigious conference place in a corporate headquarters, designed for the exchange between owners and chief executives.⁵⁷ It is usually located on the executive floor close to the president's office.



Left, Figure 4-31. Chase Manhattan Bank,
top and seventeenth floor
Right, Figure 4-32. Osram, ground floor

Similar differentiations are found in the eating facilities for employees. The plan of the Osram offices,

Munich shows a dining room for management (No. 18, Figure 4-32, page 148), three smaller private dining rooms (15) and a large cafeteria (12). The top floor of the Chase Manhattan Bank shows a similar arrangement (upper plan of Figure 4-31).

In addition to cafeterias and dining rooms, employee facilities include first aid and medical rooms, libraries, coffee lounges, etc. Since World War II, especially in times of economic expansion, the building facilities for the psychological and physiological well-being of the staff there have been greatly increased.

An office clerk of the Connecticut General Life Insurance Company can, within the new [suburban] company building, order her groceries, have her hair done and her clothes cleaned, buy novelty gifts, play bridge or Ping-pong or bowl, obtain complete medical care, relax with a book or music, or meditate in a sound-proof room.⁵⁸

Recently downtown offices have started to sublet the prestigious ground floor to restaurants and retailers. These are not only added amenities for the employees but also provide a supplementary income in rent and a means of livening up the downtown area in general and the ground level plaza in particular.⁵⁹ It is also a means to impart a corporate trademark not only by means of an office tower, but also by means of popular activities on the tower plaza.

The First National City Bank in New York has accommodated a church on the plaza of its CitiCorp Building (Figure 4-33). This is an interesting indication of a shift

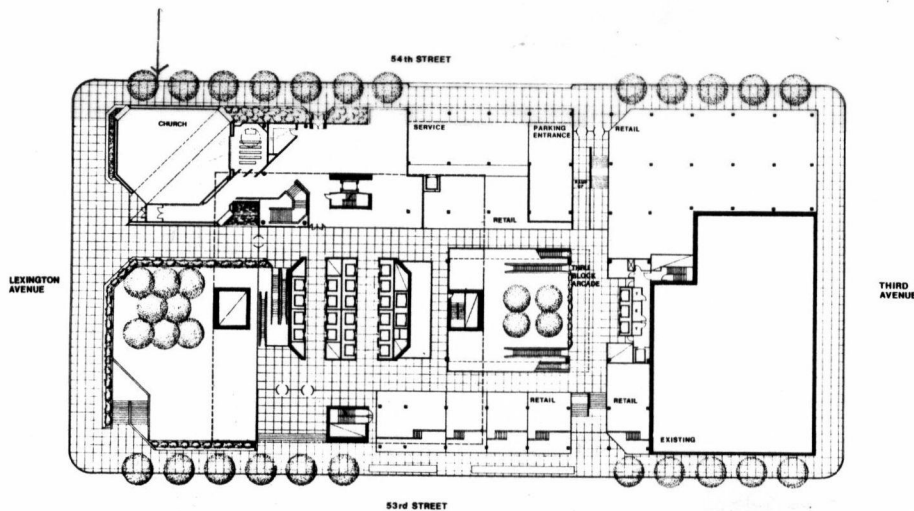


Figure 4-33. CitiCorp Plaza

in values and images. Traditionally bank buildings were associated with the image of classic temples, with the reverential values like those attached to a minor god.⁶⁰ In the CitiCorp case, however, a church associates with the bank which appears in the guise of a noble sponsor.

4.4 Summary of this section

Corporate prestige is hierarchical. The basic layout of corporate headquarters (whether public or private) facilitates subdivisions of areas, floors and wings. These define places of different attraction for the various positions in the corporation. From the layout it is possible to identify the location in the hierarchy, of the line officials who primarily delegate and of advisory and support staff who primarily provide information and services. Organisations will differ in how high up on the pyramid this stratification is made and how staff and line are set into relation.

Delegation and deference can be more readily maintained

when positions are clearly defined to orient superiors and subordinates. The layout clearly defines those with power.

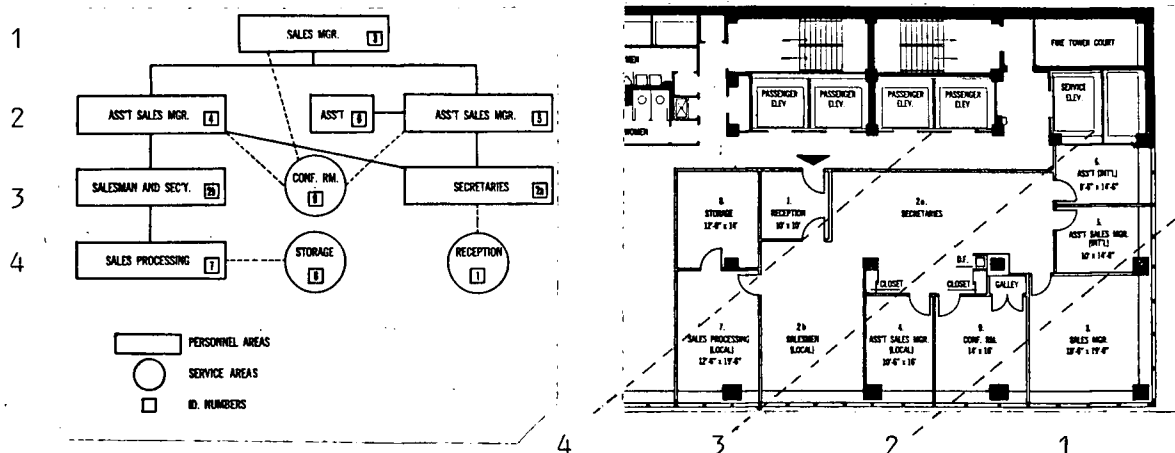
Corporate prestige is attractive. Good care for employees will result in a high morale and employee loyalty. To be part of a prestigious company is in itself a benefit vis a vis outsiders.

Prestige is also selective. To reduce information overload, service and communication systems substitute for personal interaction. Where informal personal interaction is encouraged, the facilitating places are differentiated according to the prestige of participants.

5 Paths and the Workflow Line

Here I shall discuss the direct communication and delegation of tasks in the office along workflow lines. These are procedurally established as the most efficient relations between various workstations and functional roles. These relations also indicate the scalar positions of superiors and subordinates.⁶¹ The relation between positions is determined by the proximity profile, a conception of how all organisational elements should be arranged in terms of proximity to each other, considering the function or purpose of each in relation to the whole.⁶² Generally the distances between positions should be short, to keep the time spent in circulation to a minimum.⁶³ This step by step interrelation in effect also protects prestige levels; these are shared with peers located in proximity. The proximity profile is

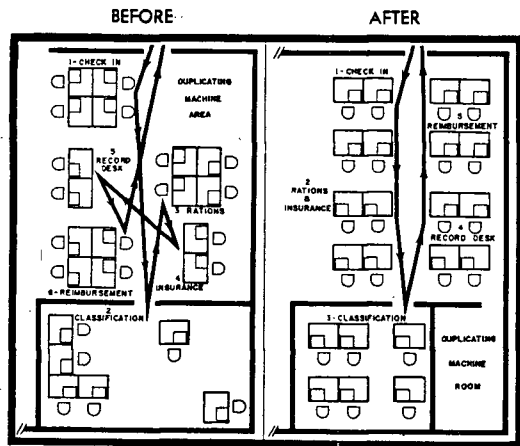
established through the segments in the chain of command. See, for example, the organisational chart of the ABC Corporation and the resulting arrangement of places for positions (Figure 4-34 a and b; levels of command indicated



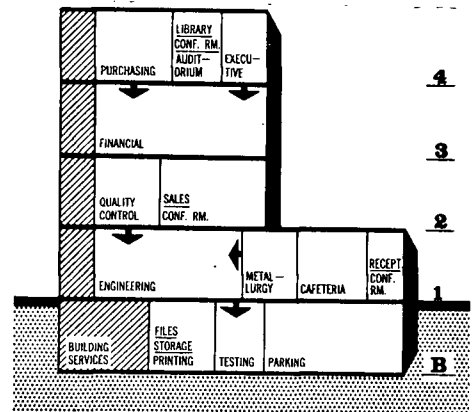
Left, Figure 4-34a. Organisation chart, ABC Corporation
Right, Figure 4-34b. Plan, ABC Corporation

by arabic numerals). The highest official occupies the lower righthand corner office, with the next highest ranks closest and the lower ones further away. The highest rank, occupying the largest and most attractive place, is the beginning and end of the workflow line. All those below have to report to the next higher positions, and all those in the upper left zones report successively to those in zones to the lower right.

In the two versions for the layout of an insurance claim centre, the older one illustrates the scalar hierarchy, as those positions important to the profit of the corporation -- classification and reimbursement -- are located in or in front of a separated space. Clearly



At left, the torturous path of a typical office process before a simplification program. At right, a highly efficient work flow results from a rearrangement of work steps and stations.



Left, Figure 4-35. Claim center, workflow
Right, Figure 4-36. Departmental interrelation

classification or reimbursement are more important to the balance sheet of the company than filing of requests or finished cases (Figure 4-35, left plan). In the new layout (Figure 4-35, right), this distinction between kinds of positions was more equalized; the most efficient realization of the workflow determines the position of workstations. Desks are arranged in straight lines; only the spatial separation of the classification section was maintained.

Executives are separated into line and staff executives, depending on their direct contribution to the profits of the company. A similar differentiation is indicated between the respective departments these executives preside over.⁶⁴ Consider, for example, the hypothetical interrelation of five departments in a five floor structure (Figure 4-36, page 152). Here the executives preside over the company on the top together with the purchasing department. Financing follows below and

testing is located in the basement. This profile indicates the flow of functional activity between departments but also the scalar importance of each of them. Here, as in other examples, verticality assists in the scalar differentiation of positions.

Colin Cave argues that putting the boss on the top and following the hierarchy down to the bottom is an inadequate design. The interrelation of positions should be established on the basis of significant working relationships.⁶⁵ Nevertheless, height of floor is a very accepted measure to differentiate prestige. An acquaintance and office building owner in Vancouver told me that it is quite common for tenants to include a clause in the lease permitting no other firm of the same type of business to rent space above them.

The position of supervisors sometimes is differentiated by having them face those they supervise. Steele mentions that these conditions are not the same everywhere; in other instances the higher staff sit in the back, overlooking the backs of their subordinates. Thus they can supervise without being controlled themselves.⁶⁶ At CIT in Manchester, England, the supervisor occupied a raised platform, defined by glass walls, facing the clerks. This asserts the added importance of this position, both in terms of the workflow, and in terms of prestige; here the subordinates literally look up to their superiors. At a later date the chief clerk's dais was removed. The grades

within the office organisation were reduced, while at the same time the stratification between management and staff became more pronounced, as there were fewer positions in between.⁶⁷

The idea of the German Quickborner Group, the originators of office landscaping, was to substitute an autocratic hierarchy for a democratic organisation. Departments should not be separated, neither should the positions within them. The interrelation of workstations was to be on the basis of facilitating communication between all members of a team. Teams were to be project-oriented

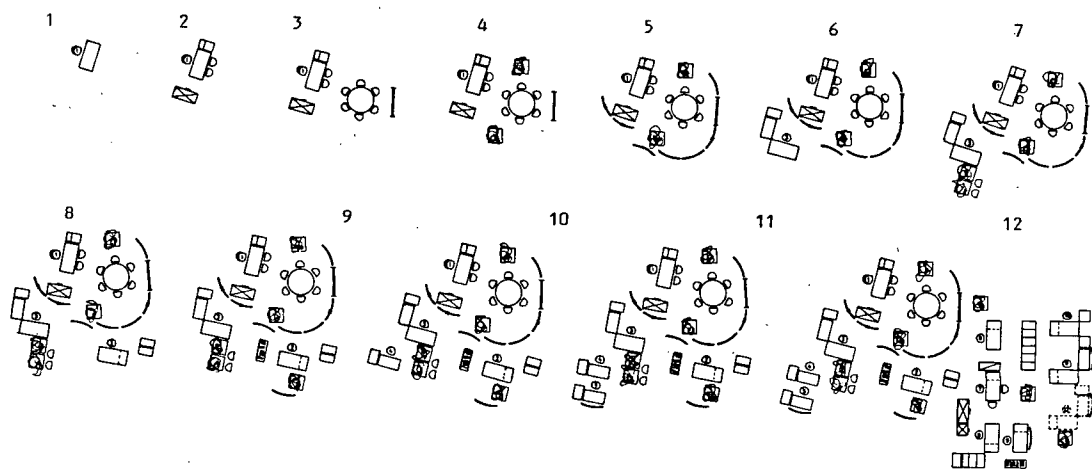
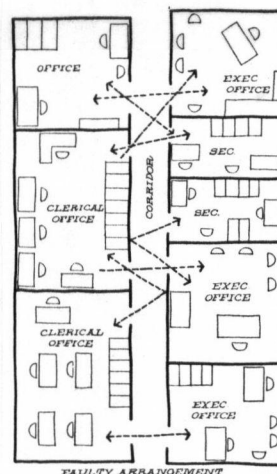
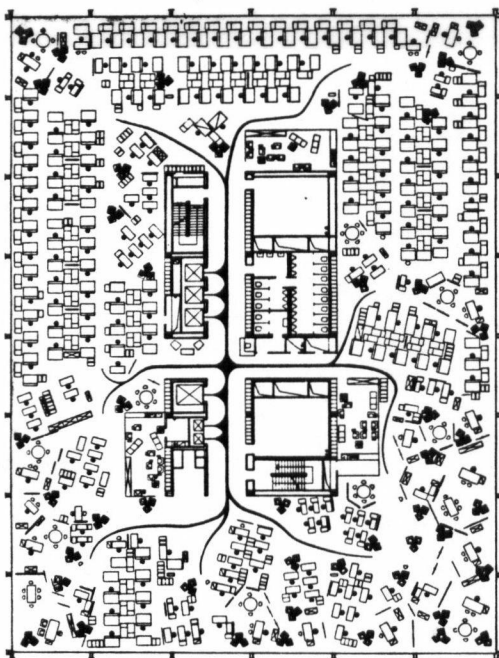


Figure 4-37. 12 steps to a layout

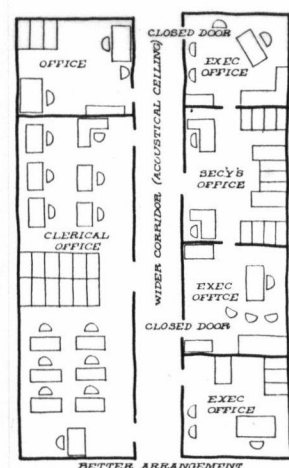
and not differentiated by a hierarchical scale.⁶⁸ Yet positions of varied responsibilities and importance established differentiating interrelations. In the twelve steps to a layout, the development of a workstation from a simple clerical position to an agglomeration of subordinates around a managerial position is illustrated (Figure 4-37, page 155). The scalar importance of a position is derived

from its relation to other positions and particularly its centrality. To have others do work for oneself renders one's own position more important. In the less landscaped and more rectilinear organisation of places in the plan for the Krupp AG Offices (Figure 4-38, page 156), long lines of small desks usually begin or terminate in a more secluded position. These focal positions are the sources of direction or the termini of deference.

