URBAN SPACE
AS
AN ELEMENT IN URBAN DESIGN

With reference to Scottish
New Towns

A dissertation prepared for a Master
in Architecture

by

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PREFACE

PREFACE

A. Acknowledgements

I wish to thank especially Mr A.G. Vogt, my supervisor, for stimulating and sustaining my interest, throughout the period of research. I am also greatly indebted to Mr A. Wighthman, under whose general surveyance this work has been brought to a conclusion. I wish to thank my fiancee and my family for being so helpful during the period of research.

Finally I would like to dedicate this dissertation to the memory of my mother.

B. Scope of the Dissertation

The dissertation represents a study of:

1. Urban space (consciously created and designed spaces) in the new towns. The element of urban space which is treated in the analysis is "place".

2. Car parks and sites awaiting development are found to be major open spaces in the case of new towns. These left over spaces, contrary to the planned urban space, have a big impact on the visual quality of the new towns. Those type of spaces are by definition not directly analysed in the thesis due to their banality but will be referred elements in the conclusion.

The main objective of the dissertation is to identify the different parameters which give a visual quality to the urban spaces with reference to the case of new towns.

C. Summary

Chapter one is an introduction to the problem of urban spaces in the new towns. Chapter two is a brief history on the evolution of urban spaces. This chapter tries to see what the purposes were, and the principles or the accidental circumstances under which they were built.

In chapter three, a typical example of a good townscape is taken and analysed. The objective of looking at St Andrews is to establish a standard of comparison because all these elements of rich urban quality which characterises many an old town, are in St Andrews, which have been built slowly and incrementally over a long period of time.

Then in chapters four and five, we will examine the most dramatic product of the 20th century - the new towns, and discuss the outcome in terms of urban design. Therefore, in this section we will examine lessons learned from those elements of an old town such as St Andrews.

In chapter six the differences between a new town

and an old town will be stated. After this, a question that one asks himself is: why have they not the qualities of an old town? Therefore we will try to find out the reasons. Here we will be talking about zoning, urbanism of centres, effects of technology i.e.: the language of urban design with special reference to scale, enclosure, the rythm or grain of the place.

Finally in the conclusion we will attempt to reach conclusions on two particular aspects:

a) Urban Spaces: Two types

- designed urban spaces
- left over urban spaces

b) Land Division and Architectural Rythm

INTRODUCTION

INTRODUCTION

The concept of new towns goes back to ancient Greek epoch. Modern new towns gained their first impetus when Ebenezer Howard, in the late nineteenth century, proposed the creation of Garden cities in England.

Ebenezer Howard in 1898, published his ideas about Garden cities, his drawings of three magnets expresses one idea of completeness - a planned community which contains the best of town and country and excludes the evils of both. Howard's Garden city was to be self-sufficient, it was to be a carefully planned settlement combining industry and agriculture into a distinct whole.

Sir Ralph Neville, a prominent disciple of the Howard philosophy, said that: "The object of a Garden city is to draw away from overcrowded localities or to intercept the ever-increasing flow from the country by establishing new industrial towns in the country; towns which shall always stand in their belt of agricultural land"(1).

In those terms, the Garden cities or new towns have been successful. But looking at the kind of towns produced, one is forced to conclude that the quality of townscape normally found in an old town has not

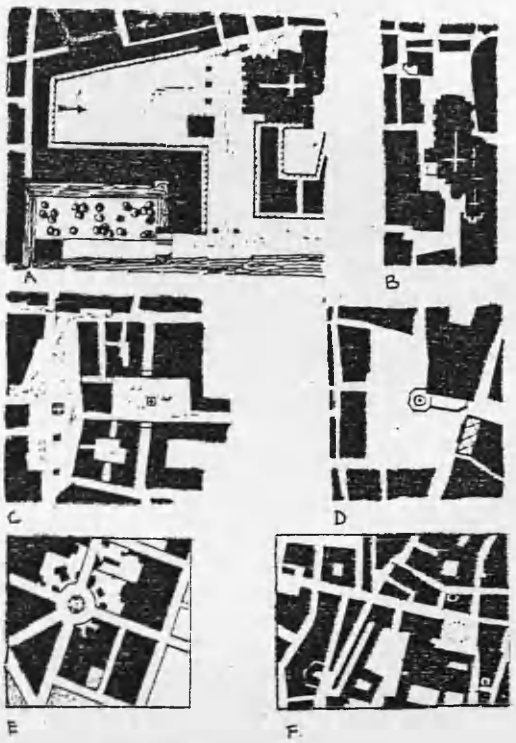
been achieved. Even though in the book "Town Planning in Practice" by Raymond Unwin, the most enthusiastic follower of Howard's principles, there are many concepts of a conscious urban design such as: centres and enclosed places, buildings and how the variety of each must be dominated by the harmony of the whole, have been talked about.

Figure 1.1. shows some of the different illustrations which Unwin included in his book. They show his intentions to have a central focus in the best mediaeval manner.

Now the question that someone should ask is: why is there this disequilibrium between expectations and achievements in the new towns of the post-war period? "Why are they so lacking in visual character, warmth, surprises, stimulus, drama? Were they planned with little or no feeling for urban design?"(2)

The aim of the thesis is to try to find out the reasons why the need for those questions has not been sufficiently recognised or the solutions have failed. The thesis concentrates on one important element common to all towns: urban space.

It is a determinant factor of the town, in that it gives this visual cohesion that people expect from a town. If for instance the public open spaces are



a. Piazza S. Marco, Venice.
b. Piazza del Duomo, Verona.
c. Piazza Erbe, Verona.
D. Piazza Signoria, Florence.
E. Karolinen Platz, München
F. Max Joseph Platz, München

Astoury, Church and Village.

FIGURE 1.1:Urban spaces consciously designed

too spread out, the visual cohesion is lost; this became as a "prairie planning".

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1. Sir Ralph Neville "Garden City and Garden Suburban", in Garden Cities and Town Planning, New Series, Vol I, No. 1, 1911.

2. G. Cullen, "Prairie Planning in the New Towns", Architectural Review Vol. 114, No. 679, July 1953.

PART 1: Historical Review

CHAPTER TWO

2.1. Definition of the concept of urban space

The life of cities is of two kinds - one is public and social, extroverted and inter-related. It is the life of the streets and plazas, the great parks and civic spaces and of the shopping areas. This life is mostly out in the open in the great urban spaces, where crowds gather and people participate in the existing urban relationships which they seek as social human beings. It is the life of sidewalk cafes and museums, night clubs at night, of theatre going.

The other is private and introverted, the personal, individual, self-orientated life which seeks quiet and privacy.

The urban spaces are the result of this twofold life. It is these spaces which give a character and quality to our life in the city. The two photographs in figure 2.1. show this twofold life.

Rob Krier writes in his book "Urban Space": "If we wish to clarify the concept of urban spaces without imposing aesthetic criteria, we are compelled to designate all urban space. This space is geometrically bounded by a variety of elevations. It is only the clear legibility of its geometrical characteristics and aesthetic qualities which allow us consciously to

FIGURE 2.1a: Aerial view of St Peter's Square. Private life of the city.

FIGURE 2.1b: The houses of the Moorish quarter in Seville, as seen from the tower of the cathedral Private life of the city.

perceive external space as urban space"[3].

Variety in urban space arises from its scale, shape, the form of enclosure and the detailing of the enclosing facades and the paved surfaces.

The two basic elements of urban space are the streets and the "place". This dissertation considers only these aspects related to the "place".

In all probability the square was the first way man discovered of using urban space. "A single building standing by itself in the landscape (figure 2.2.) has colour and texture, mass, silhouette and line, all qualities the landscape itself possesses. The dominant aesthetic quality of an isolated building is that of mass, and one of the major problems is to relate the mass to the landscape. In town design the problem is to relate many buildings to one another; in so doing the emphasis in design shifts from the problems of mass to the problems of the spaces created by the buildings. Thus a row of houses (figure 2.3) appears more as a flat two-dimensional facade placed against a flat floor plane than as a three-dimensional building. The strong horizontal lines of the eaves and the base of the wall vanish in perspective in one direction only, and a sense of enclosure begins to be created. If there is another building at right angles to the row

(figure 2.4.) the vanishing perspective lines of each building are stopped by the other, and the sense of enclosure is strengthened. The design of the space formed by the buildings thus becomes as important aesthetically as the design of the building themselves, and the space, although it cannot be seen, becomes another of the raw materials of design"[4].

2.2. Evolution of various types of urban spaces

The "place" has a long history, going back in Europe at least to the Greek Agora. Unlike the street, the "place", is not primarily for circulation but for rest, for assembly, for display, or as an arena. Since the industrial revolution of the nineteenth century, the technical and socio-economic conditions have changed completely. Therefore the conditions of production and use of urban spaces are different. For instance, modern traffic, has disturbed the functions of the old places and has usually given them a mixed and uncomfortable character.

What might be called "the aesthetic of places" has been described in a number of books and treatises, from Aristotle to Gropius, from Alberti to Le Corbusier. The following section is a history of the "place" to see the amount of variety of ideas available by the 20th century.

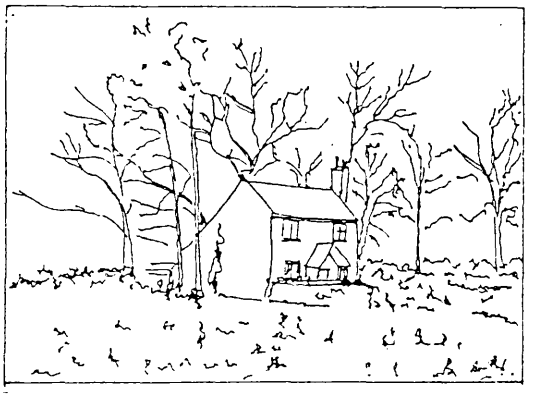


FIGURE 2.2: Hadley.
No notion of urban space.

FIGURE 2.3: Lyme Regis
A sense of enclosure
begins to be created.

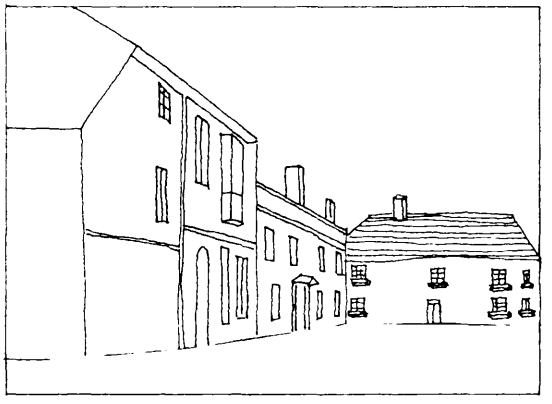


FIGURE 2.4: Wilton
Sense of urban
space is created.

1. Hellenestic concepts:

Green urban form of the Hellenic period was essentially the result of applying rather uncomplicated planning principles] to the site in question. In "Design of Cities" by Edmund Bacon, there is a description of the method of design growth as being done by accretion. He says: "Each new building, internally ordered around one axis, is so placed in relation to existing buildings that an angular volume of space is created which binds the two together"(5). This is clearly seen in figure 2.5. In the Hellenistic epoch, the Agora was considered as the main element of the city after the acropolis. The drawings in figure 2.6 show the evolution of the form of the agora integrated with the design and development of Athens as a whole. The essence of the agora was the presence of a route (panathenaic) which was the central spine where occurred the principal mercantile, industrial and political activities, and the thrust of the shaft of space from the temple of Hephaestos. The Agora was mainly used as a meeting place for political gatherings and also as a centre for marketing (figure 2.7).

2. Roman concepts

Contrary to Greece, the general layout of Roman towns and the form of their civic centres are inseparably integrated. This can be explained by the system of the state and the concept of strict order which pervaded Roman communal life in general. The pattern of the whole town was axial, the intersection of the main

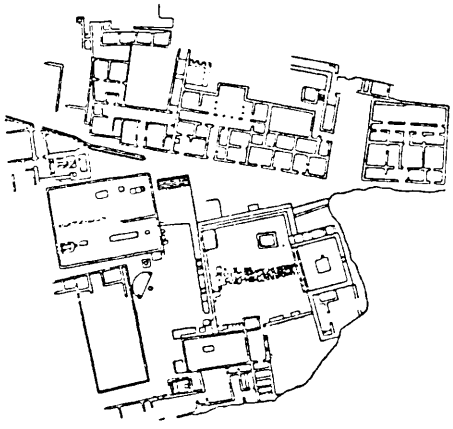
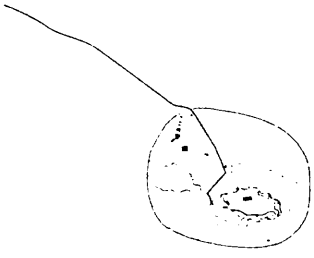
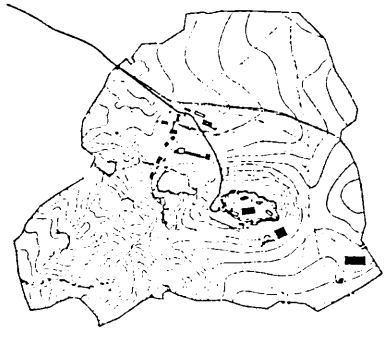


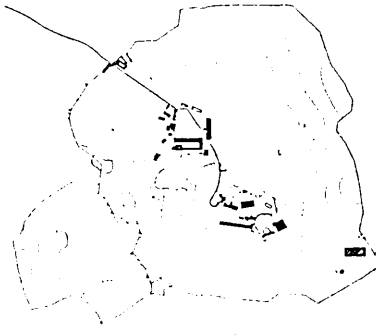
FIGURE 2.5: Greek concept of urban space.



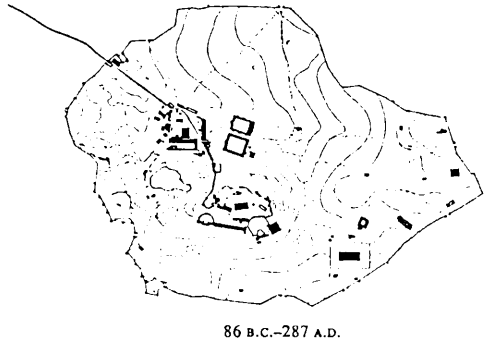
600–479 B.C.



478–339 B.C.



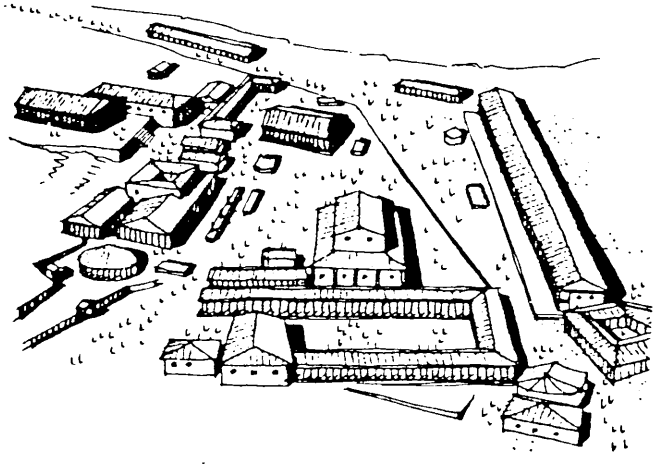
338–86 B.C.



86 B.C.–287 A.D.

FIGURE 2.6: Evolution of the Agora.

The Athenian agora with odeon against a background of stoas. In the distance, the Acropolis.



The Agora of Athens as seen looking down the Acropolis.

FIGURE 2.7: Agora

streets at the centre became the prime element of planning through the consciously aesthetic treatment of space (figure 2.8.). A very interesting example of method of growth which occurs in the Roman epoch is represented in "Design of Cities" by Edmund Bacon. Figure 2.9 shows the sense of the Roman order and logic, in that the centre was made exactly perpendicular to that of the one before, producing a system of cross axes that unified the whole. It is the beginning of an ordered architecture (figure 2.10).

3. Mediaeval concept

The physiognomy of mediaeval places was dependent on the construction of individual houses. The bending and breaking of narrow facades, and high gables, allowed for a rise or fall in the appearance of the place. The informality, variety and drama of a mediaeval place is obtained by the fact through centuries each epoch is adding its specific valves, it gives a certain variety in the unity. This type of growth could be called "growth by incrementation".

The typical market place was irregular in shape and in the profile of its surrounding buildings. The monuments, sometimes of great beauty, are seldom in the centre of the place, they stand aside (figure 2.11 and 2.12). It is not uncommon, for a series of inter-related spaces to surround the great church or cathedral which dominates

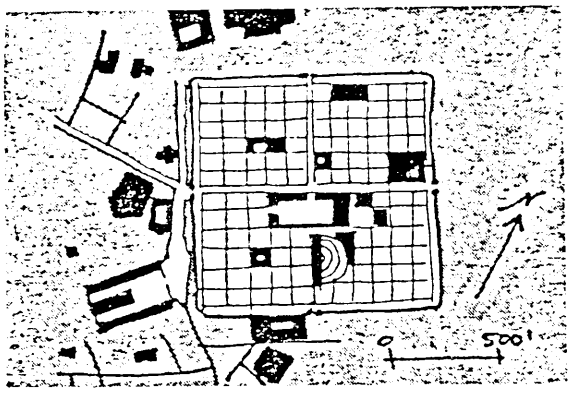


FIGURE 2.8: Timgad North of Africa. Built A.D. 100-117. A Roman colonial town.

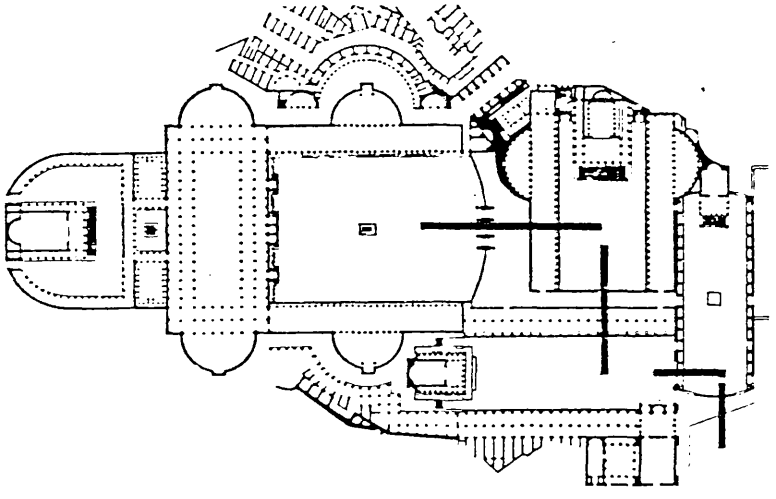


FIGURE 2.9: Fora of Rome. Roman concept of urban space.

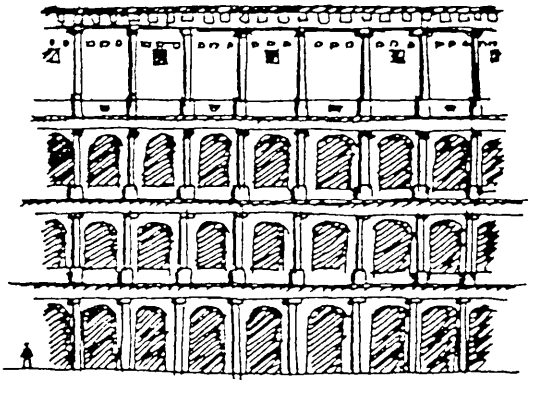


FIGURE 2.10: The facade of colosseum. Apparition of the classic order.

FIGURE 2.11: The Scaliger Tombs, Verona.

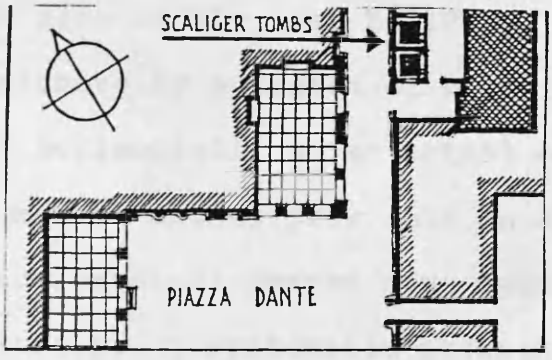
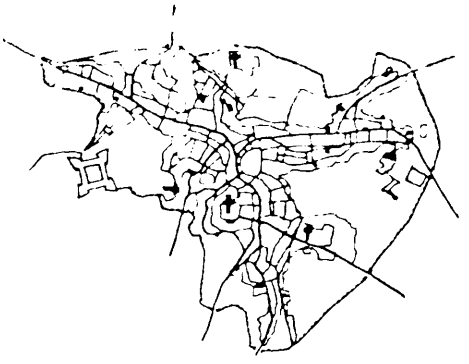


FIGURE 2.12: Piazza Dante.

the town; each is a composition in itself, but there is no thought of a planned unity or equilibrium in the larger sense. The campo at siena (figure 2.13) is a wonderful example of mediaeval places. The piazza is not astride the main roads, nor axially related to them. From the fifteenth century onwards almost every variant of the "designed open place" can be found among the piazzas of Italy, which also possesses in St Mark's at Venice and St Peter's in Rome.

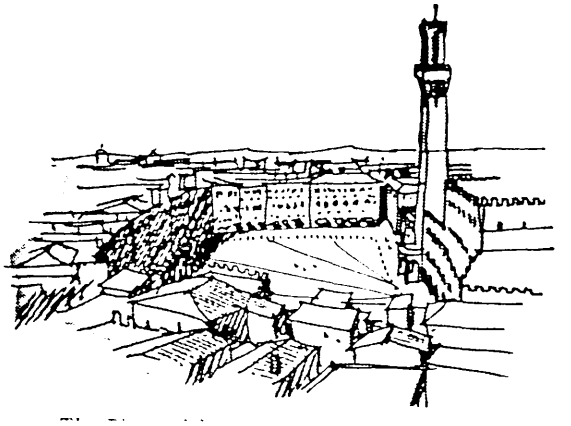
4. Renaissance

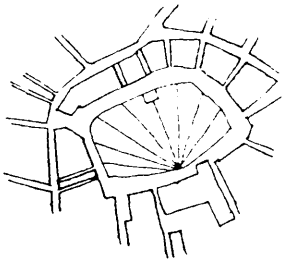
The early renaissance idea of a piazza was that of a courtyard. Most important buildings had internal courts which came to have settled proportions because of the "orders" of architecture that governed the designs. These proportions were carried out to the external courtyards, or wall of which was usually formed by the front or side of the same building. Thus the feeling for enclosure by a system of buildings of like mass, dependent horizontally on an actual or implied spacing of columns or arches grew into an aesthetic principle. These external spaces next began to influence the town plan itself. A systematic straightening and extension of the street lines began. The enclosed spaces themselves became more formal, more decorated. In the middle renaissance and baroque periods in Europe there was a great number of methods and devices by which



Siena, Italy, The Piazza del Campo is at the centre.

The Piazza del Campo, an outdoor living room for the entire town.





The Piazza del Campo in Siena climaxes the minor plazas and the entire street network of the town.

FIGURE 2.13: Piazza del Campo. Mediaeval concept of urban space.

civic effects of beauty and variety were obtained. The builders of the French, and to an ever greater extent the English, residential squares of the seventeenth and eighteenth centuries followed the courtyard tradition to a certain extent, but seldom curved and modelled the actual building frontages as a "respond" to the principal facade in the square, to the same degree as the Baroque architects of Italy and Austria. The circle and the crescent and, even in the case of such hillside compositions as the crescent and Paragon terraces at Bath (figure 2.14) the irregular curve were not used to create urban scenery of a more theatrical character, such as the finds in the Piazza di. s. Ignazio (figure 2.15). A new element was introduced in the composition of the urban spaces: movement. Men such as Michael-Angelo, Bernini and Baromini were behind this kind of composition. Perspective and modelling, curved walls and silhouettes are all combined in Bernini's design for the piazzas before St Peter's Rome (figure 2.16).

5. 19th century

With the 19th century economic revolution the form, size and needs of towns changed rapidly. Towns began to grow, gradual at first and then gaining in momentum, attracting population from rural areas. The repercussions of this were twofold. Intense over-crowding with the inner urban areas, and an even diminishing

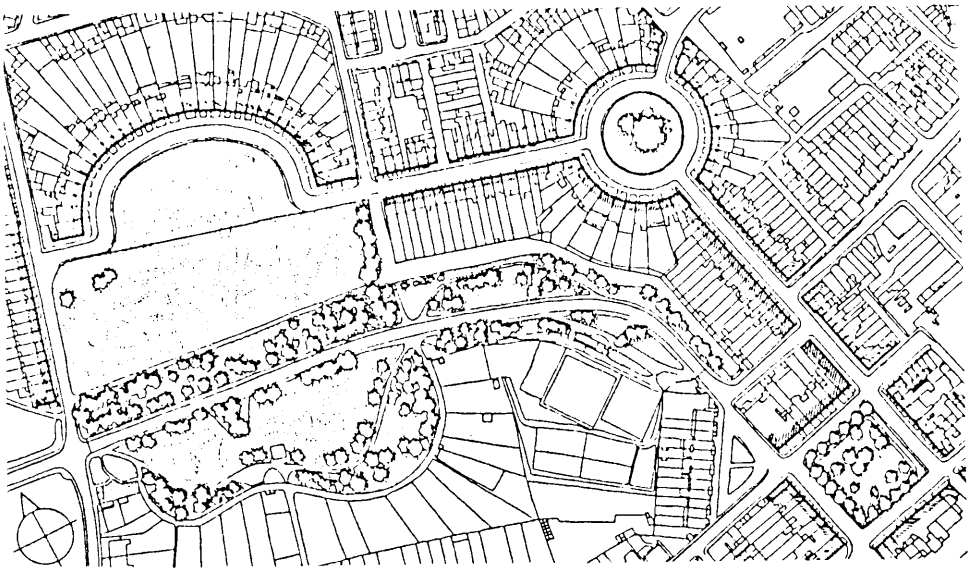


FIGURE 2.14: Bath.
Connected spaces.

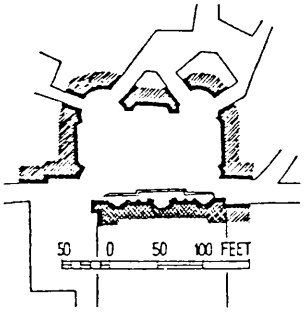


FIGURE 2.15: Piazza
di. S. Ignazio, Rome.

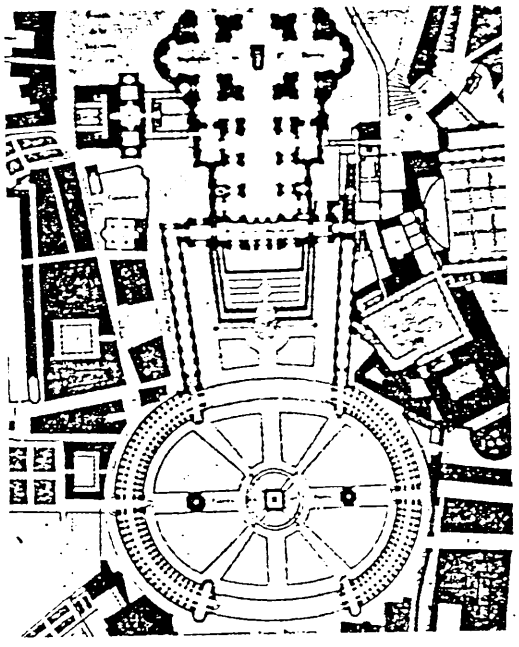


FIGURE 2.16: Piazza di S.
etro, Rome.

amount of public open space. The defensive walls of the city were often breached as buildings and residences spread out around the town (Vienna is a very accurate example). Glasgow is a typical example of a 19th century town. In the mediaeval period Glasgow had grown to a small town whose church was an important religious centre. At the end of the 18th century, commercial success (tobacco trade, cotton production, ship yards) was reflected in new extension and many new streets were opened up. As a result of trade, expansion was required. There was adoption of the grid. Public buildings were developed in places or as a termination vistas. The urban spaces were part of a very strong grid system. The block bounded the four sides of the grid's module and defines the limit point between public open space and the private and the semi-private space (figure 2.17 and 2.18).

6. Summary

Throughout this brief historical evolution of the "place", it can be noticed that for each period the concept of "place" was part of a system.

1. Greek concept: There was not a very elaborated system of urban control, there was adoption of a very basic grid.
2. Roman concept: It was the beginning of a structure, control of the town as a whole.

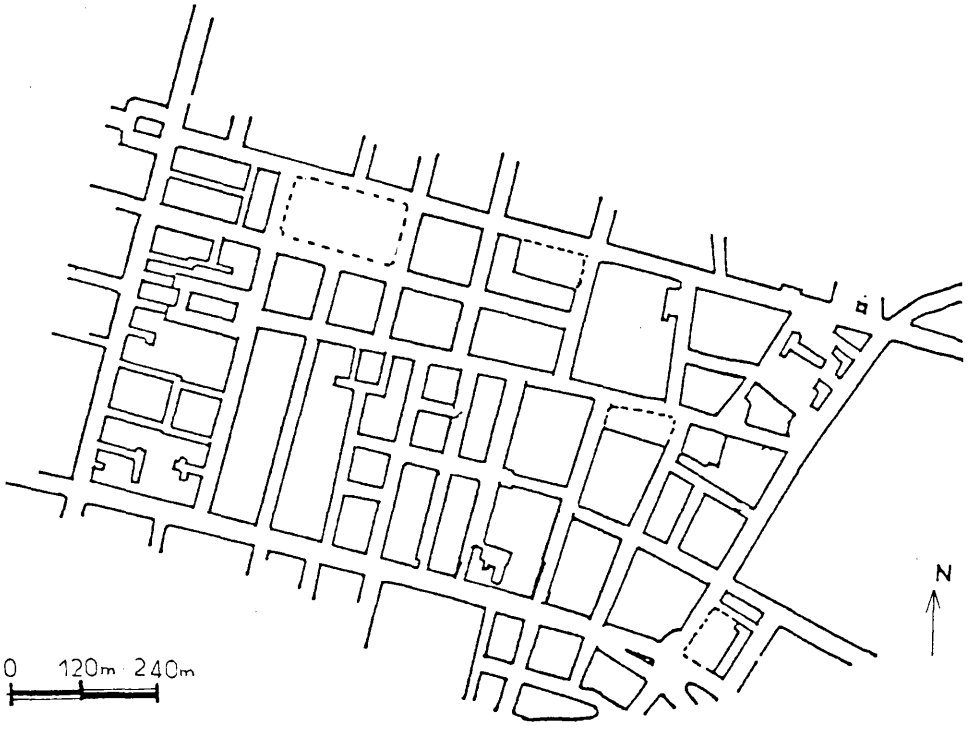


FIGURE 2.17a: Glasgow Central part. Grid system.

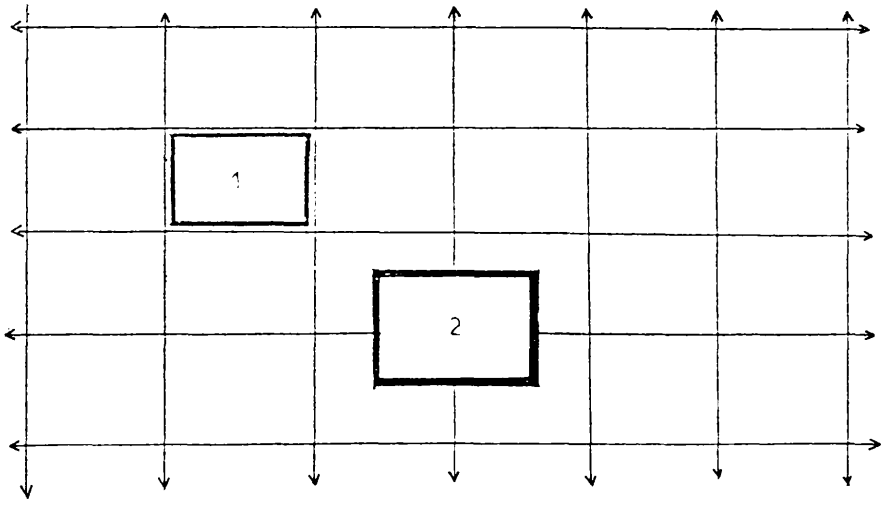


FIGURE 2.17b: The urban spaces are either part of the grid (1) or breaking with the grid (2).

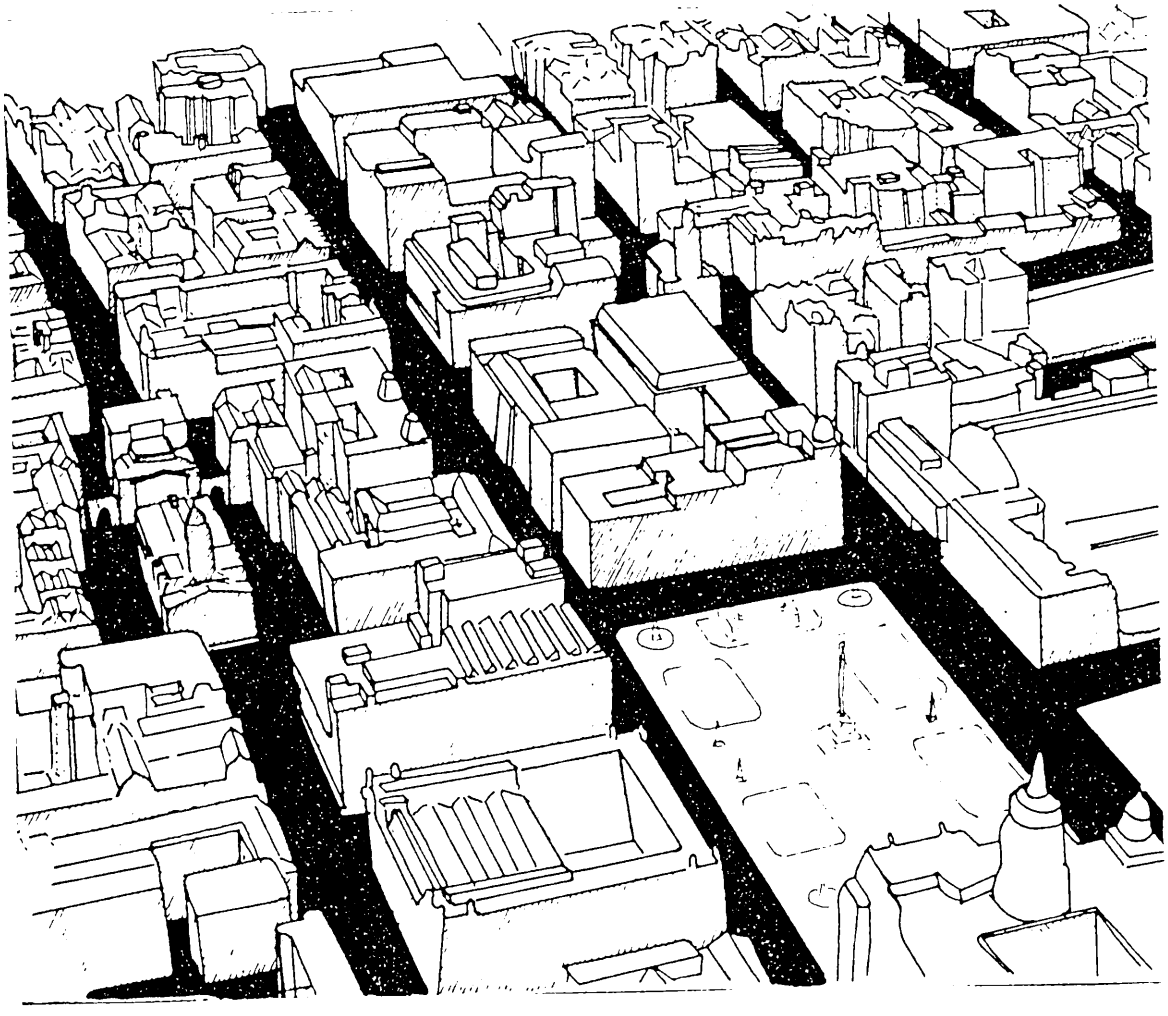


FIGURE 2.18: George Square (Glasgow), part of the grid system.

3. Mediaeval concept: It was mainly characterised by the development by incrementation.

4. Renaissance and baroque concept: Introduction of the geometrical concepts.

5. Nineteenth century: It was in a way a combination of mediaeval, renaissance and baroque concepts, but not in a cohesive way.

It can also be concluded from this chapter, that throughout history, the urban space has been a response to the need of the people. The urban space was part of their daily life, it was a meeting, political, marketing, military point. But when it comes to the new towns, most of the concepts previously stated are not found. In the new towns, the urban spaces seem to come to be just because the people are getting used to them. They are not used, and organised as for instance in a mediaeval town (these different concepts are developed in Chapters 3,4,5). However Harlow new town makes an exception, in that its main urban is also used as a marketing place.