Even when critical path analysis and a proximity profile limit the amount of travel, there has to be a circulation system, connecting everybody -- at least to the fire-exits and elevators. But it is also necessary to orient visitors and facilitate a certain amount of transportation through and between the office floors. The



A faulty arrangement of offices along a corridor. The presence of many doors at one point makes noise transmission likely, and it also causes traffic concentration in these areas



The wider corridor covered with an acoustical ceiling isolates the office entrances. Two partitions have been eliminated. Executive offices are better isolated from the outside

Left, Figure 4-38. Krupp, AG, open office plan
Right, Figure 4-39. Cellular office plan

black lines in the Krupp AG plan (Figure 4-38) indicate such paths. They tend to bypass those whose positions are fixed by the critical path and point to those who have more discretionary jobs. The paths thread through the interstices amongst the numerous clerical desks and serve to render prominent the managerial positions. This is thought necessary as managers receive more visitors and have to be able to converse with them confidentially. Through such allocation of functions to places, the importance of tasks and their prestige are expressed in terms of relational differences. It is noteworthy, for example, that placement of managers near the service core of the building would provide a more convenient path system for visitors, but this arrangement would deny them prestigious corners; also the tendrill paths serve to separate one functionary from another on the floor.

In a cellular office layout these differences are less obvious. Transportation and workflow essentially take place in a circulation system defined by walls and separated from the workspaces behind. However in a suggested rearrangement of offices along a corridor for more privacy the executive offices are provided with closed doors. The clerical offices are open and expose the workers to the traffic on the widened corridor (see Figure 4-39, page 156).

There is rarely explicit double circulation. However, paths respond to a selective interaction. Either by means of separate entrances or multiple elevators the office

circulation is stratified into different sections. Furthermore, the proximity profile selects interaction by determining whose ways will cross each other. As decisions and worktasks are communicated along a hierarchical line, direct physical interaction is essentially limited to adjacent ranks. Indeed the array of positions in fixed offices along a corridor may excellently reflect corporate rank structure.

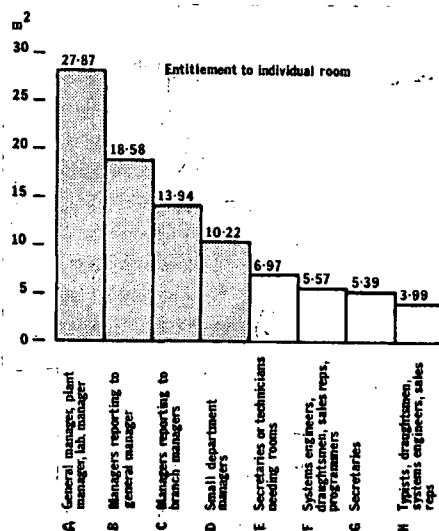
6 The Edges of the Individual Workstation

The loosely fitting building shell, discussed in Section 4, is furnished and subdivided with "office scenery"⁶⁹ according to the specific requirements for the individual workstation. Here more than anywhere else, hierarchical differences are made clear through the size, the definition, and the decoration of the individual workplaces.

As in the other conditions discussed above, differentiations are established on the basis of functional roles. The relation of these functional roles to the organisation chart and to the contribution towards corporate prosperity shapes scalar positions or prestige differentiations. Differences of size apply to both the cellular and the open plan layouts. Table 4-2 shows the assessment of space needs for a department. Note different sizes of offices, different density and different efficiency of space use. By quality of their positions, senior

BAY MODULE 16'0"
MULLION CENTRES 4'0"

DESIGNATION	NO. OF PEOPLE	SINGLE ROOM OR SHARING	NO. OF CASES	OFFICE WIDTHS-ALL 16' DEEP				GENERAL OFFICE MULTIPLES OF 12'	SQ. FT. PER PERSON	EFFECTIVE USE OF SPACE
				8'	12'	16'				
SENIOR MANAGERS	2	SINGLE	2			2			256	19%
MIDDLE MANAGERS	6	SINGLE	6		6				192	25%
JUNIOR MANAGERS	10	SINGLE	10	10					128	38%
SENIOR ASSISTANTS	18	SHARING 2 IN 12'	9		9				96	50%
SENIOR CLERKS	24	SHARING 3 IN 16'	8			8			85	56%
JUNIOR CLERKS	40	IN GENERAL OFFICE AT 4 IN 12'	10				10		48	100%
TOTAL No. OFFICES				10	15	10	10			
FEET RUN FACADE				80	180	160	120		540	



Left, Table 4-2. Space needs
Right, Figure 4-40. Space standards, IBM

managers are entitled to 81% more space than a junior clerk would require to efficiently perform his function. The excessive space indicates the prestige of the occupying senior manager and demonstrates conspicuous consumption through the ability to afford such inefficiency or "waste".⁷⁰ See also the pyramidal hierarchy of space standards as applied by the IBM Corporation (Figure 4-40). While the size of the lower positions is essentially derived from the space requirements for functional furniture, the extra space for higher officials has more prestige significance.

The enclosure of the assigned territory varies from an open desk in a general office space to the fixed walls of a private office with antechamber and private secretary. In the open plan layout only the highest officials will have an office defined by four walls. Essentially filing cabinets, desks, planters and screens will differentiate and partially

define the workstations.

The decoration of the individual workstation is largely determined by the company. Differences in materials and decoration help add a latent meaning to the quality of the place and its atmosphere in relation to others. Sometimes provision of a pinboard allows the individual to decorate the workstation with some personal items. All other personal belongings should be left in the wardrobes⁷¹ though in fact they often are not. Other decoration of the workplace is used to differentiate scalar positions.⁷² For example, at the Kaiser Center in Oakland, California, floors 3 to 26 are decorated in four colours determined by the owner, while the top two executive floors show individual furnishings and colours.⁷³

With the idea of the office landscape and the increasing mechanisation of clerical work, use of office scenery to differentiate the prestige of positions has been reduced. However, generally the stratification between management and staff becomes more pronounced as more managerial positions are added. Tabor speaks of a polarization of positions.⁷⁴ On the other hand, staff members increasingly share more egalitarian positions with respect to receiving, recording and processing information⁷⁵ and easy informality often is actually encouraged under current types of management.

Contemporary workplace standards illustrate the hierarchical differentiations according to size, definition

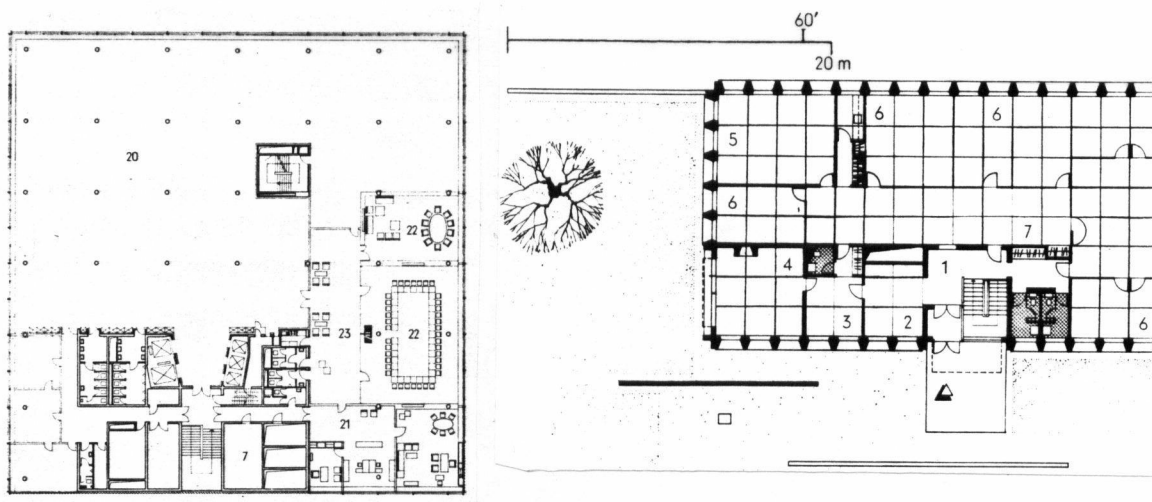
and decoration of workstations. At the lowest level, the size and material of the desk reflect the scalar status in the organisational system and the nature of assigned work. Usually the desk will be of metal and its width would varies from 50 to 60 inches. Depending further on the kind of work, a filing cabinet and letter trays are added.⁷⁶ If the employee advances to representative functions a chair for a visitor is added. If he is scheduled to hold small on-table conferences his desk will have an overhang top. These are the limits of the general office space, the "bull-pen". The space allocated to the employee will vary between 36 and 80 square feet.⁷⁷

At the next step up the hierarchy the employee qualifies for more privacy. Here office sizes vary from approximately 80 to 150 square feet.

Regarding furniture, in 1958 the employee would have been issued a standard L-shaped desk, one or two files, a clerical posture chair, two sidechairs in standard colour, a 60 inch bookcase, wastebasket and letter trays; apart from the latter all would be in metal.⁷⁸ In the open office layout the employee may be issued a couple of bankscreens, if the nature of the work requires more privacy.

On the next increase in importance the allocated space increases up to 200 square feet. A conference type desk and an executive posture chair are added. Unless the whole office area is carpeted, there is no carpet on the floor. In one case, a company moved executives into a new building.

Supervisory personnel were to move into the old offices, which still had a rugged carpet on the floor. A higher executive hearing of the incident demanded that the carpet be torn out and thrown away at considerable cost.⁷⁹ Only



Left, Figure 4-41. Osram, top floor

Right, Figure 4-42. Torrington, upper level plan

after moving up into the lower managing and consulting positions will the employee be issued a carpeted office and furniture in wood.⁸⁰ The final step is then up to the executive floor. Here the sizes of offices are discretionary. The president of the Osram Company in Munich enjoys a suite of which his office alone is 750 square feet (No. 21 in Figure 4-41, page 161). Furnishings are increasingly made to taste. The president of the Torrington Manufacturing Company, Torrington, Connecticut enjoys the amenity of a fireplace in his office (No. 4 in Figure 4-42, page ..). It is safe to assume that this has nothing to do with the work he is supposed to perform. Also the lighting allotted to top officials more likely will be point source

workstation lighting supplemented by lowkeyed background lighting, both of which are adjustable.

Loyalty

If you work for a man, in Heaven's name work for him; speak well of him and stand by the institution he represents.

Remember—An ounce of loyalty is worth a pound of cleverness. If you must growl, condemn and eternally find fault, why—resign your position and when you are on the outside, damn to your heart's content—but as long as you are a part of the institution do not condemn it. If you do, the first high wind that comes along will blow you away and probably you will never know why.

—ELBERT HUBBARD

Figure 4-43. Aphorism

Line officials will have a private secretary, which increases the control of their territorial boundaries. In the Torrington Company she has her own office, through which is the only entrance to the president's office (No. 3 in figure 4-42, page 161). This prestigious and confidential position requires a secretary well-trained in the code of office propriety, who will have to be able to work unobtrusively and to "button up her lips"⁸¹ (see aphorism in Figure 4-43). Contrary to the guard in the prison -- who has to survey the inmates -- the secretary is not supposed to scrutinize the activities of the executive she is assigned to. In sum, workstation edges, furnishings and sizes, closely conform to prestige differentiations. Prestige is impressive. Differences in office size indicate

the power to influence: directly speaking, the assigned territory, yet set into the organisational context, also the activities in the office. Prestige is contagious. Differences of definition indicate selectivity; increasingly interactants have to be selected. Prestige is attractive. Differences in decoration render offices more or less attractive. An attractive office introduces its occupant more attractively. The *bureaulandschaft* idea, in its intention, tried to mellow rank differentiations; in effect though -- also due to a mechanization of basic office tasks -- it resulted in a polarisation of positions. Recently a pragmatic renaissance has again established the need for prestige differentiations.⁸² Ranks of prestige in American business are just as accepted as differences in salaries; this is so, as those below someday hope to be the ones on top.⁸³

7 Summary

The office is an organisation that involves the interrelation of actors on different levels of competence and importance. Prestige is a concept that acknowledges certain positions as more important than others. I have illustrated how prestige, as the power to influence, causes those who have less prestige to yield with courtesy to the suggestions of those who have more. Prestige further describes the admiration and the attraction of subordinates for superiors. The concept always has to be seen in

relational terms. There is not any level of prestige if there is nothing to compare it to.

The plans of the office can be seen in this light. In selecting a geographic location the office will strive to occupy an attractive site, compared to others. The building shell will impress the public and the employees, and may establish a trademark identifying the corporation. The boundary of the building constitutes a loose shell within which the various positions and levels of prestige are set in scene or set in place. Paths arrange the various positions by function and by status differentiation. Superiors are often above, at the head, at the end of workunits while subordinates are below or behind. Finally, the edges in the office scenery help orient and identify interactants according to the need to delegate and suggest, or to defer.

Prestige is contagious. Real estate agents know that a house of much higher value than its neighbouring ones is a white elephant and will sell for less than its actual value. Similarly a comparatively cheaper home might profit from its prestigious neighbours.

One can see that prestige is a delicate affair. Mingling with too many subordinates will diminish it considerably. Usually peers will tend to stay with each other, using architectural arrangements to sustain their segregation. Places help considerably to make prestige more permanent by concretizing relational differences. The

position of a person -- socially and physically -- can be readily assessed by all sharing his relational system. The prestige of a position will greatly help to attract those who consider themselves eligible for it and discourage those who have little reason to believe themselves equipped to handle it.