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3. R. Krier, Urban Space, page 15.

4. Ministry of Housing and Local Government, Design in Town and Village, pp 22-23.

5. E.N. Bacon, Design of Cities, page 68.

PART TWO: St Andrews

CHAPTER THREE

3.1. History of St Andrews

St Andrews is the most complete surviving example of a mediaeval burgh in Scotland. In architectural and townscape terms St Andrews presents an extremely fine example of consistency in design and of unity in diversity. Today's heritage is a unique collection of rugged old buildings and space between them which together form a very attractive and interesting townscape. The key element in the character of St Andrew's townscape is variety within unity. Every vista is different, some are open, some closed; some narrow streets, some into enclosed places. Surprise is an important factor; interesting clusters of buildings or pleasant open spaces are experienced on turning almost every corner. Pedestrian scale dominates the intricate fabric of this settlement, with its curious mixture of public and private spaces, small dwellings and narrow or wider streets. This provides the variety which is unified by this similarity of character. As Thomas Sharp in "Town and Townscape" says: "There are two forms of variousness that do much to constitute the character of these old towns. There is the variety of plan-form, the variety that exists between broad streets, narrow streets, different kinds of irregular aligned streets, between open places compared with these, and

in the differences between open places themselves .... and there is besides that, the variety in the building (figure 3.1) within the streets and places themselves, variety that is not so much of contrast but variety within the same kind, variety within an established rythm, within a broad unity of character"[6].

Historically, "The plan of St Andrews is governed by its site - a wedge shaped plateau lying between the sea and the valley of the Kinness Burn"[7]. The site had many advantages, a good coastal location for the movement of goods, a high level of natural defence. An early religious settlement was founded in the 4th century which became the principal focus for christianity. Thus the early essence of St Andrews is the Cathedral, built in 1160 (figure 3.2).

"While the early burgh was no more than a small 'cross town' (figure 3.3) grouped round the intersection of Castle Street and North Street, before the end of the twelfth century this was elaborated into an impressive design having the new cathedral as its focal point"[8]. "The town known as burgh of barony in 1140 by the local bishops ..... It was a bishop town, with social and economic speculation to provide needed currency to support the cathedral"[9]. The bishops planned St Andrews with three roughly parallel streets -

FIGURE 3.1: North Street Townscape.

North Street, Market Street and South Street which converge loosely up the cathedral (figure 3.4).

"Within these limits and network of the street plan the burgher 'tenements' were generally in the form of rigs or long strips of ground about 30 feet in width running back from the main streets"[10]. These plots had only a single building facing the main street, backed by a garden (figure 3.5).

The mediaeval bishops were men of power but also of learning. The exact origins of the university are obscure. By 1450, college buildings had been constructed. There were three colleges arranged as being self-contained.

"With the fish trading, the burgh started to develop. As a result of this economic stimulus, pressure for land grew, a line of houses were built on the open land at the rear at right angles to the street and 'a close' formed, entered by a passage-way through the front building (figure 3.6)"[11].

Market street was the focus of commercial life, and here tolbooth, Market Cross, tron, the public edifices were located. All three have since disappeared. The old tolbooth was demolished in 1862, and replaced by a new town hall built in South Street.

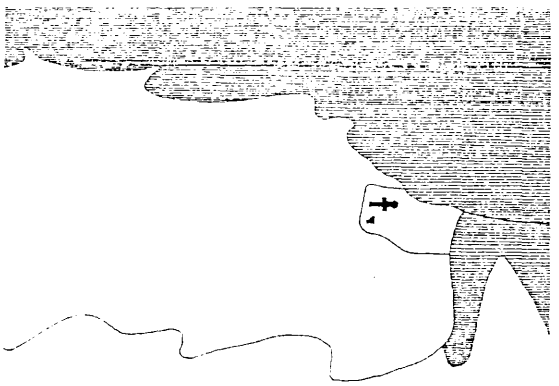

FIGURE 3.2: The cathedral was the essence of St Andrews

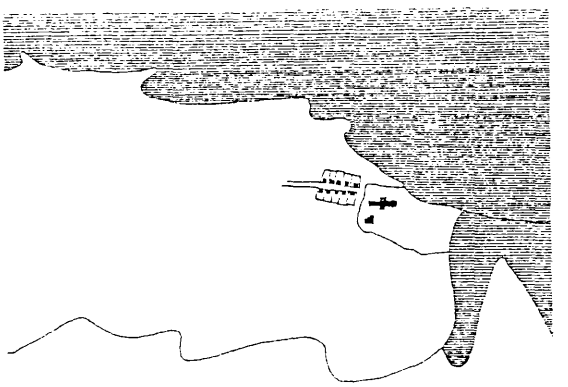

FIGURE 3.3: It started as a small cross town.

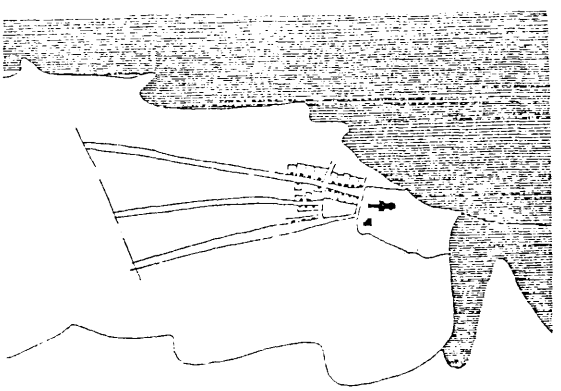

FIGURE 3.4: Three main axis were designated by the bishops. North, Market, South Streets.

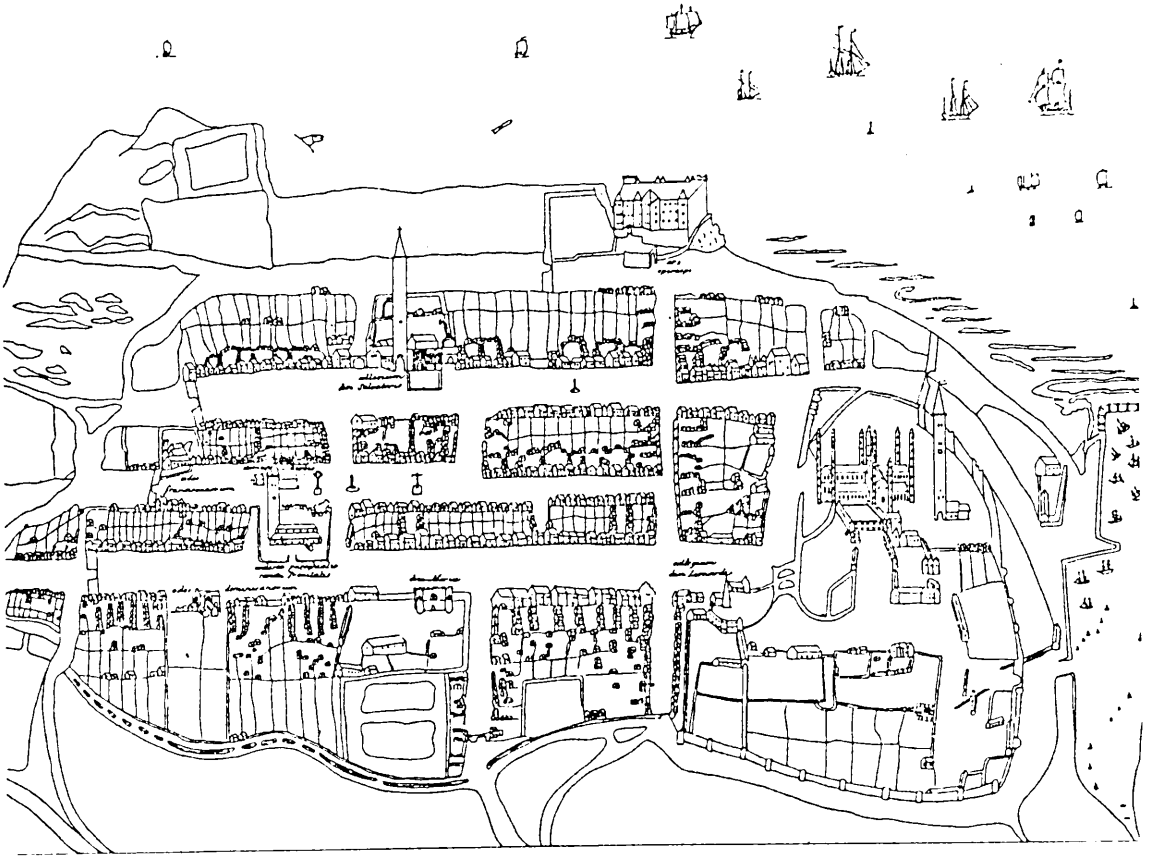

FIGURE 3.5: Mediaeval St Andrews.

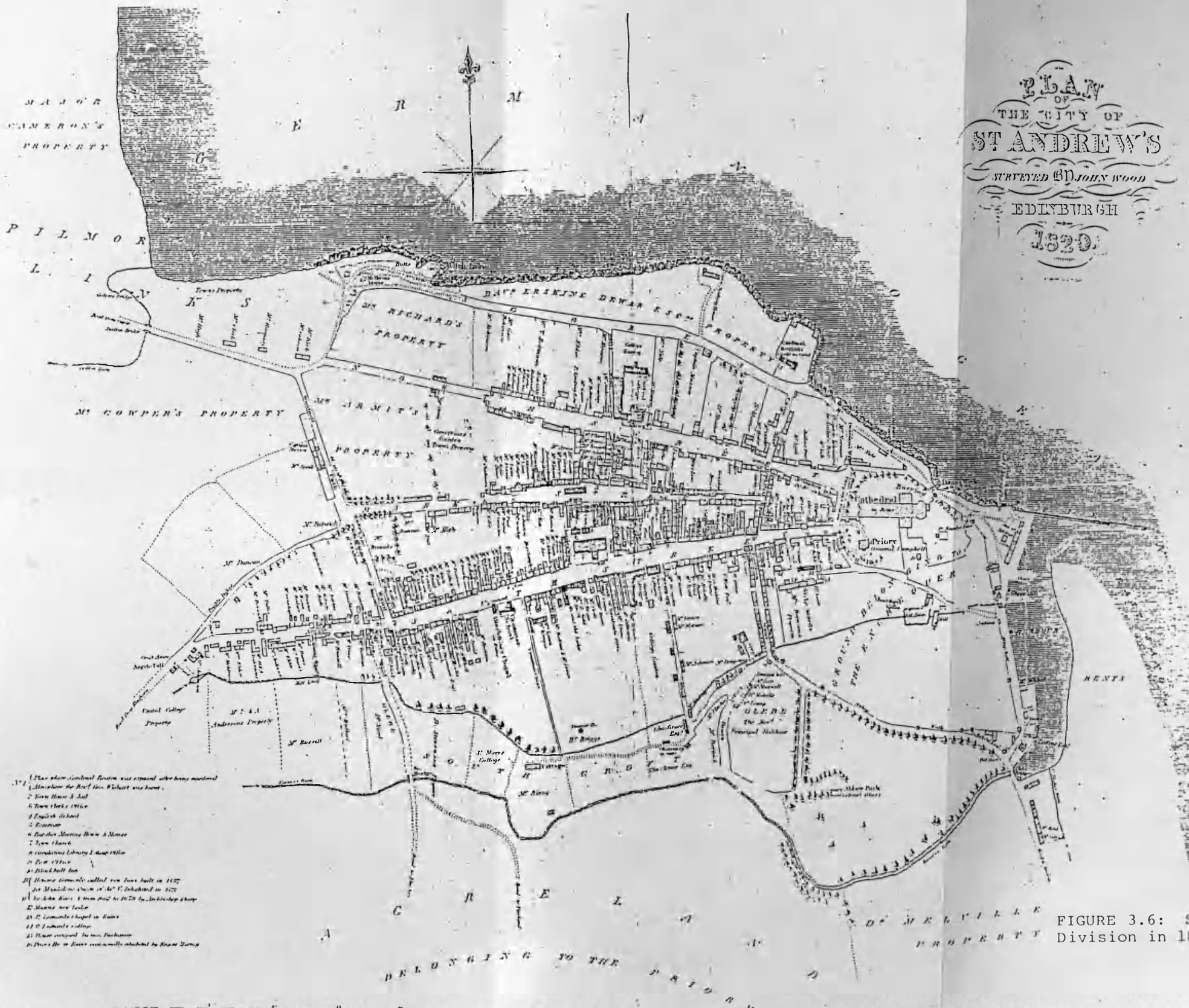

FIGURE 3.6: St Andrews Land Division in 1820.

It can clearly be seen in figure 3.7 how the appropriation of the internal space of the block is taking place.

The 19th century, was a period of growth for the town - the University expanded, the railway came, and also golf which assumed to be the most important form of outdoor recreation for all classes. So the town responded by building some delightful new streets and terraces (at the south part) many of these look scale down version like Georgian Edinburgh new town (figure 3.8).

3.2. Townscape of St Andrews

"Seen from the south, the skyline of St Andrews with its ruined cathedral presents a marvellous prospect. The skyline tells the three forces which have shaped the town-religion, learning and golf"[12]. The skyline presents a great variety of tower, colleges, mills and mansions, harbour (figure 3.9).

"Within the town there is a perfect blend of towers and wide streets and courtyards"[13] (figure 3.10). North, South, Market Street and the convergence of these three main streets to the cathedral constitute the basic structure of the town (figure 3.11). The wide streets of St Andrews with their lining of trees give the town an unscottish appearance. The

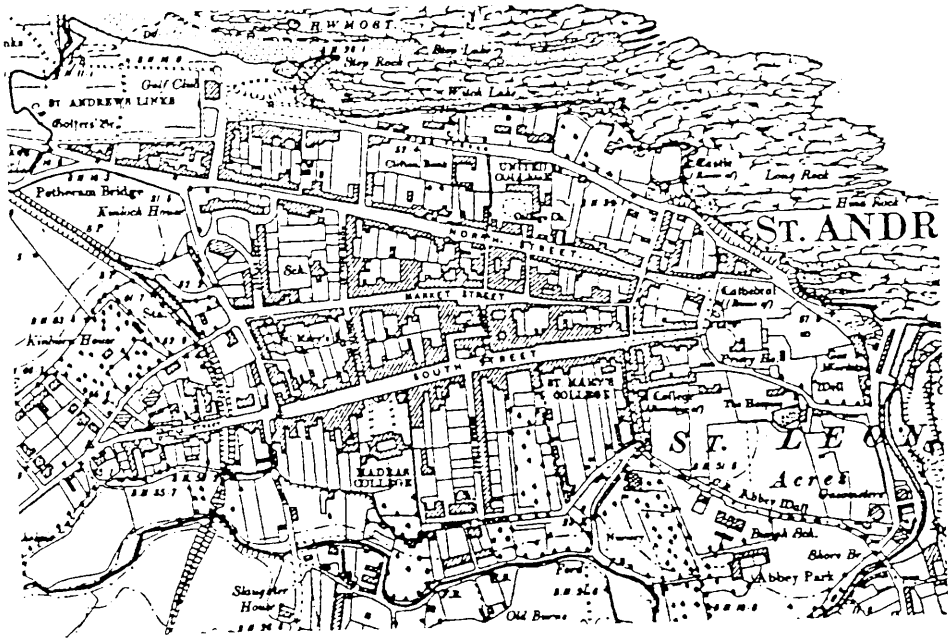

FIGURE 3.7: St Andrews. Development within the inside of the blocks.

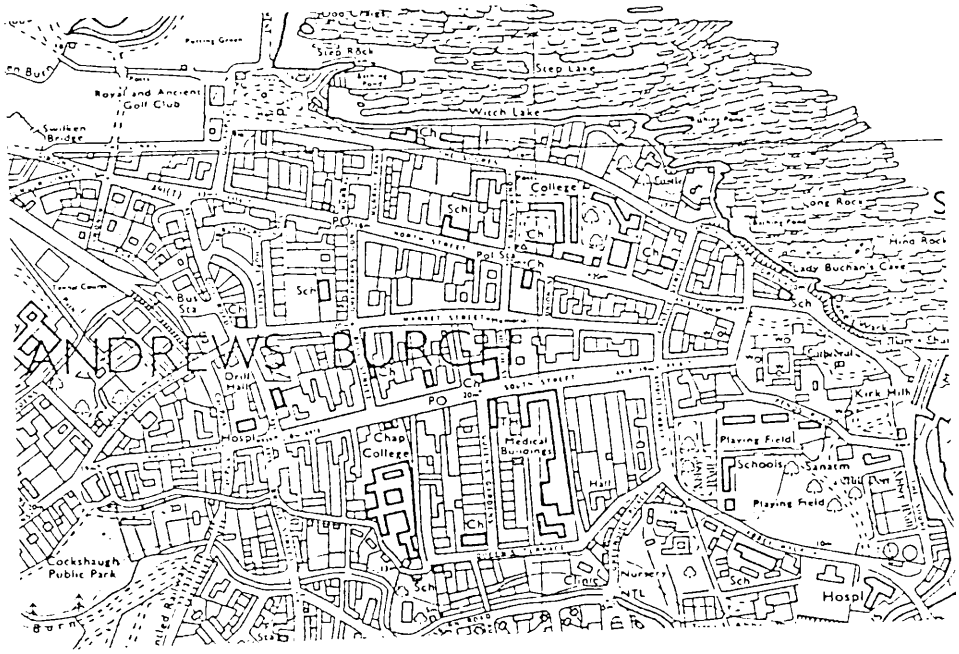

FIGURE 3.8: St Andrews. Expansion of the town southwards.

FIGURE 3.9: Skyline of St Andrews as seen from the south.

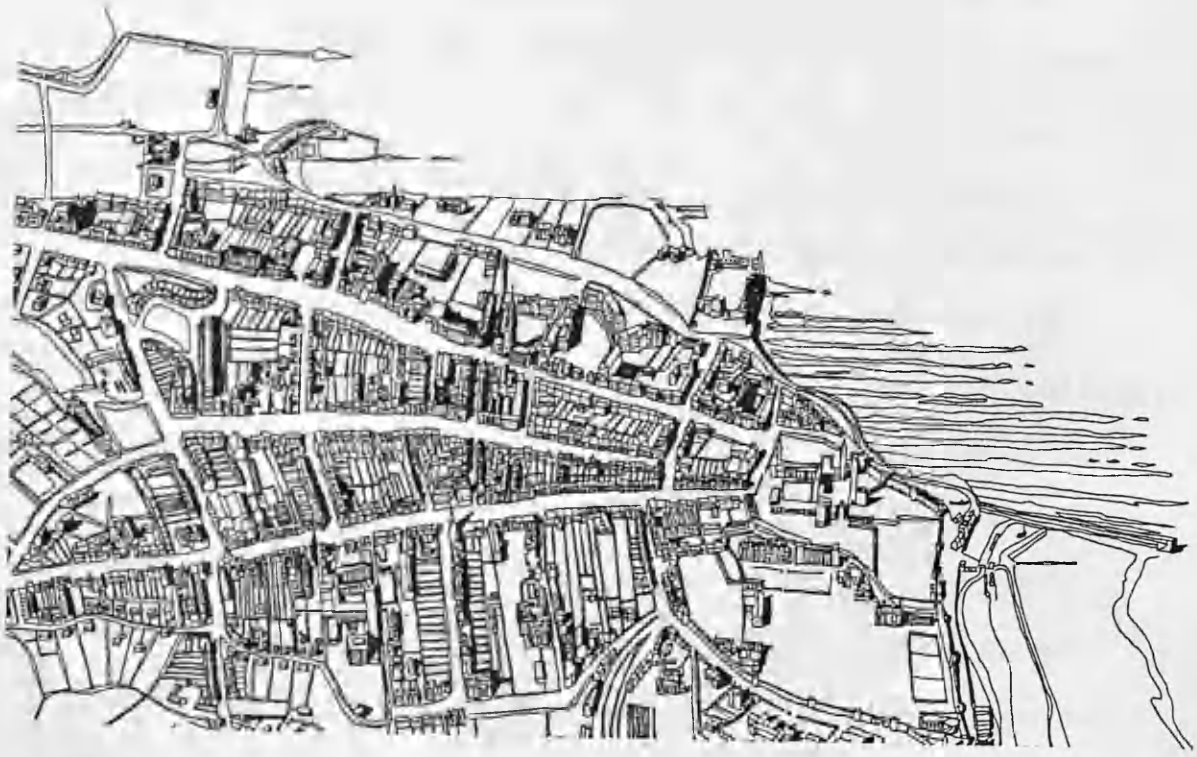

FIGURE 3.10: Aerial perspective showing the townscape of St Andrews.

important characteristic of these three streets is the integration of the element automobile in the urban fabric (figure 3.12). Indeed small units of car parks are provided in the main streets. Sometimes small car parks are hidden within the different urban blocks, being part of the servicing area, other times they are situated in the edges of the town. Therefore there are three ways of dealing with the element - car:

a. Put in the main streets.

b. Hidden within the block.

c. In the edges.

Walking along these streets, one makes a very varied progress through differing urban scenes (figure 3.13). The market street, where the main shops are, has a commercial character. Looking at the figure 3.14 the street is somewhat irregular in its configuration, there is a jut or recession in the building lines. Sometimes there is a break among the buildings for a tower or a chapel like for instance North Street is dominated by the imposing tower of St Salvator's college, it is a landmark at an urban level (figure 3.15). The same urban phenomena happens in South Street, where a whole building (The 'Town Kirk' of Holy Trinity) is becoming the landmark (figure 3.16). Other times at the end of the street there is a curve or a turning away from the straight, for example Market Street, at

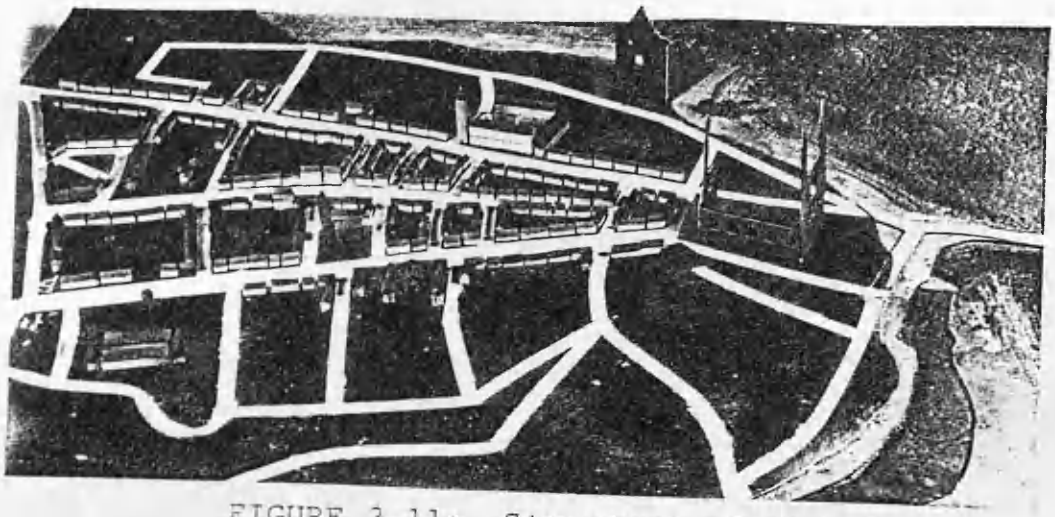

FIGURE 3.11: Structure of St Andrews.

FIGURE 3.12: Integration of the car within the urban fabric.

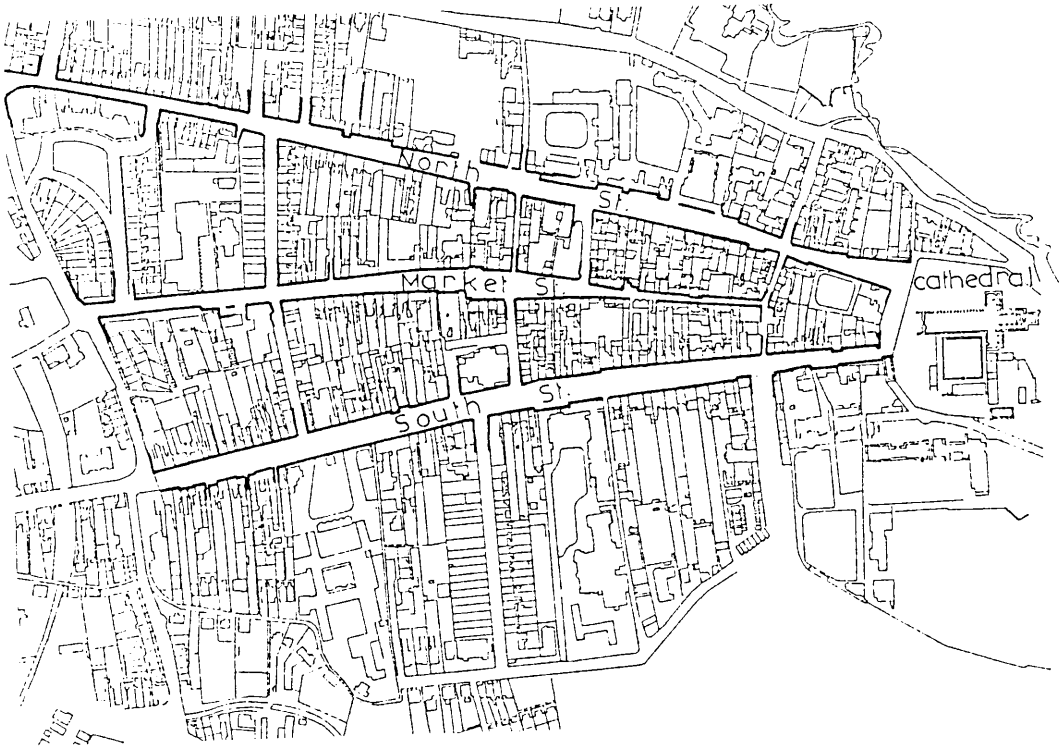

FIGURE 3.13: Layout of the three main streets of the urban fabric.

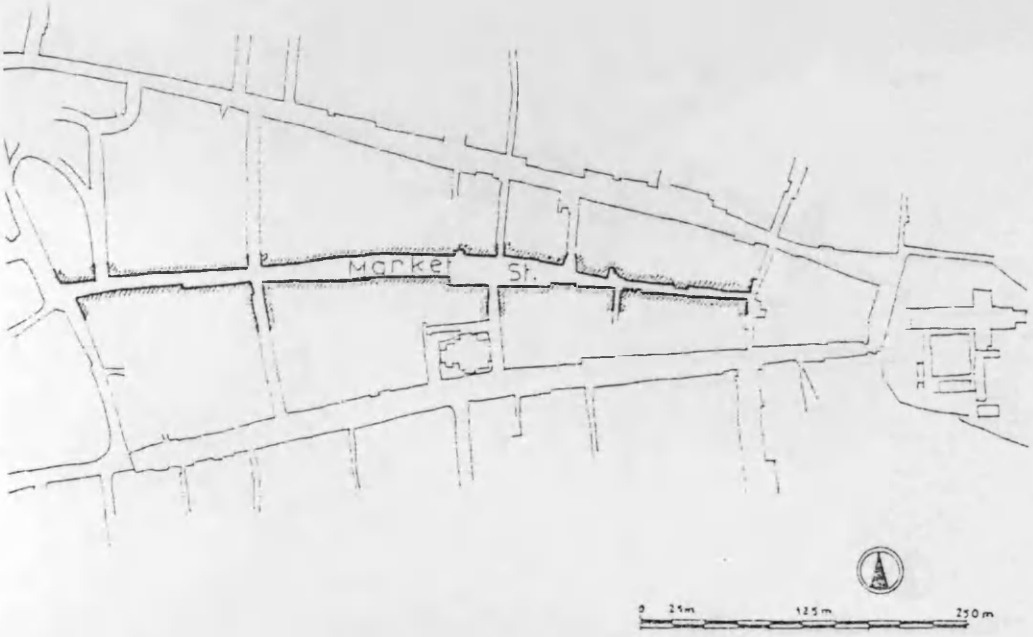

FIGURE 3.14a: Market Street.
Variation in the building line.

FIGURE 3.14b: Market Street.

FIGURE 3.15a: Major landmark.
St Salvator's tower.

FIGURE 3.15b: Market Street.

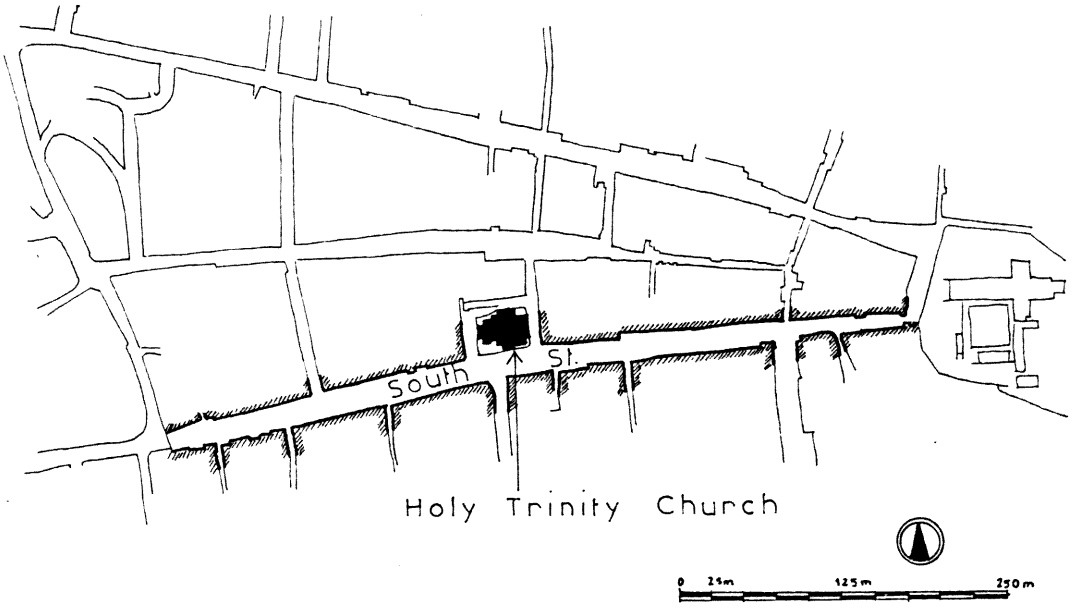

FIGURE 3.16a: South Street. Building is broken at the level of the church.

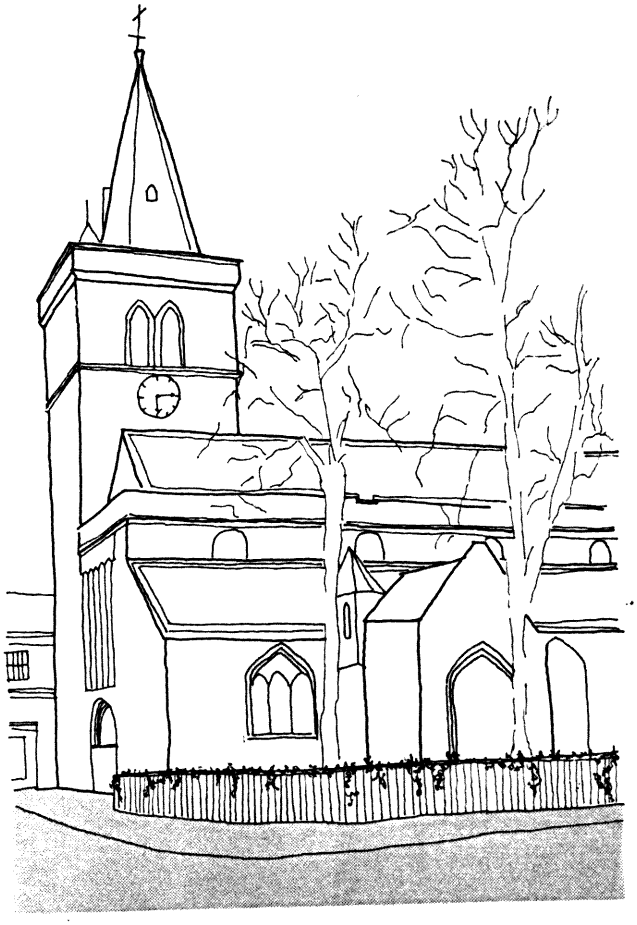

FIGURE 3.16b: Holy Trinity Church, another landmark.

its end there is a curve (figure 3.17) which gives more excitment to the urban space.

The buildings lining the streets are almost all of small unit frontages (figure 3.18). Even Boots the Chemist in South Street (figure 3.19) have sub-divided their new store into a number of separate units in order to avoid building modern blocks. When we see the resultant facade in figure 3.19, it can be noticed that the overall rythm of the facade is kept. This practice of avoiding bigger unit frontages keeps the character of the town. Indeed each unit of Boots is given a pitched roof and a different colour.

South Street is unusual. "Most of the buildings belong to the great age of Scottish domestic architecture - of the sixteenth and seventeenth centuries, while those of later dates are of good architectural quality and maintain an impressive continuity of form and scale"[14]. This can clearly be seen in figure 3.20, and another interesting feature is that the Cathedral partially ends the vista of South Street. Figure 3.21 shows a part of South Street, with its small scale buildings. There is a charming miniature of the older type of burgh architecture-simple frontage of two or three storeys, with pantiles and slated roofs, and visually small window openings. Current building

FIGURE 3.17: The curve creates more visual excitment.

FIGURE 3.18: St Andrews.
Different plot sizes.

FIGURE 3.19a: Boots, superstore, located in South Street which is also divided into three small shop units.

FIGURE 3.19b: Same phenomena for William Low in Market Street.

FIGURE 3.20: Important urban role of the Cathedral.

FIGURE 3.21: Importance of detailing.

practice is really aware of the human scale.

One of the most important townscape features is use of material. In fact figure 3.22 illustrates clearly an urban element of North Street with its sandstone which has a delightful shade of yellow and brown. This variety of texture gives at a first level a character to the element itself, and at a second level to the whole street. Therefore the use of material helps the user of the space to have this visual continuity.

Market Street is the focus of commercial life, and here at the middle of Market Street is situated the Market Square (figure 3.23). It is a widening of Market Street, the square is marked by a memorial fountain (figure 3.24) which is not quite in the middle. The square is lined by a row of buildings with a varied vertical organisation; shops at ground level, and offices or flats at the other levels. Those buildings are composed of small unit frontages and they have a most telling variety of form and treatment - sandstones, colour washed plaster, pantiles, slates (figure 3.25). Standing ranged together, these various treatment of wall surfaces give the square a richly diversified effect. And as there are variations in materials, there are also variation in the treatment of the floor (floorscape). Three kinds of floorscape one composed

FIGURE 3.22: Use of material as an urban component.

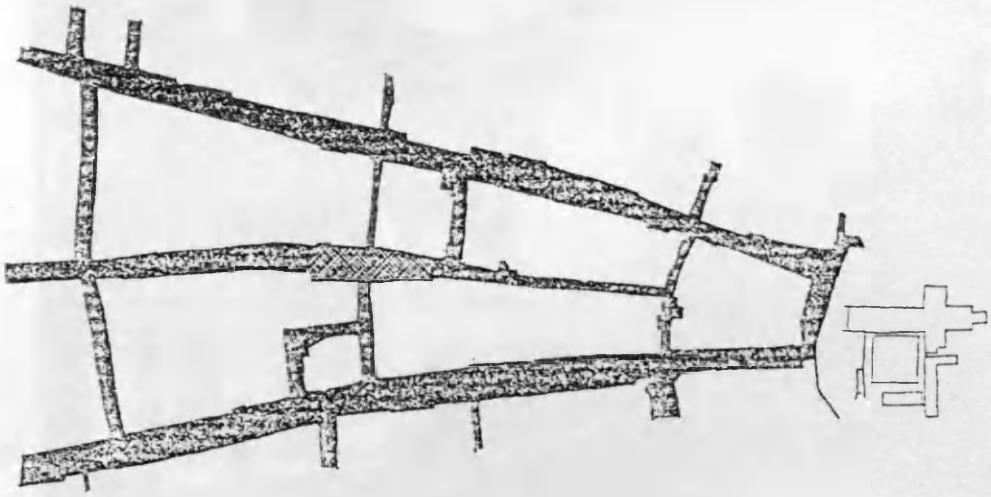

FIGURE 3.23: Urban spaces are part of the urban fabric for instance Market Square (▨)

FIGURE 3.24: The memorial fountain.