Notes

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Furthermore, Sebastien Mercier, in the 18th century, described the increasing bureaucratization as the "development of the white plague"; see Lewis Mumford, The City in History: Its Origins, Its Transformations, and Its Prospects, (New York: Harcourt, Brace and World, 1961), pp. 373 and 547.
3. Daniels, *op. cit.*, p. 4.
4. Laurence H. Bunker, Measuring Office Work (London: Pittman, 1964).
5. Reinhold Hohl, Office Buildings: An International Survey (New York: Praeger, 1968), p. 6.
6. Daniels, *op. cit.*, p. 4.
7. Ralf Dahrendorf, Class and Class conflict in Industrial Society (Stanford, California: Stanford University Press, 1959), p. 249.
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14. City of Vancouver, Planning Department, Information and Statistics: Office Space Demand in Downtown Vancouver: 1961-1980, Full Technical Report #9a (Vancouver: Planning Department, August 1973), pp. 35-37. For a similar study in London, see Daniels, op. cit., p. 119.
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16. Daniels, op. cit., p. 123.
17. Hohhl, op. cit., p. 6.
18. Stephen Mullin, "Planning Office Space: Some Notes in an Activity", in Planning Office Space, eds. Frank Duffy, Colin Cave, John Worthington (London: The Architectural Press, 1976), p. 21.
Also, Daniels, op. cit., p. 122, and Philip Tabor, "Pedestrian Circulation in Offices", in Land Use and Built Form Studies, Working Paper 17, (Cambridge: University of Cambridge, 1969), p. 4.
19. Dale, op. cit., p. 83.
20. Daniels, op. cit., pp. 160-193.
21. Ibid., pp. 200-201.
22. Thorstein Veblen, "Pecuniary Canons of Taste", in Theory of the Leisure Class (1899; rpt. New York: Modern Library, 1934), pp. 133-135.
Veblen describes how the use of lawn for thrifty purposes such as pastureland was considered vulgar by well-to-do people of the turn of the century.
23. See illustration in Robichaud, op. cit., p. 56.
24. Architectual Record, Office Buildings (New York, McGraw-Hill, 1961), p. 2.
25. Hohhl, op. cit., p. 8.
A rough limit for height in terms of an economical structure, HVAC, water supply and elevator sizes, is 15-20 floors.

26. Daniels, op. cit., p. 22.
27. Hohl, op. cit., p. 120.
The inflation of the outside appearance of a building is reminiscent of "Herrenchiemsee" and "Neuschwanstein", two of the historicist castles for Ludwig II, King of Bavaria. Both of these buildings were built around two or three major rooms and the idea of an impressive outside--in the one case to copy Versailles in the other to create a living scenery for Wagner's "Tannhauser" and "Lohengrin" operas. Many of the other spaces inside were not planned for any specific use. See Hans Gerhard Evers, Tod, Macht und Raum als Bereiche der Architektur (Munich: n. p., 1939), pp. 253-257, as cited by Norbert Knopp "Gestalt und Sinn der Schlosser Konig Ludwig II" in ARGO: Festschrift fur Kurt Badt, ed. Martin Gosebruch and Lorenz Dittmann (Cologne: DuMont, 1970), p. 345. go
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50. Robichaud, op. cit., p. 198.
51. Steele, op. cit., p. 50.
52. Duffy, op. cit., p. 58.
53. Architectural Record, op. cit., p. 64.

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75. Worthington, op. cit., p. 30.
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CHAPTER 5

SHOPPING CENTRES AND THE PROFIT VALUE

1 Introduction

This chapter discusses shopping centres and commercial activity based on a profit orientation; all activities taking place in a shopping centre should eventually, directly or indirectly, enhance a profitable exchange of goods or services. The organisation and the physical plant of a shopping centre focus on and prepare on for a specific performance: the exchange of rights of possession.

The role of the trader is central in the commercial enterprise. His profit or reward stems from negotiating different prices with producers and consumers at different points and times.

In preindustrial societies goods are produced in the family clan and exchanged for the purpose of consumption. The trip to the market on specific days is motivated by the will to exchange a surplus of one's own products for others needed. The role of the trader, then, may be identical with

the producer and consumer. Any profit margin is consumed with the negotiated item and not accumulated for later reselling.¹

Buying larger quantities for the purpose of reselling, called engrossing, was prohibited during the middle ages. The guilds would only allow the trading of self-produced items.² However, many of today's cottage industries in India and other underdeveloped states are mediated by exploitative engrossing of the classic type.

The transformation of agricultural economy into urban economy -- together with a new technology -- saw

...the emergence of the modern distributive industry, namely the application of technology to serve large masses of people separated from their agricultural base.³

With an increase in the division of labour the merchant emerges as a third party between the producer and consumer, buying up products and taking them to the market to sell. Subsequently the role of the trader changed from a travelling marketeer or factor, to a stationary stock-keeper, retailer and appraiser of merchandise. More recently the role shifted to that of a marketing expert specially trained to motivate customers to buy. Customer-oriented commerce today is essential to the maintenance of the social system, especially with respect to its free market economy.

In the shops, money is exchanged for the use and prestige of real things or services. "Keeping up with the

Joneses" keeps the merchants in business.⁴ In the commercial establishment manufacturers have the opportunity to sell their goods and consumers have the opportunity to buy them. This distributive function of commerce is essential to integrate the many parts of a highly specialized economy. It is not surprising that the shopping centres are a community focus.

Despite its distributive values, the orientation towards returns on investment predominates commercial activity. "Whatever social, cultural, or political impact a shopping development might have on its community, its essential purpose is economic."⁵

Economic profit arises out of the mediation between a supply of marketable items and the demand for them. These are the two cornerstones of the free market economy. Profit is the remaining margin between the resale value of a product and its costs to the retailer.⁶ The ideal situation would be a market with an unlimited demand. The next best would be a shopping centre, where "a person could live out his or her whole life, except for being born and being buried."⁷

With an increase of competition amongst vendors and spending power amongst customers, the attention of merchants shifts from the satisfaction to the creation of a demand.

A customer is a person, who is aware of a need which is later satisfied. Creating customers therefore means creating an awareness of needs which must be a preliminary to the making of sales.⁸

Creating a lot of customers by the most rational means is efficient marketing if it increases demand. This will either result in a high turnover of mass produced goods or in a rising value, where the supply is limited, such as in real estate or in the art market.⁹

Therefore the commercial enterprise has two goals: to get as many buyers as possible and to motivate them to buy. I shall focus on these goals when examining the plans of the shopping centre with regards to the profit orientation. Shopping centres are placed in highly trafficked areas. This fact reveals a key strategy for the creation of demand, namely convenience. Shopping centres are planned to set the stage on which exchange may take place.

The shopping centre is an agglomeration of shops; much of the following is also relevant to the individual shop. Specifically I shall discuss the following points:

Section 2. The selection of shopping centre location as a basis for successful profit making;

Section 3. The attraction of the shopping centre to the outside and the inside boundaries where the exchange takes place;

Section 4. The layout and designation of places for the performance of the exchange ritual;

Section 5. The paths directing activity towards the exchange performance;

Section 6. The edges of the individual shop repeating the three stages of the exchange process on a smaller

scale: outside attraction, inside capture and exchange of rights.

Section 7. Summary.

2 The Location of the Commercial Enterprise, Specifically The Shopping centre

In this section I will discuss the criteria for site selection of commercial enterprises in the human settlement, specifically with reference to the shopping centre.

The owner and various consultants select the site of a shopping centre in terms of gaining the highest possible returns. All their investigations rest on the desire to be at the right place at the right time, to attract customers.¹⁰

In contrast, the pedlar, approaches his customers. Not tied to a specific place, he carries his establishment with him into homes. His place is in the streets which form a communal circulation system. The mail order store, a more recent enterprise of a similar nature, makes use of the parcel post, which is another communal circulation system.

At permanent market places, both customers and traders travel to meet at publicly designated places and times. A guideline for establishing a market place is to locate it at the intersection of busy roads (see Figure 5-1, page 176 for an example from Ghana). A further development is division of the area of the market according to the different items held for sale (Figure 5-2, page 176).

WHERE ONE OR MORE BUSY ROADS PASS THROUGH THE VILLAGE - PLACE THE MARKET ON THE SIDE OF THE VILLAGE WHICH HAS THE MOST TRAFFIC

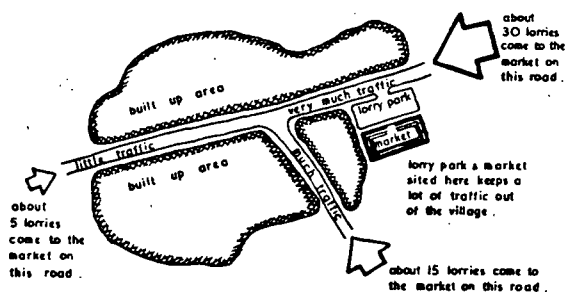


Figure 5-1. Market location

DIVIDE THE AREA INTO TRADES

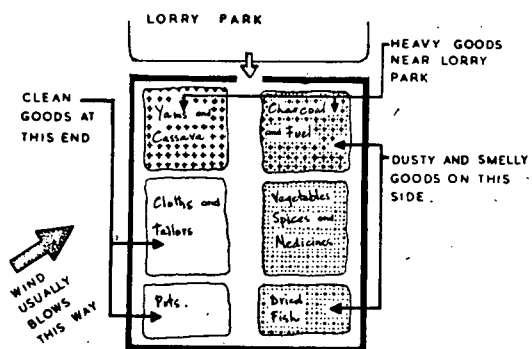


Figure 5-2. Market subdivision

Market places play an important role in increasing community size and activity. At the same time they are sustained by the resources of the community. With the development of commerce, however, market places grew up outside of the walls of the cities sustaining them. Cities expanded and "the demolition of their urban walls was both practical and symbolic."¹¹ The right to place and land changed from feudal lease to private ownership. "When land became a commodity, not a stewardship, it passed out of any kind of communal control."¹²

As a result buildings and installations,

...were no longer seen as lasting solutions made possible by an outlay of permanently frozen capital, but as an investment that could regularly be redeemed, together with the other means of production.¹³

Principally the value of commercial land, then and later, stands in direct proportion to the value of its location.

For example, the price of land for a gas station reflects its potential for turnover and investment return (See Figure 5-3). At the intersection illustrated, the cheapest corner is the one before the traffic light (A). The turn-around

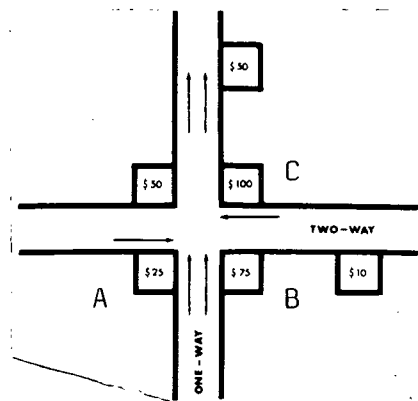
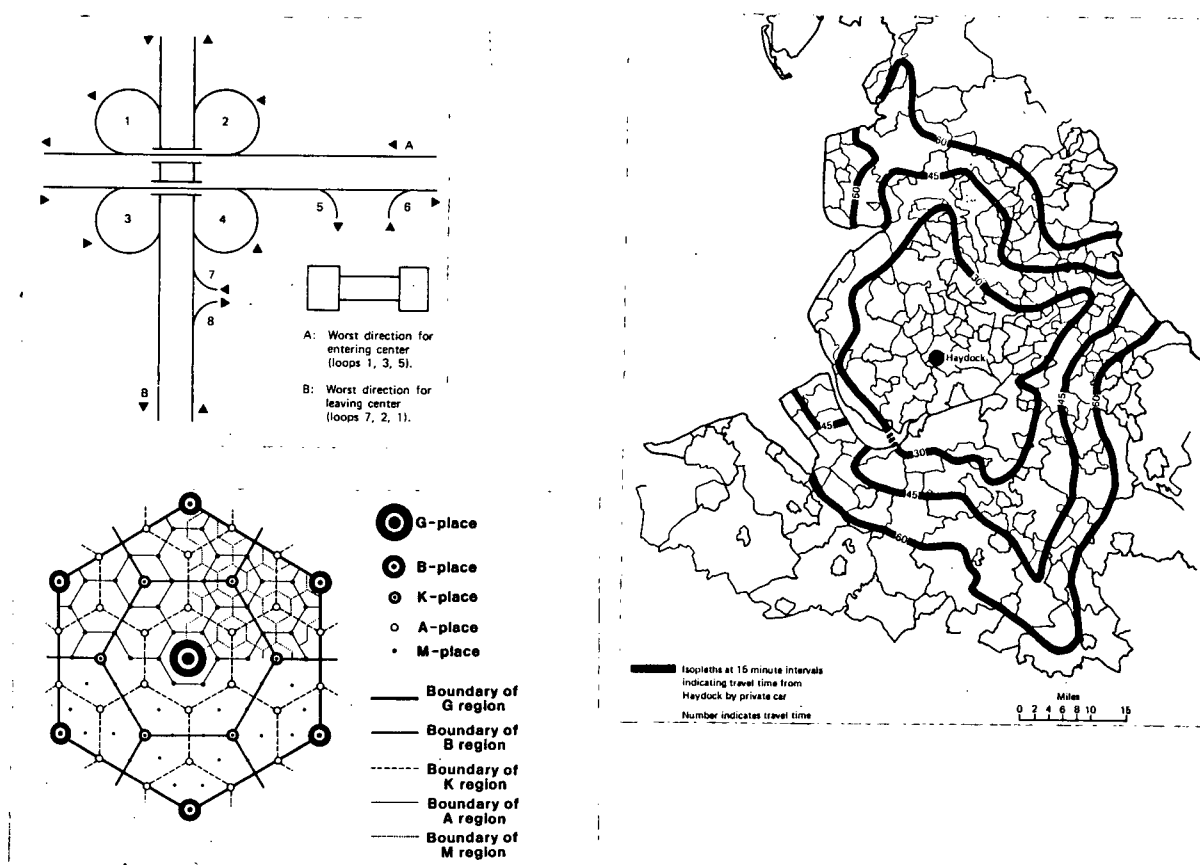


Figure 5-3. Land value and location

corner has more potential to draw in customers and is therefore more expensive (B). Most expensive and most attractive, though, is the corner on the other side of the traffic lights (C).¹⁴ The location with the longest exposure to the most motorists is clearly most valuable.

Yet there are limits to commercial growth, set by the traffic conditions and the convenience with which customers can be served. At times, some of the most valuable city sites could no longer return an adequate profit margin, as the average driving speed on inner-city streets diminished to eight miles per hour.¹⁵ Furthermore, scarcity of parking spaces and congested pedestrian walkways limited access to downtown stores. In the automobile age, the out of town shopping centre represents a solution to the downtown congestion. As a recent alternative, pedestrian zones and malls have brought back customers to the inner city.