FIGURE 3.25: Variety of form and treatment.

of a regular pattern, another of an irregular, the third one plays the role of separating the two previous patterns. This kind of floorscape is a functional floorscape i.e: the three patterns define three distinct functions (figure 3.26). The irregularity of different frontages combined with change of material (figure 3.26) produces complexity and variety in the facade. The facade gets a very varied rythm.

The market square is also punctuated with a significant small tower (figure 3.27) which by its recession in the building line gives a character of an enclosed space to the market square.

The use of the square is quite significant too. During the Kate Kennedy procession (figure 3.28), here it can be seen that the activities taking place is varied - parking procession, shopping and so on. It is a multi-use space, and this gives a certain character to the square. But beside the public townscape of the streets, places, there is in St Andrews an addition which extends it in a most enriching way. That addition is provided by the colleges in the relationships, the interplay between the form and character of urban and the form and character of the building complexes behind them.

The University is based on large autonomous colleges

FIGURE 3.26: Functional floorscape.

FIGURE 3.27: The market square is punctuated by a small tower.

which are physically self-contained, elements within the physical layout of the town. Thus they are not physically connected but each opens on to the main street (figure 3.29), the entrance being marked by a distinctive gateway. In this arrangement one sees an interplay of visual experiences as between the two kinds of urban space, the calmness of the academic environment and the more varied and busy public street (figure 3.30). The layout of each college consists of an enclosed courtyard entered from the main street via a rather grand gateway. Every gateway of every college is different (figures 3.31, 3.32 and 3.33). Those different kinds of gateways participate in the urban space of the public space. Inside the courtyards provide the environment for some attractive buildings. These buildings, some in the romantic style of the seventeenth century are all marvellous examples of beauty of Scottish masonry (figure 3.34). In this case the kind of variety within a basic unity (as mentioned before) does not occur. But besides the general type of varied facade, there does exist another. As Thomas Sharp in "Town and Townscape" says: "It is constituted in the deliberately composed unity of identical elements rather in variety ..... The parts must hold together as whole. Any striking change in one of the parts, a change of design-

FIGURE 3.28: Multi-use of Market Square by the fact that there is once a year a market and procession.

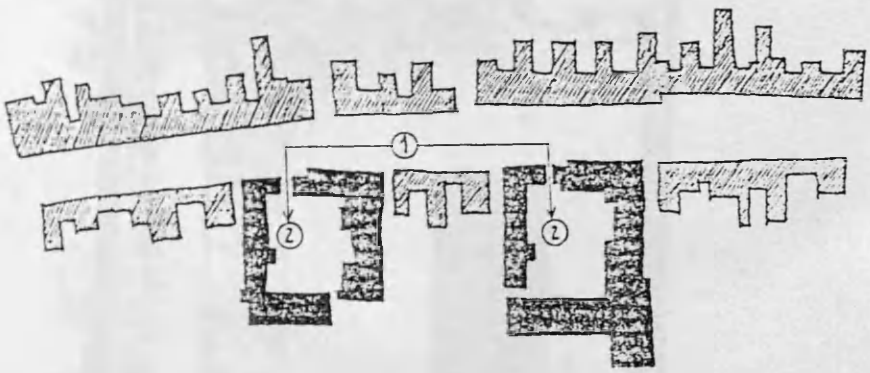

FIGURE 3.29: Relation between the public space and the semi-public space.

1. Public space: Street
2. Semi-public space: courtyard

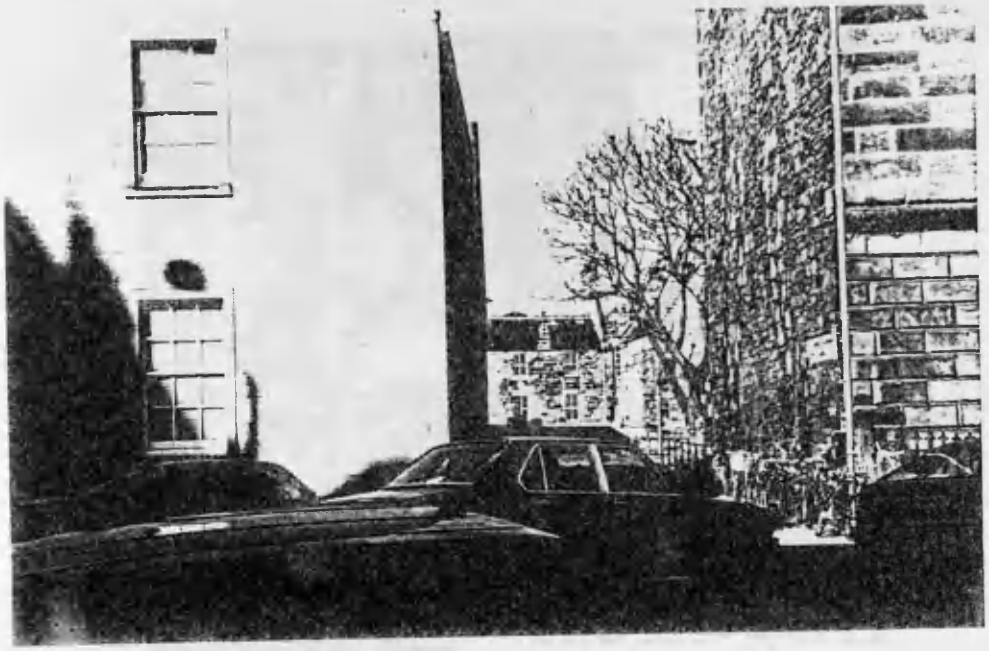

FIGURE 3.30: Visual continuity between public and semi-public spaces.

FIGURE 3.31: Gateway of Madras College.

FIGURE 3.32: Gateway of St Salvator's College.

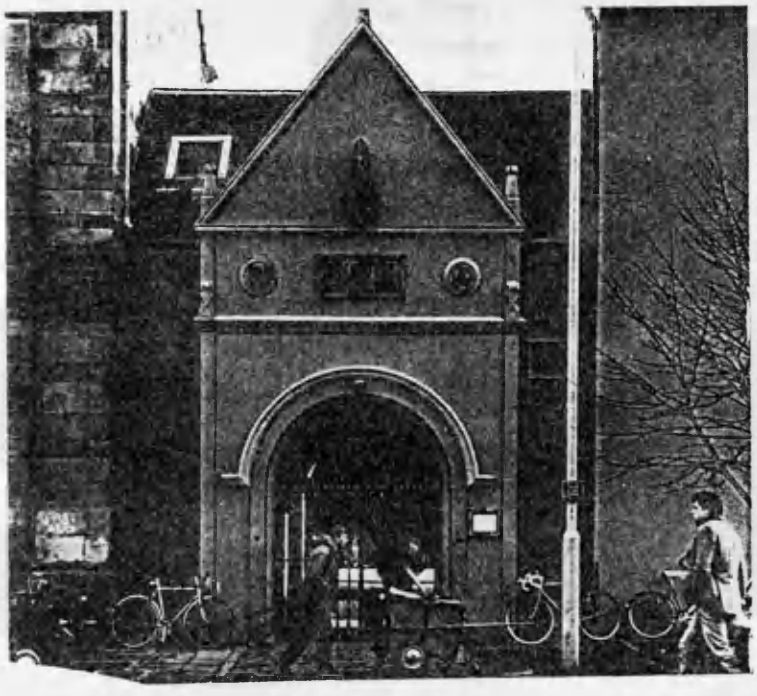

FIGURE 3.33: Gateway of St Mary's College.

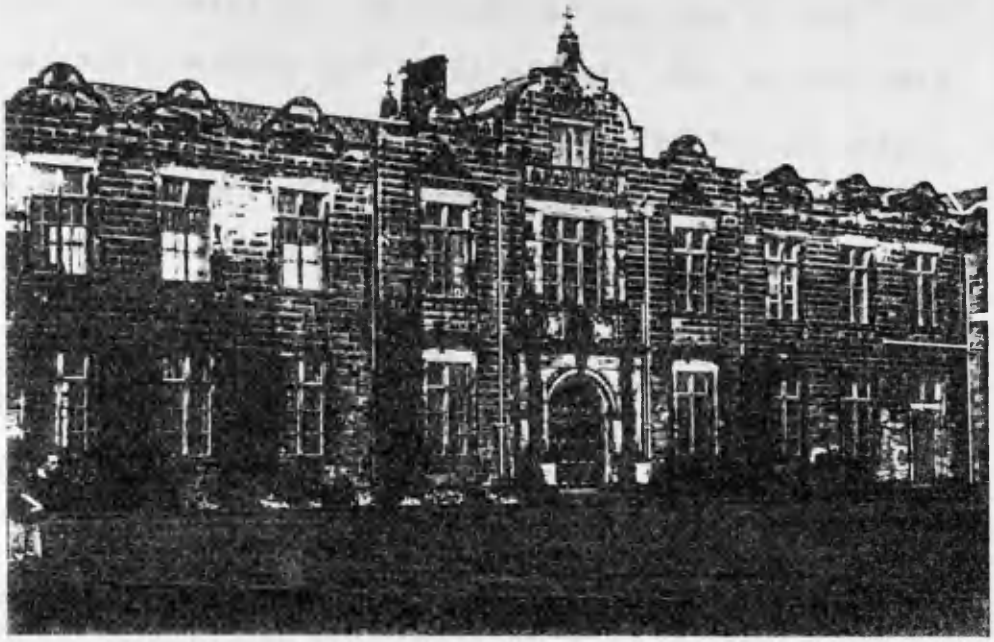

FIGURE 3.34a: College of St Salvator's College, example of Scottish masonry.

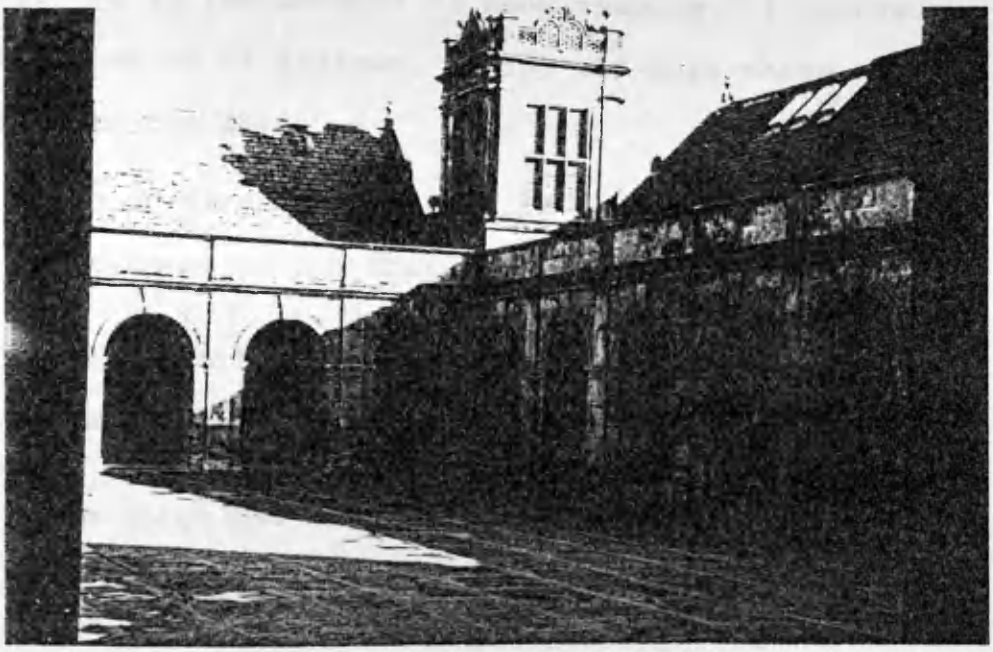

FIGURE 3.34b: Courtyard of Madras College, the internal organisation changes.

pattern, of material, of height in any one of the units, will destroy the total effect. The effect here must be total or it does not exist. Variety is only possible between individual squares"[15]. In our case it is the courtyard.

The lesson of these courtyards is that to enclose space by buildings is one thing, but to infuse the space with meaning and interest is quite another. Trees, paving, the facades of buildings are all participants in a piece of urban drama.

Summary:

The lesson which could be drawn from this chapter is that townscape is about the collective character of towns. It is the product of many shaping influences. In the case of St Andrews, or any old town those influences can be:

1. Rythm or diversity of form is an essential constituent in the characters of a place.

2. Richness in texture which helps to give to the rythm a certain variety.

3. Scale which has been kept as small as possible in order to give a human urban environment.

4. An awareness of topography, indeed St Andrews has a strategical topographical situation in that it

is close to the sea and that gives a character to the site.

5. The incremental growth of the town. Every facade of any urban space can be divided into parts related to the time in history, they were built. There are many styles in the facades of St Andrews - classicial influence blended gently with mediaeval and subsequent victorian influence greatly modified. This type of growth gives a very defined character to the town.

6. The multi-use of urban space. It has been shown the more activities taking place, the better the space is. Market Square (figure 3.28) shows it clearly in that it is used as a parking place for market, procession, walking.

7. Unity or unifying forces which are represented by the plot size, building techniques (solid wall, small windows, use of stones etc .....). This unity is also about the whole town, in other words the "City Image"(16), as an overall structure or a "mental map"(17).

Those are briefly the elements which form the basic elements of comparison.

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6. T. Sharp, Town and Townscape, pp 12.13.

7. The Preservation Trust Guide Handbook, St Andrews, page 5.

8. Ibid, page 7.

9. B. Edwards, BBC Programme, Six Seaside Towns.

10. The Preservation Trust Guide Handbook, Opcit, page 9.

11. Ibid, with some modifications, page 9.

12. B. Edwards, Opcit.

13. Ibid.

14. The Preservation Trust Guide Handbook, Opcit, page 33.

15. T. Sharp, Opcit, pp 15-17.

16. K. Lynch, Image of the City.

17. Ibid.

PART 3: Context

CHAPTER FOUR

"British towns at the opening of the twentieth century continued to reflect the unflattering state portrayed by Howard's magnets (figure 4.1). In towns the working class were still housed in surviving slums or dreary regiments or by law dwellings at 20-40 houses per acre, and much of the middle class in clean airy suburbs at 4-10 houses per acre.

In Edwardian times it was virtually axiomatre that building development was best left to private enterprise, apart from housing for the working classes, which was becoming recognised as appropriate for government intervention. Influential opinion demonstrating the need to restrain 'laissez-faire' urban growth in favour of legal enforcement and closer control over land planning and development, were nevertheless reaching receptive ears in central and local government, in commerce and industry and professions and learned societies"(18). The need to review, relieve congestion and bring prestige to central areas was urgent. From this arose government financed housing and some municipal planning codes.

The second world war had consequences for town and countryside in that it destroyed many thousands of homes and devasted large tracts in central business and industrial areas. Thus, the government opted for replanning town and countryside on a natural scale. Commissions and committees were appointed to examine

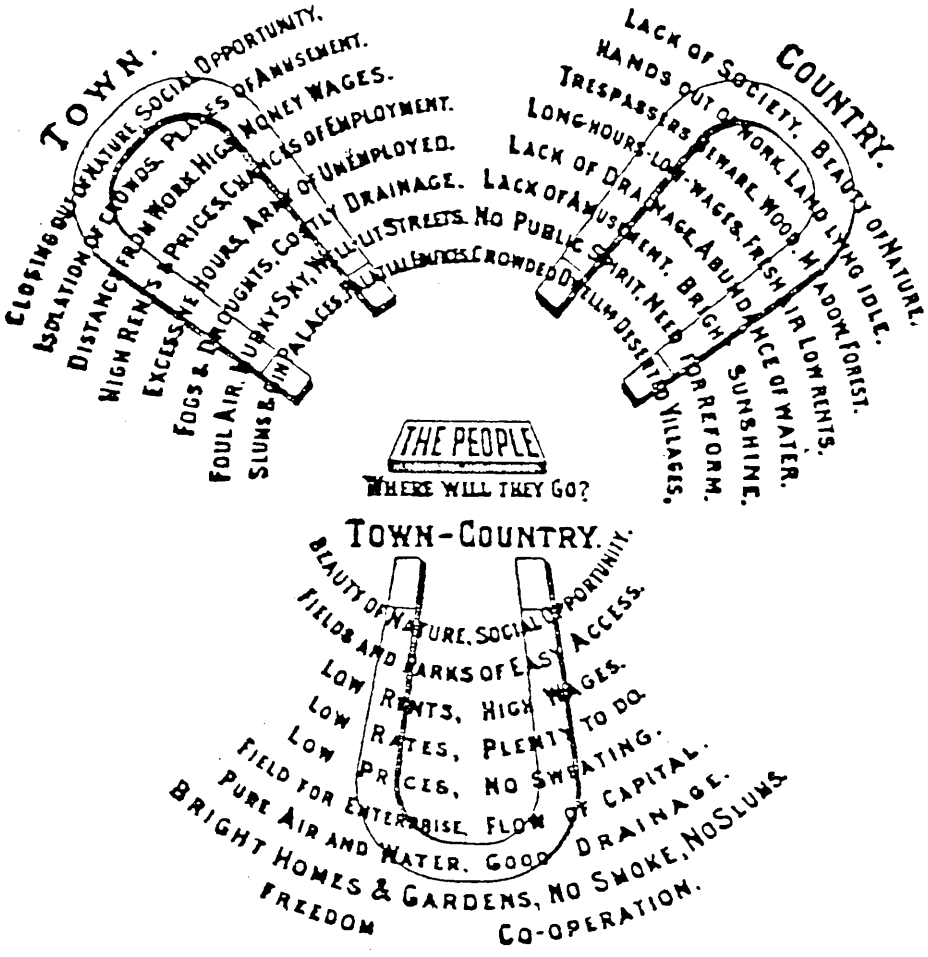


FIGURE 4.1: The three magnets.

and report on the action needed in various respects to speed post-war reconstruction. In 1940 the Barlow commission examined the distribution of the industrial population and concluded that further growth of industry among the housing areas, must be restricted. These ideas culminated in the 1947 planning acts.

In 1943 Patrick Abercombie suggested that limite could be composed on density within the county of London and that suburban sprawl could be stopped by establishing a green belt around the built-up area. It was against this background that the decision was taken to build fourteen new towns.

4.1. East Kilbride

East Kilbride is amongst those fourteen "first generation" new towns. The planning of which was mostly influenced by garden city philosophy in terms - segregation home and work, preference of openness, home with private garden. The resulting plans were characterised by low densities and emphasis on self-contained introverted neighbourhoods; essentially they were two dimensional and paid little regard to economy in land use. The principles underlying the plan are as follows:

1. The designated area is 4.150ha of which 1.416ha were built upon. The first proposal was made in a report, published in 1946, by the Clyde Valley

Planning Committee. This new town was a response to a very big problem of housing occurring at that time in Glasgow. The designated area is 14km from Glasgow.

2. The town centre serves all the towns residents. The centre is mainly composed of shops, offices, public service buildings, recreational, social and centre educational facilities (figure 4.2).

3. There are neighbourhoods surrounding the centre. They are divided from each other by dual carriageway. Each neighbourhood is served by a community centre, shopping centre, schools sub-centre (figure 4.3).

4. Surrounding the town is a green belt, an area of open countryside dividing the town from any nearby urban areas.

The first generation new towns were seen as being a spread out composition. A big part of the fabric of the new town is reserved for open spaces, much of which is allocated for wide road car parking and also for future extension (figure 4.4). These spaces being so large, the cohesive image of the town disappears, there is no unity of the two parts (housing and town centre). By contrast in St Andrews as we have seen the car parks are small in scale and to some degree part of the urban scenery (figure 3.12). In this case

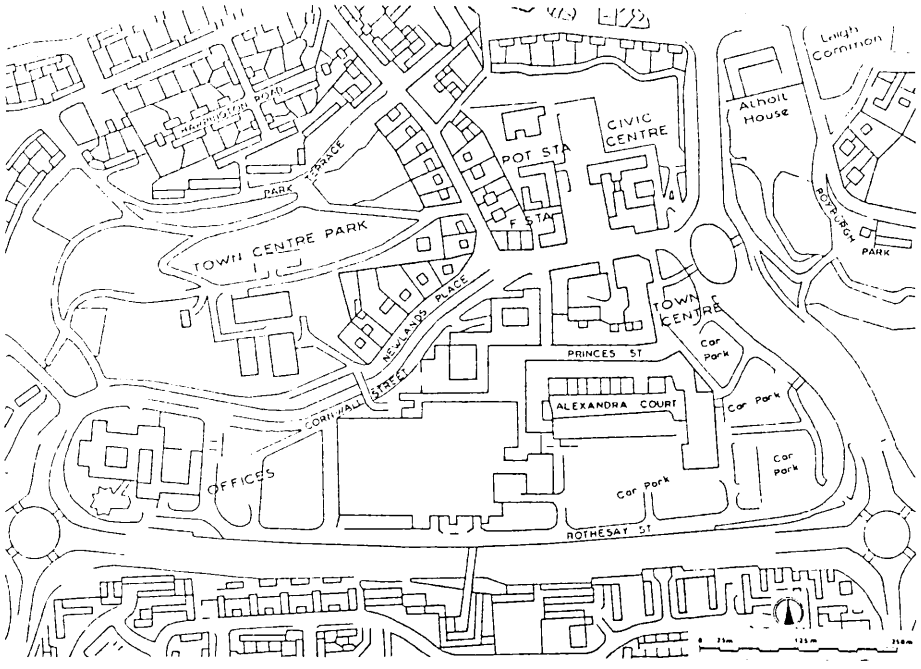


FIGURE 4.2: Composition of the new town.

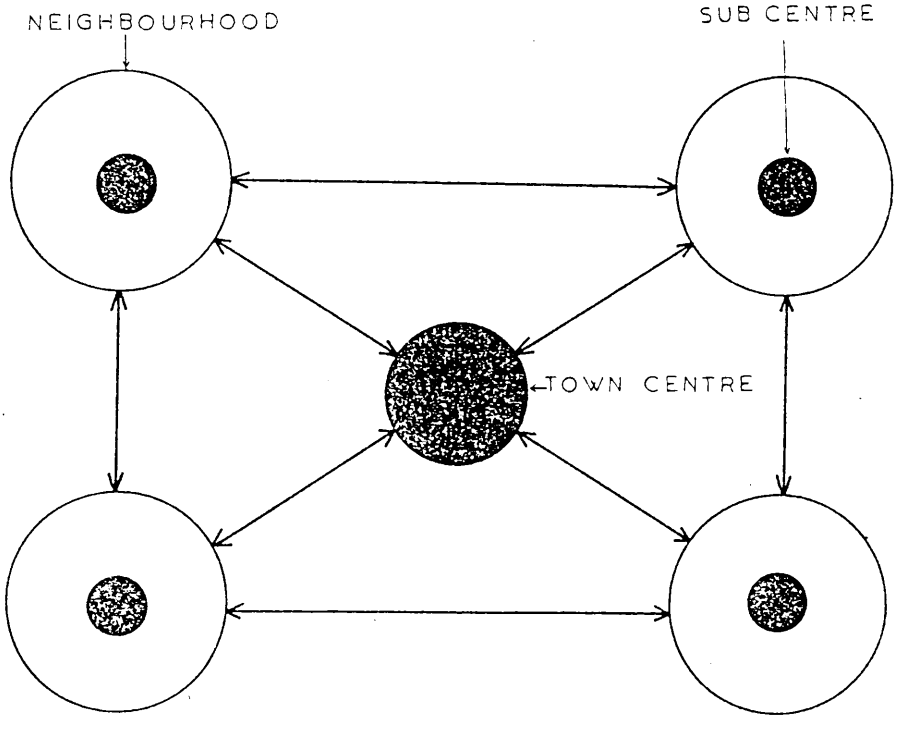


FIGURE 4.3: Neighbourhood organisation.

the urban space gets a more varied aspect. This aspect will be looked into in more detail in chapters four and six.

The town centre of East Kilbride is mostly composed of several rectangular volumes which spread themselves over a fairly wide area (figure 4.5). Most of the building in this centre are like the general plan-square and formal. The link between those different elements were mostly open streets, places but this principle had been abandoned three years ago by covering Princes Street (figures 4.6 and 4.7) and making an enclosed shopping mall.

Princes Square remains as it was planned. It has rather formal characteristics, it is marked by a vertical element - a tall eleven storey building (figure 4.8).

The four edges of Princes Square are mainly composed of shops (mainly superstores) and offices (figure 4.9). The spirit of variety within a unity, especially variety of functions, does not occur in Princes Square. Compared to Market Square in St Andrews where there is overlaying of different functions - shops at ground level, flats and offices at the top level (figure 4.10). The variety of treatment of the facade, different style, does not exist in Princes Square. It is due

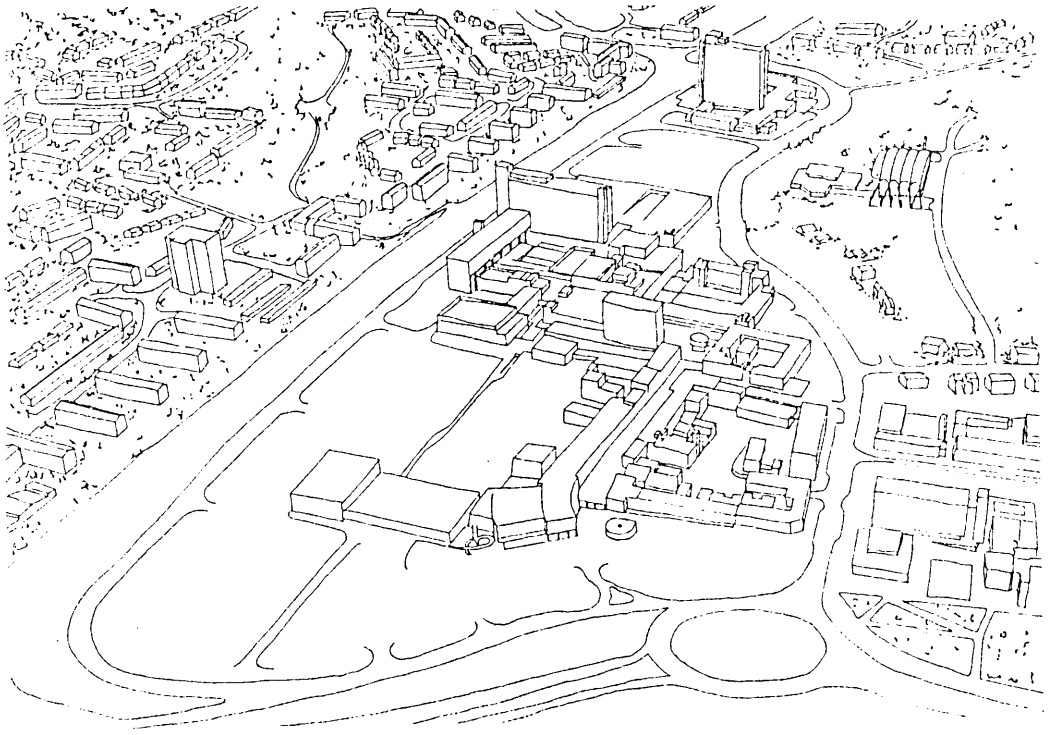


FIGURE 4.4: Image of East Kilbride.

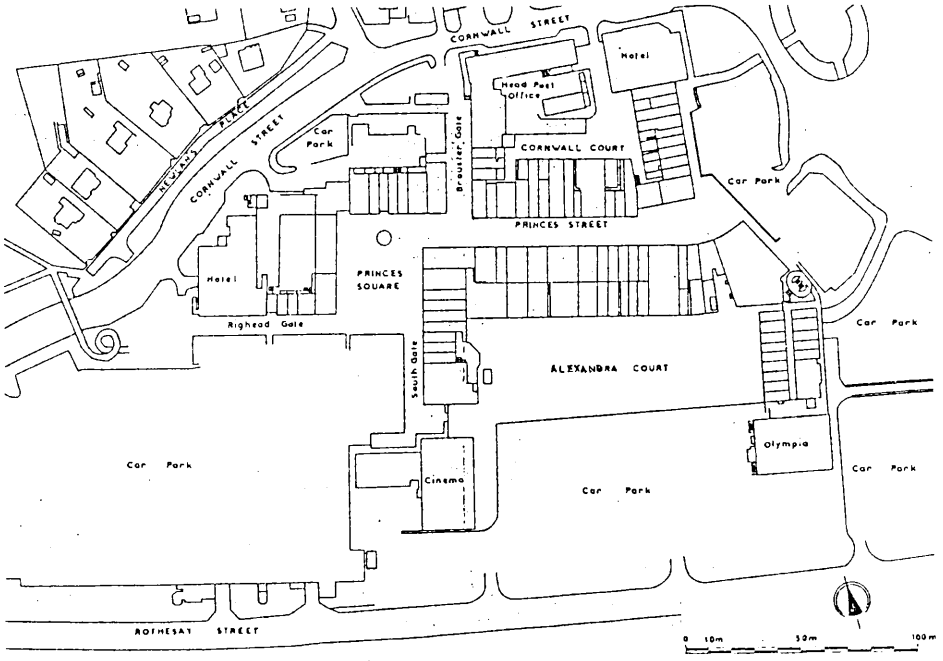


FIGURE 4.5: Composition of the town centre.

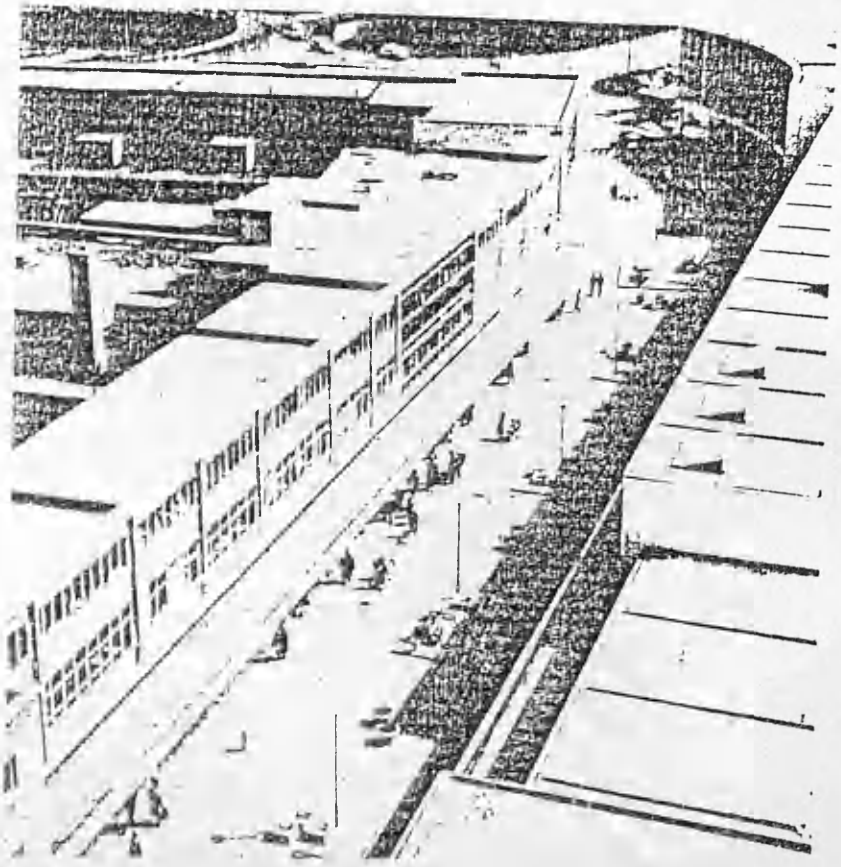


FIGURE 4.6: Princes Street before being covered.

FIGURE 4.7: Princes Street as a shopping mall.

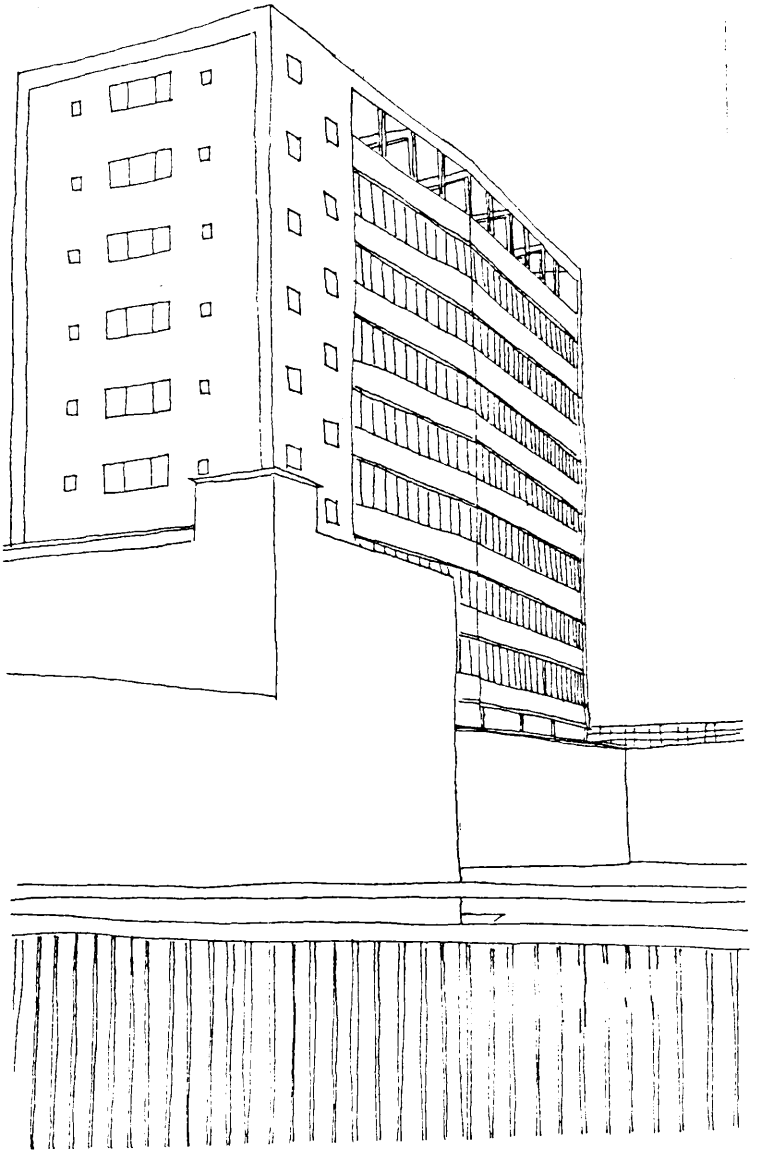


FIGURE 4.8: Major landmark of Princes Square.

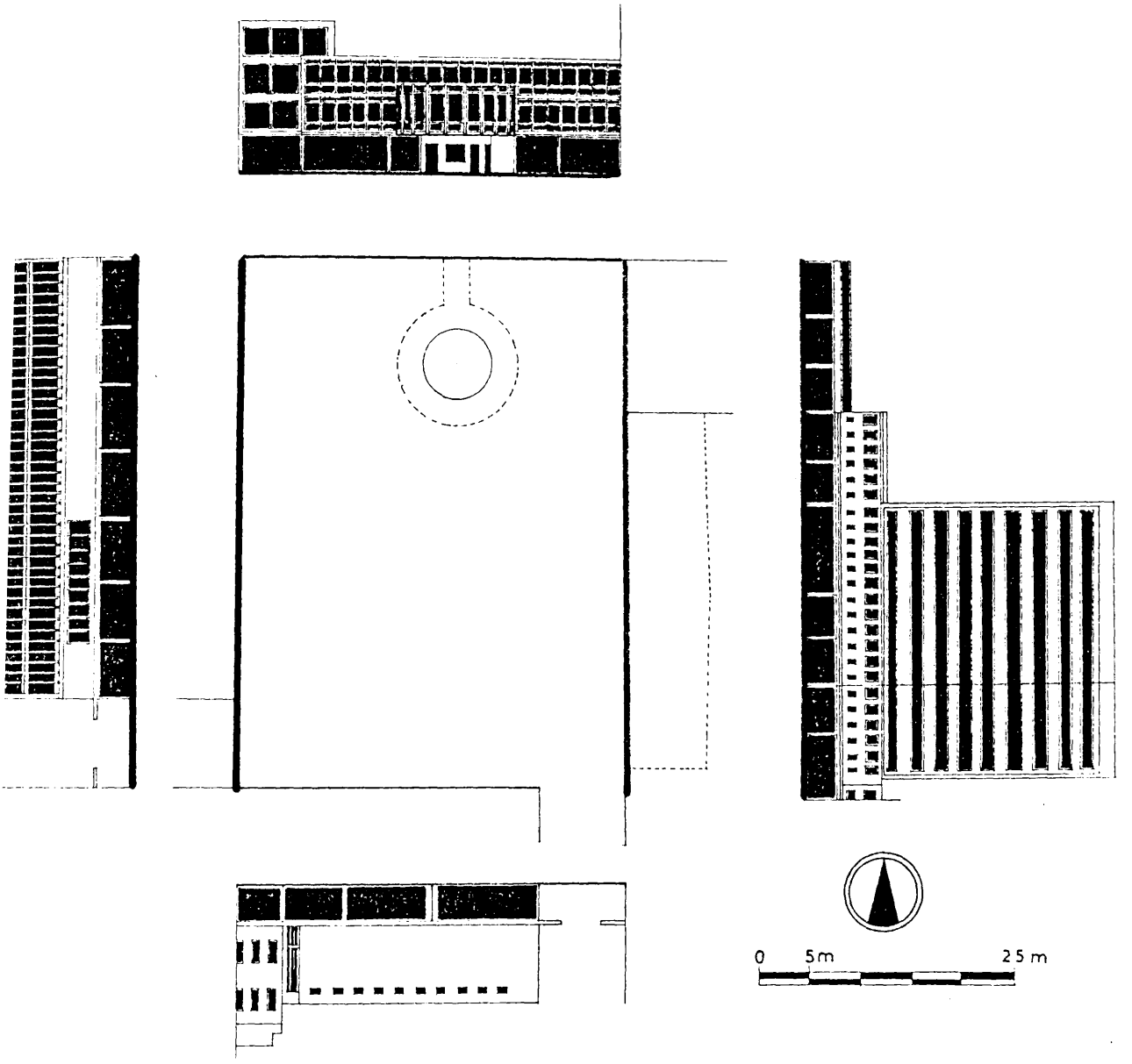


FIGURE 4.9: Structure of Princes Square, East Kilbride.

to the fact that one building (with the same function) in its complete length is occupying the whole edge of the Square (figure 4.11). The result is a kind of deadness and monotony. By contrast with the Market Square in St Andrews is enclosed with relatively small units of buildings, of narrow frontage and a considerable variety of function and architectural style. Most of these criteria will be developed in chapter six.

Each unit makes its own contribution to the urban scenery, a very interesting example to be seen in South Street, St Andrews where Boots the Chemist had sub-divided their new store into a number of units. This practice maintains the scale, gives a certain variety and character. By this means the urban scene retains a stronger visual interest and the passer-by can understand and read the street pattern (figure 3.19a). Rich detailing of the facade is also an important part of this visual interest for example Market Square in St Andrews we see how different details such as towers, notices, ornaments give a richness to the space (figure 3.27). A certain richness of silhouette is important as can be seen for example in Ingram Street in Glasgow (figure 4.12). Looking at Princes Square in East Kilbride the facade surrounding the square expresses the monotony of what I could call "commercial style"

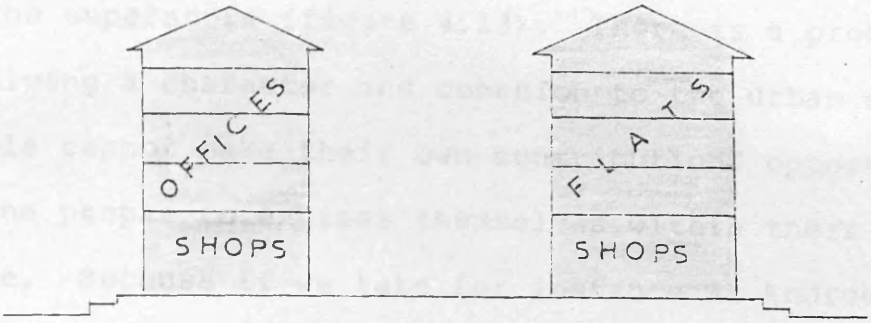


FIGURE 4.10: Vertical overlaying of functions.

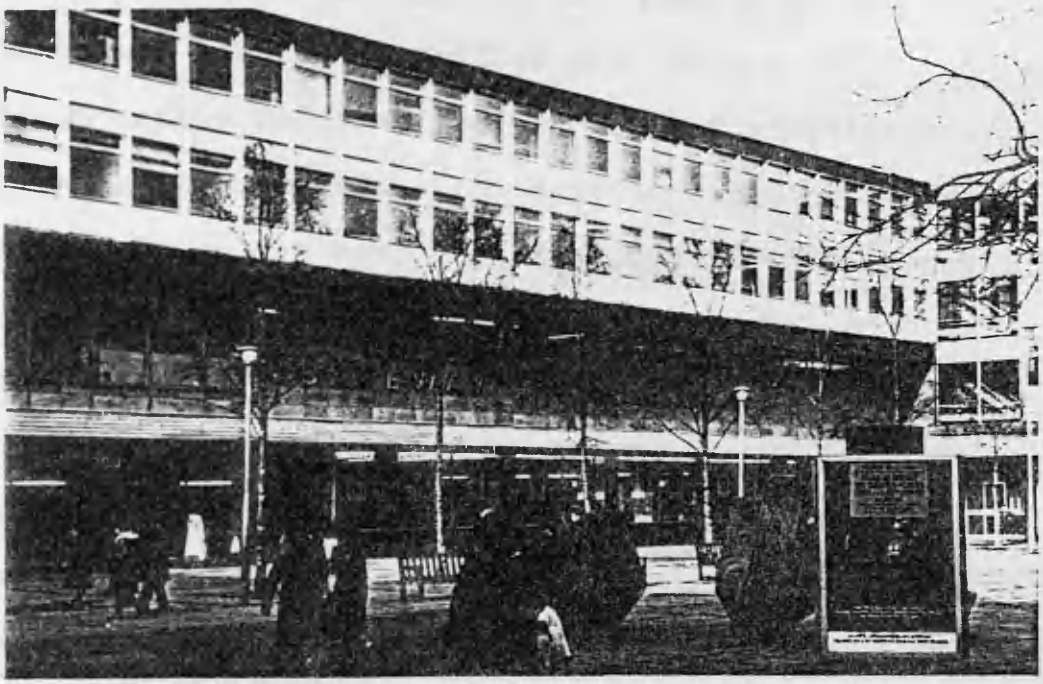


FIGURE 4.11: Princes Square, East Kilbride. Monotomy of the facade.

(Marks and Spencers and so on); the facades have no interesting detailing on, apart from the name of the superstore (figure 4.13). There is a problem of giving a character and cohesion to the urban space, people cannot make their own contribution, opportunity to the people to express themselves within their own space. Because if we take for instance St Andrews, each shopkeeper gives its own contribution to the facade, by restrained variations of lettering colour etc.

"Basically an urban space must be distinguished by a pre-dominant characteristic, such as the quality of its enclosure, the quality of its detailed treatment or outfittings and the quality of its floorscape and the activities that occurs it"[19]. A town centre needs a lively spirit of activities which is often dependent on multi-use of the urban space. There are many illustrations of this variety, some containing an element of "celebration" and display - for example in St Andrews - once a year there is what they call a big market, and also a procession (figure 3.28). Perhaps a more dramatic example is the Piazza Del Campo where a big event occurs once a year - a race of horses (figure 2.13).

The other factor is the quality of the floorscape, Market Square presents one of the most interesting

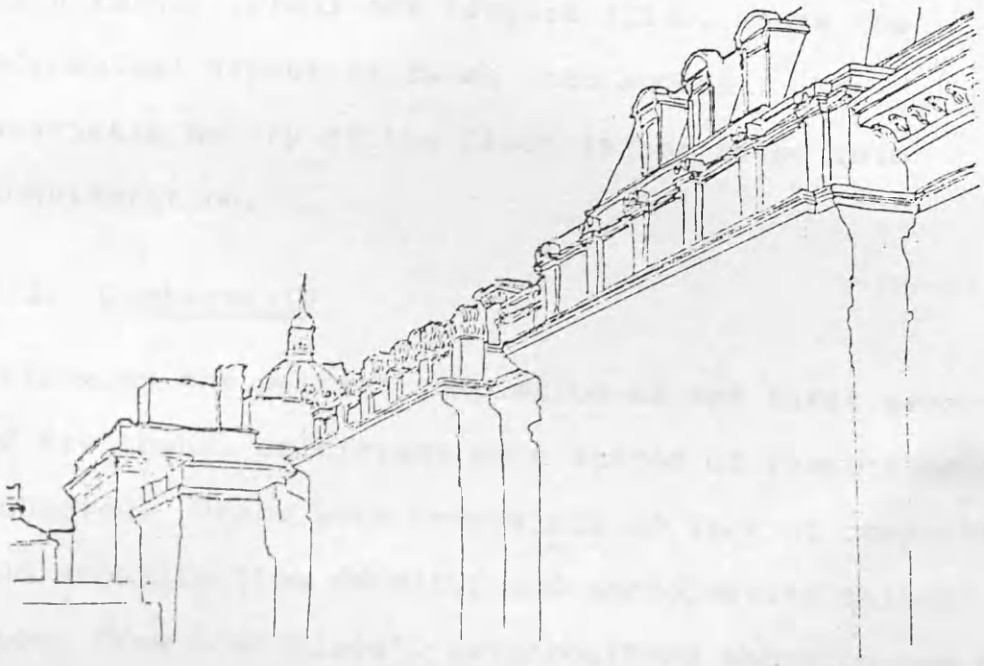


FIGURE 4.12: Building in Ingram Street, Glasgow. Importance of detailing.

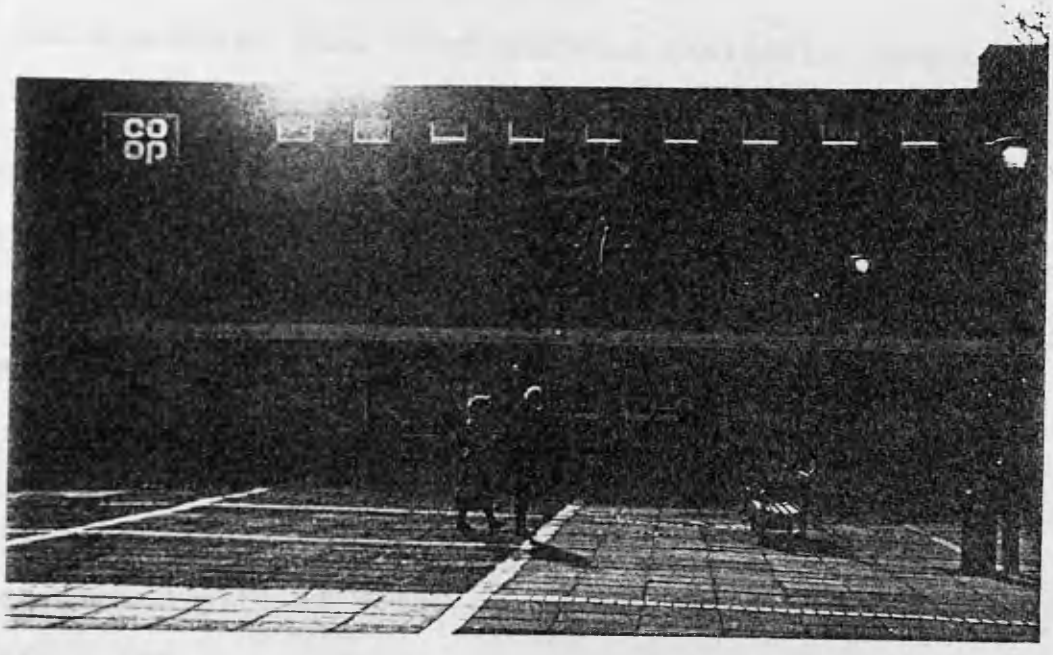


FIGURE 4.13: By contrast Princes Square in East Kilbride lacks detailing.

functional floorscape. By contrast, Princes Square is a rather formal one (figure 4.14), where the economical aspect is taken into account. The aesthetic beauty of the floor is not taken into consideration.

4.2. Cumbernauld

Following the partial completion of the first generation of new towns, criticisms were voiced of results being achieved. These were complaints of lack of compactness and urbanity (low density) and sociologists talked about "New Town Blues", neighbourhood shopping centres were over-expanded in competition with the town centre. But above all there was the motor car; car ownership had begun to increase, and motor traffic in town centres became a major problem. Social surveys also disclosed that neighbourhood residents themselves, although quite satisfied with the housing environment and facilities available in the immediate locality, experienced no sense of belonging to a community of neighbourhood size. "In the second generation of new town traffic flow was to have a more important influence on the planning concept"(20).

Cumbernauld new town was designated in 1956. The designated site of 4.150 acres is located midway between Glasgow and Stirling on an elongated ridge some five miles long and up to two miles wide. The

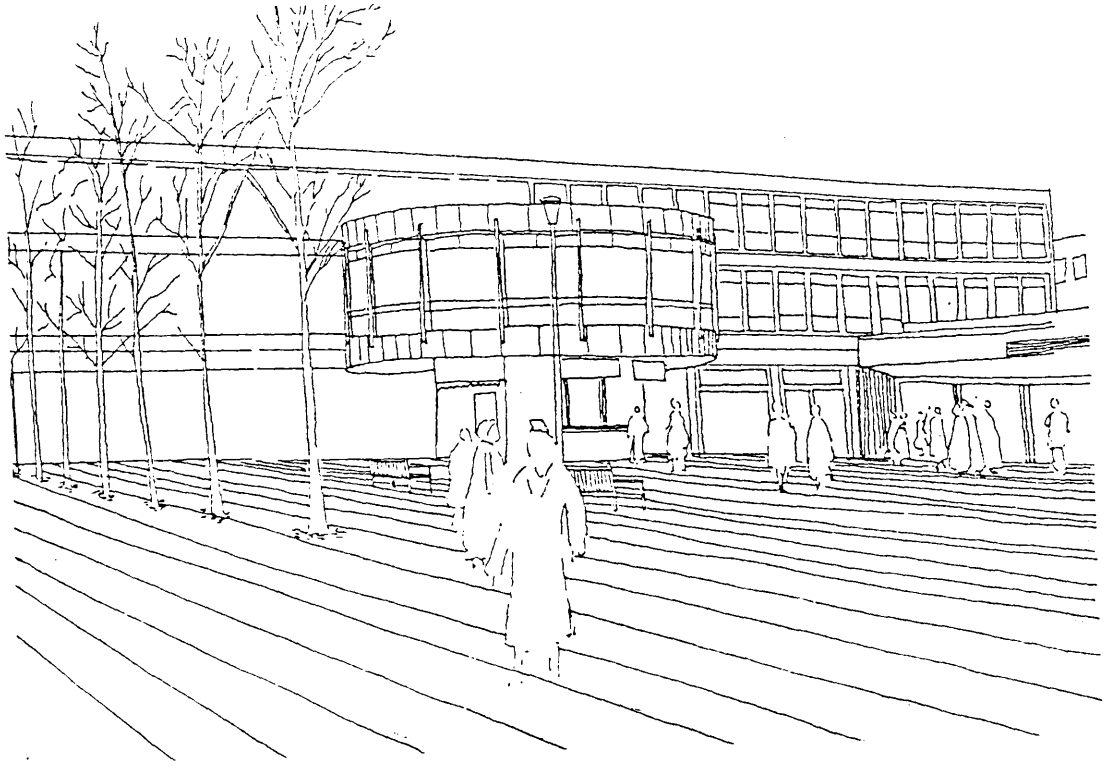


FIGURE 4.14: Floorscape in Princes Square.

concept was to build a compact town clustered around a single centre (figure 4.15), without any distinct neighbourhoods. An effort was made to get a very high proportion of the whole population living within walking distance of a concentrated centre (figure 4.16) and by so doing a great sense of increase in density, to foster the urbanity.

The dominant feature of the town is the exposed hill-top on which the town centre has been built (figure 4.17). The original concept of a hill-top town on such an exposed site in a northern europe climate is in my view faulty. This kind of hill-top would suit a mediterranean country where it is warm and not so windy. Another big disadvantage of this hill-top organisation is that the people will have to walk up both the hill and the building in order to reach the town centre (figure 4.18). Adding to those disadvantages, the concept of expansion of the town centre is very limited indeed to allow for the future expansion of the multi-layout town centre. The complexity of a structure perched on a hill-top creates major problems in achieving such expansion. It has become apparent for example that commcercial investment in the town centre has been restricted by this complex and rather rigid concept and present development is aimed at trying to achieve some

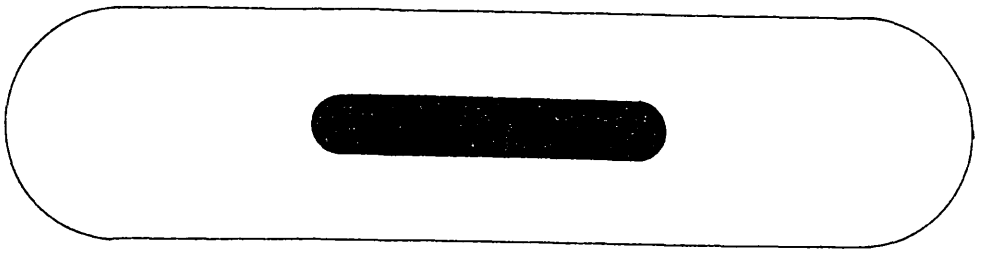


FIGURE 4.15: Cumbernauld - one single urban entity.

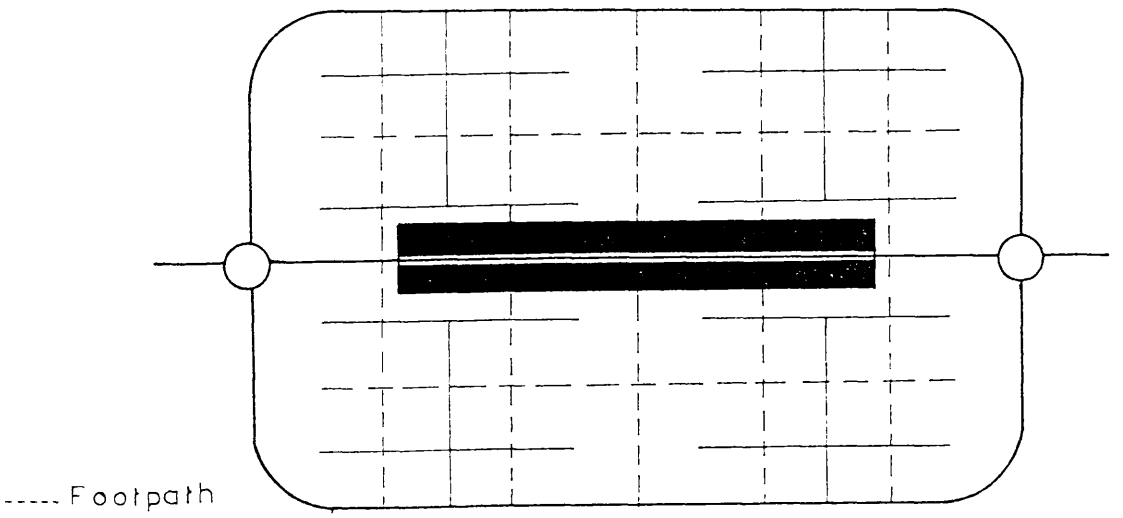


FIGURE 4.16: Segregation vehicles, pedestrians.

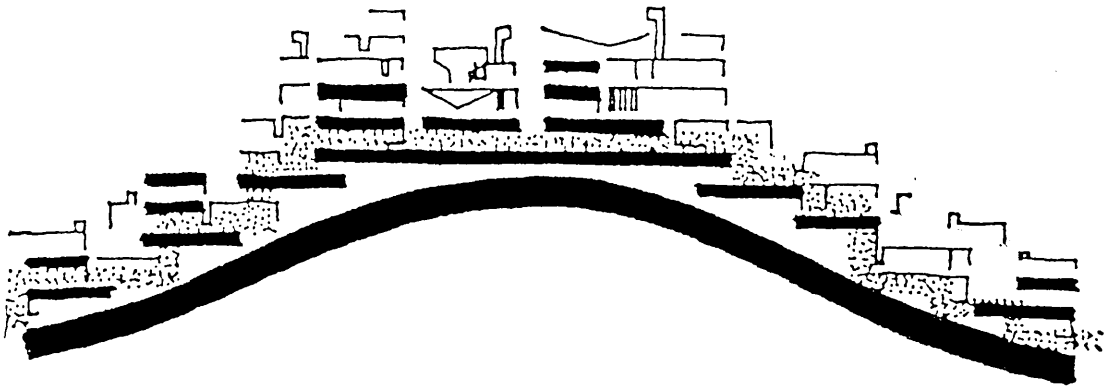


FIGURE 4.17: Hill-top organisation.

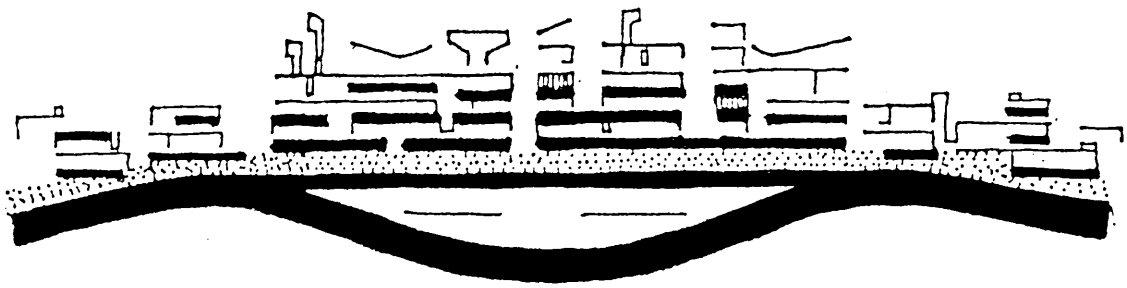
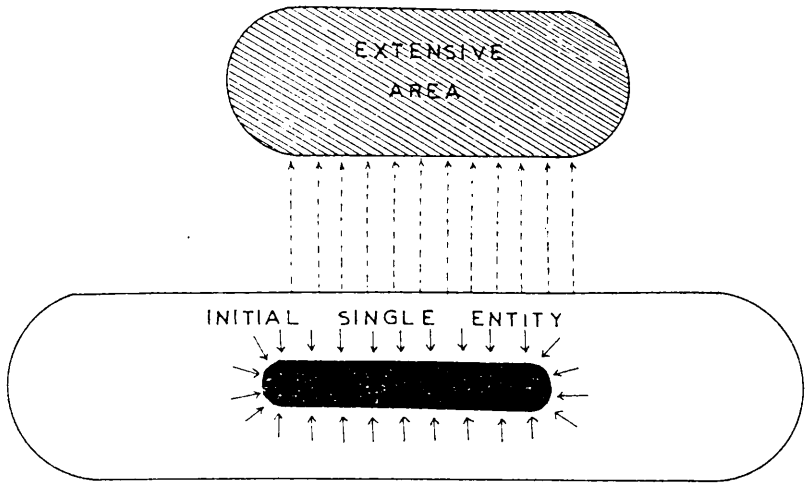
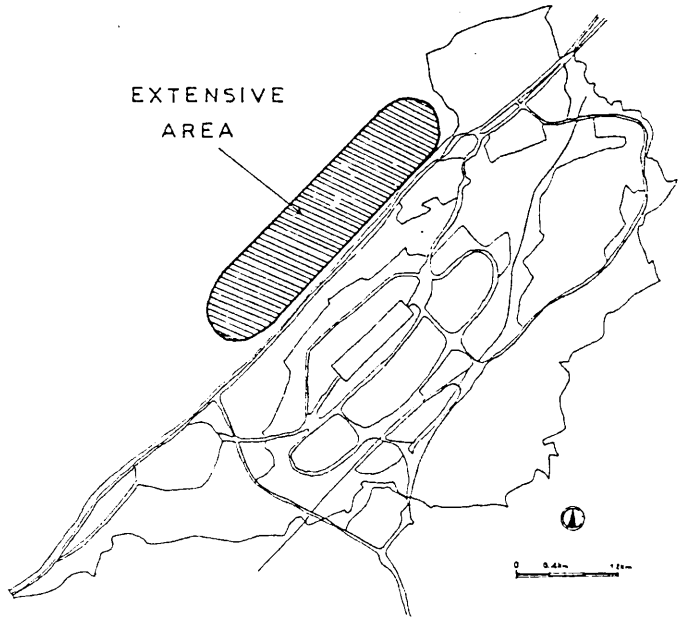


FIGURE 4.18: Valley organisation.

flexibility (figure 4.19). The urban form of Cumbernauld is based on the widespread use of the motorcar as the means of personal transport; thus highly accentuated traffic planning became the major element of composition. The idea of a concentrated town centre with a rich variety of form, urban spaces and functions should in theory result in a more satisfactory urban form. Again we can compare this concentration of town centre with the gentle and small scale of St Andrews. By contrast, large scale buildings and the big distances between one building and another one give the feeling of a "prairie" (figure 4.20). And housing areas, turn their backs on the centre. Some having their urbanity diffused by large open spaces that are little more than expanded roadside verges. The variety of urban components as seen in Glasgow (figure 4.21) and St Andrews (figure 3.10) does not take place in Cumbernauld. The main urban phenomenon which occurs in Cumbernauld is this clear separation between two urban elements (housing and town centre) which are supposed to be complementary and linked (figure 4.22). By contrast, to St Andrews those two urban elements are physically and visually part of the urban fabric (figure 3.11). In a town like St Andrews the urban spaces are part of the urban fabric (figure 3.23). In the other case i.e.



The fact that Cumbernauld depends on a multi-level centre which would be difficult to extend or alter,



an extensive area in the north was designed in 1973.

FIGURE 4.19: Problem of urban expansion of Cumbernauld.

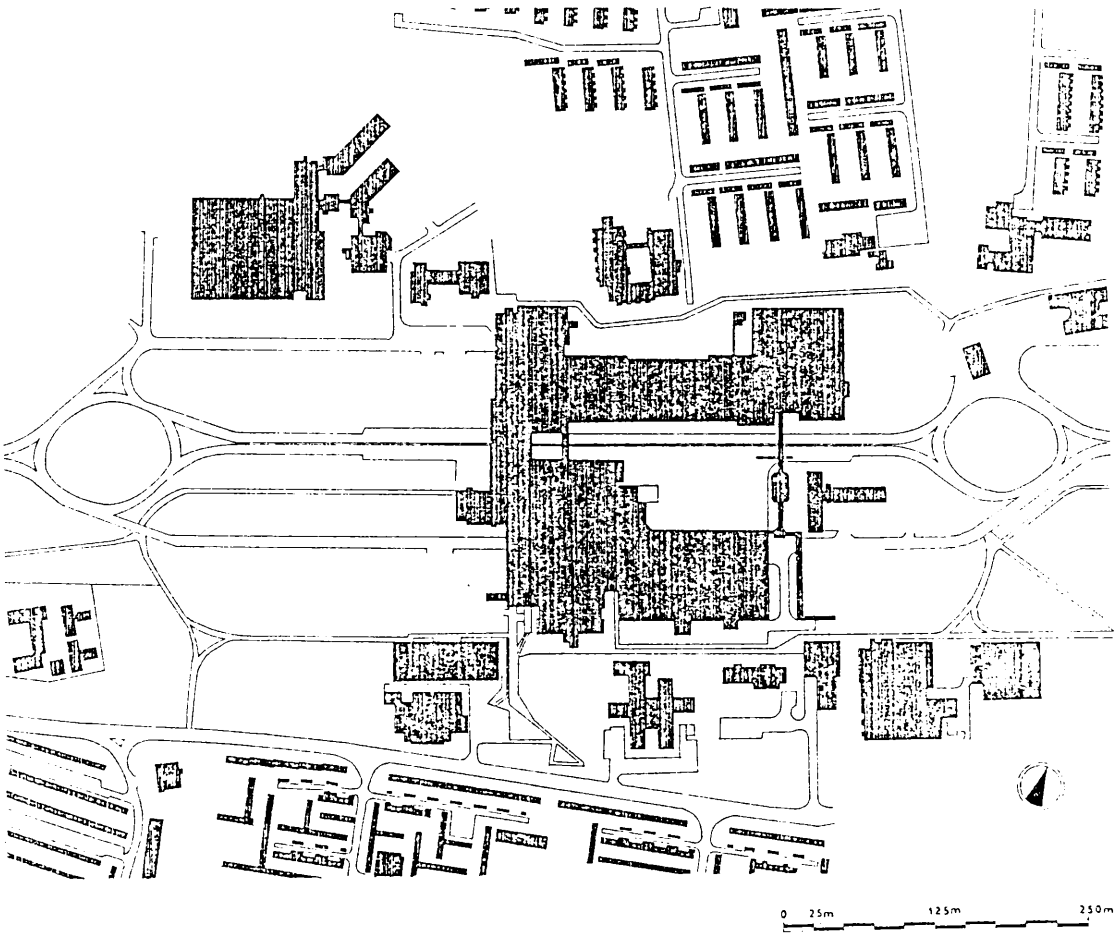


FIGURE 4.20: Cumbernauld.
Large scale of intervention.

FIGURE 4.21a: Glasgow, different landmarks.

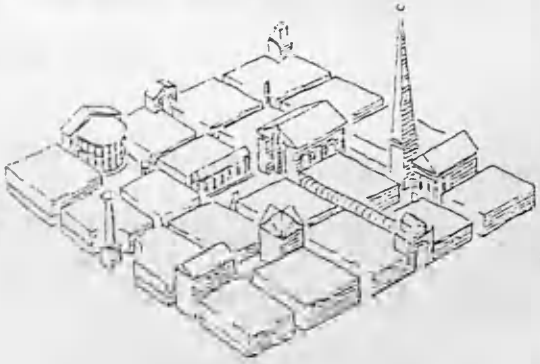


FIGURE 4.21b: Importance of special elements.

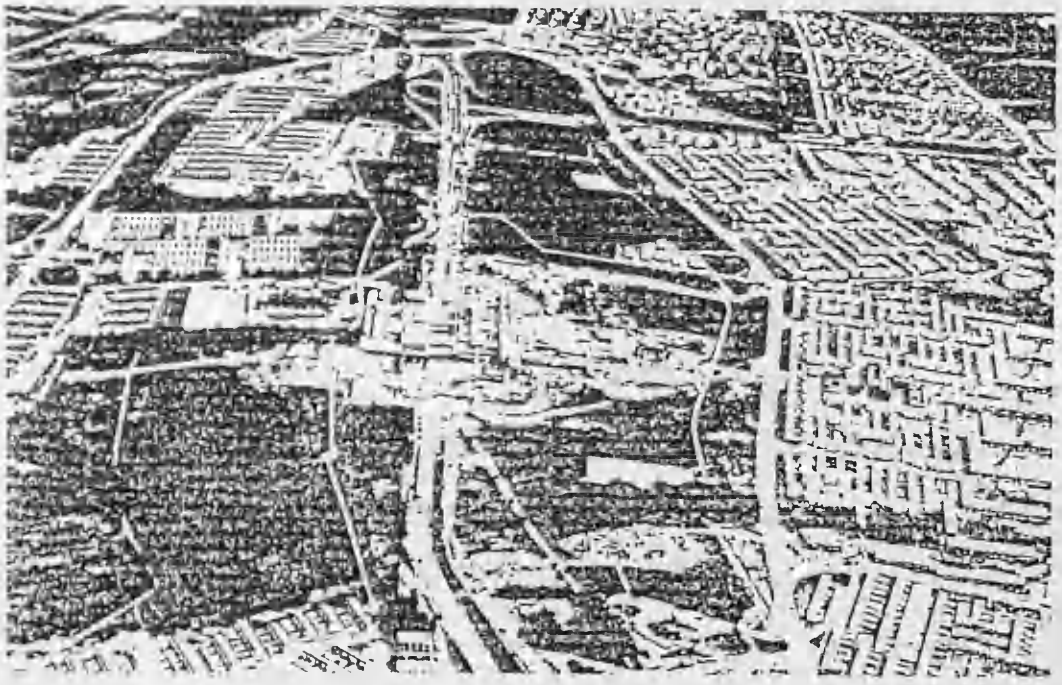


FIGURE 4.22: Cumbernauld. No urban structure.

Cumbernauld, those kind of public rooms are not found. There is a dominance of open spaces "left over spaces" which are reserved for future extension or for car parking. With the presence of those left over spaces, it is quite impossible to define the spatial organisation of the town. One has to guess how the road pattern is and where the urban spaces are (figure 4.23 and 4.24). Another disadvantage of this openness, is that it accentuates the problem of climate, the streets and squares are not protected against the north wind.

In contrast to the first generation new towns, the second tried to revive the open market, the theory of the second generation derives from the covered shopping of the nineteenth century and the modern shopping centre (figure 4.25). Most of the urban spaces are internal. The pedestrian walk from the residential areas, enter the town centre by a series of ramps (figure 4.26). Motorists leave their car in the basement or outside the centre and reach the other level by vertical elements such as lifts, escalators or stairs. In fact escalators, lifts and so on are becoming the main vertical components of the town centre. The internal elements of the town centre are street and square. The same principles of conception of an urban space are mostly retained in

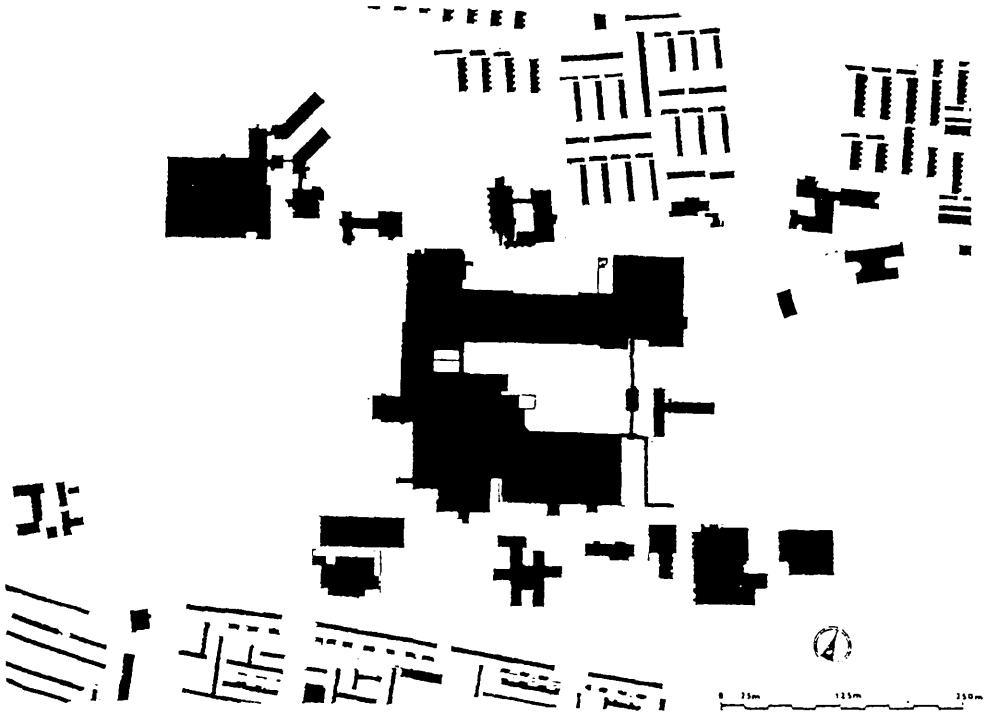


FIGURE 4.23: Cumbernauld. A vague external space, it does not structure the build-up.

FIGURE 4.24: East Kilbride. The volume of open spaces is so vast that it is difficult to guess the road pattern.

new town urban spaces such as Teviot Square which is becoming the major meeting place in theory but it is mostly used as a passage and link with the other level (figure 4.27). Here we have another concept of square, the "modern concept", where the whole square is covered and surrounded, as Princes Square in East Kilbride by shops. Elements such as urban furnitures (figure 4.28), landmarks (figure 4.29), name of the streets are also part of the internal street. But there are elements missing in this kind of urban space. Firstly the multi-use of this urban space, the only functions that it carries are shopping and walking. Secondly the vertical edges of the urban space are not as rich as for instance in St Andrews, there is no variety of different kinds of buildings, from different periods. The notion of growth by incrementation in St Andrews makes this feeling of defined space. Thirdly and lastly at night time the whole is closed, there are no urban activities at night time.

The following chapter will be looking at another kind of new town called "expanded town" and the change it has brought in terms of urban quality to the new towns.

FIGURE 4.26: Ramp.

FIGURE 4.27: Teviot Square.