Above, Figure 5-4. Shopping centre access
 Below, Figure 5-5. System of central places
 Right, Figure 5-6. Location and relative accessibility

The site for the shopping centre usually is selected on the basis of a traffic study and a market analysis to ascertain the potential returns of the new centre. A location with a lot of traffic is favoured as it will expose more customers to the centre, thereby increasing demand (Figure 5-4, page ..). Through the traffic study the areas from which customers can be drawn are defined; these are called catchment areas. They are established by measuring the travel times to the centre and plotting them in intervals of five minutes.¹⁶

Market places were located to serve an established need for the distribution of goods. The classical model for this is described by the central place theory: each of a hierarchy of market centres serves the demand of a hexagonal region with a specific selection of stock (Figure 5-5, page 179).¹⁷

In contrast, the location of the shopping centre is determined by the possibility of creating demand. The catchment area is not defined regionally but by the convenience of access measured in driving time. The size and shape of the catchment area change with the size and quality of the roads and the density of traffic (Figure 5-6, page 179). Contrary to the central place theory, the location of the shopping centre is not determined by a predefined region, but rather a region can become identified by the shopping centre as a landmark.¹⁸

While traffic studies reveal customer potential by catchment areas, it is also important to know how much money a given customer may be likely to spend. Market research analyzes family size, age group, number of cars, family income, and especially, spending habits of residents in a catchment area (Table 5-1, page 181). Rough data are supplied by censuses and are updated by a research survey.¹⁹

They are an indication of how much turnover can be expected in what kind of merchandise. Sometimes proposed location does not promise enough turnover for the kinds of retail

PATTERNS OF CONSUMPTION BY SOCIAL CLASS

1962

Class of expenditure	Per capita income and expenditure in a low class family expressed as a percentage of those in a high class family
Convenience goods	87
Durable goods	64
Total retail	77
Housing (including mortgages and fuel)	52
Motor vehicles	52
Services	48
Taxation, insurances and savings	42
Income	61

Table 5-1. Consumption patterns

outlets to which a proposed centre is committed. Accordingly market research not only is descriptive, but, like traffic studies, can also be prescriptive with respect to the siting of a shopping centre.

Thirdly, competition at a prospective site has to be considered. The site must be attractive enough to establish a clientele even though other centres may be competing for the same motorists in the vicinity. Accordingly, in addition to traffic and characteristics of potential customers, the more aesthetic a site, the more valuable it is likely to be.

A fourth determinant of shopping centre site location may be adjacent land which is valuable for expansion of the centre or for housing development. (See, for example, the Crossroads Center, Oklahoma City, Figure 5-7, page 182) Through creation of adjacent housing facilities, a shopping centre consortium can generate its own customer pool, to sustain the neighbourhood retail outlets serving as nuclei in the centre, such as drugstores and supermarkets.

Thus, in sum, while location of a shopping centre

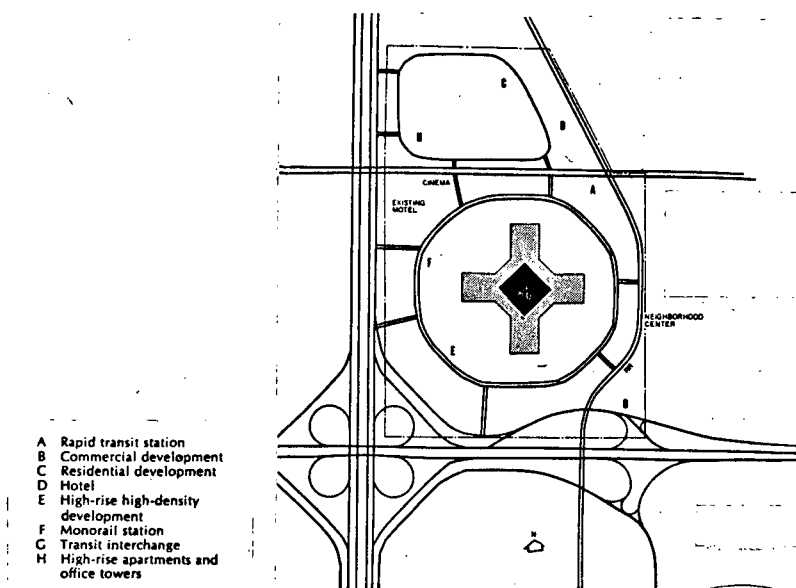


Figure 5-7. Crossroads Center

depends on classical market determinants in two respects -- actual and potential traffic and the purchasing propensities of potential customers -- the need to generate and sustain customers also makes site aesthetics and expansibility important in site selection. In a sense -- in terms of door-to-door driving time rather than distances -- the automobile has generated hypothetical "central places" removed towards the perimeters of cities or outside of them. The siting of shopping centres reifies these places and reinforces them by nucleation of resources and housing thereabouts.

3 The Outside Perimeter and the Inside Boundary of the Shopping Center

There are three stages in the commercial exchange process: the outside attraction, the inside capture and the

actual exchange ritual.²⁰ All three are related to physical building conditions. The shopping centre is a superstructure which attracts visitors into individual shops. In this section I will discuss the perimeter of the shopping centre and the boundaries separating a front and a backstage in shops.

The shopping centre is sited close to major traffic arteries or highway crossroads.

But unless the interchange provides for fairly easy and safe access from all directions, such a choice could prove disastrous. A customer who gets trapped in the intricate patter of a modified cloverleaf may not return soon, or ever.²¹

Consequently the perimeter is designed to invite motorists to enter. Upon entering the site through the driveway the motorist is received by a vast parking area. This is the first introduction to the premises, and it is important that "parking arrangements should be expressly for the convenience of the shopping centre patron, with the greatest supply of parking spaces most easily accessible from the heaviest approach direction."²²

From the traffic and market analysis the size of the centre and the number of parking spaces are determined. There are approximately six to eight parking spaces per one thousand square feet of Gross Leaseable Area (GLA).²³ The exact number is determined by the average weekly peak hour frequency.²⁴ Other organisations might settle for a medium frequency target for accommodation of cars, but here every

customer counts.

Upon leaving the car the customer proceeds to the structural entrances which "...should be designed to conveniently fit the customer parking."²⁵ It is very important that the parking aisles be laid out perpendicular to the buildings, so that customers do not have to walk between cars and are led to the entrances.²⁶ See, for example, the Randhurst Shopping Center, Illinois in Figure 5-8)

- Key:
- 1 Convenience centre
 - 2 Cinema
 - 3 Weiboldt's T B A
 - 4 Bank
 - 5 Weiboldt's department store (3 levels)
 - 6 Carson Pirie Scott department store (3 levels)
 - 7 Ward's department store (3 levels)
 - 8 Mall
 - 9 Postal unit
 - 10 Ward's T B A
 - 11 Restaurants over shops

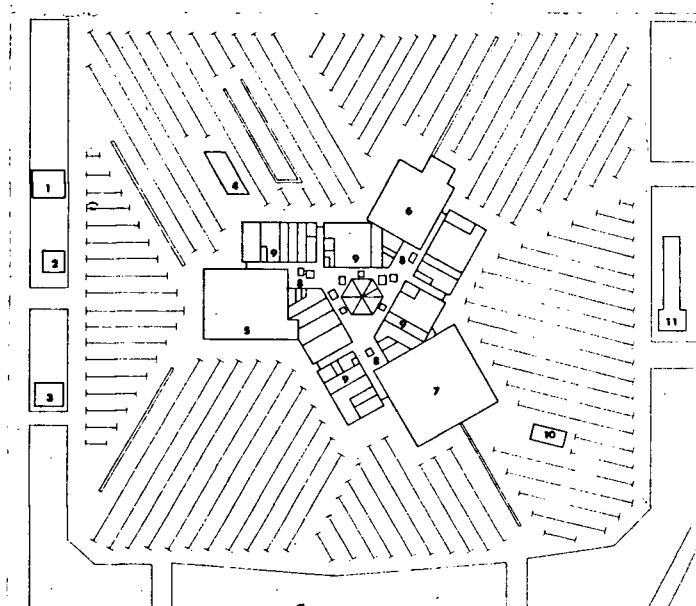


Figure 5-8. Randhurst Shopping Center

In addition to the parking amenities there are graphic signs on the perimeter orienting and attracting visitors.

It was the sign that directed Ray Kroc to the McDonald's hamburger stand: two radiant arches blazing quietly in the hot sun. But what struck the Chicago visitor even more as he drew closer were the people that flocked between them ...²⁷

Robert Venturi distinguishes between the decoration and the building structure. Decoration can be an integral part of

the built form, or it may be a second layer in front of the structure, which defines the building as a "decorated shed".²⁸ In either case the appearance carries a message which is distinct from the arrangement and uses of places. For example, the MacDonald's arches would lose a lot of their meaning without the shed and the food outlet they designate.

Graphic decoration on the perimeter of the site and on the outside of the building shell attracts and orients visitors towards entering the shopping centre. Often the building shell may not be more than a structure to accommodate clusters of decorated sheds. The entrances in plan accommodate the activity generated by the decorative signs.

The vast parking areas, necessary to accommodate the cars, are usually unattractive. Landscaping is calculated to humanize the sterile patterns without consuming much real estate.²⁹ The the activity in the area can also be livened up by introducing small retail and non-retail establishments along the perimeter, like theatres, cinemas or "TBA" (Tire, Battery and Car Accessories).³⁰

As they enter the driveway and park their cars, customers are oriented towards the central buildings. They are encouraged to penetrate deeper into the structure and closer to the merchandise in individual shops.

Service personnel so commonly take for granted the right to keep the audience away from the back region that attention is drawn more to cases where

this common strategy cannot be applied than to cases where it can. For example, the American filling station manager has numerous troubles in this regard...when the mechanic makes repairs or adjustments, customers often feel they have the right to watch him as he does his work. If an illusory service is to be rendered and charged for, it must, therefore, be rendered before the very person who is to be taken in by it.³¹

A boundary between front and backstage is characteristic of traditional shops. This boundary may be defined by the limits of a table, a stack of crates or an elaborate counter desk. This boundary is essential; it marks a demarcation line between what is a retailer's zone and that of the customers. It furthermore establishes the starting positions for an exchange ritual.³² The frontstage is where the customers explore or express their wishes; the backstage is where the retailer stores money and merchandise. Conditions for an exchange are negotiated across the boundary between frontstage and backstage (see store in Ghana, Figure 5-9, page 187). The consumer negotiates the market price of goods, while the production and distribution costs are known only behind the boundary. The difference, the profit, lies between the backstage cost and the frontstage price.

In a self-service layout the boundary moves towards the exit. A major part of the merchandise is displayed in areas open to the customer. The boundary is separated into a check-out counter at the exit and a storage area behind the shelf and display area (see supermarket in Figure 5-10). In

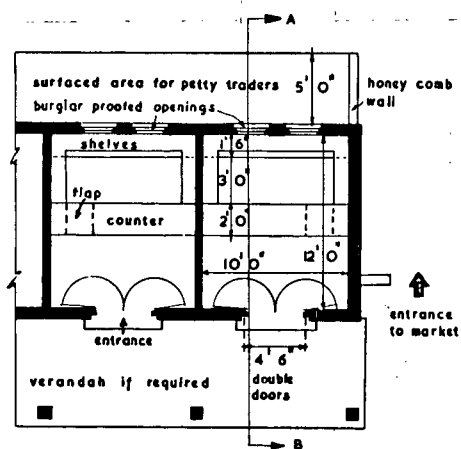


Figure 5-9. Service layout

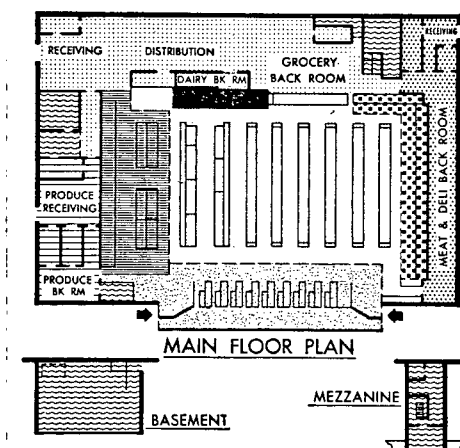


Figure 5-10. Self-service layout

both cases -- traditional shop and self-service market -- a boundary serves to define rights of possessions and facilitates the exchange ritual. The way to this boundary, from the driveway entrance to the centre and into the shops, is made as attractive as possible.

To aid customer convenience, service and customer entrances of the modern shopping centre are separated. If possible, the shops inside also maintain separate entrances. If this is not possible, then time of use is stratified; delivery of goods and disposal of waste will take place before or after opening hours.³³

During shopping hours, the shopping centre is highly permeable, with very little or no visible space on the sales floors allocated to exclusive use by staff. In this way visible barriers to customer access to goods are minimized and made negligible. At the same time barriers to backstage spaces for storage and employee facilities are made highly

impenetrable through the use of small obscure doors in back walls or by use of large doors so massive that they look like walls. This is the key characteristic of modern stores in shopping centres: their lack of doors (so often the mall is weathertight), their extreme openness and accessibility and the impenetrable backstage spaces, if they have any.

4 The Layout of the Shopping Center and the Designation of Places

The shopping centre plan is laid out to get the visitor to move closer to the inside shops and to remain in their vicinity. Essentially it is a privately-owned substitute for the communal marketplace. In the following section I shall discuss the layout of the shopping centre structure, of the department store units connecting customer corridors as the core-areas, and the supporting areas serving the tenants and creating a persuasive shopping atmosphere.

4.1 Shop mix and arrangement

The data from the market research will tell the developer the quantity and selection of goods likely to sell in the given catchment area. From these data, the participating merchants of the centre are selected; they form the shopping of the centre.

It is in the interest of the landlord that tenants have a maximum of sales. Therefore competition within the centre is reduced to a minimum; tenants should not compete with but rather complement each other. A profitable merchant layout

is determined with the "Nelson Formula". It bases its recommendations on a relationship between intentional and incidental purchases. Shops are compatible neighbours if 10-20% of their customers visit both; they are not compatible if less than one percent of customers patronize both stores. General food and hardware -- appliances, radio, household goods -- are compatible in most locations; shoe and clothing stores, however, should be near a major retail outlet. Service shops can be located in sidemalls, as they would do business anyway; that is, demand for their services is relatively inelastic.³⁴ Restaurants and drug stores need outside frontage because they may be open late after a shopping centre is locked up.³⁵

NATIONAL FLOOR SPACE REQUIREMENTS BASED ON 1961
CENSUS OF DISTRIBUTION

	Sales per head of population (£ per year)	Sales per square foot (£ per year)	Gross floor space requirements (square feet per head)
Food	81.4	36	2.26
Confectionery/tobacco	12.0	24	0.50
Clothing	27.2	21	1.29
Hardware	15.4	14	1.10
Books/stationery	4.6	16	0.29
Chemists	5.1	29	0.18
Furniture	7.8	19	0.41
Jewellery and leather	1.7	15	0.11
Catering	25.2	16	1.58
Motor vehicles	18.5	115	0.17
Total			7.89

Table 5-2. Space budget

Table 5-2 (page 190) gives rough estimates for a space budget, that is the amount of floorspace required to satisfy the anticipated demands in 1960 in the United Kingdom; these will, of course, vary by date, country and concerns of those in a given catchment area. As part of the landlord's rental returns accrue from sales of his tenants, capital layouts

(in terms of space and shop-frontage allowances) are adjusted to the anticipated sales. The standard width of a shopping centre is 350-400 feet, which leaves a possible 150 feet depth of tenant space on both sides of a corridor.³⁶

Table 5-3 (page 190) shows in 1963 dimensions recommended dimensions for frontage and of various types of shops in British shopping centres. A food store, for example, requires a frontage 20% of its depth, while a furniture store benefits from proportionally twice as much.³⁷

RECOMMENDED DIMENSIONS FOR DIFFERENT TENANT UNITS 1963 ⁷			
Unit type	Frontage (feet)	Depth (feet)	Remarks
Traditional food shop	25 min.	80	
Off-licence	15-20	100	On main routes
	15-20	40	On secondary routes
	18-20	20-30	Plus additional storage
Shoe shops	18	70	For population under 25,000 plus first floor storage space
	22	100	For population over 25,000
	33	100	On main routes
	20	80	Plus first floor storage space
Shoe repairs	13-18	24	Plus same area for stock and workrooms
Men's wear	18-20	60-80	
	20	80	Plus first floor
Women's wear, woollens and accessories	18	50	
	18	30-35	Plus first floor
	20	80	
	20	40-60	Plus first floor
Newsagents, booksellers	25	60-70	Plus first floor storage
Chemist, hardware	18	50	For smaller tenants
	40	100	For major tenants
Furniture	40	100	For ground floor, plus 8,000-10,000 on floors

Table 5-3. Unit dimensions

4.2 Magnets

The most important mission assigned to the shopping centre superstructure -- corridors and adjoining spaces -- is to get customers to go close to the inside of shops and to remain in their vicinity. This is a prerequisite for sales and therefore supportive of the profit of tenants. On the other hand, for the landlord, it is the most central function is to keep the centre in operation and to get a

return on his investments. In this sense, spaces for key-tenants or magnets and the connecting corridor past smaller tenants -- often a central spine -- are core-places.

The first shopping centres of the late nineteen fifties were modelled after the traditional village square or mainstreet strip. There were shops on both sides of an open mall or around a carpark square. Progressively, thereafter, malls were covered both to create a more comfortable and seductive environment and also to focus customer attention on the attractions inside.

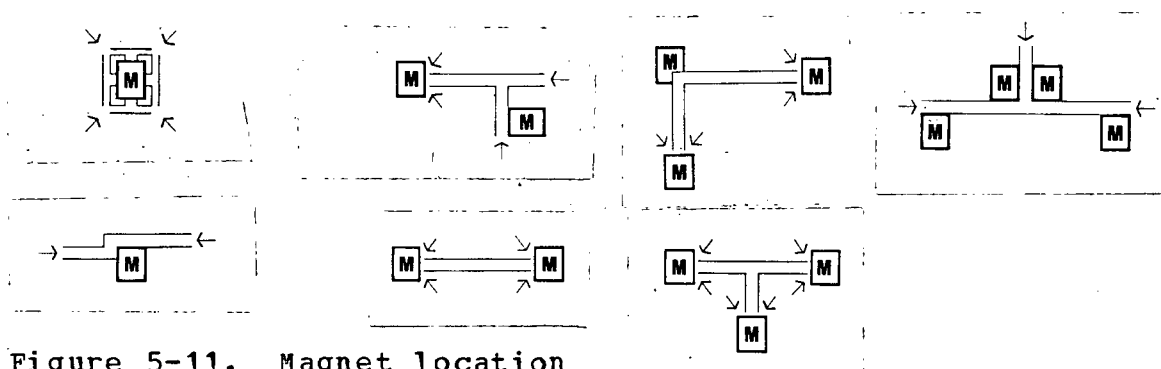


Figure 5-11. Magnet location

"North American regional centres are literally built around their department store elements."³⁸ The latter are also referred to as "magnets", which generate movement down the centre, "past shops of lower attraction and thus maximizing turnover for all tenants."³⁹ Consequently most shops in a shopping mall are anchored around the corridors leading to one or more connecting department stores (see Figure 5-11).

In the one-magnet centre, small shops are grouped around a department store in the middle, as in the Exton

Square Center, Pennsylvania (Figure 5-12). The magnet draws the customers through several entrances and filters them through smaller stores. The two magnet centre usually

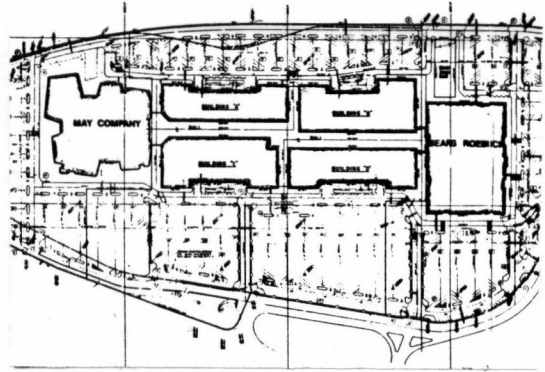
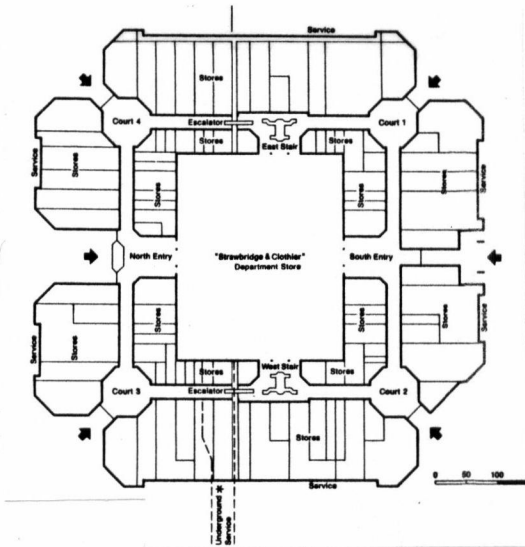


Figure 5-12. Exton Square Figure 5-13. "The Esplanade" follows a dumb-bell layout. Department stores on both ends of a mall draw the customers through the corridor past the other tenants (see, for example, "The Esplanade", Oxnard, California in Figure 5-13).

Experience shows that the drawing power of the magnets is limited to about 300-400 feet per department store.⁴⁰ If the distance is longer visitors will not walk through the whole length of the corridor and thus miss exposure to shops...or if they do walk the distance, become fatigued by doing so, and leave the scene. Thus with additional malls or buyers, more magnets have to be added. Three magnets may be used to form an L-shaped plan, or a T-shaped plan. Four department stores seems to be the maximum number of magnets,

as the catchment areas required to support them become so large as to generate substantial congestion.

The principle of using magnets to create customers has long been in use by supermarkets.

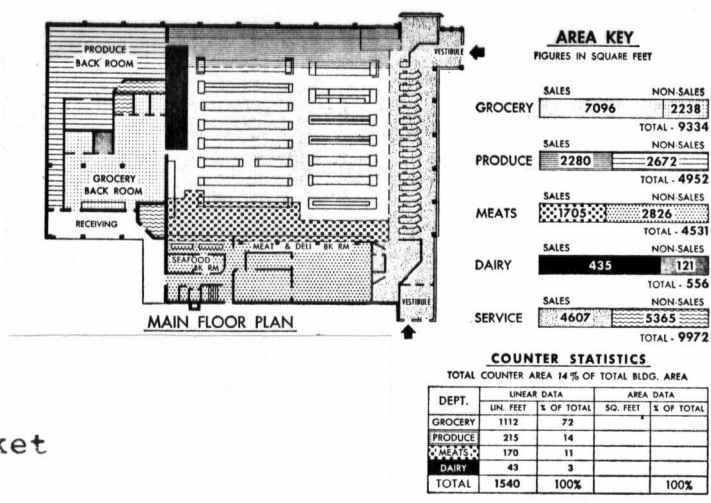


Figure 5-14. Supermarket

One of the reasons why it is so important to get exposure of all items to all customers is that two-thirds of the items that the average shopper takes out of the market are bought "on impulse". Unseen, therefore, is unsold.⁴¹

In the supermarket the four essentials of the daily diet -- meat, vegetables, bread and dairy products -- are located around the perimeter (see Figure 5-14). As "customers tend to move like mice scurrying along the walls"⁴², they will at least move once around the store. This exposes them to all the items facing the walls and the end isle displays. Usually these items are those with the biggest markup per unit sale: drugs and cosmetics, 36-39%; household supplies, 25% and more; beverages, candy, paper products, frozen goods, tea, 20-25%.⁴³

The department stores in a shopping centre serve the

same circulation function; they also attract people into the mall in the first place. Through national advertising and through national distribution of branches, they strive to keep and increase their share of the market. Therefore the biggest department stores press for representation in a catchment area, especially when their competitors are already present. When, for example, the new shopping centre "Landmark" was constructed near Springfield, Virginia, it was still considered worthwhile to develop another one four miles down the road; the department stores not represented in the first centre pressed into the second to share the auto-based consumer traffic generated by the first.⁴⁴ In this respect department stores not only generate activity in the centre and to the centre, but are also a major force in generating a consumer flow that other centres may tap.

La Puente shopping centre, California, USA
Architects: Gruen Associates

Key:

- 1 Drug store
- 2 Penney's department store
- 3 Central Court
- 4 Upper-lever mall
- 5 Escalators
- 6 Restaurant
- 7 Shop units
- 8 Robinson's department store

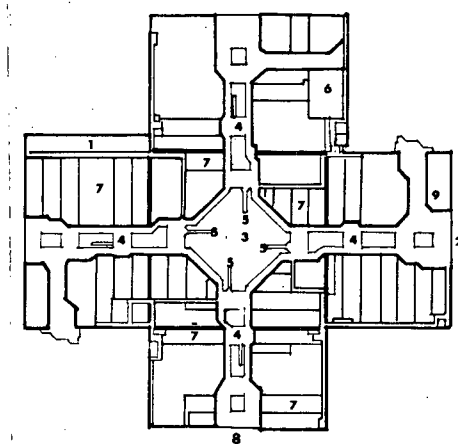


Figure 5-15. La Puente Shopping Center

Usually, major department stores contribute substantially to the financing of a new centre, because it

serves them as a traffic generator. Since they plan and pay for their occupied parts in a centre, they pay lower rents. In some instances they completely finance their own stores, leaving to the developer only the financing of the mall and the smaller tenant spaces.⁴⁵ See, for example, the plan for La Puente Shopping Center, California (Figure 5-15, page 194), which is a central building with open ended corridors allowing for up to four magnets, each to be built and planned independently by prospective tenants.

4.3 Support and delivery areas

The retailer essentially supplies space for the display of goods. Therefore retailers will strive to have most of their stock out front, where it can be sold and a profit made. One modern means for cutting down storage space is computerized recording cash registers; any item sold can be immediately reordered for prompt delivery.

Generally, stored goods must be held within the leased area. As space is scarce and expensive, storage spaces, like staff toilets, offices and lounges, are reduced to a minimum.⁴⁶ Present marketing techniques cut down backstage areas in order to use most of the available space for the display and turnover of merchandise. The retailer in the shopping centre, similar to the travelling trader, tries to keep his stockage at low levels, by deferring selection of goods to customers and by relying on high speed wholesale or retail distribution.

In ordinary retailing, streets and alleys in front and

back of a shop support other than commercial activity. In contrast, the shopping centre as a private installation is designed primarily to do business and to make a profit; its "streets" and "lanes" can be manipulated to this end.

Yet some of the non-commercial amenities of the city environment are brought also into the shopping centre.

Shopping centres are now trying to establish a new image, playing down the purely commercial aspects of their existence and substituting the picture of a community-minded organisation, providing a place where people can convene socially.⁴⁷

The mall, for example, is broken up by courtyards, which create small squares as focal magnets. These courtyards can also be profitably used for promotional activities.⁴⁸

Playgrounds for children in the centre will "rid mothers or parents of children -- hopefully long enough to extend the adults' buying potential."⁴⁹ Community rooms add other non-retail uses -- such as weddings, lectures, assemblies -- and they assert the centre's important position in the social and cultural community life. Besides, these rooms require no frontage and can be located in places that would be hard to lease anyway⁵⁰ (see Figure 5-16, page 197).

Customer facilities are financed and built to attract customers and to create an atmosphere conducive to for higher turnovers. For example, with regards to seating arrangements in the mall,

It has been shown, however, that in some centres, older people gather on the benches and spend a good part of the day there. There are subtle methods to discourage unlimited use of the seating facilities. The simplest way is not to make the seats too comfortable. Benches can be constructed with slat seats, which become tiring after a while; they can be built without backrests and spaced away from walls.⁵¹

A = Community center
B = Mechanical rooms
C = Health studio
D = Cleaners
E = Restaurant
F = Drugstore

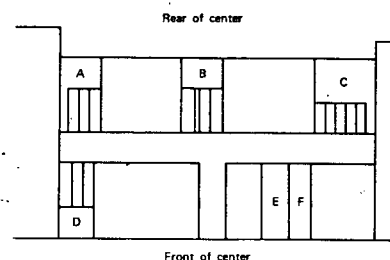


Figure 5-16. Location of Stores

Development of such amenities is, of course, not altruistic. It is aimed at gaining more customers and encouraging them to spend more by staying longer in a pleasant place. Thus little or no space or resources are allocated to persons or groups who are not customers or to amenities which support management and staff rather than customers. Thus, for example, employee parking "should be separated from the public areas, or confined to the outermost spaces."⁵² This is a measure impossible to imagine, for example, in an university, where it is the other way around.

4.4 Administration of the shopping center

Economic power was defined earlier as the right of ownership; the right to adjust the terms of the exchange of ownership lies in the hands of the individual retailer and not in the hands of the shopping centre administration. The

latter serves tenants in maintaining the building facilities and in surveying the centre for potential and actual disruptions, such as shoplifting or demonstrations.⁵³ A small administration office is located away from the sales floors -- preferably on the top overlooking the mall. The minimal spaces for the maintenance staff are in the basement or near the docking facilities, and out of sight of pedestrians.⁵⁴ The manager's office and staff rooms most likely are only accessible by backstairs or private elevators, which underlines the unpretentious role of administration in the shopping centre.

4.5 Summary of this section

The layout of the shopping centre is carefully adjusted to the profit motive. Each planning measure, from the size of spaces and their designation to the form of seating arrangements, is weighed against an improvement of turnover. The landlord of the centre is mostly concerned with attracting customers and consequently tenants. The power to sell and therefore the primary profit lies in the hands of the individual retailer. The landlord will make his profit from the profit of tenants.