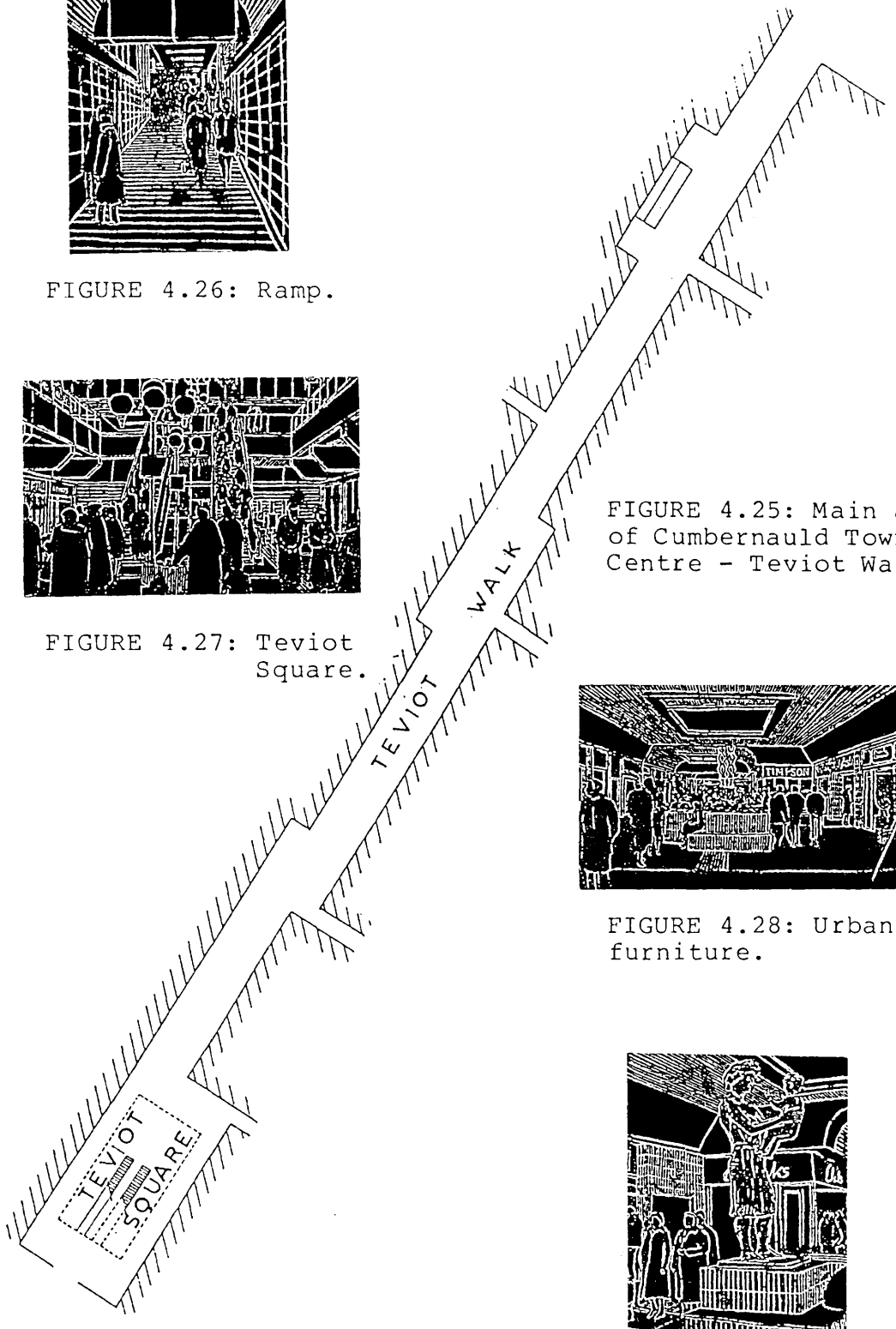


FIGURE 4.25: Main axis of Cumbernauld Town Centre - Teviot Walk.

FIGURE 4.28: Urban furniture.

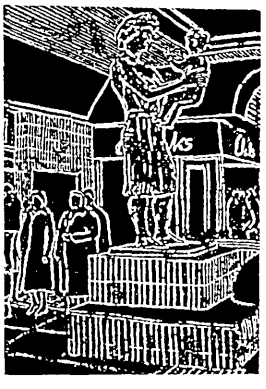


FIGURE 4.29: Landmark.

CHAPTER 5: Irvine

In 1970 and early 1980's, there was a tremendous reaction against the new towns. Those who lived in them were said to be unhappy and bored with their environment. Journalists, architects, and planners who were watching the progress of the new towns could see amongst other ills the non-physical structure and the lacking of urban quality.

At about this time building work in old town centres was booming, often with resulting pressures on street patterns going back to the middle ages. The centres of old towns were usually a mixture of victorian, georgian and sometimes earlier buildings which had suffered demolition or "facelifts" or were submerged in new shopping precincts. A necessary complement of this redevelopment work in the older town, was new housing development either grafted on to existing neighbourhoods or as separate schemes. In this context existing landscape and a mixture of old and new buildings offered the prospect of a more varied and lively scene. This realisation and the rather depressing results of the Albert incomplete new town led to experimenting in a new policy of urban development known as "expanded towns". The underlying economic argument was that the future investment in new towns should concentrate on "growth points". A good example of an expanding town is Irvine.

5.1. History of Irvine

Irvine has a very long and interesting evolution. It started as a royal burgh in the thirteenth century, and went through various stages until the creation of the new town but there are many features of the old town which remain nowadays and give an identity to the people living in Irvine.

Town Plan, 1200: "It is difficult to imagine how different in the thirteenth century was the site where Irvine would be established. The river emptied into a wide bay. Inland was a great loch. On the isthmus between were low hills - contours shown at 15m above present sea level. The highest point was occupied by a church (1233). To the north the Lords of Cunninghame had a wooden castle (1184). The land across the river in Kyle belonged to the Fullarton family (figure 5.1)"[21].

Town Plan, 1300: "When a burgh was established, probably by William de Morville between 1230 and 1249, this 'new town' was planned on the flat sheltered area behind the church. Burgage plots were laid out on both sides of the wide Market Gate or High Street. By 1300 the first phase of development was complete. The river was crossed (figure 5.2)"[22].

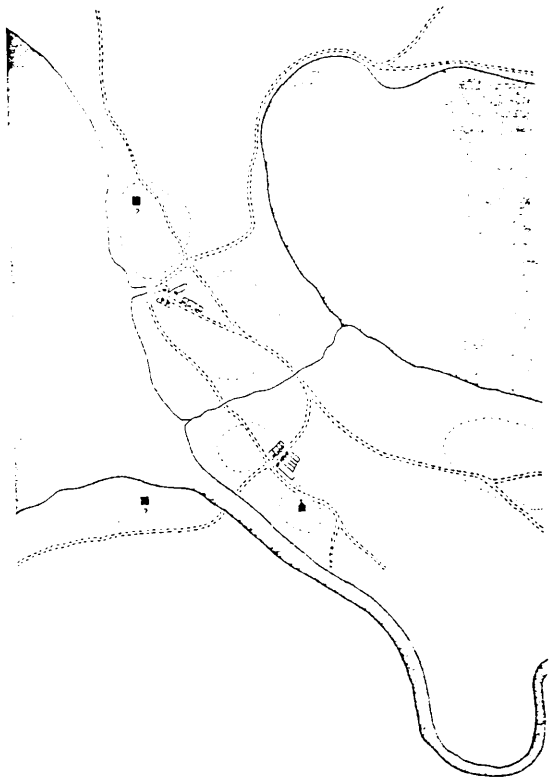


FIGURE 5.1: Town Plan 1200.

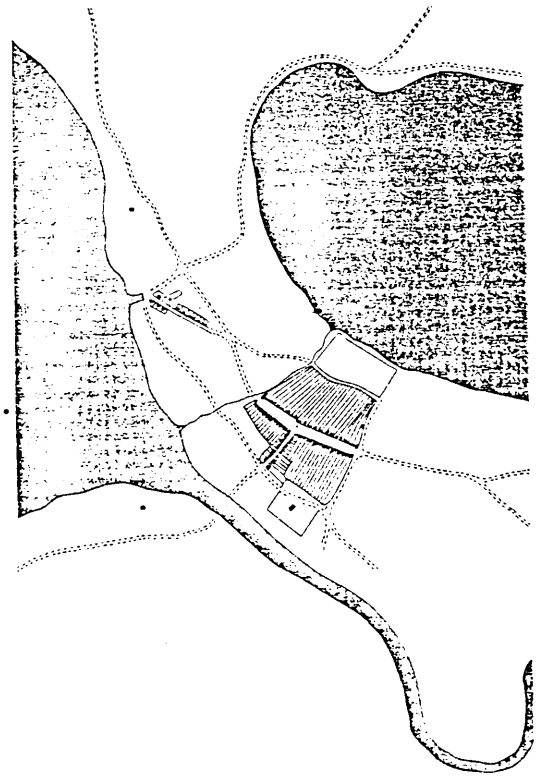


FIGURE 5.2: Town Plan 1300.

Town Plan, 1400: "After Robert II's 1372 character, Irvine was equipped with a tolbooth (1386) and became firmly established as a royal burgh. Houses and back riggs now extended towards Seagate, where a stone tower castle was built (after 1366) over the water Fullarton old place was also built. Upriver the Howe Mill was operating (figure 5.3)"[23].

Town Plan, 1500: "For a population of around a thousand persons, there was now building in Bridgegate, on Mount Musart, and beyond Seagatehead. Land was reclaimed from the Loch of Trindlemons, on the Green and at Maress (1464). Prosperity is indicated by the generous grants which embellished the church. A stone bridge has been built (figure 5.4)"[24].

Town Plan, 1600: "Despite civil and religious conflicts Irvine continued to grow, Seagate was rebuilt (1565). With the best sites now occupied, the Grip and Hamihill were used, back tenements added in High Street and building extended into Townhead (figure 5.5)"[25].

Town Plan, 1700: "In the seventeenth century Irvine's population had rapidly increased to more than 1500. The old town centre was becoming congested, and there were extensions into Townhead and across the river on the Halfway. The drainage of Scots Loch

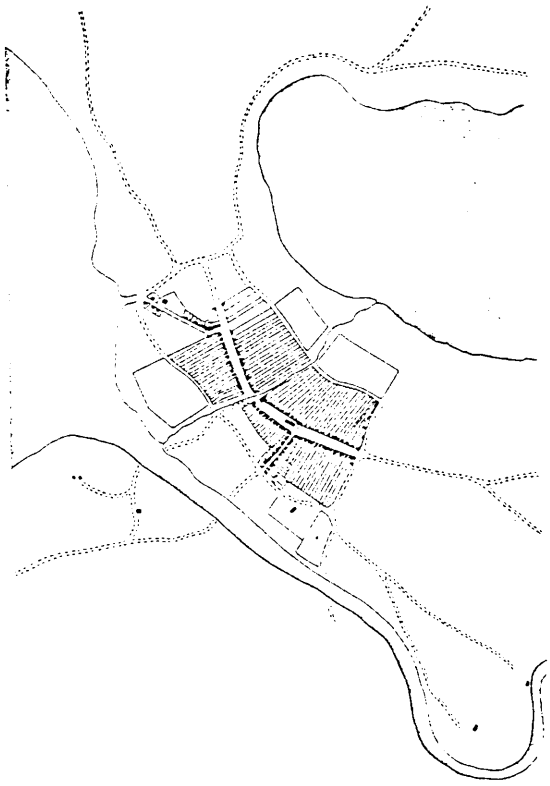


FIGURE 5.3: Town Plan 1400.

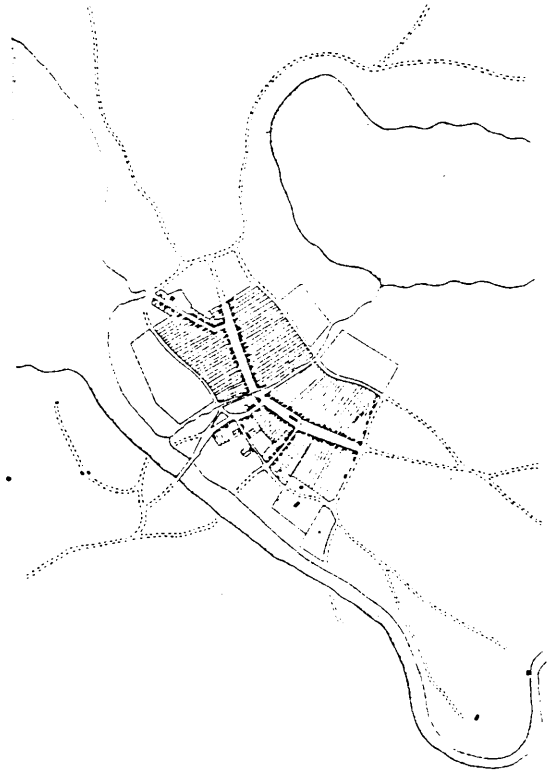


FIGURE 5.4: Town Plan 1500.

(1961) signified agrarian improvements. Plans were made by William Fullarton for a separate burgh of barony (1707) over the river (figure 5.6)"[26].

Town Plan, 1800: "After spectacular eighteenth century growth, over 3000 people were crammed into the increasingly congested burgh. Nearly 2000 now lived across the river. There was the lay out of Fullarton Street and Halfway, waterside. The burgh itself was enhanced by an improved tolbooth (1745), a new bridge (figure 5.7)"[27]. The division of the urban fabric into burgage plots is even clearer in the map done in 1819 by John Wood, which is included in Appendix A1.

Town Plan, 1900: "In the early part of the nineteenth century trade languished despite railways to Ayr and Glasgow (1840) and to Kilmarnock. An academy was built, as well as a widened bridge, Bank Street, plus a middle class residential development.

By mid-century there were fewer than 3000 inhabitants in the royal burgh. Growth was taking place on the other side of the river. The burgh had additional churches including Trinity, new schools and halls (figure 5.8)"[28].

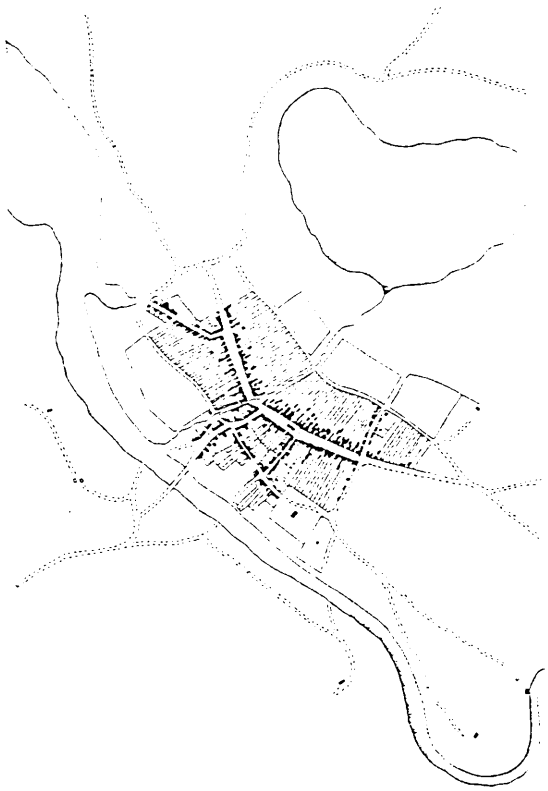


FIGURE 5.5: Town Plan 1600.

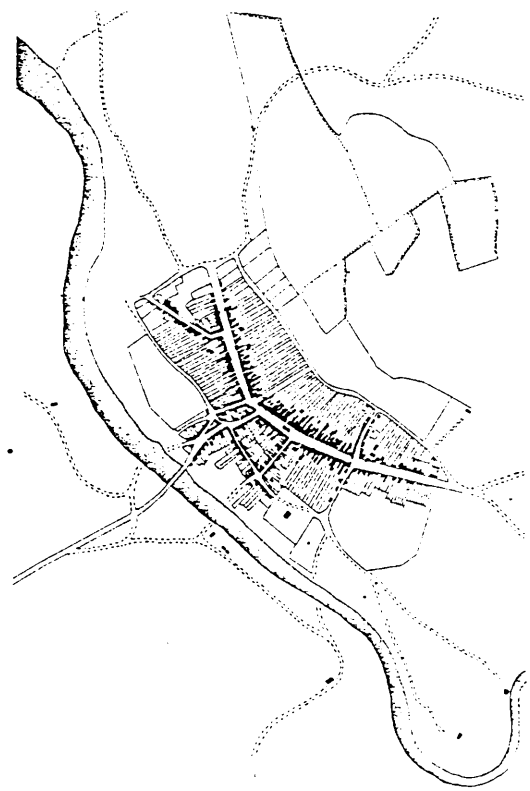


FIGURE 5.6: Town Plan 1700.

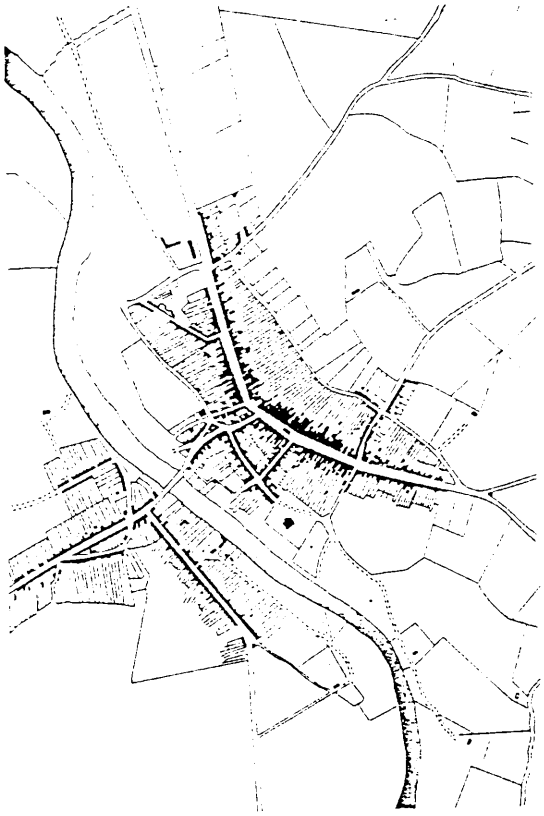


FIGURE 5.7: Town Plan 1800.

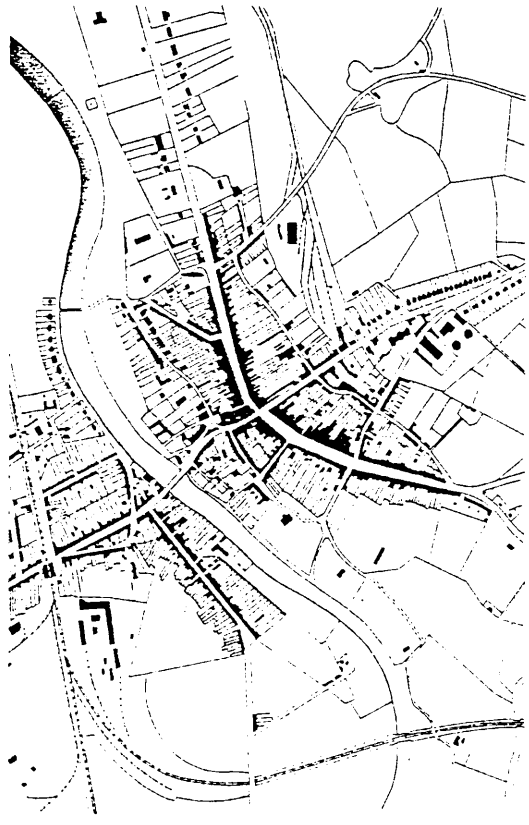


FIGURE 5.8: Town Plan 1900.

20th Century

"With the start of the first world war, Irvine was facing a shortage of houses and it had become critical, especially with an influx of workers to the new shipyard .... war made further impact on Irvine. The shipyard and local industries were busy with war work. Therefore the period between the two wars (first and second) had been marked by the development of industries related to the war, and the problem of housing was increasing". (29)

After the last war development was relatively slow but in the early 1960's the town was identified as a growth point which could take some of Glasgow's overspilt population. Its population at the time of its designation was about 35000.

The original master plan for Irvine, prepared by Wilson and Womersley in 1967, proposed a green field location for a new shopping centre as part of a linear form. This would take the form of the 'necklace' of a major communications spine carrying traffic of all kinds (figure 5.9).

The plan was reviewed in 1968 because it did not integrate existing Irvine and one of the changes proposed was to locate the major shopping and central area uses within the existing town centre (figure 5.10).

By doing so, the linear development which was proposed in the preliminary proposal (figure 5.9) is abandoned. The fact that the old centre is included within the new development, the proposed linear development down to two developments (figure 5.11). Consequently, the new urban development taking place is a radial town centric, what usually occurs in an old town (figure 5.12). One of the main objectives of Irvine Development Corporation is to attempt to combine the creation of new communities with the protection of the historic fabric of the existing settlement.

"By 1984, the built-up area of Irvine was vastly extended (figure 5.13), there was an estimated population of 21,780 in the area of the burgh out of a total new town population of 51,150"(30).

5.2. Townscape of Irvine

Much of the fabric of the historical Royal Burgh of Irvine dates from the nineteenth century although the street pattern and street names reflect a much earlier period. The most important aspect of the new town plan was the rehabilitation work, notably the restoration of some streets. The main goal was the maintenance of the character of the burgh i.e: small scale houses, and each plot having its own character. The whole lot forms the street, that what is called as mentioned earlier on, 'development by incrementation'.

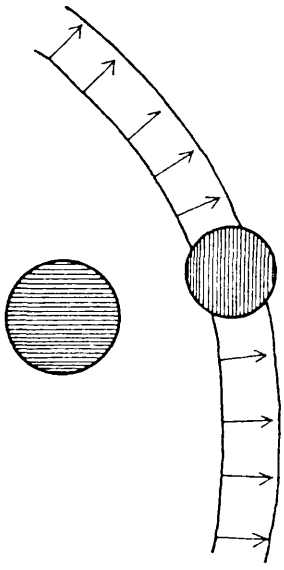


FIGURE 5.9: Preliminary Proposal.

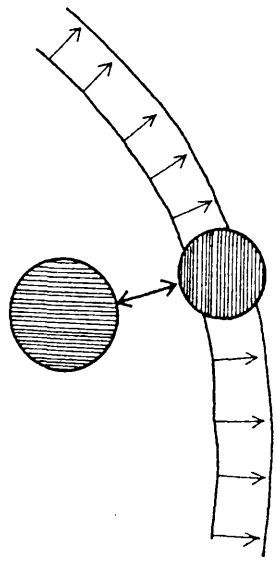


FIGURE 5.10: Integration old and new fabric.

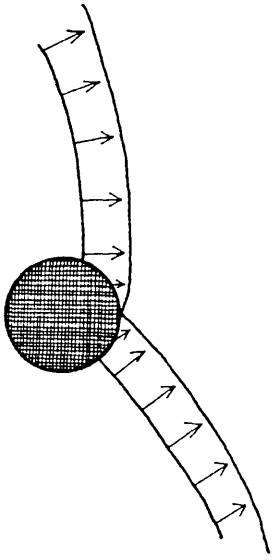


FIGURE 5.11: The original development is now divided into two.

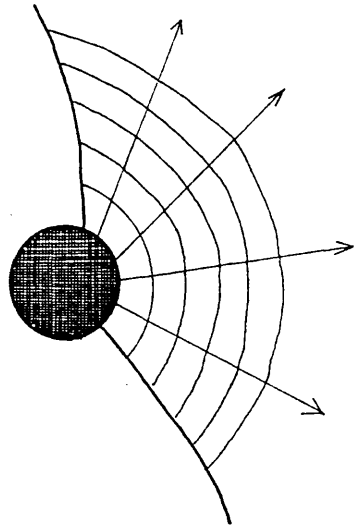


FIGURE 5.12: Consequently, the town gets a radial centric type of development.

Old Burgh
New Shopping Centre -
old and new fabric.

Elements of townscape which contribute in the character of a town, such as St Andrews, can be found in Irvine Royal Burgh. Indeed elements like variety, rythm, roofscape, streetscape, floorscape, detailing, are found in Irvine and that gives it a mediaeval character of diversity and human scale. In figure 5.14 the two major landmarks of the whole town can be seen. The first one is the Trinity Parish Church, the second one is the Town Hall. Thus, the whole townscape is dominated by these two major vertical elements. The fact that Irvine is an expanding town, always from figure 5.14 it can be seen that the unity of the town is much stronger than for instance in Cumbernauld (figure 4.23). Above all that, there are less 'left over spaces' in Irvine than in Cumbernauld. Thus, there is a better cohesion, continuity of the whole urban fabric. The proof of this cohesion is to be seen in its structure. It has, so to speak, a strong backbone (figure 5.15). It is composed of a major street (High Street). All along it develops the different kind of plots and buildings. Then from the middle of High Street, goes another street which had been developed as the main shopping place with the new shopping centre. The axis extends to the railway station and finally the harbour. The main element of the historic fabric is the High Street which is formed by interesting and varied urban components,

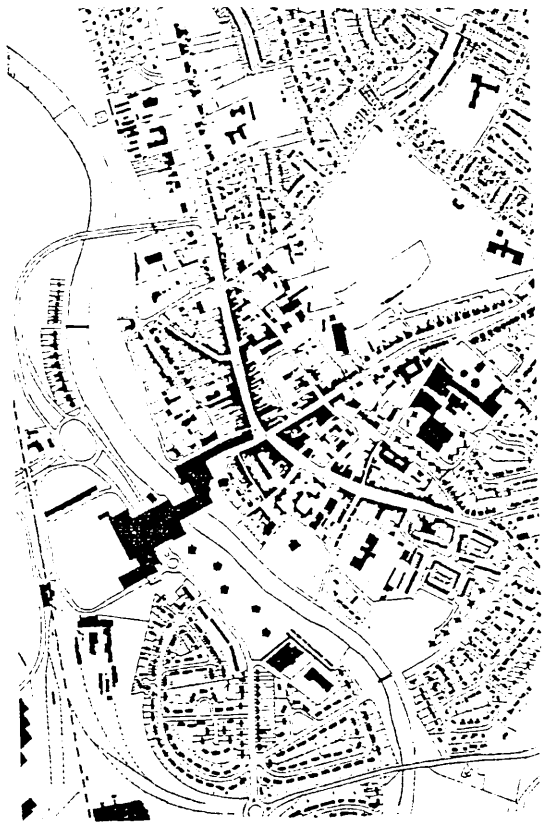


FIGURE 5.13: Town Plan 1980.

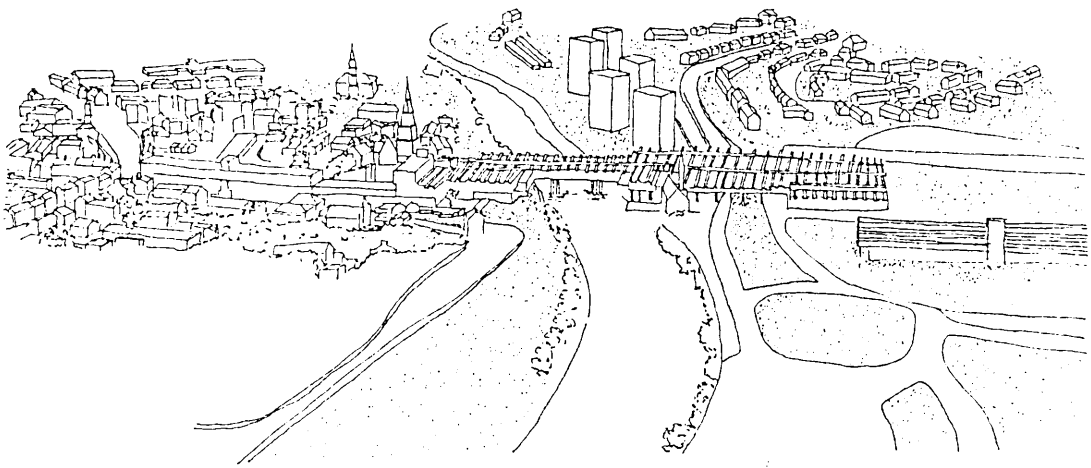


FIGURE 5.14: Image of Irvine.

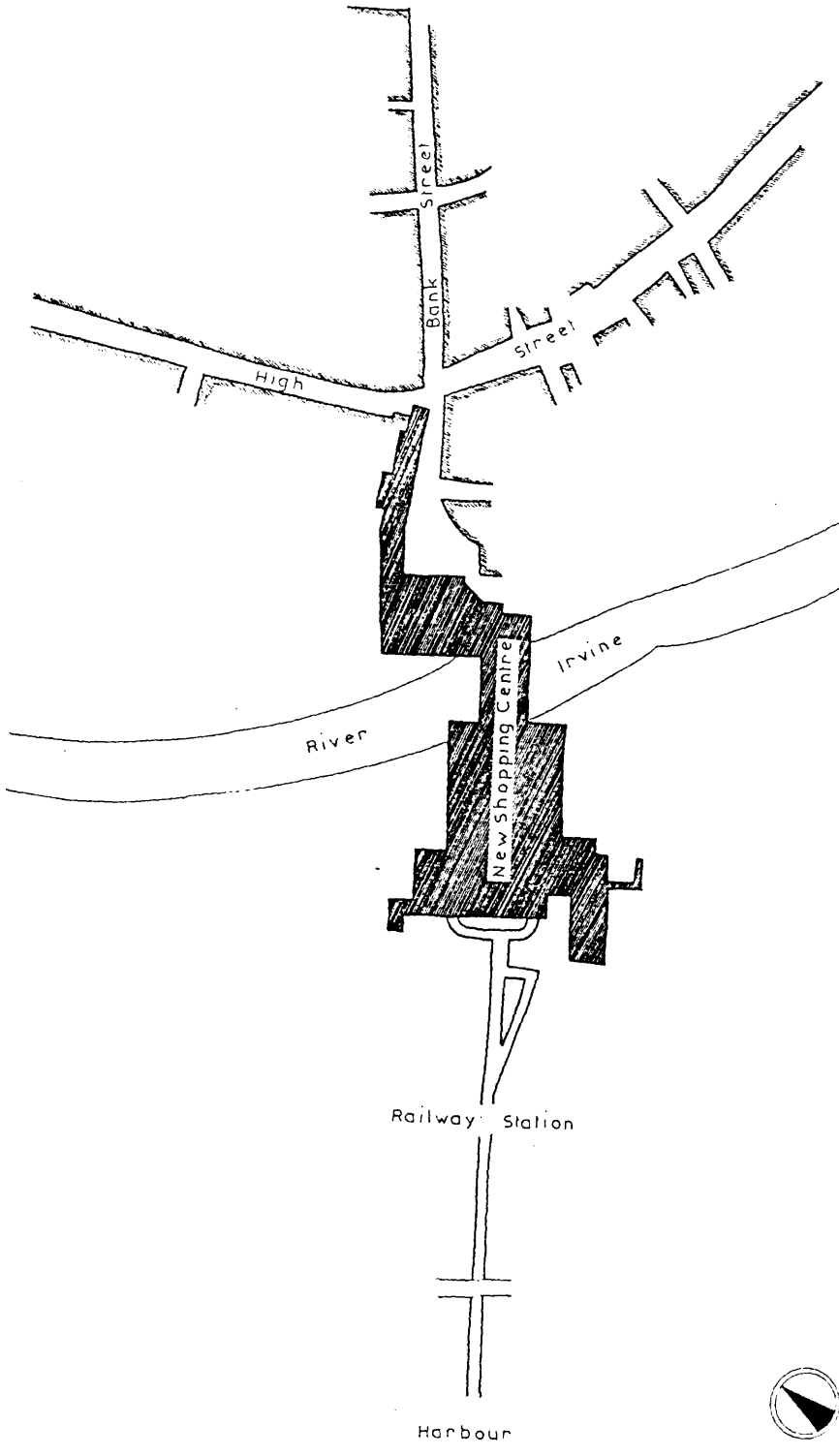


FIGURE 5.15: Basic structure of Irvine.

almost always individuality and attractive settled character, a single whole character. The wide High Street with its mediaeval curve, and stone buildings of all periods (figure 5.16) gives a rich composition to the urban fabric. High Street is mainly composed of shops at the ground level and either flats or offices upstairs (figure 5.17a). Adding to this variety of activities, High Street also has a variety of uses. Indeed Marymass is still celebrated each August (figure 5.17b) which proceeds along High Street. The street is of different widths (figure 5.18), these different urban variations (narrow and wide) increase the excitment within the urban space.

The pattern of burgage plots (more details are to be found in the history of Irvine) are laid out on either sides of the street. Thus, the different units of plot width gives a varied rythm to the facade therefore a varied character of the urban space (figure 5.19).

Roofscape is also significant in the urban composition of Irvine, in that there is a clear variation in the roofscape all along High Street (figure 5.20).

The scale (which is also important) has been kept by respecting the different width of plots and the general height of the buildings. In order to have a

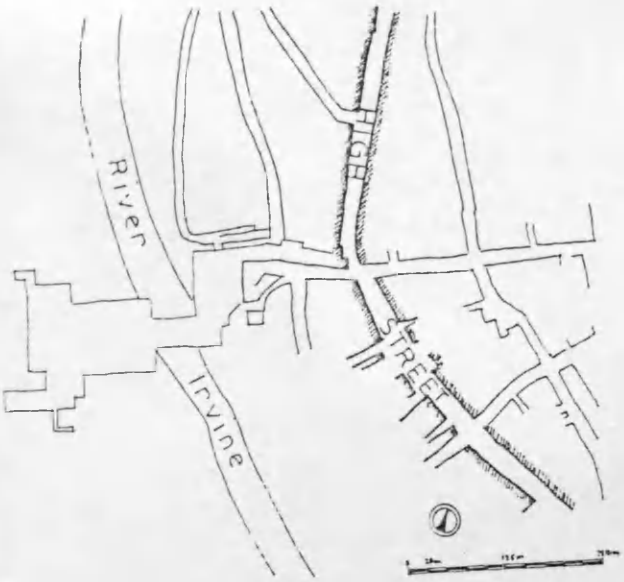
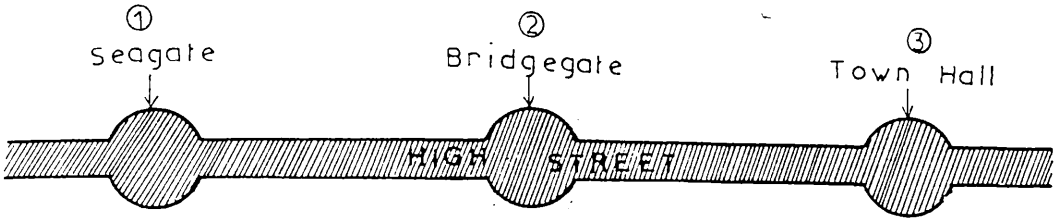


FIGURE 5.16a: Physical shape of High Street.

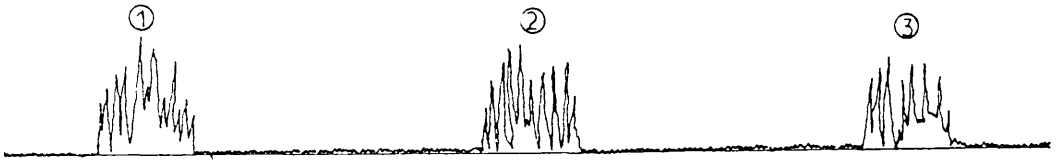
FIGURE 5.16b: The curved shape of High Street.

FIGURE 5.17a: High Street, Irvine.
Vertical overlaying of functions.

FIGURE 5.17b: Multi-use of High Street Marymass.



Variation in width in
High Street.



Visual excitment obtained
from this variation

FIGURE 5.18: Visual
excitment along High Street.

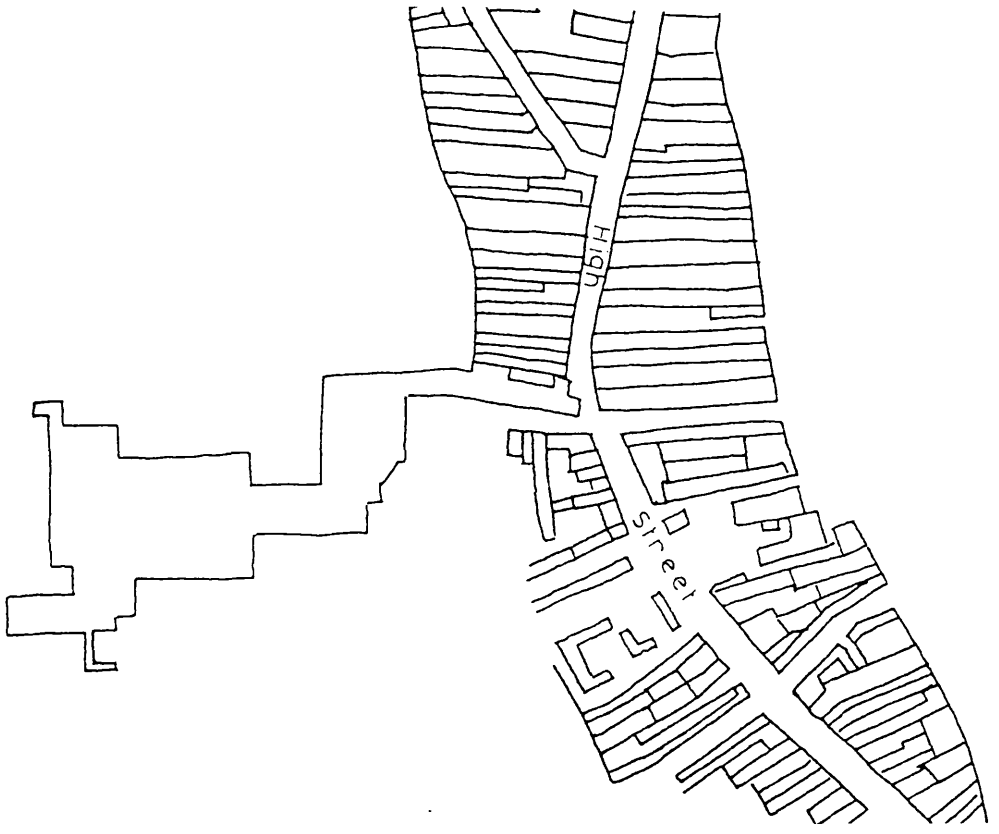


FIGURE 5.19: System of dividing the land. Contrast between size of plots in High Street and in the new shopping centre.

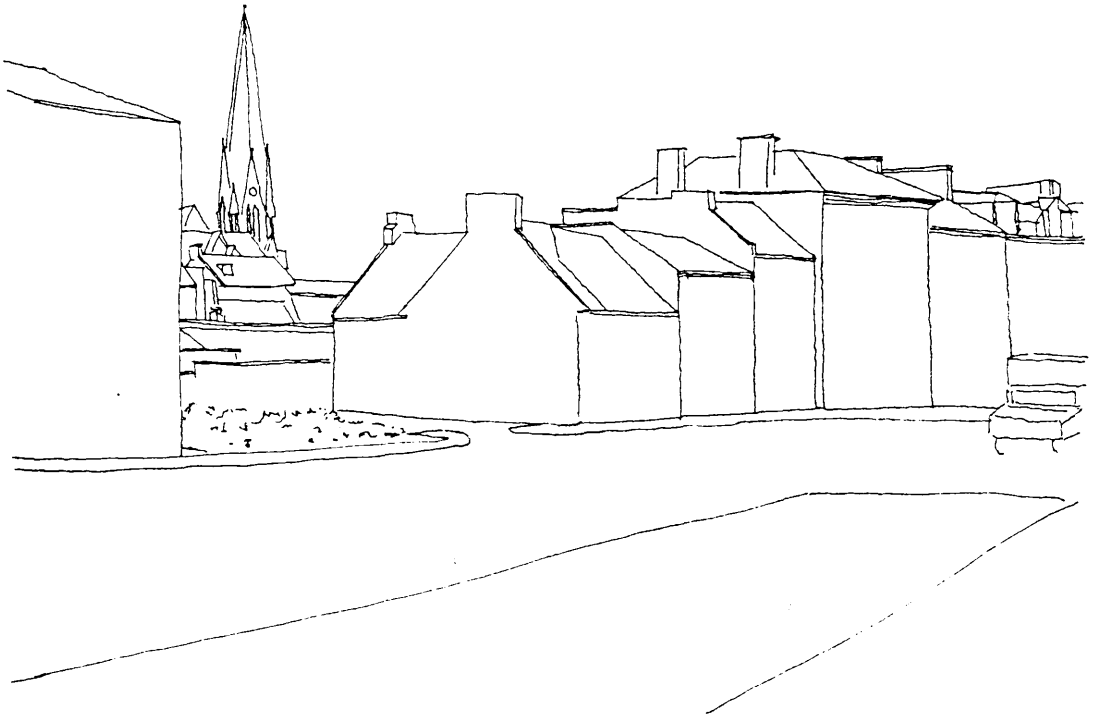


FIGURE 5.20: Variety of roofscape.

human scale in the urban space, the north part of High Street has been pedestrianised (figure 5.21).

A magnificent and elegant Town Hall (built in 1862) is integrated into the urban space by a recession in the building line (figure 5.22). With this kind of landmark, anyone would know that this is the High Street and not another street. Next to the Town Hall is the Town Square which is also a memorial place. In the middle of the Square there is a monument in order to mark the space (figure 5.23). The major contribution of this Square to High Street is at the level the building line breaks (figure 5.24) and this gives a richness to High Street. The image of the Square is spoiled by the presence of car parking just behind it. This is a very good example of the bad effect of cars on the urban space. The other important characteristic of Irvine is its new shopping centre. "The design for Irvine owes much to earlier work elsewhere: notably the Hook Report, the Cumbernauld Shopping Centre (figure 5.25) and the Runcorn central area design (figure 5.26). These schemes had in common three important aspects reflecting new attitudes. First, they accepted the necessity for providing car parking for the rapid increase in car ownership. Second, they were conceived as a mega-structure with formalised patterns of organisation of

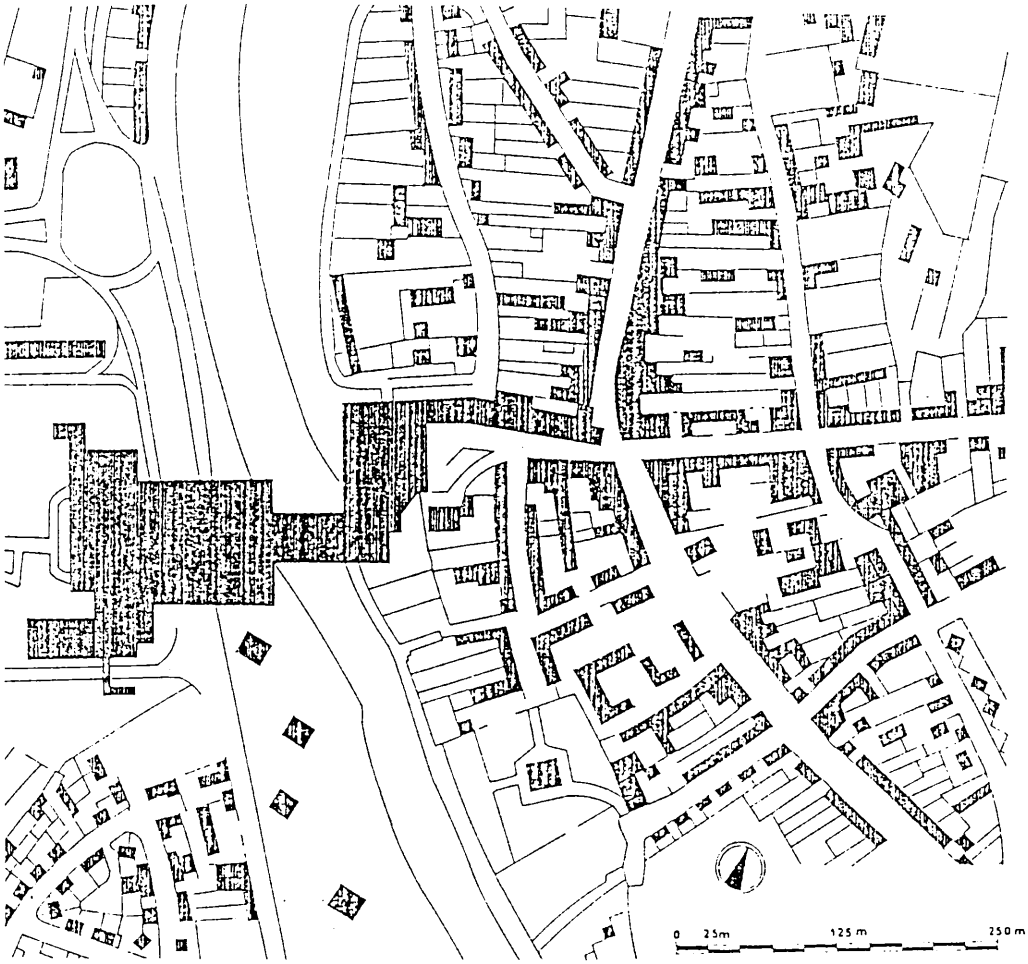


FIGURE 5.21: Pedestrianisation of the north part of High Street (▭).

FIGURE 5.22: Town Hall of Irvine.

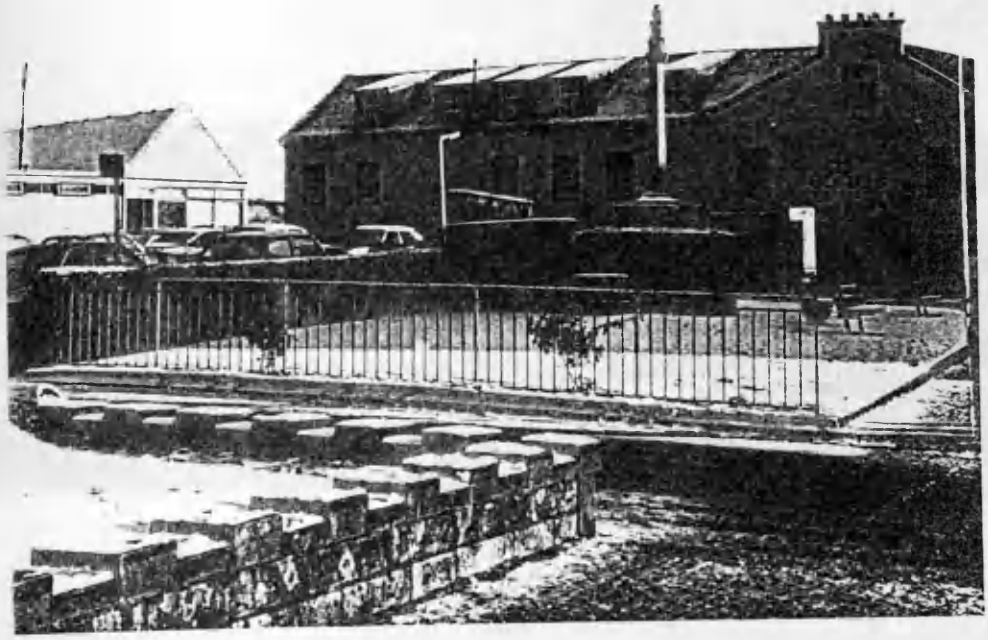


FIGURE 5.23: Importance of the square within the composition of High Street.

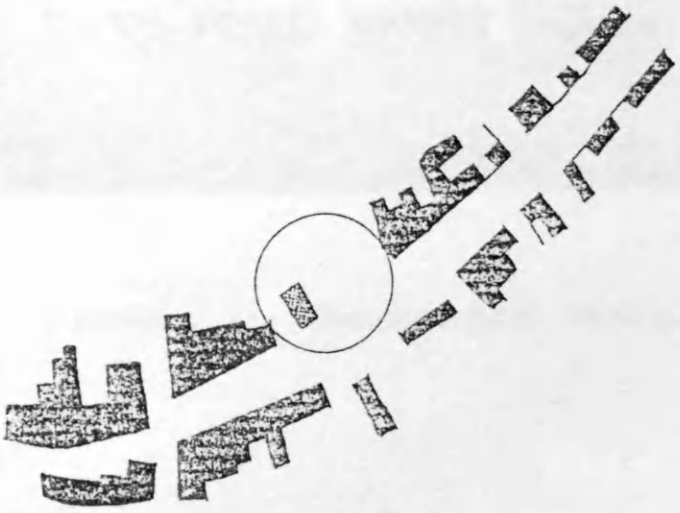


FIGURE 5.24: The building line is broken at the level of the Town Hall.

FIGURE 5.25: Cumbernauld Town Centre.

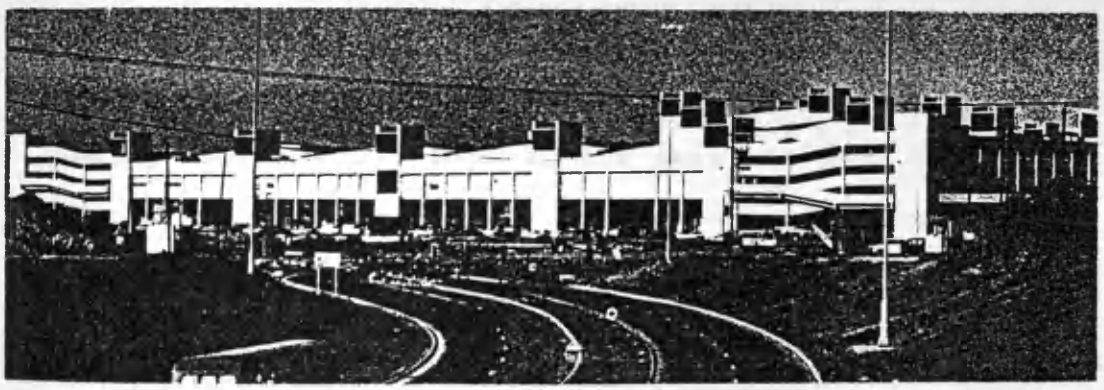


FIGURE 5.26: Runcorn Town Centre.

structure, services and movement. Third, they attempted to avoid the 'out of town' solution"(31).

The traditional shopping area was located on the eastern bank of the River Irvine, around the cross-roads of major routes. "To enable the existing centre to have further shopping to be added new roads were provided to the north and south of the centre"(32).

New shopping development occurred across River Irvine. The main objective of the central area expansion was to provide a phased development of shopping and other uses to meet the needs of the new town population which would complement and not destroy the existing facilities.

The new development is grafted on to the existing High Street as one arm of the traditional crossroads (figure 5.27) and creates a new axis for development leading from the old town to the rail station, harbour, and beach. The eastern end of the centre fronts on to Bridgegate Square which is an extension of the pedestrianised street leading to Irvine Cross. The pedestrian route into the centre then leads under a small block of offices into the main mall (figure 5.28) which spans the river.

The axis of the mall is physically centred on Trinity Church (figure 5.29) but it is not in visual terms, because once we are inside the mall the church cannot

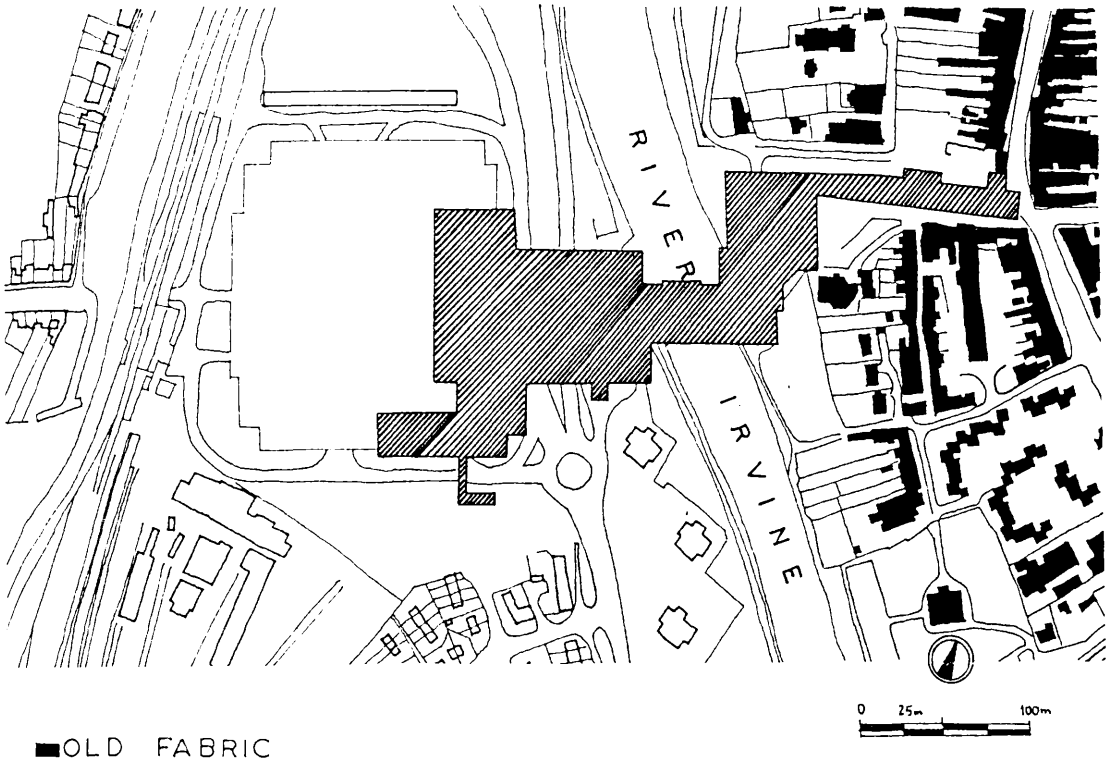


FIGURE 5.27: Irvine - mixture between old and new fabric.

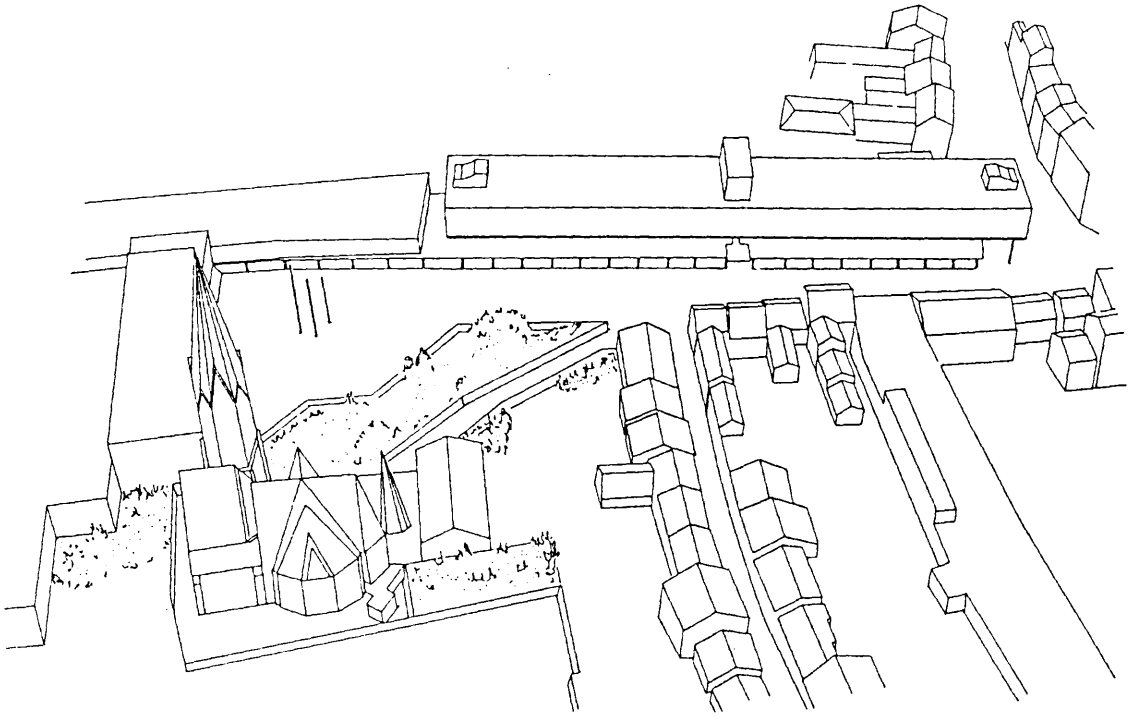


FIGURE 5.28: Organisation of Bridgegate Square.

be seen - it is not any more a focal point (figure 5.30).

Trinity Church is an important urban design element in the composition of Bridgegate Square. Indeed, when we see figure 5.31 it can be noticed how Trinity Church - a very important historic element - does structure the square. The different texture, colour and the small opening with a very fine detailing, give first of all a very rich appearance to the Church and then at a second stage to the urban space.

There are two other elements which structure the Bridgegate Square - landscaping, floorscape (figure 5.32). In fact those two elements are very important not only in the composition of Bridgegate Square but in any urban space.

The form of the square is irregular with different edges from one side to another one. Indeed, one edge is mostly composed of a long, similar kind of opening. By contrast the other edge is composed of small units of shops, with different kinds of texture, detailing (figure 5.33), something like Market Street in St Andrews (figure 3.26). Even though there is a certain balance or unity (between the new shopping centre and the old buildings) in matters of scale and height, the notion of rythm is not kept. Indeed, when we see

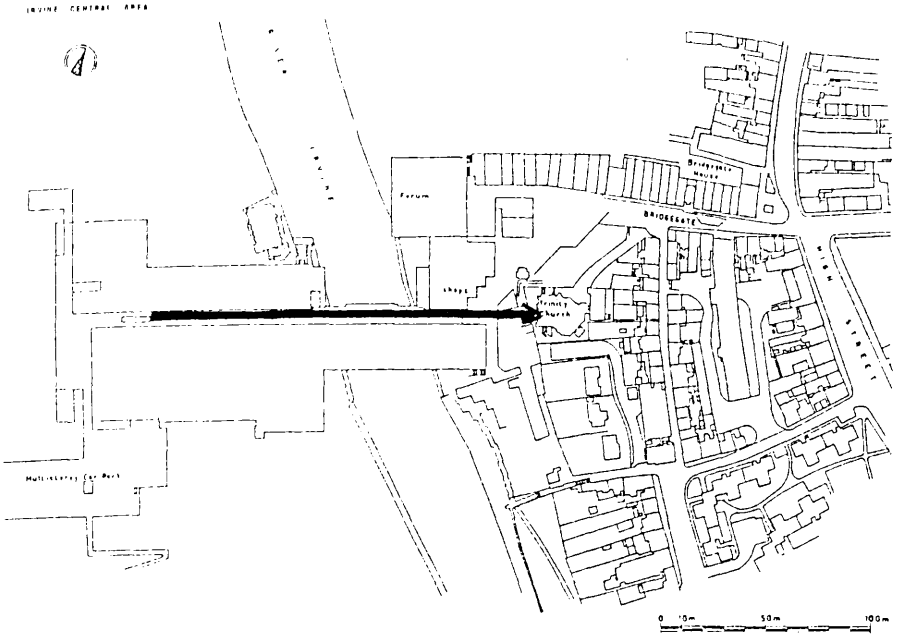


FIGURE 5.29: Irvine's Mall.

FIGURE 5.30: Inside the mall, the church cannot be seen.

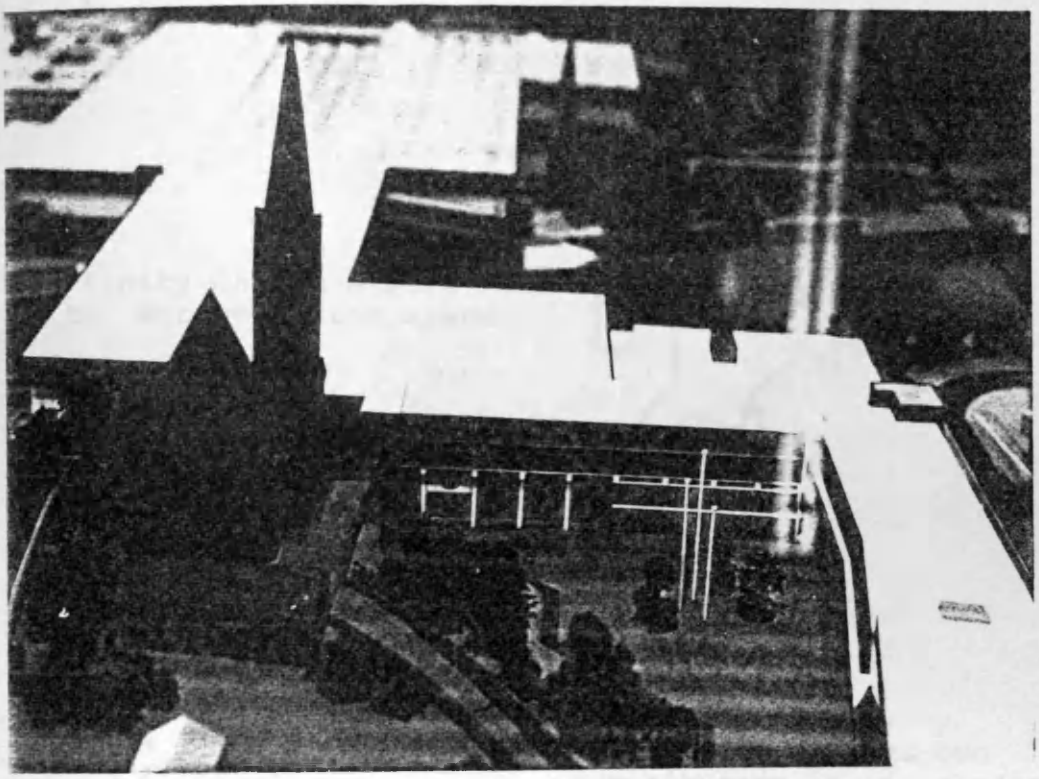
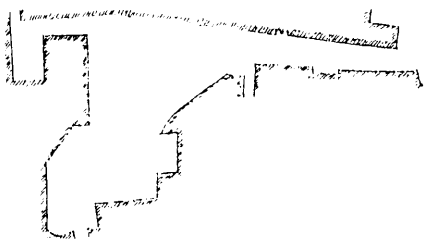
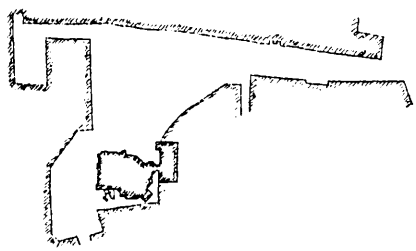


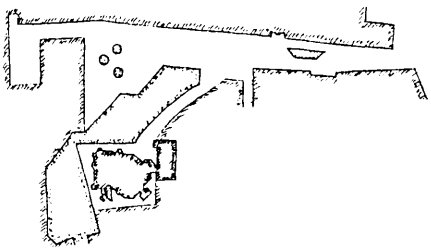
FIGURE 5.31: The importance of the church in the composition of Bridgegate Square.



The open space is not defined yet.

Trinity Church starts to structure the space.





Landscaping has its own contribution in the character of the space.

Floorscape is another important element.

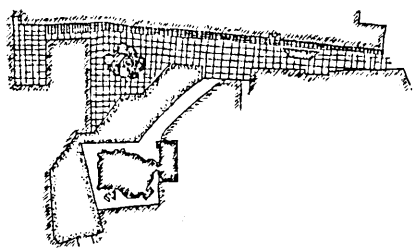


FIGURE 5.32: Design structure of Bridgegate Square.

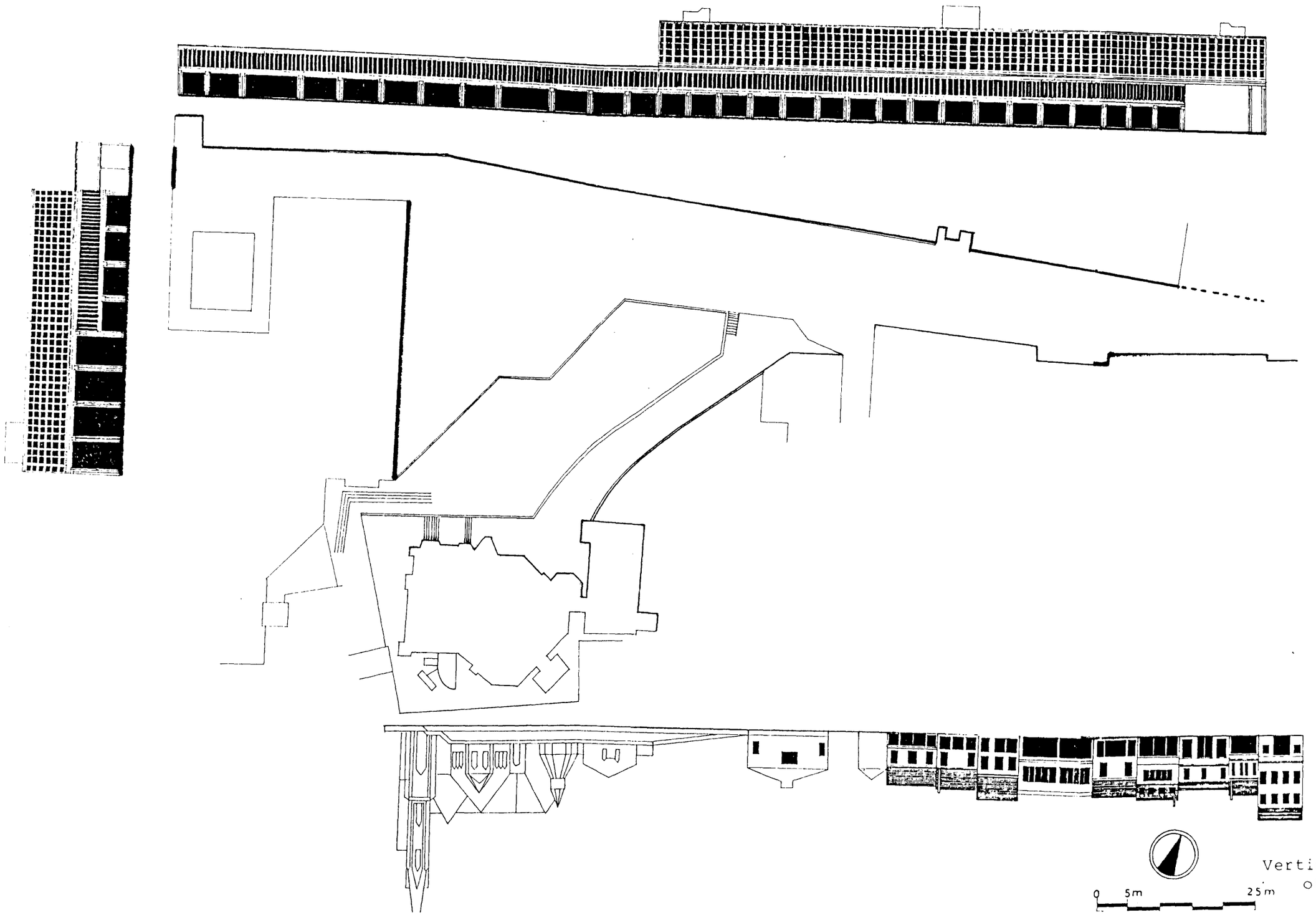


FIGURE 5.33:
Vertical composition of the square.

figure 5.34, it can be noticed that the old part has kept its small frontage, in contrast to the new part (new shopping centre) which is in my opinion like an imposing mass. The new part is in fact divided within the inside into small units but the outside does look like a one building architecture.

Summary

The lessons which could come out from this part (chapters 4 and 5) are as follows:

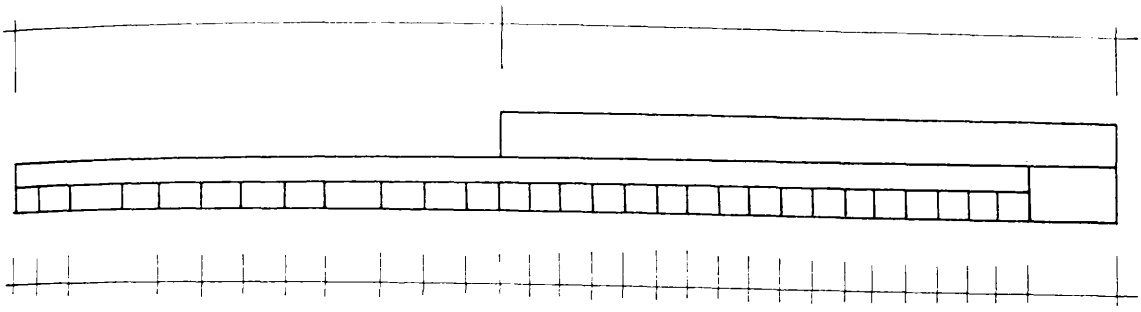
1. The urban spaces have a big importance in the composition of the urban fabric, and Leon Krier approves this, in that he says, "There are three types of urban space:

   a) The urban blocks are the result of a pattern of streets and squares (figure 5.35).

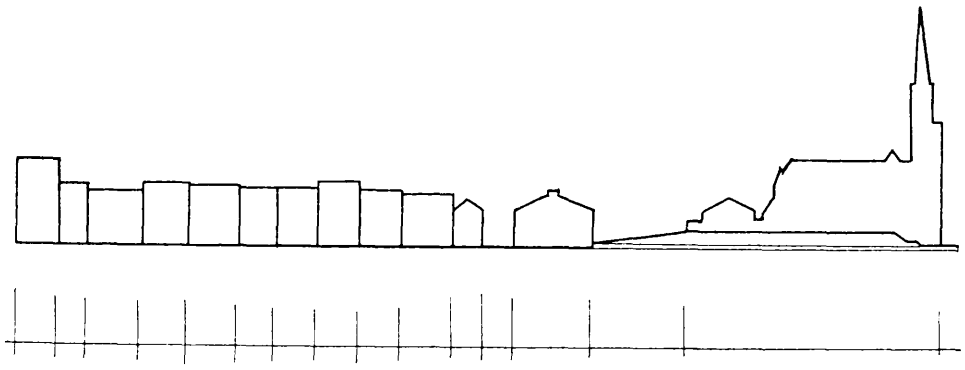
   b) The pattern of streets and squares is the result of the position of the blocks (figure 5.36).

   c) The streets and squares are precise formal types (figure 5.37)"[33].

2. Every new town has responded with a certain type of urban space. East Kilbride with a kind of complete open space: Princes Square. Cumbernauld where the notion of urban space becomes introverted, in fact the Teviot Square is becoming part of an



There is a certain rythm at the ground level, but it is broken at the upper levels.



In this case the rythm is broken for a special urban element: church.

FIGURE 5.34: Comparison between old part and the new one of Bridgegate Square.

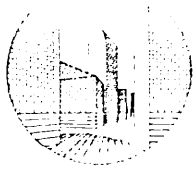
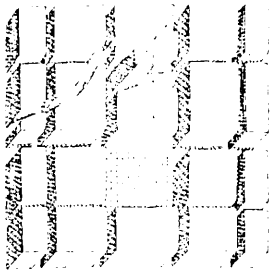


FIGURE 5.35: Streets and squares determine the blocks.



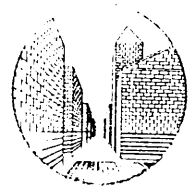
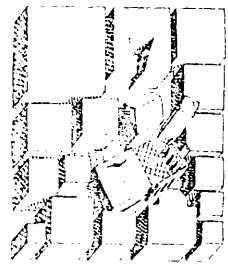
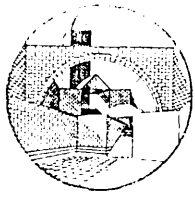


FIGURE 5.36: The blocks determine the streets and squares.





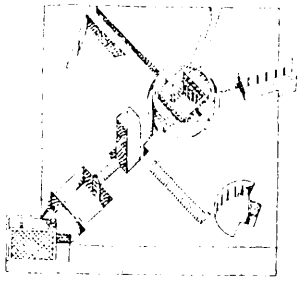


FIGURE 5.37: The streets and squares are very precisely determined.

internal urban system of the town centre. Lastly, Irvine where, from an already settled urban element (church), the urban space has developed, and at the same time it kept its character as one of the remaining old towns.

3. The common thing about the urban space of the first two new towns is that the notion of rythm relatively does not occur. The result is a gesture of single 'commercial buildings' surrounding the urban space. By contrast in Irvine there has been an attempt to keep some of the interesting characteristics of an old town, elements such as rythm and variety.

4. It has been noticed that one of the crucial problems particularly in Cumbernauld is the left over spaces. Indeed it destroys the urban entity of the town in that it tends to make the town look rather vague and non-cohesive.

In the following chapter, some of those crucial problems will be analysed in more depth because they are the key elements for a relative pleasant townscape.

REFERENCES

18. G. Burke, Towns in the Making, page 154.

19. P.D. Spreiregen, The Architecture of Towns and Cities.

20. W.H. Evans, Planning Cities, page 103, certain modifications have been made.

21. J. Strawhorn, The History of Irvine, page 11.

22. Ibid, page 23.

23. Ibid, page 33.

24. Ibid, page 43.

25. Ibid, page 53.

26. Ibid, page 67.

27. Ibid, page 97.

28. Ibid, page 163.

29. Ibid, pp 180-193.

30. Ibid, page 223.

31. The Architects' Journal 4 August 1976, Irvine Shopping Centre, pp 216-217.

32. Ibid, page 212.

33. L. Krier, Houses,Palaces Cities, page 42.

PART 4: Comparison

CHAPTER SIX

As Gordon Cullen states: "If I were asked to define townscape I would say that one building is architecture but two buildings are townscape. For as soon as two buildings are juxtaposed the art of townscape is released. Such problems as the relationship between the buildings and the space between the buildings immediately assume importance. Multiply this to the size of a town and you have the art of environment; the possibilities of relationship increase, manoeuvres and ploys proliferate. Even a small congregation of buildings can produce drama and spatial stimulation"(34). Indeed the different characteristics of a very coherent townscape are found in old towns such as St Andrews and Irvine old part. But when it comes to new towns - East Kilbride and Cumbernauld - the notion of a composed townscape (with its variety, richness) is rarely achieved, the study on different new towns in chapter four shows this clearly.