5 Paths and the Direction of Activity

In this section I will discuss paths in a shopping centre as a means to direct and generate pedestrian movement.

Customers are created by exposing all tenants to a

steady flow of visitors. Through the layout of the parking aisles, visitors are lead into a central corridor or mall. By adjusting the length and width of this corridor, visitors are persuaded to circulate past all shops.

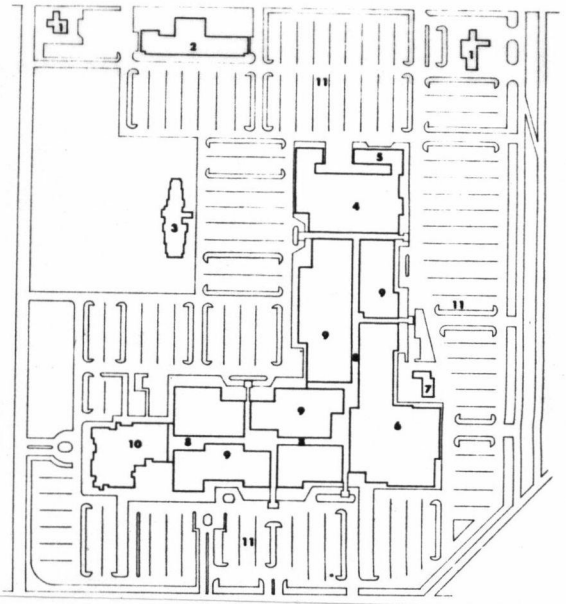
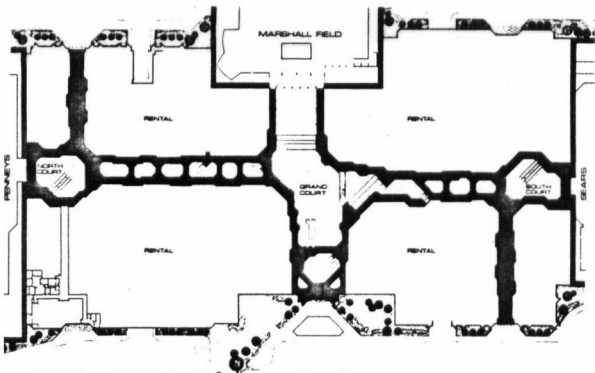
The optimum length results from the magnetic draw of department stores; 300-400 feet per department store. Smaller distances will hardly occur, as the landlords try to accommodate a maximum of tenants. Longer distances will reduce complete circulation and thus exposure of all shops. A dumb-bell, a central T or X-shaped plan will make most effective use of this draw. The L-shaped plan divides the main corridor into two sections and reduces exposure of tenants in both of them. See, for example, the North Park shopping centre, Texas (Figure 5-17, page 200). Here, there is a problem of distance, as each arm of the main corridor measures more than 600 feet.⁵⁵ To encourage spending it is also important to control speed of motion and exposure time of each store. If visitors move too fast, impulse purchases decrease as customers spend too little time in front of each shop. If they move too slowly, customers may spend all their money before getting through the mall. The width of the mall is decisive in controlling speed.

To allow for impulse shopping, a mall should be narrow, possibly 25 feet wide to be most effective, but this would destroy amenity and cause congestion, for which 80 feet might be a desirable width.⁵⁶

Most shopping centers settle for a compromise: 40 feet, plus

Right, Figure 5-17.
North Park shopping center

Below, Figure 5-18.
Woodfield Mall



Key:

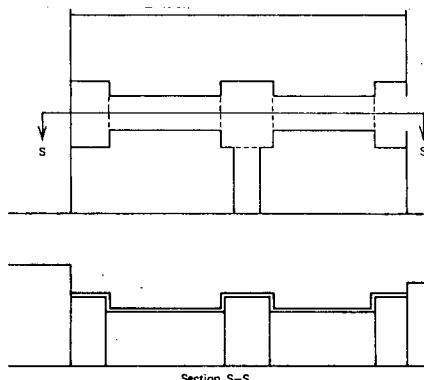
- | | |
|--|---|
| 1 Service station | 5 Penney's T B A |
| 2 Convenience centre | 6 Titche—Goettinger department store (3 levels) |
| 3 Twin cinema | 7 Titche—Goettinger T B A |
| 4 Penney's department store (3 levels) | 8 Mall |
| | 9 Shops |
| | 10 Nieman—Marcus department store (2 levels) |
| | 11 Parking |

or minus the width of occasional niches and kiosks.⁵⁷ However, in the split level plan upstairs galleries cover only part of the main mall width. (See, for example, the dark areas in the plan of the Woodfield Mall, Schaumburg, Illinois, Figure 5-18) there the contrast in density and the exciting glimpses between levels will invite visitors to use both.⁵⁸ In the nineteen fifties double level malls were abandoned,

...since it had been found that the secondary level, not being a part of the main pedestrian flow, was isolated and therefore unable to support rental levels appropriate to the covered centres.⁵⁹

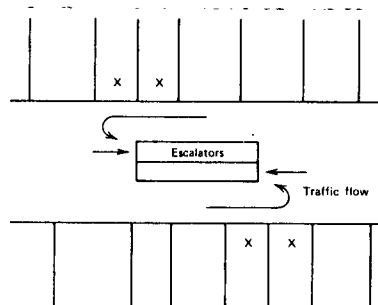
This deficiency was overcome by the strategic location of traffic generators and by the split level mall, where visual and aural contact between levels is constantly maintained.

Psychological and physical fatigue of the "tunnel effect" can reduce turnovers severely. One solution is to make the mall shorter by making use of a split level. A solution to psychological fatigue is a staggered layout of the corridor, which breaks it midway. This way, shoppers will be able to see both ends only from a small area in the middle of the mall⁶⁰ (see, for example, "The Esplanade", Figure 5-13, page 192). Also courtyards in the mall will break the monotony of a straight ceiling level and focus customer attention on the surrounding area⁶¹ (Figure 5-19, page 201).



Section S-S
Mall courts. Higher ceilings in the mall courts break the monotony of a long mall and permit the introduction of special decor features.

Figure 5-19. Mall courts



Effect of escalators on adjoining stores. Stores marked X may lose customers when there is a large crowd trying to get on the escalators.

Figure 5-20. Escalators

Essentially the physical conditions of the mall should encourage complete circulation. A very straightforward example for achieving complete circulation in a very different type of plan was set by the Star Market Corporation supermarket in Newtonville, Massachusetts. In

this store a one-way circulation system makes sure that customers, once they are in, go through the whole store.⁶² Shopping centres achieve similar effects, though with less obtrusive means.

Any permanent elements in the mall are problematic with regards to inhibiting pedestrian flow. Escalators in a two level mall have to be clearly visible and easily accessible. On the other hand they should not obstruct the view of adjoining storefronts (Figure 5-20). Furthermore, unless the mall widens, traffic congestion around lifts will complicate access to neighbouring stores and reduce their turnover.⁶³ Similar problems are encountered with temporary kiosks in a mall. While they render an additional income to the landlord, they can also be a visual and a traffic obstruction. Therefore the upper parts of their elevation should be open or fully transparent. In the case of a snack bar, littering can repel customers away from adjoining stores, and therefore trash removal must be handled carefully, e.g., by frequent cleanup.⁶⁴

Carpeting in the mall is a means to control speed of motion; the softer the material, the slower the movement.⁶⁵

On the other hand customers may be discouraged by carpet stains from cigarette burns or carpets soiled with chewing gum.⁶⁶

Natural lighting in the centre is limited in order to maintain a constant contrast between the mall illumination and the highlighted shopfronts. In some cases natural

lighting may even be unwanted, as glare from the sun could distract customers. Therefore eastern exposure of the centre is strongly recommended. "Usually by the time the centre opens for business, the sun is not shining directly in."⁶⁷

Back and frontstage paths should be separated. Delivering vehicles and garbage trucks should be directed on different routes from the customer driveways.⁶⁸ An effective layout provides more than one loading facility at the centre in order to cut down the handling distances of goods to the individual stores⁶⁹ (See, for example, the Sandwell Center, West Bromwich, Figure 5-21).

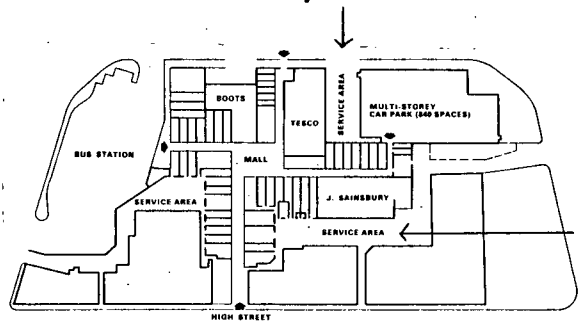


Figure 5-21. Sandwell Center

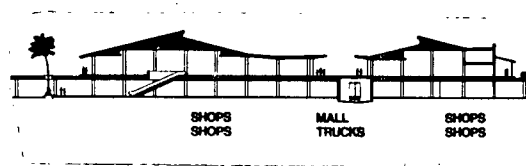


Figure 5-22. Trucking tunnels

Open mall shopping centres sometimes make use of underground trucking tunnels (see Figure 5-22, page 203). In the covered mall it is the shoppers who are tunnelled, while trucks can drive up behind a landscaped area and deliver their goods or pick up refuse.⁷⁰

Once the goods are inside the centre, delivery to the individual shops should be hidden from customers' view.

Tenants may have direct backstage access to service areas or a service corridor (see Figure 5-21, page 203). Otherwise deliveries have to be conducted in an "operation moondrop" outside the normal shopping hours.⁷¹ This of course is the regular procedure in traditional open markets.

The profit orientation seeks exposure to customers. To increase profits for landlords and tenants a maximum exposure is achieved through complete and controlled circulation. Furthermore, to maintain the retailer's position between consumer and producer, their paths have to be separated. This will support a positive insight into the inevitable exchange ritual and maintain its fascinating mystery.

6 The Edges of Shops and the Exchange Process

In the following examples I shall illustrate how some shops respond to the requirements for creating customers.

The visitors in the mall have to be attracted to stop and enter into the shop. This is the function of the edge between the mall and the shop interior. To stop passers-by, storefronts are sometimes arranged in a sawtooth fashion. This way windows face somewhat more towards the traffic flow so as to attract the shopper's eye. Also, the more angles on the edge of a path of a mall, the more likely it may be that a visitor will decelerate, stop and enter.⁷²

Eventually this leads to a sort of cave or grotto plan seen in recent shopping centres.⁷³ See, for example, the

Eastridge shopping centre, in San Jose, California (Figure 5-23).

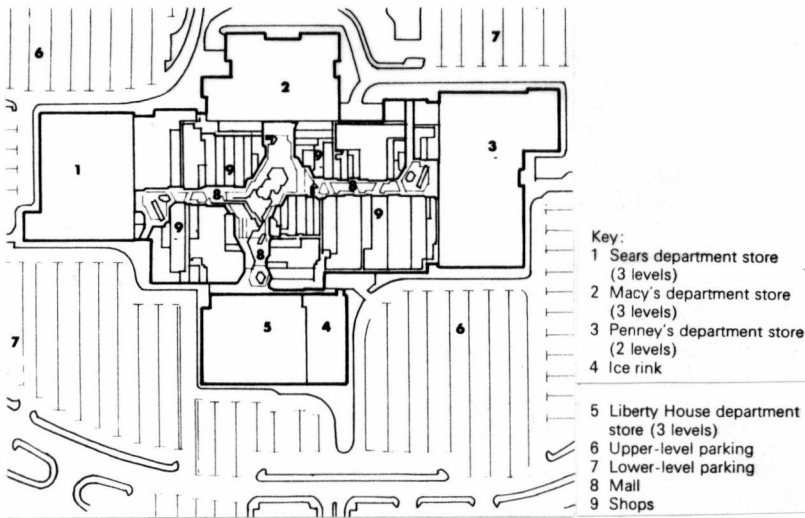


Figure 5-23. Eastridge shopping center

CHANGING ELEMENTS IN STORE FRONT STRUCTURE
(Display areas are shaded.)

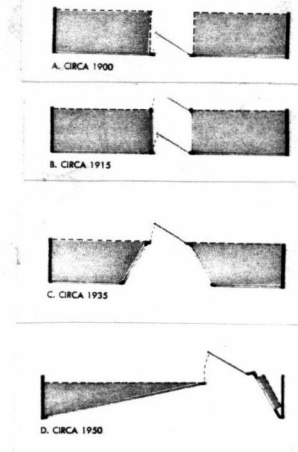


Figure 5-24.
Store-fronts

Essentially, the sawtooth edge is related to the recessed entrance developed in the fifties⁷⁴ (Figure 5-24). A recessed front entrance and a show window at an angle to the street are proven to attract pedestrians. They slow down and may step into the bay which brings them closer to the store entrance. They are likely to proceed further down the mall, if the depth of the bay is bigger than its width, so that the bay has a restrictive or closet-like quality. Furthermore the door often may be placed asymmetrically, so as to reduce formality of entering, which "would reduce the subconsciously growing tendency to buy."⁷⁵ Getting customers inside the shop is a major step towards a sale. Consequently the storefront edge is formed to lead customers inside.

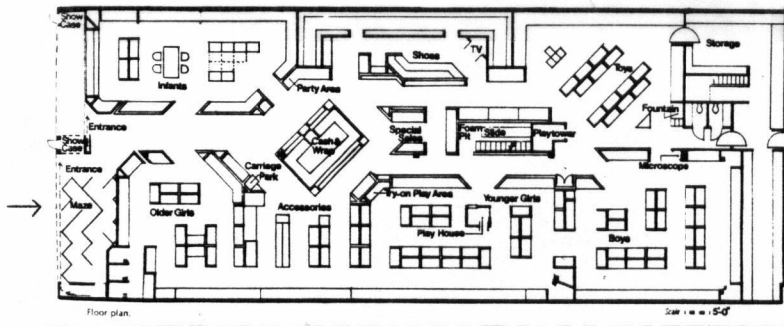


Figure 5-25. Children's Place



Figure 5-26. Airport Boutique

A clever example is given by "The Childrens Place" in the Willowbrook Mall, New Jersey (Figure 5-25). There a maze occupies half of the storefront. In playful exploration children -- and hopefully also their parents -- are drawn into the shop inside and the merchandise displayed.