From this study we can identify three major reasons which explain why the new towns are lacking in those urban design characteristics which we recognise in older, established towns. These concern:-

1. Urbanism at the Centres: which deals with urbanity at the centre i.e.: The problem of space, land waiting for development.

2. Zoning: which deals with distribution of activities i.e.: what goes on and where, is it in a large or small area, is it concentrated or dispersed.

3. Rythm: which deals with plot size, ownership and resultant rythm and its effect on design.

1. Uranism at the Centres

The old town system (St Andrews) grew incrementally - see history part in chapter three (figures 3.2, 3.3, 3.4). At every period in time it is a relatively complete object. This has the advantage of giving a complete organisation of a town, for the citizen and giving a clear distinction between what is a town and what is not. It has the disadvantage that putting a new activity in this centre entails, either adoption of an existing building or destruction of a building to create a new central site.

When buildings are nearly at the end of their useful life, this does not present any problem but when they are still reusable or have gained the distinction of being listed this is very inhibiting to the growth.

On the other hand, new towns process of urban development is different, the whole area is designed from the beginning, a master plan is prepared for the

whole site and the growth does not start from the centre but relatively arbitrarily over the whole area. The consequence of the master plan type of control of the growth is, large open spaces are left unbuilt. The disequilibrium between open spaces and built-up spaces, which occurs for example in East Kilbride (40 years old) and Cumbernauld (30 years old) is a direct result of such a large scale planning. The comparison in terms of percentage of built-up and non built-up, shows very clearly this disequilibrium. By a simple calculation, we get these different percentages - for Cumbernauld 75% is non built-up and 25% built-up whereas for St Andrews 45% is non built-up and 55% built up (more details are included in Appendix A2. Another thing is that most of the non built-up spaces in St Andrews are hidden within the block and each space has a very small area (figure 6.1). If we compare again the air views, the one of St Andrews (figure 3.70) with the two other ones East Kilbride (figure 4.4) and Cumbernauld (figure 4.22) the approach to planning seems to be diametrically opposed. St Andrews is a complete organism and is in contrast to the surrounding countryside. Furthermore the buildings have created a sense of enclosure, reveal progression of space and use. The approach to new towns, particularly Cumbernauld, appears as a recoil from the physical conditions of traffic jams

FIGURE 6.1: Built-up and non built-up St Andrews. Most of the non built-up spaces are located within the urban blocks, hidden from the urban scene.

and overcrowding in the metropolis. In this, it probably succeeds. Yet of urban entity there is almost none.

Therefore for a Scottish person who is used to living in a context such as St Andrews will surely find himself lost in Cumbernauld - see figure 6.2 (some details about enclosure and culture are found in Appendix A3).

2. Zoning

In a new town as opposed to an old one, once the site is chosen, a master plan for the whole area is prepared. This master plan defines amongst other things, different zones (see figure 6.3).

Leon Krier says, "In urban practice, this fragmentation (of the city) is realised through functional zoning (administration, cultural, industrial, commercial, residential, zones, etc ....)"(35).

"The uniformity of activity brought about this planning purity gives a fractional life style and institutionalised community as well as visual experience"(36). Indeed, if there are areas of mixed use, one would expect a rich patterning, texturing and colouring to reflect a complex inter-relation of activities e.g.: work and domestic life could be compatible because of the new technology, which could eliminate all pollution. Figure 6.4 is a

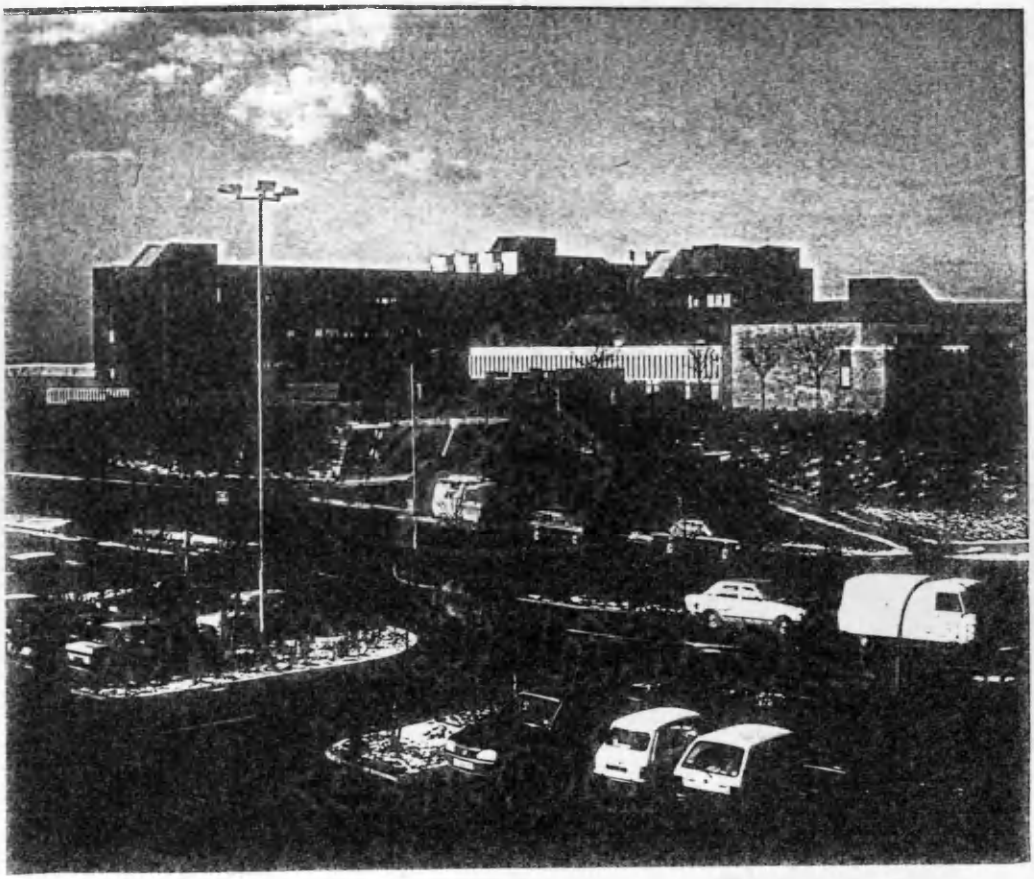


FIGURE 6.2: Cumbernauld Town Centre. Lack of enclosure.

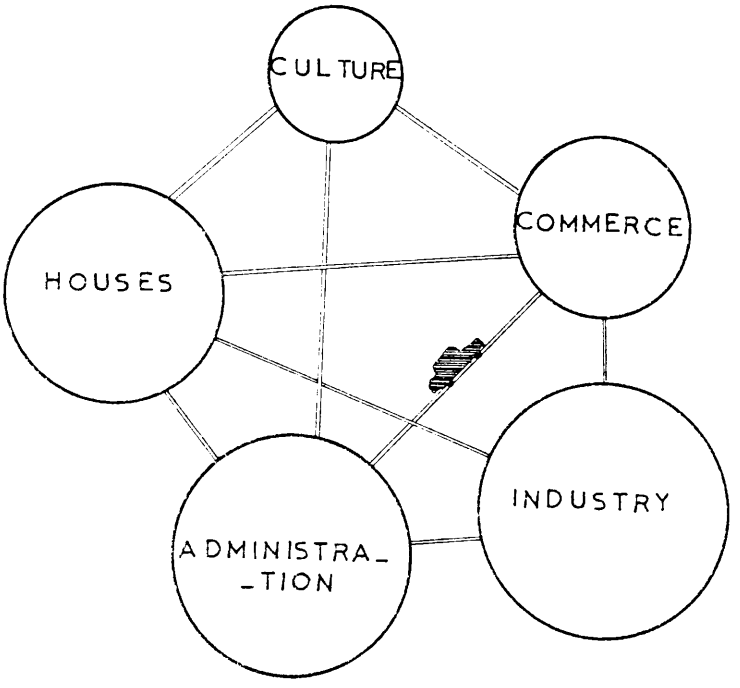


FIGURE 6.3: Functional zoning.

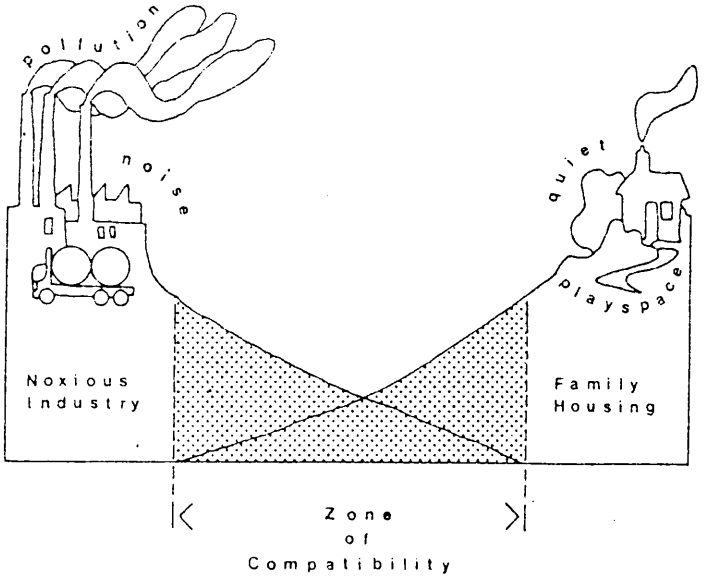


FIGURE 6.4: Compatibility of uses.

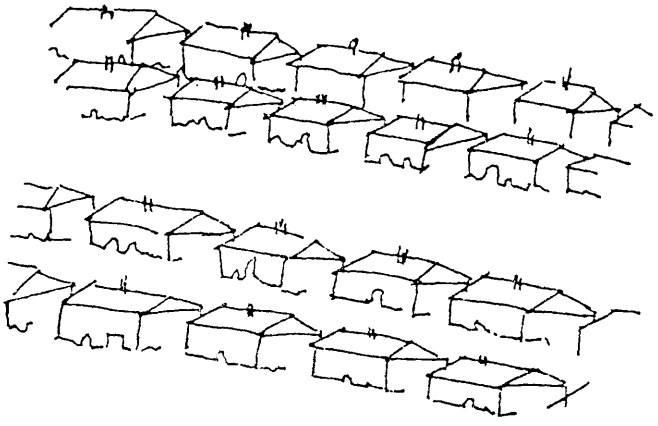
very interesting diagram which shows a possible spectrum of compatibility of uses. Instead of having a segregation of functions it would be more interesting to overlay certain functions (figure 6.5).

To encourage a richness and variation of the order one finds in an old town such as St Andrews or Irvine old part where there is overlaying functions like for instance living and working. Indeed what usually happens in an old town is that the owner of the shop situated at the ground level, very often gets his space of living at the upper levels.

By contrast in East Kilbride and Cumbernauld there is a clear separation between the different functions (figure 6.6) and this divides the town into many parts, therefore the visual cohesion of the whole town is lost and a richness of life denied.

3. Rythm

In an old town such as St Andrews, Irvine old part, looking at the individual building one sees a great diversity of styles, proportion, material and colour, yet the overall result is marvellously complex but coherent piece of urban design (figure 3.25). The history shows us that the division of the city into privately owned plots affects the planning and the form of cities, their morphology and shape (for more



The uniformity of activity brought about by a planning purity which separates uses.

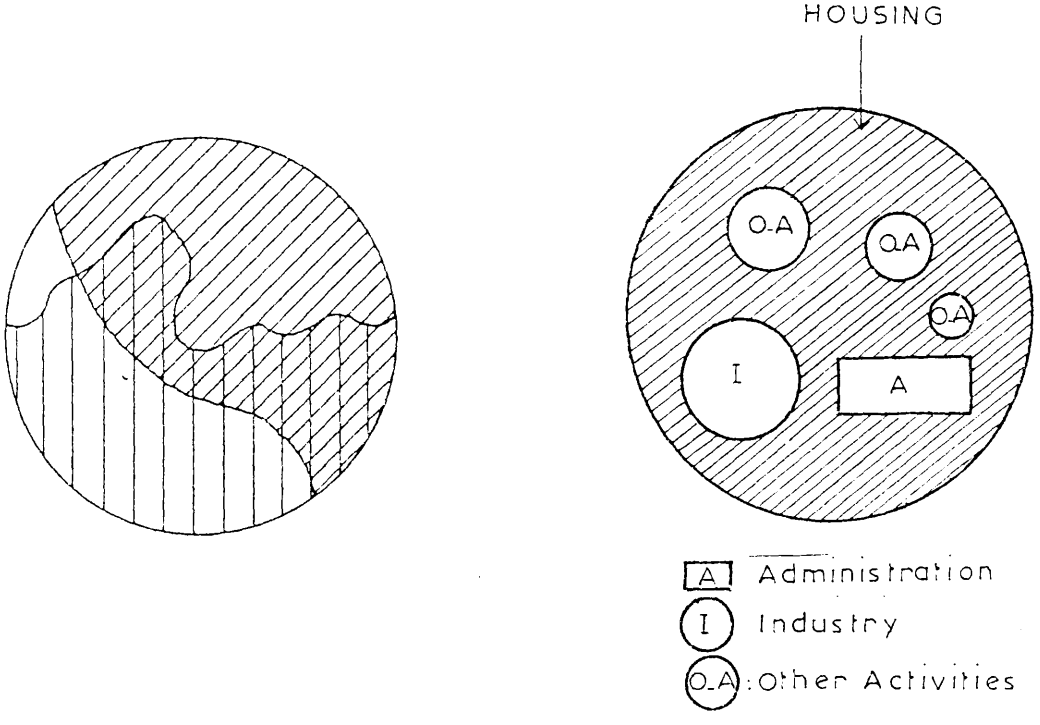


FIGURE 6.5: A possible overlay of uses in order to bring back an urban variety.

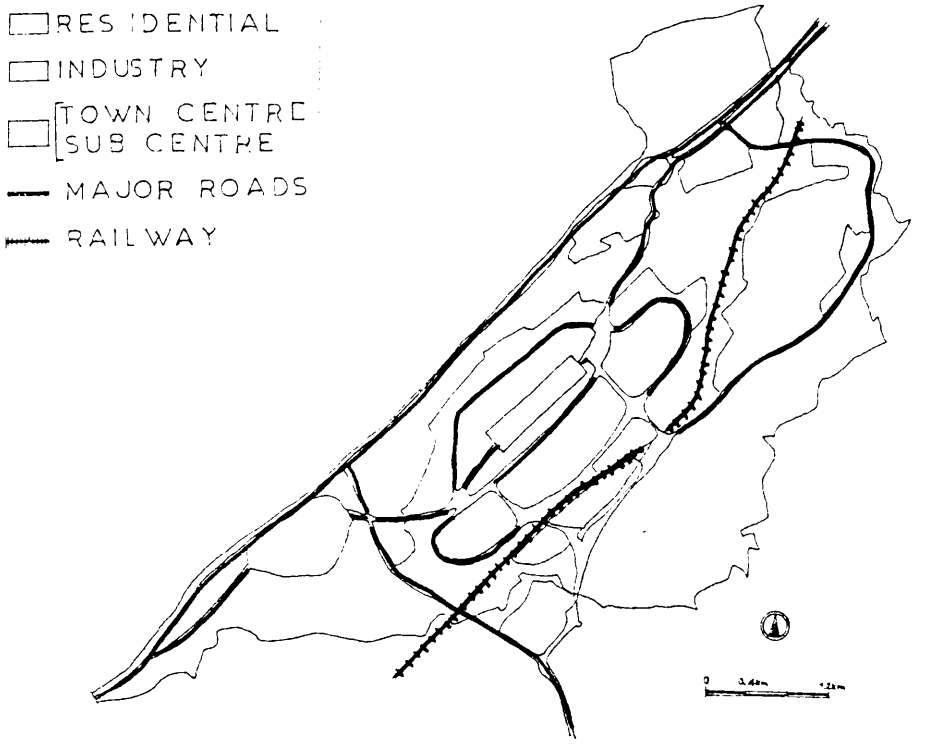


FIGURE 6.6a: Land use of Cumbernauld.

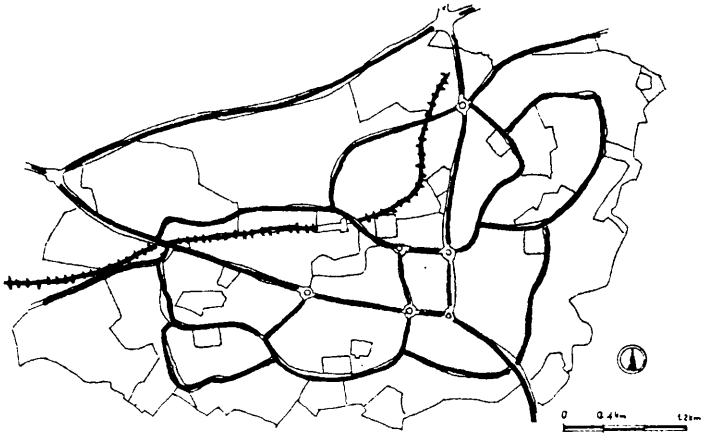


FIGURE 6.6b: Land use of East Kilbride.

details about the impact of the factor economic on shape of the city, see Appendix A4).

Indeed if we take St Andrews, Irvine old part, it can be noticed that the urban unit of the town is the plot i.e.: it is the size of the plot of land that has developed the town (figure 3.18). On the other hand, the new towns are an example of a settlement planned and administrated under one ownership. In this case the unit of measurement is artificial and is inclined to become a lot bigger (figures 6.7 and 6.8).

The consequence of the second system, in the new towns is a change of scale or even no decernable scale at all. This can be explained by the fact that the bigger the intervention is, the bigger the scale of development is, and the more problems occur in respect of resolving urban composition and urban texture, as there is no basic framework that automatically gives this, it relies on the skill of each individual designer.

To test for causes of this type of controlling framework a simple exercise was designed. Reference of this exercise comes from Drew Mackie's work on "Design Briefing in Towns in Scotland"[37]. There have been some modifications because the purposes are not the same. The game Drew Mackie does, is to simulate

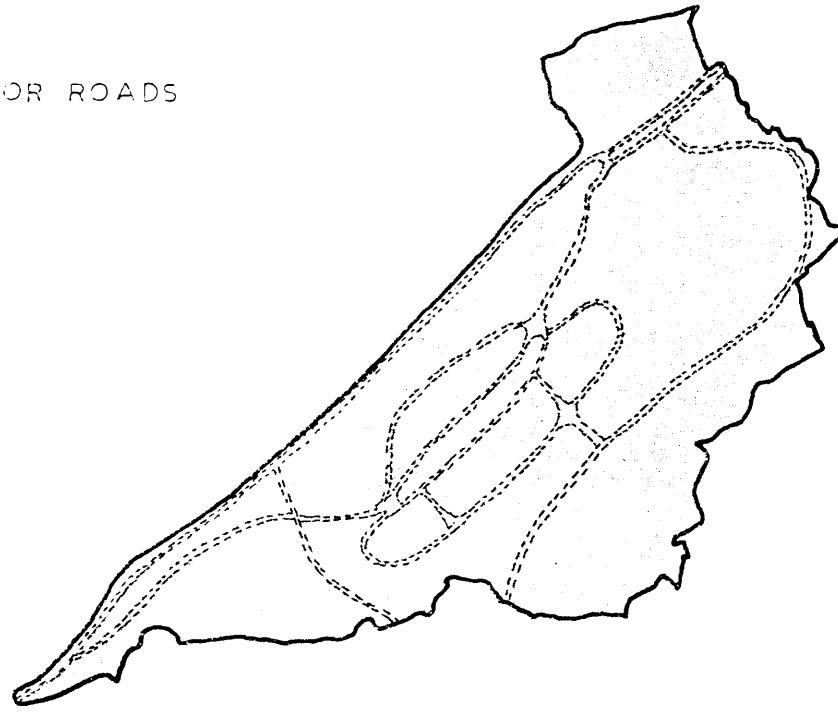


FIGURE 6.7: Cumbernauld. Urban unit is the whole site even though there is an "artificial" division obtained by the presence of roads.

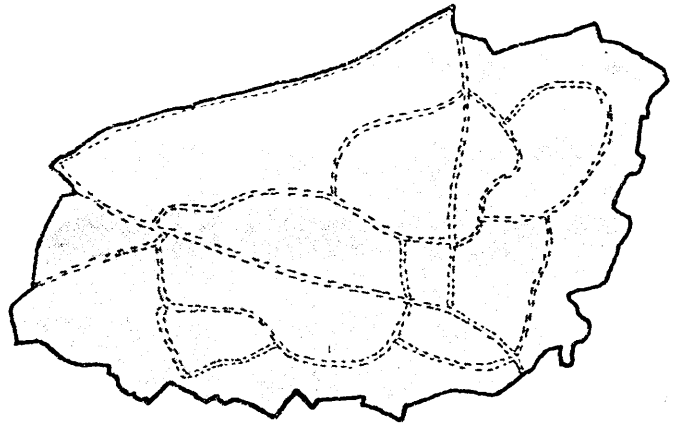


FIGURE 6.8: East Kilbride - same phenomena.

a typical high street. It uses a cut strip of paper which is the scaled down size of a plot width of any typical Scottish old town. The aim of his exercise is to demonstrate that there is a design control in Scottish town centres given by the traditional uniform site size. But as one of the aims of this dissertation is to examine the rythm and its relation to different sizes of plot width and the quality of the urban spaces produced. Three different sizes of plot width have been adopted - small to represent a traditional site, slightly larger to represent a larger traditional site and very large to represent a typical "modern site".

Third year Architecture students were requested to design a building on one of the "site" stripes. They were chosen because they were able to draw but not as professionals. It could be argued that taking students could distort the result, but if the experiment was to take place some groups had to be chosen and these students were available and sufficiently skilled.

The three categories of cut stripes were:

1. 600mm (width) x 200mm (height).
2. 800mm (width) x 200mm (height) (see figure 6.9).
3. 2400mm (width) x 200mm (height).

The students were not told the real aim of the exercise, they were just asked to sketch elevations of any kind. A standard scale of 1/50 was stated. The width of the tracing paper was in fact the width of a site, so there were three kind of sites (figure 6.10). Each student was allowed a free choice of plot size and all variations were taken up without any need to "sell" large or small plots. The completed copies were randomly composed into a series of facades. The first type of facade was composed by small width blocks (figure 6.11), the second by a mixture of small and large (figure 6.12), the third by large width blocks (figure 6.13).

After having done this, a second experiment was carried out, and that was to organise those different widths around an urban space, and see the different architectural appearances that the space is taking. In figure 6.14 we see the urban space surrounded by small plot widths, in figure 6.15 by small and large. Finally, in figure 6.16 by large plot widths.

What does this simple exercise tell us about the quality of urban space? Firstly it indicates that the plot is a key element which defines both urban spaces and the rythm of the urban wall. Secondly the size of the plot width defines the nature of an

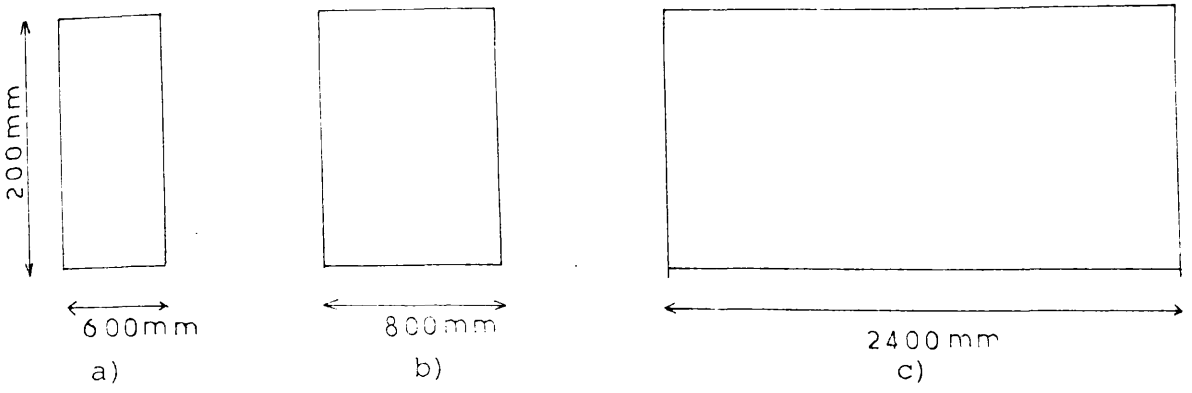


FIGURE 6.9: Different kinds of stripes.

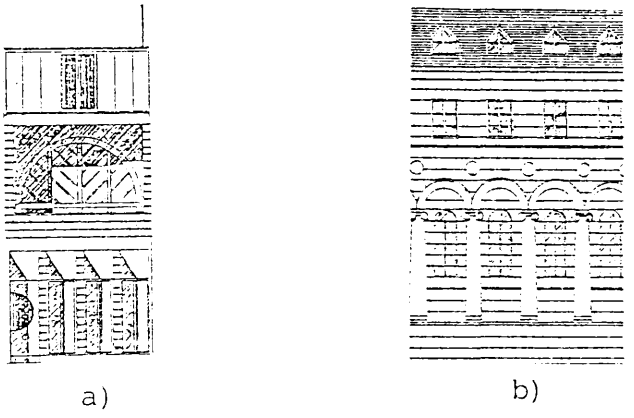


FIGURE 6.10: Different kinds of facades.

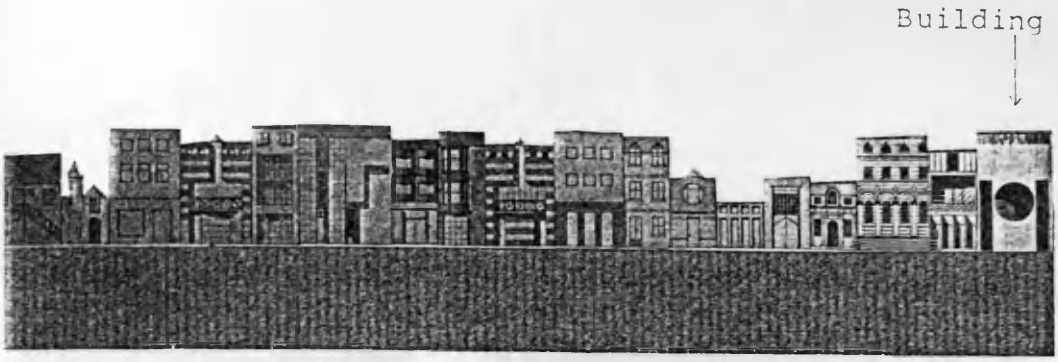


FIGURE 6.11: Facade composed of small plot widths.

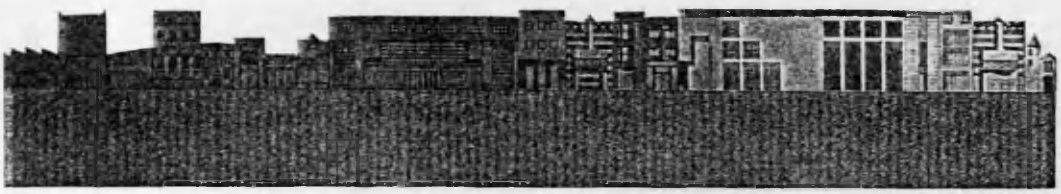


FIGURE 6.12: Facade composed of small and large plot widths.

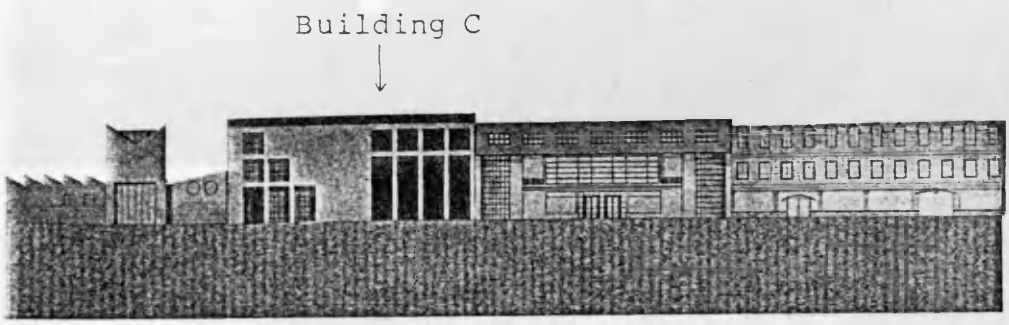


Figure 6.13: Facade composed of large plot widths.

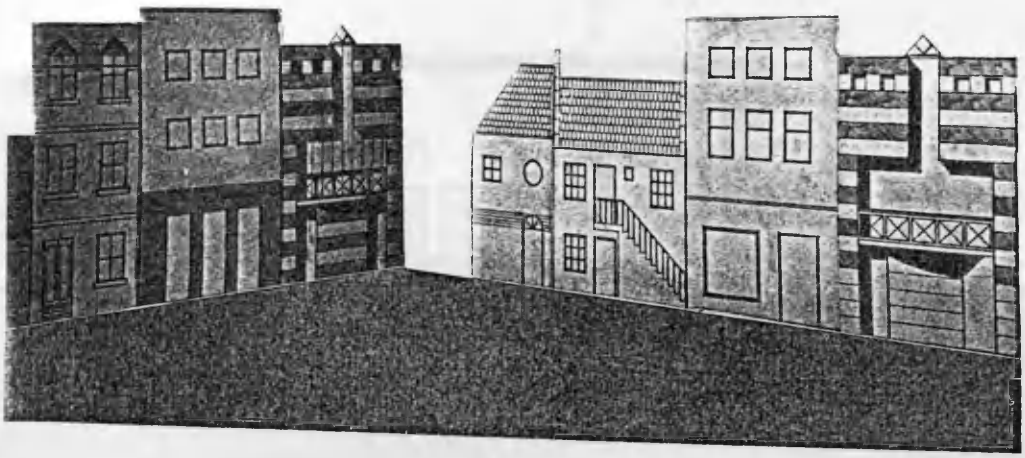


FIGURE 6.14a: One edge of the square with small plot widths.

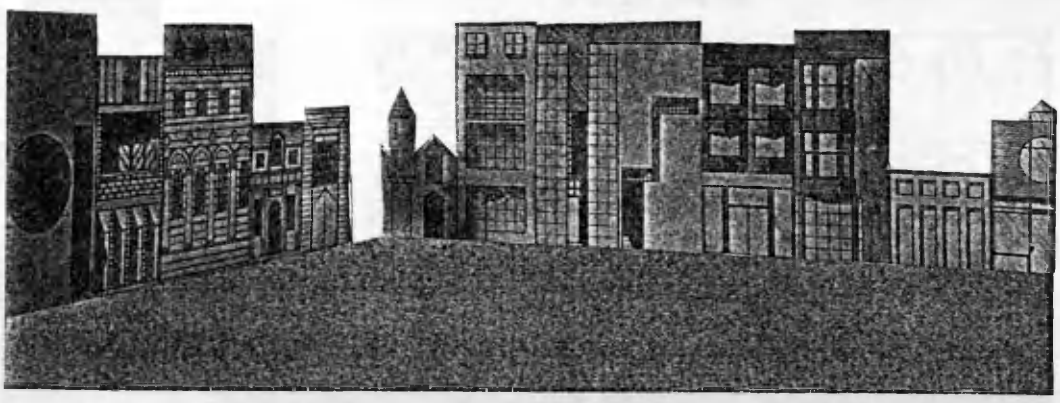


FIGURE 6.14b: The other edge of the square.

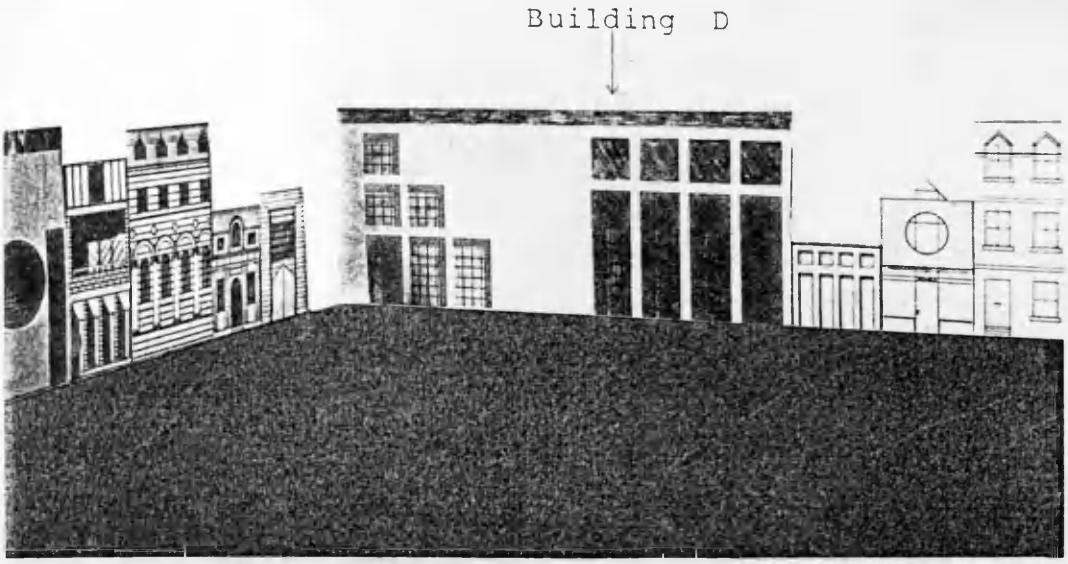


FIGURE 6.15a: One edge of the square with a mixture of small and large plot widths.

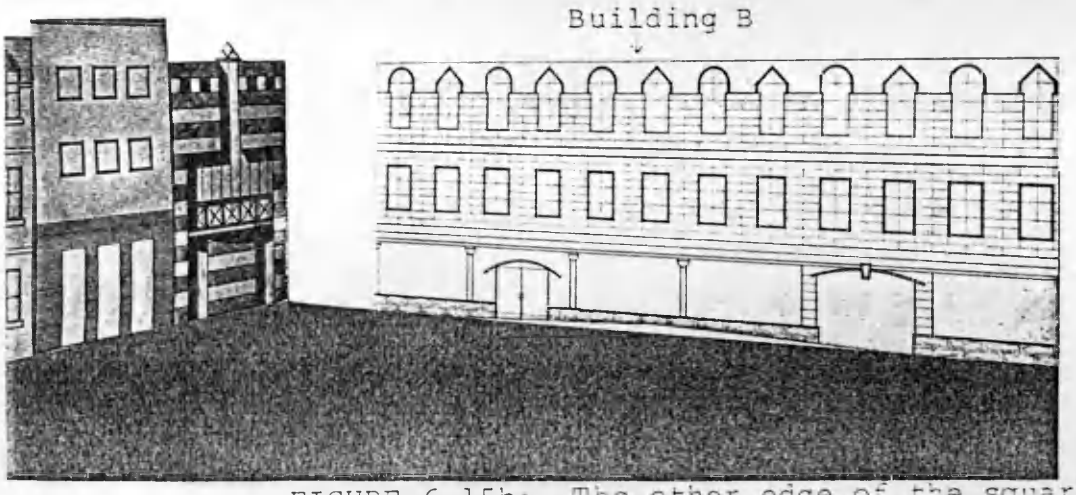


FIGURE 6.15b: The other edge of the square.

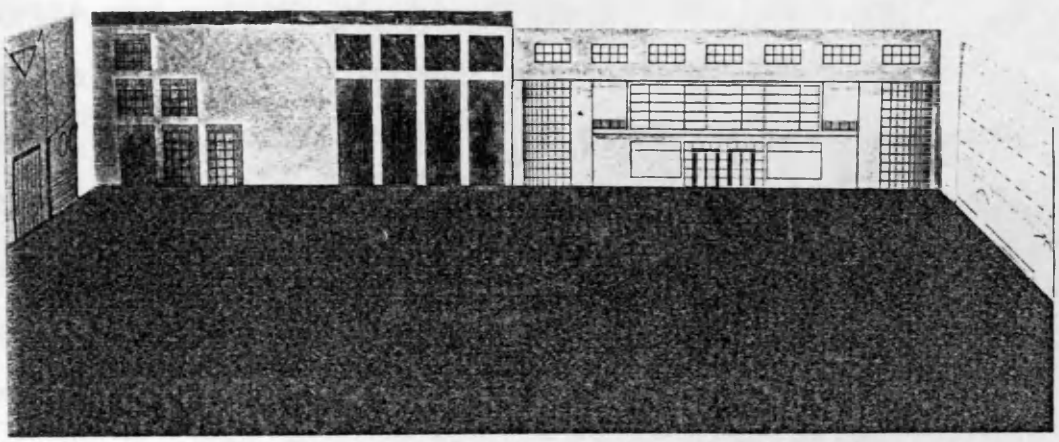


FIGURE 6.16: Square with large plot widths.

urban pattern. The density of the street pattern is the key to the 'urbanity' of a city. Plot widths that are small in relation to the building bulk are characteristic of an intense urban street pattern and the quality of a town is influenced by the appropriate relationship between the size of the plot and the size of its urban spaces. Thirdly this exercise illustrates how the plot width is a key, or powerful factor which helps to define the urban scale, the rythm and variety of the street and the resulting urban "language". Indeed if we have a look again at both figures 6.11 and 6.13, it can be noticed that even the monumental building on the small plot, building A, (this can be seen from the size of the window which is about 4 metres in diameter) does not have a loss of scale effect as it occurs in building C because it is "scaled" by its neighbours. Fourthly it must be pointed out that as each student has a different stripe, representing land ownership, it means that there is probably a different landowner. Therefore one can expect two urban phenomenas:

(1) Because there is different landowners, the concept of the whole facade will be a variety of different styles, but within a certain urban unity.

(2) Because each landowner has his own site, each one will do something different about it, therefore there will be different activities taking place (shops, banks, restaurants etc). This variety of activities shows that there is a relationship (not very strong) between zoning and rythm.

Lastly, one can easily draw the conclusion that in the situation of a real site among existing buildings, architects should try to take into account the existing rythm of an urban area but if we observe figure 6.15b, building B it can be seen that it does not necessarily produce the same rythm. This large plot building has a bay rythm in sympathy with its neighbours, but it has no variety and is therefore seen as its true large self.

On the other hand figure 6.15a shows a building which has the same plot width as B but it has not got the order and the framework of B, therefore the urban space is heavily disturbed. (More details about basic request of building to pavement line are in Appendix A5).

To sum up rythm and variety, fundamental aesthetic properties are inevitable from the small plot size but have to be very consciously produced with the large plot size. The fact that all students are of

approximately the same level of skill, means that they are able to present more or less the same quality of drawings and design. The exercise shows that when it comes to small plot widths the students produce a rather pleasant townscape, on the other hand with large plot widths the student produces a less quality townscape.

Now if we try to simulate those results to our context (new towns) it can be noticed that in larger building programmes (resulting from the concentration of economic and cultural power), these have resulted almost naturally in larger building blocks (figure 6.17). A single building gesture resulting from a single programme executed by one architect. For instance it is the case of "Princes Square" in East Kilbride (figure 4.9) where the four edges are occupied by single buildings. This giant scale of intervention destroys the human quality of the urban space and leads to monotony. Princes Square would have had a relatively better quality if each edge had been planned into small units, each unit treated differently, with different functions, but the whole facade with a certain coherence like for instance in figure 3.21. As Leon Krier states "urban blocks should be as small in length and width as is typoligically viable; they should form as many well defined streets and

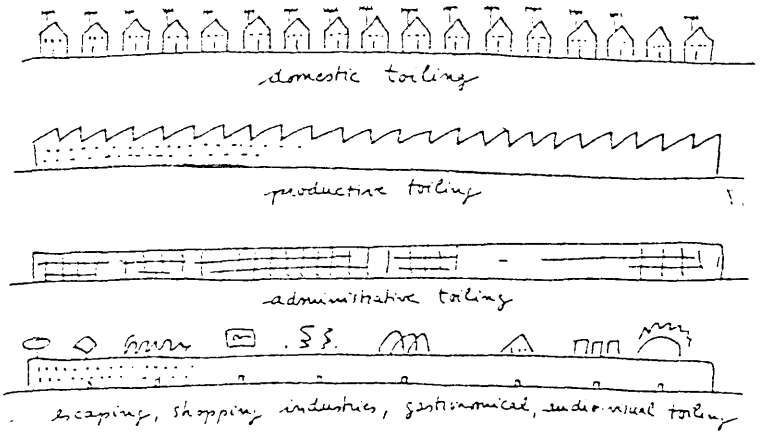


FIGURE 6.17: Single building gesture which contains most of the functions.

squares as possible in the form of a multi-directional horizontal pattern of urban space"[37]. But that does not mean that we have to exclude big plot widths, but as it has been mentioned earlier on, they should be integrated in a framework of order, a good example to be stated is Edinburgh High Street which represents one of the most beautiful of urban design in that it follows some urban roles (figure 6.18).

a. The size of the plot variable within a definable margin. Some exceptions are due to changes in the urban pattern, after historical changes.

b. The structure of the building provides the main framework in which the facade is composed.

c. The pattern of the facades has two main principles:

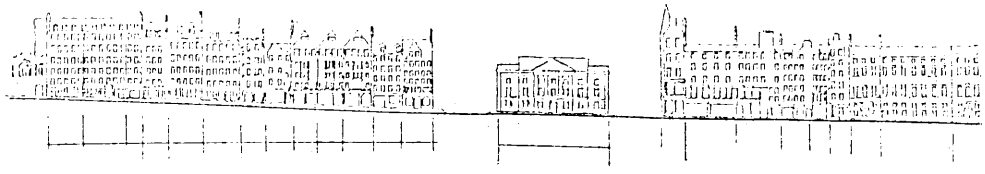
   i) divided into three parts

   ii) grid laying of the windows

   There is a variable size of the grid and spacing of windows.

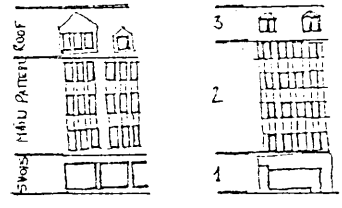
d. It can be noticed that there is a variation in architectural detailing of the windows but within a unity.

Leon Krier goes on, illustrating a great example of the Karl Marx Hof and historical centre of Vienna at the same scale (figure 6.19), where it can be

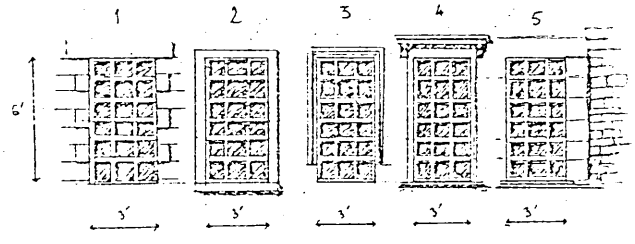


a. Plot width more or less the same except for special elements.

b. Structure of a building



c. The three parts that compose the facade.



d. Different sizes of windows.

FIGURE 6.18: Notion of rythm, Edinburgh High Street.

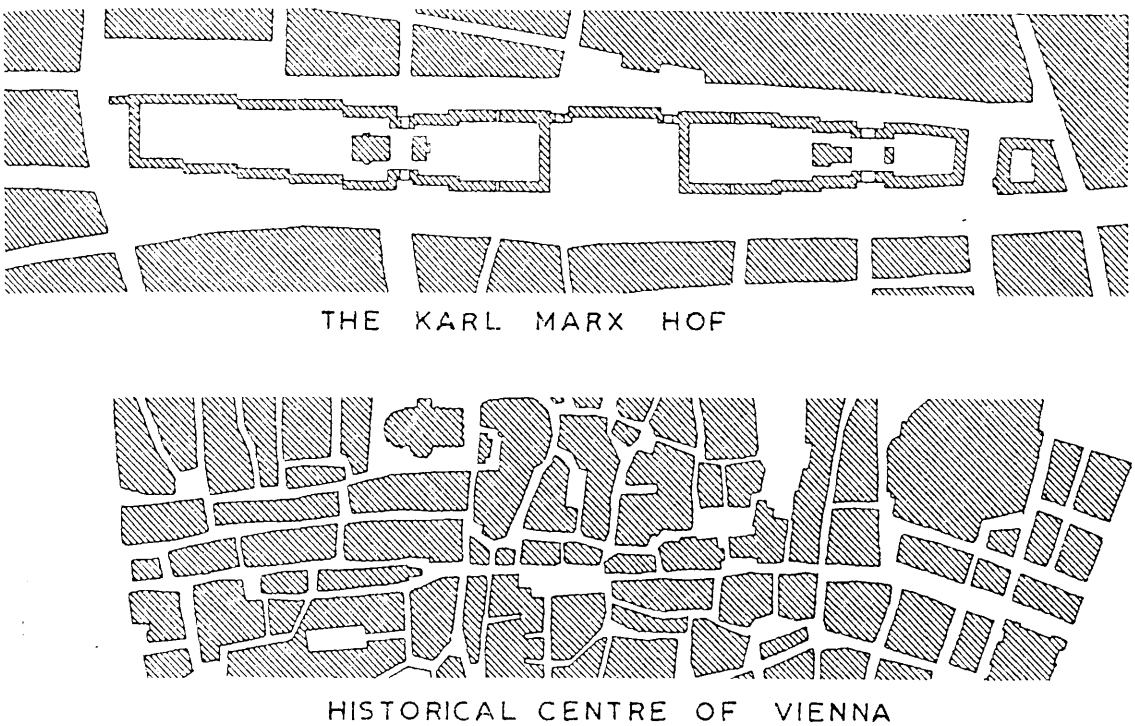


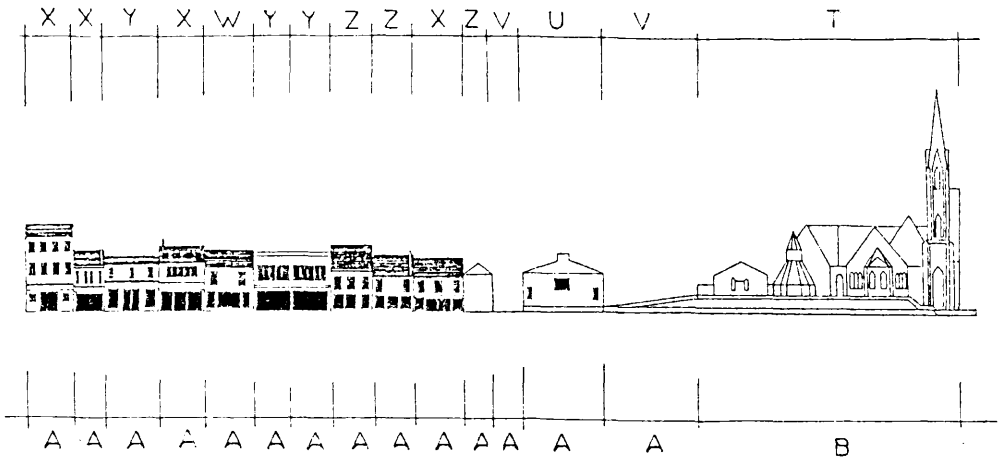
FIGURE 6.19: Single gesture building.

noticed that the length of the Karl Marx Hof equals the diameter of the centre of Vienna from wall to wall. Here one could guess, the type of urban space we get from such a type as gesture. These kind of urban spaces are just a by-product of mainly economical forces. Even though, history has showed us that the urban spaces have always been a response to the needs of the people, so the result is something suited to the consumer of the space. Fortunately those kind of spaces still exist, good examples are to be seen at St Andrews and Irvine old part where the ratio of plot width is kept more less small giving an urban character to the town (figure 3.18).

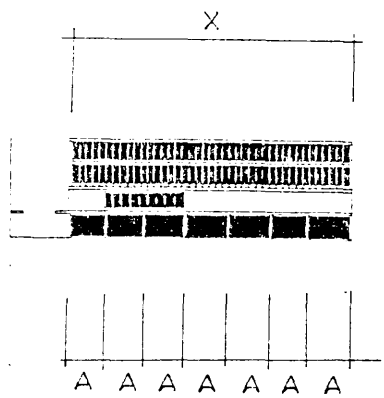
The notion of rythm is established by the presence of a certain plot width, it is considered to be as a "constant" i.e: the rythm all along the facade is the same. But what gives a richness to this elevation, consequently to the urban space, is the presence of some "variables" which brings this variety within a unity. Those variables are represented for instance by the different architectural styles, roofscape, detailing. For example the "variable" of architectural style: the towns are not built instantly but in various stages. Therefore some parts have got a certain style from one epoch and other parts which were built later, have another style and this is what

creates the diversity. By contrast one should point out that the "modern" planning for buildings being built to "match" are poor copies of the existing buildings and will eventually destroy this image of the town.

In figure 6.20 there is a diagram which explains the phenomena of "constant" and "variables". It is about Bridgegate Square in Irvine and Princes Square in East Kilbride. We see that it is through those rules that the urban fabric of Irvine is generated and organised, whereas in the case of East Kilbride, there is a "constant" but the "variables" become also a "constant" in that the style of architecture is the same, and that there is no change in detailing.



In the case of Irvine (Bridgegate Square) A,B are the plot width, it is more or less the same along the facade, except at the level of the church (being a special element). The plot width is a constant. U,V,T,W,X,Y,Z are represented by the height, architectural style, detailing of different buildings. They are the "variables".



In the case of East Kilbride, the variable becomes a constant, even though the plot width is small at the ground level.

FIGURE 6.20: Rythm of the facade.

REFERENCES

(34) G. Cullen, Concise of Townscape, page 133.

(35) L. Krier, Houses, Palaces, Cities, pp 32-33.

(36) Percy Johnson - Marshall and Associates, Design Briefing in Towns, Report prepared for SDD Urban Design Branch, August 1978.

(37) L. Krier, Opcit, page 43.

CONCLUSIONS

Throughout this study, three particular and crucial problems of new towns have been identified. They are not the only problems and they are not only for new towns, but they are very crucial characteristics in the context of new towns.

After having stated and observed the different causes of these three factors: urbanism at the centres, zoning, rythm, for this conclusion some ideas will be drawn, taking Cumbernauld for key study as it stands now. In Appendix A6 there is a proposal for a complete new town centre with a linear form (as originally intended at Irvine).

The choice of Cumbernauld as the basis of all these experiments is dictated by the fact that Cumbernauld is the new town which suffers the most from the lack of urbanity at the centre.

At the moment (1986) the Government has stopped funding the new towns, to any major degree only infrastructures and special facilities i.e. community centres, and old folks homes are being funded. Consequently, the town's future growth depends on attracting private funding. This at the moment is active in the fields of private housing, commercial developments (shops etc ...) and some entertainment facilities. This reality governs the possible proposals for immediate action.

1. Urbanism at the Centres:

The common factor of the new towns are the vast open spaces left for future expansion and car parks. In a way these spaces are needed in order to have flexibility, while allowing for a richer mixture of land-use. But that such large open spaces are left over for at least twenty years is not acceptable. Twenty years is quite a big part in the urban history of a town. Therefore something needs to be done in this direction.

One of the major interventions on these urban "holes" (left over spaces) is to landscape immediately, the town is designated with a quick tree policy. If this had been initiated at Cumbernauld then by now an urban park would have existed which could have been eaten into by future growth. By doing so, we bring back a unifying element that maintains the unity of the town centre. The other urban intervention is to use temporary buildings which can be removed as permanent growth proceeds. "A temporary facility may have economic attractions for which a permanent facility is no substitute because if can offer cheap rents"(38). Indeed by having a cheaper shopping lot, it will attract different types of shops, and may be later other functions such as craft workshops and even living quarters, this would contribute to allowing a new town to have some of the mature qualities of an old town.

Temporary uses might provide a richer mixture of facilities before the time they can be supported on a permanent basis. Temporary housing might occupy areas later to be used by commerce or public open space. Such flexibility might help redress short term inbalance in uses. Because sometimes your neighbour wished to change his house to a surgery or office, so there should be this flexibility as usually happens in an old town.

2. Zoning

The aim must be to remove the isolation and sterility caused by the segregation of the activities of the city (living, working, learning, playing etc ....) by restoring a natural balance and inter-relation between these uses.

Indeed the functional zoning has its negative side as being sterile as mentioned before, however there is still a positive advance on "laissez-faire" in that it has provided an administrative device that may prevent the sitting of a sewage works next to housing or noisy industry next to a hospital"(39). So the overlaying must be carefully studied, indeed the old ideal of finding an organic relationship between place of living of work can be applicable. For this there is a need of integration of small garages, even small workshops, which do not risk being a nuisance to the

housing area.

The main contribution that we could make to the town centre is to integrate within the town centre, the function of housing. In fact, housing could quite possibly after some years, take over some of the shop units or the reverse could happen as the town needed. Like this there will be a variety of activities within the town centre, and also the physical continuity of the surrounding housing area and the town centre will be established. Because now the housing part is isolated from the town centre, even though these two elements are supposed to be joined in order to obtain one of the basic ideas of the town i.e. the ten minutes maximum walk to the centre. So the two parts can be joined throughout a very important urban street or an urban square.

3. Rythm:

If we have another look at what usually happens in new towns in terms of rythm we find out that although there is a decomposition into different units inside the building, the outside looks like a single frontage i.e: one single element designed by one architect for one client, so the outside does not reflect the inside.

Therefore, what one needs to do in the case of these temporary or definitive extensions is to impose a plot width, which building owners and their architects are required to respect. In a way we are trying to re-create the constraints of a traditional High Street with its rythm, variety and plot width. So, along the new urban street and new urban place there will be a certain rythm of plot width, with some positive interruption in order to mark a special element (church, public edifice, etc ...) or an entrance to the actual town centre. This will overcome one of the problems with Cumbernauld's town centre, in that it turns the back to the pedestrian who cannot find the way in. There are no activities occurring at the edges which could eventually attract the surrounding housing area (figure 6.2). By contrast in St Andrews, the shops attract the people and they are extrovert visually and physically (figure 3.19b). Therefore a series of small unit of shops will be located against the actual wall of the megastructure and opening to the new urban street and consequently to the inhabitants. By doing so, the existing centre will be organically joined to the town. The aim of these changes will be to maintain the only real asset of the existing megastructure, its imposing bulk from a distance but to integrate it into a living town (figure 7.1) which was probably the original idea of the town but which it failed to achieve.

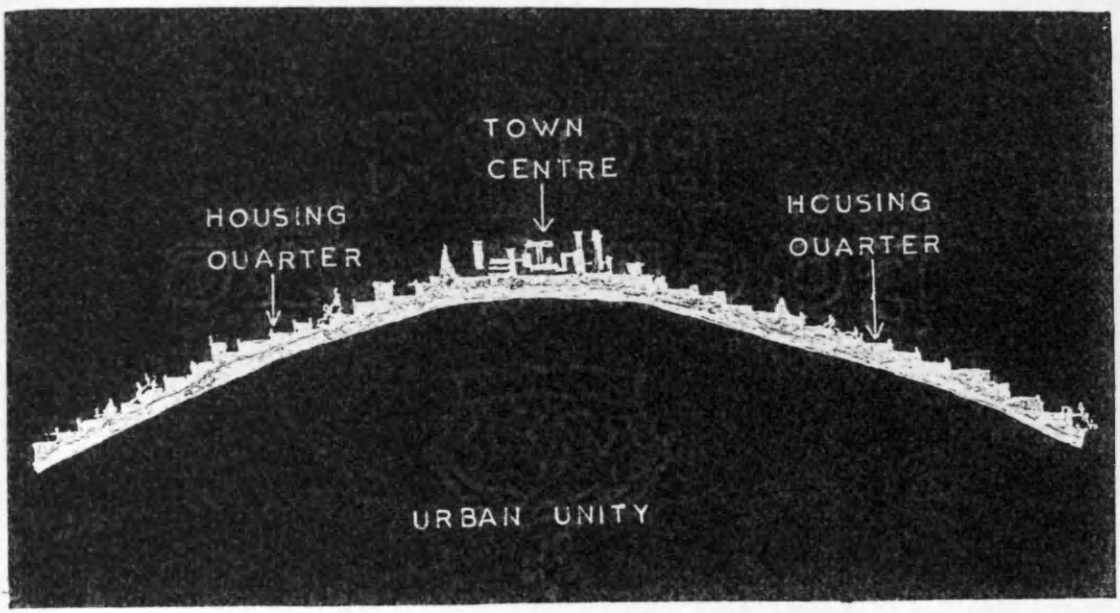


FIGURE 7.1: Concept of an urban city.

REFERENCES

38. D. Walker, The Architecture and Planning of Milton Keynes, page 136.

39. Ibid, page 132.

APPENDICES

A1:

This appendix shows a very interesting map, drawn by John Wood in 1820. "The lands within the burgh were divided into tofts of the burgesses. The burgage was the normal unit of ownership and was a long strip of plot with a narrow frontage to the street"[40], (figure A1.1).

A2:

The different percentages obtained (for the comparison between the built-up and non built-up spaces) are a result of a simple calculation.

The percentages are not part of any available figures, but are a result of a method. Small square units are spread over all the site, the first operation is to add the different square units for the case of the built-up areas, the same operation is carried out for the non built-up. Then work out the different percentages. Indeed these numbers are not precise but they do help to have an idea about the disequilibrium in matters of built-up and non built-up in the case of Cumbernauld.

A3:

The enclosure or its strong articulation by urban form is a fundamental requirement of urban space, because when an urban space lacks an enclosing force, it tends to appear vague or limited in impact.

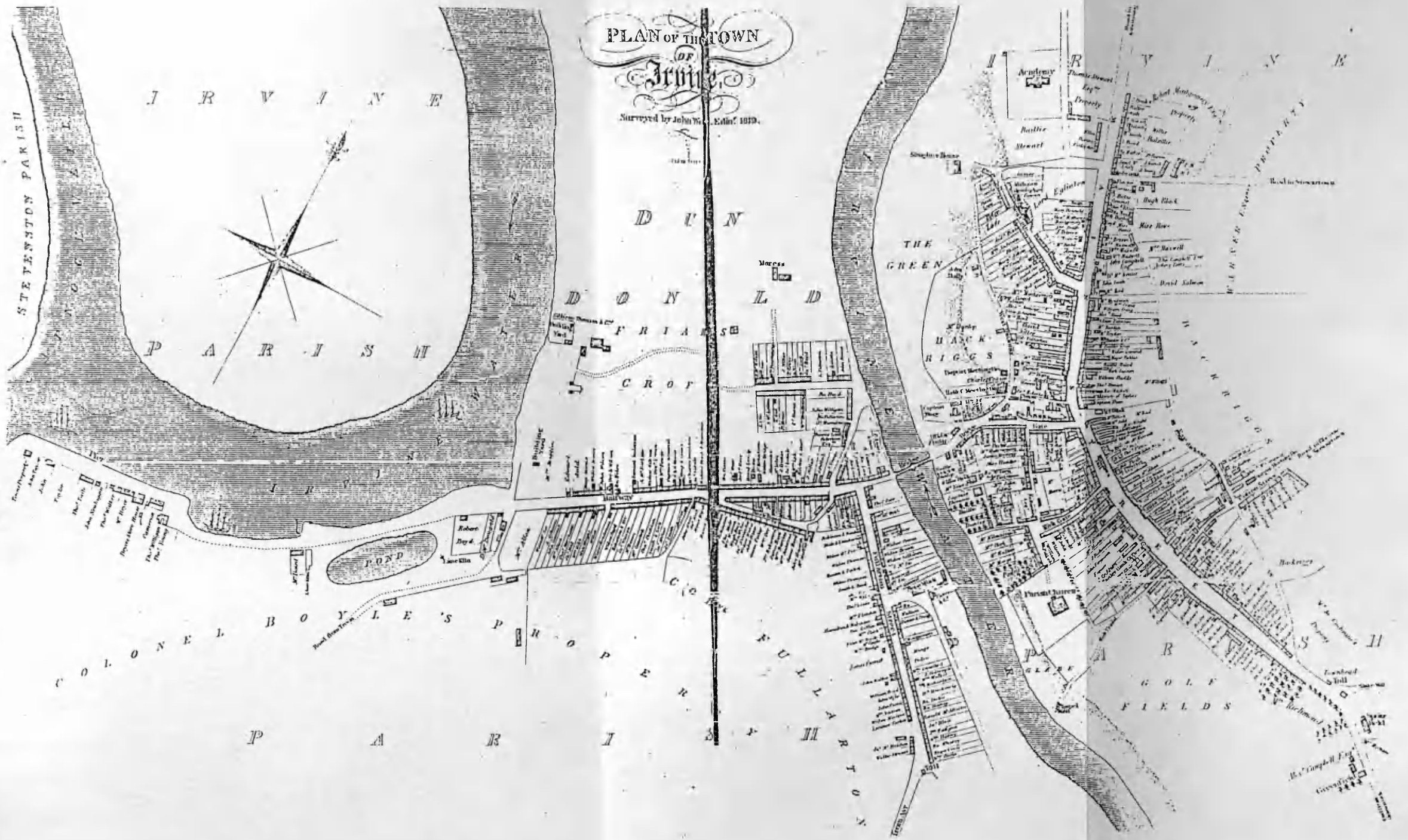


FIGURE A1.1: Town plan of Irvine 1820.

In a plaza we must be sufficiently enclosed on all sides so that our attention focusses on the space as an entity.

Obviously there are certain rules which determine the physical enclosure such as the proportion of the distance we stand from. Books such as "Architecture of Towns and Cities" by P.D. Spreiregen and "Responsive Environments" by I. Bentley write about these different rapports and proportions. But this concept is more complex.

It is believed that enclosure has a close rapport with the culture. Indeed, if for instance we take a person who has evoluated in the desert where there is a tendency of big open spaces this person will surely feel claustrophobia in a closed space The reverse could also happen , it would be very difficult to someone coming from a culture where the spaces are closed, to adapt himself to big open spaces. These are extreme cases but one can reasonably suppose that familiarity with an "enclosure culture" is endemic in man.

There are some degrees of variety, about the feeling of enclosure, from one person to another because it also depends on personality.

A4:

In most Scottish towns a constant pattern of growth and change can be identified.

Stage 1:

Initially a house is built at one end of the site unit as part of a terrace facing on to the street.

Stage 2:

The ground floor of the house becomes a shop. Entrance is gained from the street and the shop owner probably lives over the shop, using existing internal access up to his living accommodation.

Stage 3:

The shop grows. A requirement for storage forces the owner to build outhouses in the garden space. These usually run lengthwise to maintain rear access to the property.

Stage 4:

The shop takes over the upper floors of the house as storage. Rear storage outhouses are expanded.

Stage 5:

Ground floor retailing space becomes inadequate. The shop extends into the storage area at the rear. Upper floors are opened for retailing.

Stage 6:

A change in shopping methods occurs. Shop owners prefer to have maximum retail space at ground level to display a large range of goods.

Stage 7:

New shopping methods become constrained by the existing building. A new shop is built which again requires maximum ground floor space but there is no requirement for upper floor space.

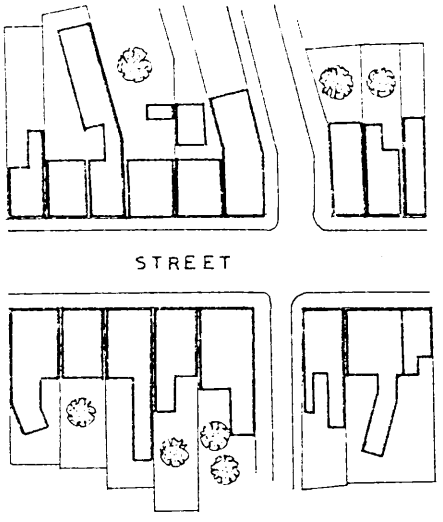
A5:

One of the basic requests for the exercise about the facades is to build along a pavement line i.e. along a street or around a square. This is not necessary in the case of a new town because what usually happens in a new town is that some buildings are in one area, and the rest are in others. There is not a strong urban link between them.

A6:

This appendix deals with the alternative of replanning Cumbernauld from the start.

We could propose a new development from the south to the north. It could exploite the topography of the site (figure A6.1) which goes as a valley at this site. It is easier (as already demonstrated in chapter 4) to site



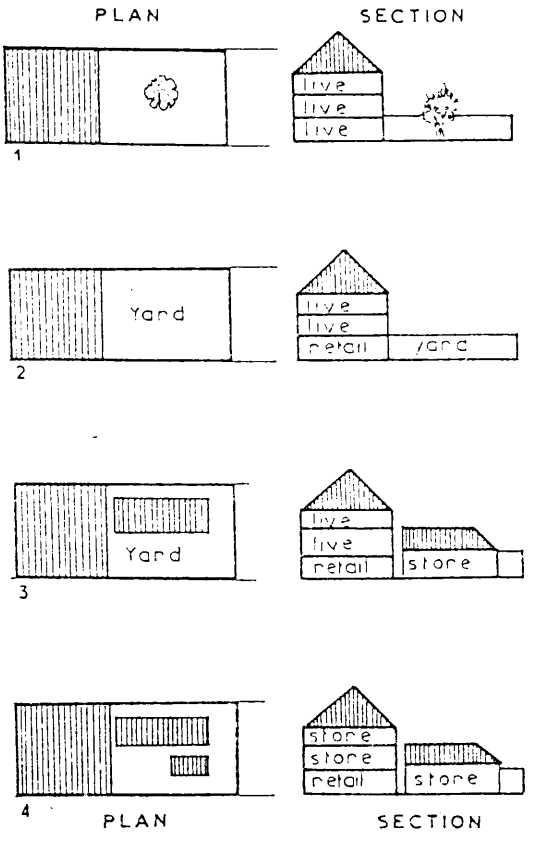
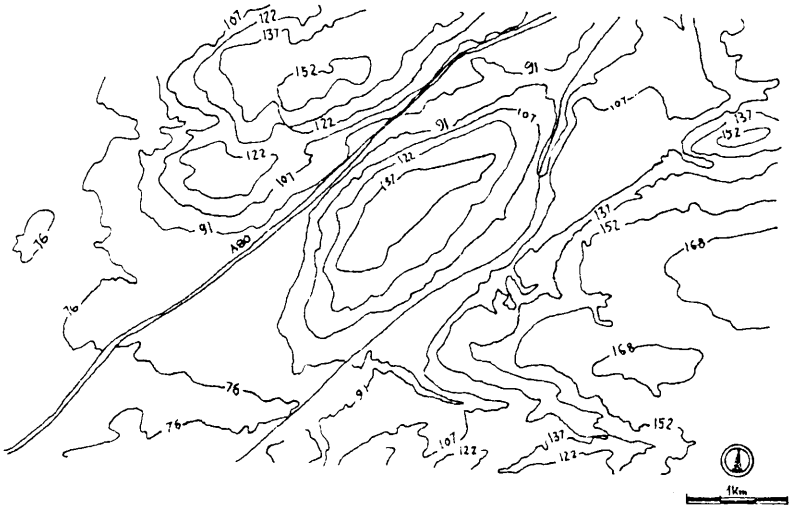
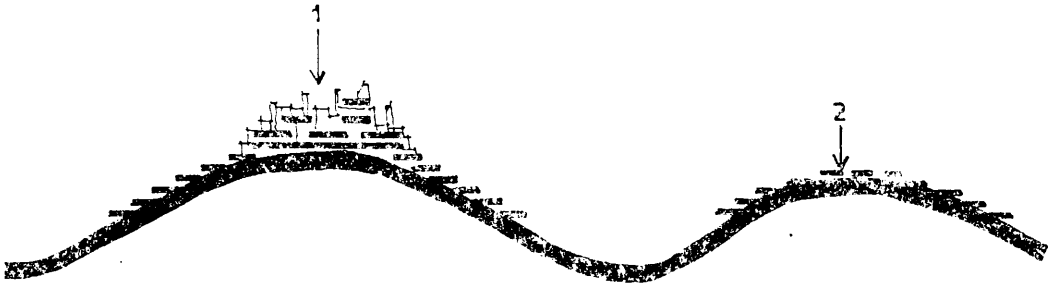


FIGURE A4.1: Historical stages in development of gap sites.





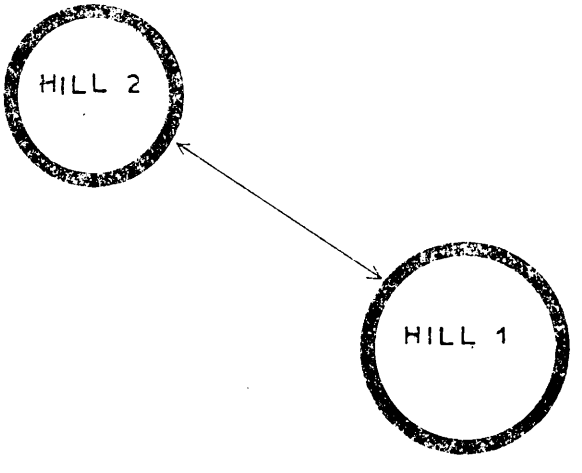


FIGURE A6.1: Topography.

a multi-level centre in an existing valley. So the top deck can be placed like a lid over the valley, such a site would enable pedestrians to walk down or along into it. This type of gesture (linear south-north) will integrate the extensive part (north part) to the centre (figure A6.2), because this part of the town is left on its own and it is not easy for a pedestrian to walk from this neighbourhood to the main centre.

Therefore it would be a shopping continuity which is linear. The shops will be of different degrees of specialisation - around the neighbourhood there would be shops of first necessary, at mid-way bigger shops, and finally the main town centre (figure A6.3). By doing so, the image of the town would be more unified.

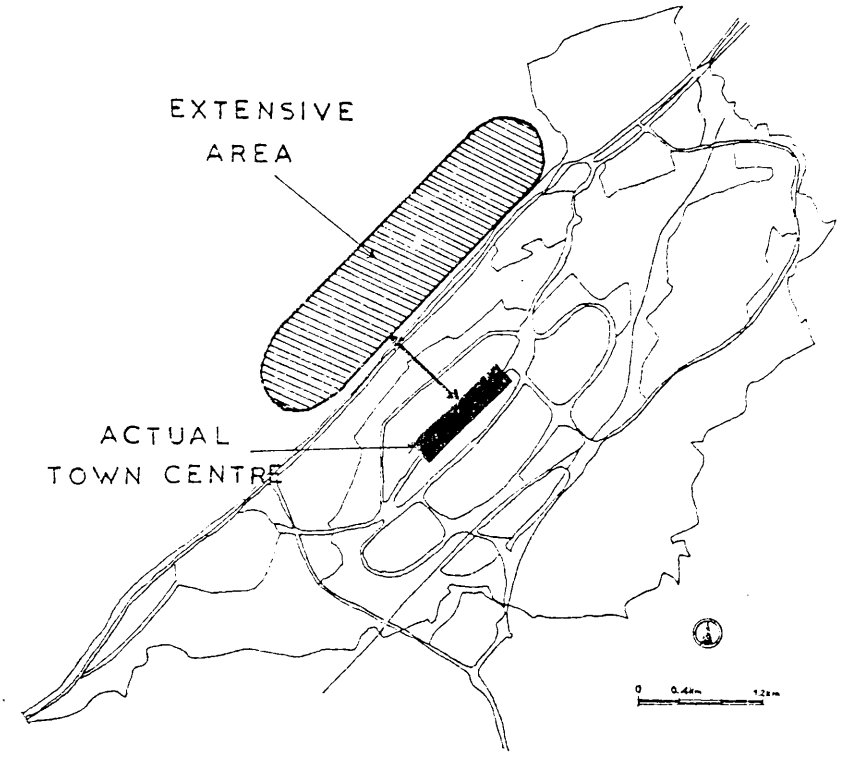


FIGURE A6.2: North extensive area and its integration to the main town centre.

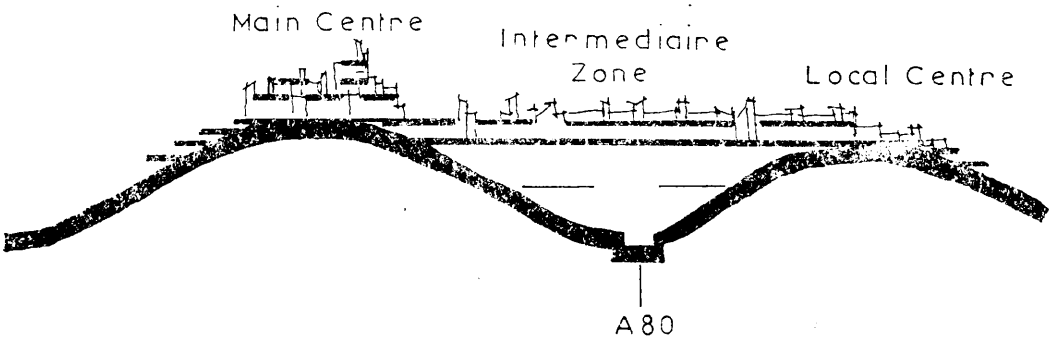


FIGURE A6.3: New proposal.

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