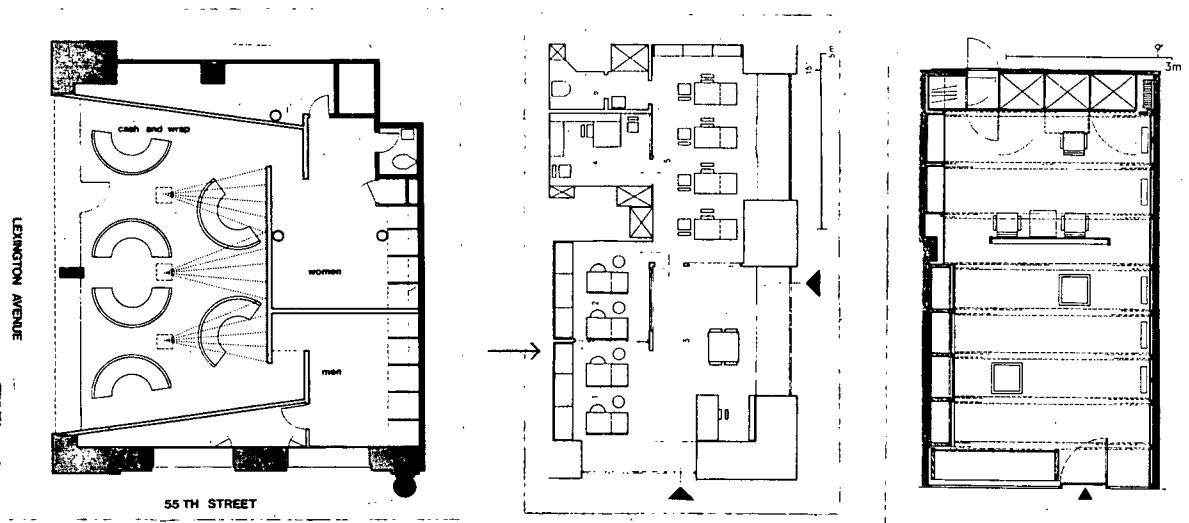
A virtual image often is transposed over a simple entry to a shop. The form of the entrance to the Airport Boutique, Main Place Mall, Buffalo, New York, represents a cloud (Figure 5-26, page 206). In plan it is a place to enter. The form is an icon, resembling a cloud; the activity it accommodates is an index, not for flying or rain, but for entering a clothes store.

Differences in lighting attract customers into shops and closer to merchandise. Frequently lighting contrasts complete substitutes for material edges. Bright spots draw people's attention. Therefore the mall is lighted with not less than 20 footcandles; yet the shopfronts are illuminated

to 300 footcandles.⁷⁶

Once inside the shops, customers are led close to the merchandise to motivate them to buy. Then the illumination level inside should drop to 60 footcandles, to allow "accent lighting of much higher levels for special displays."⁷⁷

In the "Paraphernalia" boutique, New York City, by Ulrich Franzen, outside attraction and inside capture are combined. A billboard of flashing projections at the back of the store is the principal display, sales, and design element, visible through the glass wall from the outside as well as from the inside. "The rest of the shop ... [is] near to being a non-object."⁷⁸ Yet there is a door through which the customers are drawn in and a number of dressing booths bringing them very close to the merchandise. Finally



Left, Figure 5-27. Paraphernalia Boutique
 Middle, Figure 5-28. Elna sewing machine shop
 Right, Figure 5-29. Jewellers shop.

there is a sales counter by the door where customers pay. These elements are simple compared to the glamorous

billboard yet they are vital for the exchange process (Figure 5-27, page 208).

The layout of the shop interior depends partly on the kind of merchandise it features. The stage will be set differently in a sewing machine shop from a jeweller's. In the former the usefulness of the item, in the latter its singularity, will be stressed. The Elna sewing machine shop in Vienna devotes four desks to the demonstration and customer try-out of their product (lower left hand corner in Figure 5-28). In a jewellers shop, for example, in Mannheim (Figure 5-29), a few cases in front suffice for limited display of merchandise. At a place behind the screen for individual consultation the interested customer may be invited to examine a selection. In "The Children's Place" (Figure 5-25, page ..) 20% of the selling area is designated as play area. The policy is to let children play and to let them convince their parents about the desirability of certain toys.⁷⁹ At the "Very Very Terry Jerry" shop in the Cannery, San Francisco, "...the windows really become show windows -- not for static display of mannequins and merchandise but for the much more interesting 'live' show"⁸⁰ (see Figure 5-30, page 209). Customers trying on clothes can enjoy their effect on a public presented to them as the audience outside on the corridor and walkway.

A shop plan in a covered mall should set favourable conditions for outside attraction and inside capture of consumers as well as some boundary across which the exchange

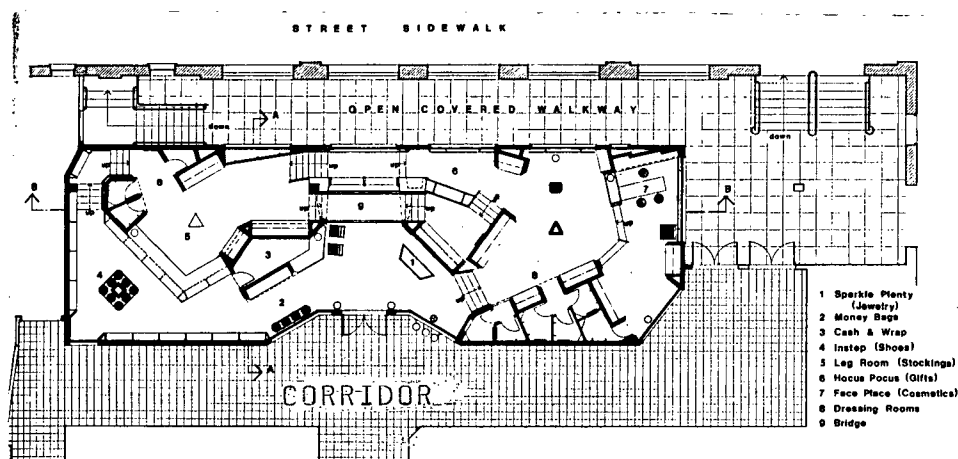


Figure 5-30. "Very Very Terry Jerry" boutique

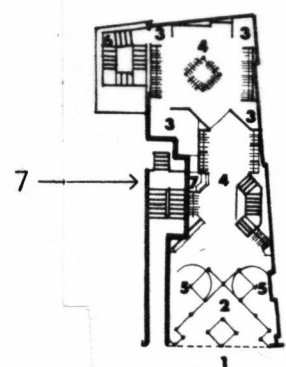
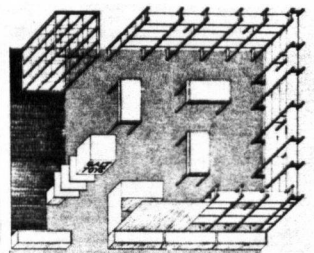
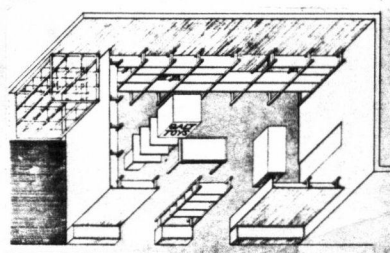
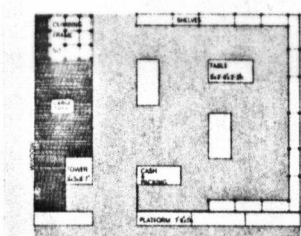
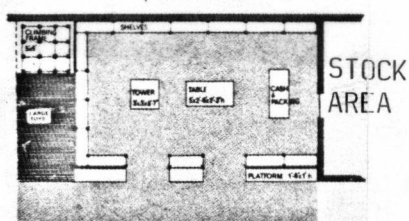
takes place. In the traditional shop layout a boundary before the stored merchandise keeps it out of the reach of customers. The sales clerk selects and presents goods according to customer requests. The claim to ownership of goods is refined by their being behind the sales boundary. This system presupposes that the customers are able to verbally express their intentions, which in drugstores used to lead to occasional embarrassment.

This is not necessary in the self service shop. Here the stocks are opened to the customers' inspection and to refreshen their minds or twig their fancy. Drawing customers close to the merchandise, while at the same time protecting the right to sell, are now the major concerns of the salesman. The locus of the final transaction -- the sale -- moves to the exit where the customer is required to pay.

Principally, consumption -- the use and using up of negotiated items -- comes after the exchange. Inside

capture only goes as far as to motivate the customer to buy. (In some cases, though, the customer consumes inside as, for example, in a cinema.)

In retail stores the stages of the shopping process proceed from outside attraction to inside capture and finally to the exchange of goods for money. The change in the locus of sale from the service counter to the self-service layout is illustrated by two different versions for sales areas in Galt Toyshops. In the service layout the cash system and



- 1 Brompton Road
- 2 Shop entrance
- 3 Changing areas
- 4 Display and sales areas
- 5 Display areas
- 6 Stairs to upper sales area
- 7 Cash

Left, Figure 5-31. Galt Toyshop, service layout
 Middle, Figure 5-32. Galt Toyshop, self-service layout
 Right, Figure 5-33. "Just Looking Boutique"

the counter are before the door to the stockroom (extreme right of plan, Figure 5-31, page 211); in the self-service layout the cash is in front of the exit (Figure 5-32, page 211). In a small shop like this the cashier will be able to welcome entering customers as well as screen those leaving through the same door. In larger enterprises, entrances and exits may be separated; the customer is free to enter

through a one-way door or a turnstile, but has to pass through a checkpoint on his way out as, for example, in a supermarket (see Figure 5-14, page 193).

In the sixties a trend towards more casual sales settings emerged. Shops for young people, also called boutiques, tried to create a relaxed atmosphere; the accent there was more on exhibiting goods, as in a gallery, rather than putting them up for sale. For example, the name of the "Just Looking Boutique" in London -- one of the first of its kind -- stands for the intentions of the owner and the architect.⁸¹ Here the cash is unobtrusively positioned between the stocks and clothes racks. (Figure 5-33, page 211).

With this kind of arrangement it becomes difficult to protect the ownership of goods and to enforce payment. To avoid this problem shop lifting controls may be installed, for example, a sensitized tag or wafer may be attached to all items.⁸²

After the exchange has taken place it is customary to pack or wrap goods at packing tables close to the cash register. See for example the plan for "Paraphernalia" (Figure 5-27, page ..). The wrapping protects the pristine nature of the purchase; it also symbolizes the retailer relinquishing his previous rights and guaranteeing no previous use. It is further a popular means of advertising the store's name and its merchandise.

The edges of shops set favourable conditions for

outside attraction, inside capture and exchange of rights. The market trader traditionally had to fill the roles of advertiser, negotiator and cashier in person; in the shop permanent building conditions diminish the formality of roles between the customer and retailer and encourage impulse purchasing.

7 Summary

For profit based on buying at wholesale and selling at retail, it is essential to have access to a market. The role of the trader emerges as a third party between consumer and producer. His profit can be seen as reimbursement for the services of appraising quality and distributing goods to satisfy established needs. The rights to a stall in a market place were at first a temporary concession; subsequently retailers acquired sites for permanent establishment. Near the entry to a traditional store a boundary protects the stock, the retailer's accounts and his position as negotiator. "The market" for goods was taken for granted. With the development of self-service and supermarkets in the twenties and thirties⁸³ it became useful and necessary to create and develop markets through advertising, display and merchandising.

The shopping centre is planned to create a market. Through its strategic location, it creates a market near major roadways. The outside perimeter is designed to draw in motorists; this creates customers forming a potential

market. The layout, core-areas and support-areas of the shopping centre set conditions to hold and capture the potential market: pedestrians on the premises. Through paths to vendors, pedestrians are distributed in the centre. Through highly visible and attractive places in the shopping centre, potential customers are induced to leave the highway, park and leave their cars and walk along the aisles, enter the complex and circulate between vendors.

Shopping centres in many ways appear to be modelled after traditional market places. Yet their plans are carefully examined and adjusted to avoid distractions from shopping and the congestion of downtown. Planning measures and physical plan conditions focus on one specific intention: selling in quest of profit.

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CHAPTER 6

CONCLUSIONS

1 Introduction

The major objective of this study was to show the influence of values motivating a social organisation on the physical organisation of its plans. In reviewing the achievements of this objective I shall first reflect on the nature of the four organisational values considered previously. Then I will summarize the varying organisations of facilities in plans as these respond to a value predisposition. Thereafter the discussion deals with the implementations of this study for the architect, first in terms of deducing plan organisation from a value predisposition and secondly, in terms of using the material to induce a value predisposition from a given plan. A brief suggestion for using this material as a basis for further investigations forms the end of this chapter.

2 Achievement of Objectives

2.1 The nature of values

The exemplary plans considered in the preceding chapters appear to relate to the value orientations of the four institutions. The link between value and physical plan is the behaviour desired, to respond to the organisational goals stated in program requirements. Thus behavioural organisation produces appropriate behavioural settings or activity sites.

The current study is limited to four value orientations in four types of social organisations considered as ideal types. In reality institutions and social organisations have to deal with several values supplementing or contradicting each other. However, each of the four organisations considered has a predominant value orientation. The prison predominantly deals with the violation of value standards under the predisposition to control; the school with the socialisation under the predisposition to integrate parts and participants; the office with the problem of prestige through maintaining a scalar hierarchy; and the shopping centre with the exchange of economic power, rewarded by a profit margin.

The first two values are ascriptive; they separate or integrate according to categories (i.e., classes or statuses) ascribed to persons. The last two are achievement oriented; they differentiate or single out preferred performances. The four values are predispositions to create

conditions for what is considered purposeful behaviour.

These values are in turn reinforced by the created conditions. In defining places for roles and positions within a physical plan, users react according to some value predisposition. Conceptual meaning becomes habitual experience. This is more true with respect to the two ascriptive values which are more diffuse and general in nature than specific achievements producing prestige and profit.

2.2 The generic conditions

The generic conditions are the constant framework for the examination of plans. They include:

- 1) outside reference (location)
- 2) outside-inside interaction (boundary)
- 3) inside subdivision and creation of positions (layout)
- 4) inside orientation (paths)
- 5) definition and limitation of positions (edges).

2.2.1 General remarks:

The areas facilitating interaction -- movement of people and exchange of things -- are commonly called circulation areas. On occasion, their qualitative purpose of orienting and regulating movement and exchange between people has been neglected. In the preceding chapters I have tried to draw attention to the variations in the five generic conditions throughout four different organisational value predispositions (see summarizing drawings in Figure 6-1, page ..). Design elements like access roads, entry ways,

corridors doors, walls and adjoining places, when interrelated can form diverse systems with distinct qualities for human interaction. For example, circulation under a control orientation predominantly separates participants, while in schools the circulation brings them together. In the prestige orientation, activity sites (work places) are differentiated by status, while the profit orientation conduces to physical plans which direct and motivate participants towards exchanging money for goods.

Organisational roles are established through the socialisation process and function through an understanding shared by all members of a socio-cultural system. Furthermore, the location of elements in the physical settings are part of the habitual orientation; we expect to find the elements we look for within organisational contexts. This is as well, as otherwise we constantly would have to relearn place meanings in each new building. When buildings violate institutional syntaxes and conditions of the elements' conventional locations, they may be said to partly fail.

However the varying conditions of the circulation system are not always iconic. Their physical forms do not necessarily represent their habitual use. There need be no formal resemblance between conceptual value and physical form. Prestige, for example, does not look like a big office; a big office, however, together with other conditions, can be an indication or symbol of prestige.

On the other hand, the conditions are not always symbolic. They do not necessarily require an interpretive act of the user. A solid wall, or a door without hardware, for example, are an unmistakeable sign for "no access or no egress", independent from the interpretive abilities of an individual.

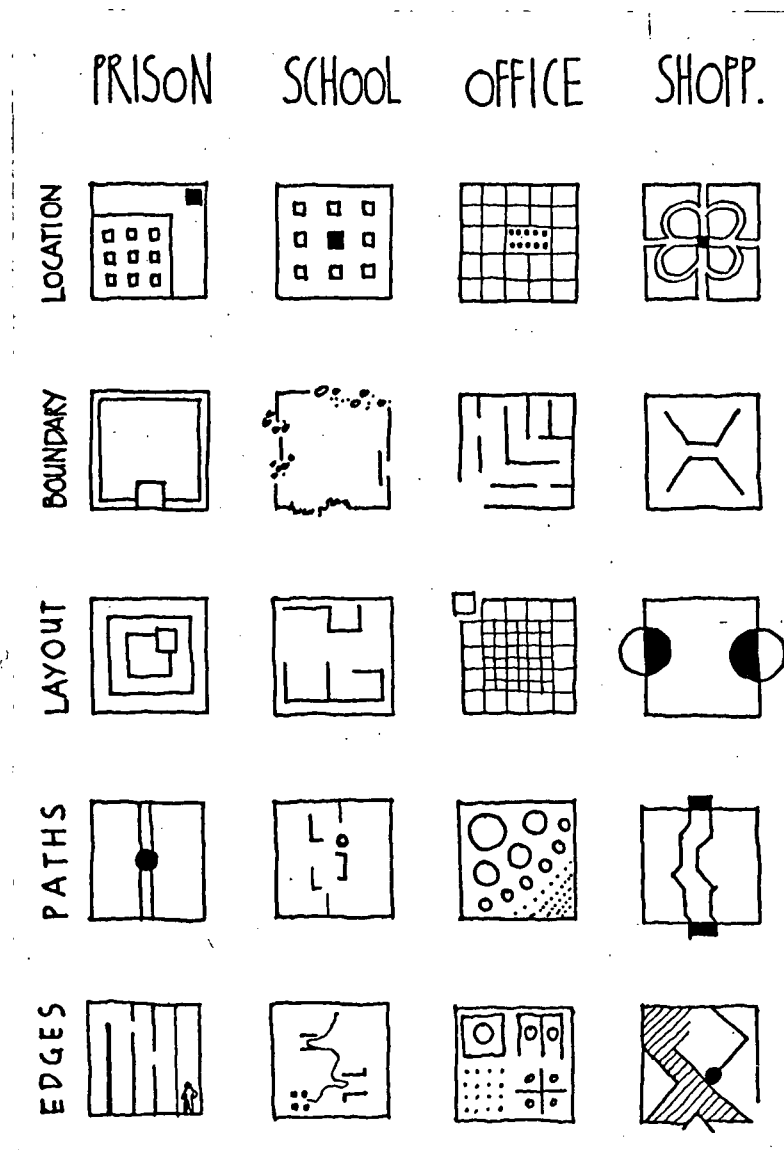


Figure 6-1.
Graphic summary

2.2.2 Summary and comparison:

Now I shall specifically compare each of the generic conditions within the four value predispositions (see Figure 6-1, page 223).

a) Location refers to the large scale regional plan. Prisons adhere to the control orientation by selecting their site far away from major settlements, thereby removing community resources from the persons to be processed. Schools apply the opposite criterion; schoolgrounds are preferably located inside the neighbourhood to bring students and other parts of the community together. Both schools and prisons respond categorically to certain qualities ascribed to those processed, by keeping them separated or by bringing them together.

Offices and shopping centres tend to be more concerned with display or gratification of achievement. The location of an office can indicate the prestige of a company in relation to others. One locates a shopping centre according to how many customers can be attracted and persuaded to buy.

In all cases the selected location establishes a point of reference to the outside public and orients clients or the processed towards the premises.

b) Boundaries refer to a smaller scale, the site plan. Prisons strictly control all outside-inside interaction, to maintain an undisturbed interior state of order and to keep

inmates securely inside. A boundary circumscribing the whole territory separates those inside from those outside. In the school these boundaries often are so highly permeable as to become almost symbolic.

To differentiate positions and access to them, outside-inside interaction in the office is selective. Several inside boundaries select interactants according to the importance of their business. In the shopping centre there are almost no peripheral boundaries (perimeter); access is limited mainly by shop walls. According to the profit orientation, a boundary around a store protects the right to sell its products in an exchange ritual. In some cases, only the products pass over the boundary; in others, the customers pass through it into a shop interior.

Boundaries regulate outside-inside interaction. They give access categorically to all or none, or selectively to certain people for certain purposes.

c) General layout concerns, core-places, support-places and loci of power. The remarks in this section referred to the scale of a keyplan of a building. Security measures in the prison divide the keyplan into security zones. The resulting conditions interlock activity units with security buffer zones, which are voids separating people. The control centre inside the boundary perimeter is often separated from the administrative-cum-representative centre, which may be located outside the territory, away from

inmates. The core areas, severely controlled, are isolated from the other units. The support areas, necessary to maintain the autonomy and separation of the prison from the outside world, are linked to the inner security zones.

In contrast, recent school plans have tried to divide the territory as little as possible. The places between activity units are not voids to separate, but open places to encourage exchange and interaction. The administrative centre of power lies proximate to the circulatory areas, exposed as a point of reference for students and visitors from outside. With increasing goal specificity in a school, its keyplan is dichotomized according to a focus on the integration of people or the integration of subjects. Most schools, however, try to maintain a flexible use of the available areas by, at least partially, integrating both people and subjects.

The office keyplan shows modules for workstations within a general subdivision into preferred and general zones, as well as a hierarchial interrelation according to corporate processes. In the prison there is a hierarchy of cells in different zones, separated by voids. In the office different positions are adjoined in the same areas, according to the corporate processes. Core areas where top decisions are made are often separated from the rest of the area. Other stations more oriented to the work processes are located in preferred zones at the origin or terminus of a workline. Various conference areas in central locations

support the communication of information between stations. Other places, such as lounges, support a working esprit de corps. Workunits are differentiated in terms of prestige by proximity to preferred locations.

The plan of the shopping centre is organized around the department stores, serving as "magnets". These anchor the ends of a central spine or "mall" along which all other units are arranged according to complementary ways for coexistence. Supporting areas along the mall prepare customers for the exchange ritual which is the *raison d'être* of the centre. Other such areas support the creation of a pool of customers by providing customer attractions in them all. The locus of power, i.e., the right to offer goods for sale, is in the individual shops. The plan of the shopping centre is an agglomeration of independent units organized through a common interest around a central spine.

Positions are defined through the preferred subdivision of the keyplan, especially positions and places directly relating to the realization of organisational goals, or those essential to support other activities for goal achievement.

d) Paths refer to the orientation of movement within an organised plan. The choice of paths in the prison is severely limited. The greater the control, the more interaction is inhibited. In contrast, the corridors and paths in many schools are opened up in order to encourage

participation. In the open plan they completely disappear.

In the office paths are often open, yet interaction or movement in them is geared to the paper assembly line, a step-by-step progression of ranks, tasks and positions. In the shopping centre the corridor or mall is sharply defined. In contrast to the narrow spine of a "telephone pole" prison, movement in a shopping centre is encouraged through the spaciousness of its mall, even though limited to a preferred pace. Movement in the prison is centrifugal and away from control centres; in the shopping centre it is centripetal and focussing on department stores as magnets.

Double tracking occurs when two people are able to move simultaneously between two points without encountering each other. It is a means of limiting interaction to certain designated meeting points. Some maximum control prisons show double tracking to allow surveillance without exposing the guards to the inmates. Shops in shopping centres may also use double tracking with one corridor for goods and staff and another for customers. Alternatively, customers and goods may move along the same paths at different times. Here backstage movement of goods sets the stage for the exchange ritual.

In schools separation is unwanted. All participants should be able to meet each other informally, although sometimes long distances forestall that noble aim. In offices differentiations are maintained through the step-by-step movement in the processing of people, paper,

information and decisions.

e) Edges define and limit individual rooms, halls and areas in a small scale plan.

Edges defining the cell of the inmate may be doubled up to increase control. To keep inmates apart, separate spaces are assigned to each; this subdivision of available space into individual cells and small areas means less total space is accessible to an individual.

The edges defining the activity units of the school are more permeable. In some cases their absence may even be disorienting, as then positions remain undefined. In the office the position and size of assigned places varies with the importance of roles connected in a hierarchy. Very high positions are awarded high privacy. Here control is oriented not from outside into the unit, but from the inside out. Also, the size of assigned space increases with rising prestige, while this relation is reversed in the prison.

The edges defining a shop in a mall are highly permeable and attract the potential customer inside. However their permeability should be only one way -- inwards -- so that no salable items leave the premises without payment.

Through the interrelation of these generic conditions -- location, boundary, layout, paths, edges -- behavioural settings are created.

3 Implications and Remarks

I have tried to reconstruct the synthesis of four institutional plans from a value predisposition. The circulation system is seen as a unifying element mediating through all four types. In this sense it is a design-determining element. Through manipulation of the generic conditions and their interrelation in the circulation system, the essential character of a behavioural setting is determined. If control, integration, differentiation or direction of interaction is desired then the circulation system must provide the conditions to orient users into respective positions.

In this study the judgement of plans is based on the realisation of interactive and organisational values. The interactive and social values as implemented in the circulation system are judgements for the value of architecture and of buildings. This kind of criticism would not be based on formal taste, but on social attitude.

I have tried to show that the variations of a circulation system are based in the value predisposition of an organisation. In this sense, program requirements are paradigm solutions, or "ways we choose or want to act". To separate the requirements from the value orientation can mean to turn preferred paradigms into rigid specifications. This would reduce the capabilities and responsibilities of an architect to an embellisher of program functions. On the other hand, accepting the relativity of paradigm functions

and given an understanding of behaviour in designed spaces, the architect can conjecture locations, boundaries, gateways, plans, paths, etc., appropriate to the value orientation of the client organisation.¹ In this sense he can create functions for places as well as places for functions.

To a certain extent the material of this study can be used to induce an unknown value predisposition from a given plan. Yet the physical environment does not demand behaviour²; it can only be permissive, supportive or restrictive. For example, other measures than the physical environment facilitate organisational goals: a mail order store may lack physical sales premises or control in the shopping centre is maintained solely with electronic devices. Also, some organisations may demand physical conditions similar to those in a prison, for example to control sound in a studio. Unless one knows organisational goals and intentions, plans can only be partly analyzed towards separating, integrating, differentiating or directing places and pathways in a circulation system.

Values change over time and with these change the ideas of what are the ideal physical conditions to support a given organisation. Plans are modified also through use and uses are modified by the available conditions in plans. In reviewing the literature I found several complaints about outdated plans inhibiting the realisation of new organisational goals. Other, though fewer, reports indicate

that new organisations can be very well accommodated in old plans, often originally laid out according to different intentions. This may indicate that a tight physical realizational of present organisational intentions can inhibit later growth and change. A plan of loose fit can suit many purposes. A plan fitting the organisation like a glove might have to be discarded if the organisation changes. Tight fit or loose fit is part of the architect's decision when implementing valued intentions.

Increasingly, more people spend more time in institutional environments like those considered in this essay; yet the planning and organisation of such places is done without the participation of most people. Instead the architect and others necessarily interpret their behavioural needs or the needs of the owners according to a value predisposition.

In the socialisation process we acquire an existential habitat of which the built environment is an essential part.

Existence is spatial. You cannot divorce man and space. Space is neither an external object nor an internal experience. We don't have man and space besides...¹

It is the architect who lays out the scenery within which we learn to seek and realize our motivations. Strict realization of narrowly construed functional intentions eventually results in mechanical orientation and interaction. On the other hand, complete openness can result in disorientation.

The implications of this study then stress the architect's role as an agent in orienting people with respect to places for positions. Regardless of the roles attached to positions, a circulation system is needed to orient users. Orientation in space entails locomotion according to an habitual understanding of the physical environment; this understanding includes cognitive maps. Understanding of the pragmatic meaning of the designed physical environment develops through socialisation in a common socio-cultural tradition. As different organisational values guide our actions according to different roles, cognitive maps and pragmatic orientation relate to respective behavioural settings in and around buildings.

The architect plays a major role in producing such behavioural settings. Yet he too is part of the socio-cultural system. Values evolve within a social system and change within it. Architects are involved in these changes. It would be wrong, however, to believe social systems could be changed by buildings alone. Plans and their uses modify, but always within the accepted interpretation of values. And it takes more than a few buildings to change these values.

4 Recommendations

I see the value of this study more in its reflective nature, trying to establish an affinity between commonly accepted values and the way we find them realized inside the building environments. In this study I compared different values and respective building types. It may be worthwhile to follow the development of each of these types, especially their circulation systems, according to changing interpretations of values within an historical context. Alternatively, one might compare different existing social systems in their varying interpretations of organisational values and their realization in plans.

Furthermore, I limited my concern to five generic conditions in a plan. Other conditions like materials or the shape of three-dimensional enclosures are also part of behavioural settings and activity sites. They can add a symbolic interpretation of institutional statements to the pragmatic orientation discussed here. Investigation of their effect on the interrelation of positions and orientation of interaction could be a further way to expand and test the hypothesis of this study.

Notes

1. Bill Hillier, John Musgrove, and Pat O'Sullivan, "Knowledge and Design", in EDRA 3, ed., William J. Mitchell (Los Angeles: University of California Press, 1972), p. 29-3-1,13. They argue that the designer's knowledge can be built on theory-based descriptions of the basic elements in design.
2. Walter H. Moleski, "Environmental Programming for Offices Based on Behavioural Considerations", in Architecture for Human Behaviour: Collected Papers from a Mini-conference, ed. Philadelphia Chapter of the American Institute of Architects (Philadelphia: The American Institute of Architects, 1971), p. 49.
3. Martin Heidegger, "Bauen Wohnen Denken", as cited by Christian Norberg-Schulz, Existence, Space and Architecture (London: Studio Vista, 1971), p. 16.

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