THE ROLE OF DESIGN IN CITY FORM

-ORGANIC AND PLANNED TOWNS-

by

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Submitted in Partial Fulfillment of the
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ABSTRACT

Assuming that the use of graphic design in the planning process
has an influence on city form, three cases are examined. Troyes,
the organic city; Richelieu, the designed Renaissance new town;
the bastides, medieval new towns. Characteristics are compared
with a focus on the relationship street--lot and the definition
of the agglomeration contour.

The evaluation of the role of design and its influences are de-
duced from the observation of the city form, its context, and
above all an analysis of the form-making process in which design
use varies.

Thesis Supervisor: David H. Friedman,

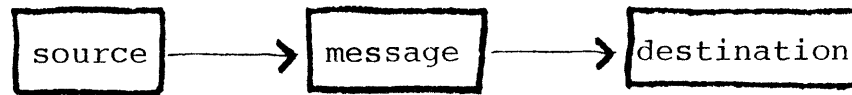Assistant Professor of History and Architecture
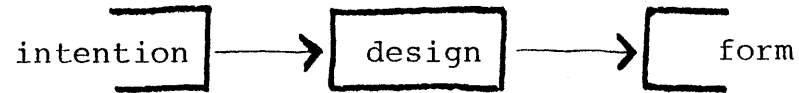
1

Contents

Introduction

The factors influencing the decision-making process of city-planning are complex, interdependent and multiple. The aim of this essay is to evaluate one of them: design.

What is design? A graphic expression or a process? Is design inherent to any preconception, or only a descriptive language? In this essay, the concept of design is related to the graphic language, it is part of it. To *plan*, to *design*, implies to preconceive, but a *design* is a *preconception expressed graphically*, while a form, which is planned, may be expressed by any sort of language, written, oral, geometrical, etc... Design is the everyday language of the planner, the necessary step between idea and form. The relationships between source and destination would be described in linguistics by the following diagram:

4

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┌─────────┐        ┌─────────┐        ┌─────────────┐
│ source  │ ─────→ │ message │ ─────→ │ destination │
└─────────┘        └─────────┘        └─────────────┘
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Or more specifically:

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┌──────────┐        ┌─────────┐        ┌─────────────┐
  intention │ ─────→ │ design  │ ─────→      form
└──────────┘        └─────────┘        └─────────────┘
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How are concepts and ideas connected with the practical
use of a pencil, a ruler and some paper, and what would be the
result of such a transmission?

Because design is always associated with other factors in
the planning process, it is difficult to measure or evaluate
its consequences. The implications of social, economical, poli-
tical, aesthetical parameters are also important, and cannot be
isolated from the role of design.

However, the history of urban form on which our analysis
is based, is a domain where many aspects of the planning process
have been already compiled, and investigated. A diversity of
cases enables us to isolate some parameters and to focus on
others.

It should be pointed out that the history of urban form
is not the history of city planning, and design is not a condi-
tion for the existence of cities. Trade, religion, war and
demographical changes are some of the determinant factors in the

5

creation and the development of most cities.

Design is a tool, invented at a certain epoch, and used in certain conditions. The use of this tool, however, is determinant in the form-making process of many cities. The method here is to analyze specific cases where the design had different roles in the form-making process, then to evaluate the "object" resulting in the city form.

One case study is Troyes, an "organic" city, which developed until the XIV century without apparent use of design.

The other case is Richelieu, a post-Renaissance new town, whose creation involved design in a demarch comparable to some extent with a present situation.

The bastides, medieval new towns, are presented as a transition between the first two cases, both in their form and in their form-making process.

The hypothesis of this essay is that design, as a language, can not be objective. By its nature it orients and influences preconception. Design, therefore, has a role in city form and like any language, alters and influences the message it conveys.

This essay will focus on specific elements in every city form considered. The relationship between the street and the lot, and the shape of the contour, are two of these elements, chosen because more than any others, they are often influenced by the use, or the non-use of the design.

The three cases are not equally balanced in this research. Troyes and Richelieu are references, opposed in their form-making process. The bastides, because they combine characteristics of designed and organic towns, are, in this respect, more significant in the evaluation of the role of design. Each case is considered separately. The city form aspect and its context are described, followed by an attempt to define the form-making process and above all, the role of design.

The conclusion focuses on the nature of design, the importance of design in history and what the use of design implies for the city planner.

"The creation of a single building or
even a pre-planned city is fairly easy
to comprehend, but to see all of the
processes that go into the creation and
evolution of a city without a plan is
difficult."

VANCE: *This Scene of Man.*

Troyes, Organic City

THE FACTORS OF TROYES FORMATION

The urban institutions and city development relationship
during the Middle Ages is a subject which has been considerably
researched and discussed among historians, economists and city-
planners. One of the first to have developed an actual theory
is Henri Pirenne.[1]

1. PIRENNE, H. Medieval cities, their
    origins and the revival of the trade.
    Princeton, 1925.

Pirenne demonstrates that the economic renaissance of the
XI and XII centuries was the cause of formation, in favorable
sites, of *portus*, merchants' colonies near the old fortified
bourgs or the episcopal cities. Industry and trade promoted the
creation of an environment essentially different from the sur-
rounding feudal society and resulted in the development of "urban
institutions": Individual freedom; Free urban *tenure*; Abolition

or modification of the seigneurial exactions as *tonlieux* and *banalités*; Special civil and criminal procedure; and finally, government of the cities by themselves. The theory of H. Pirenne was supported by the history of the evolution of the Flemish industrial cities during the Middle Ages.

E. Chapin[2] who has specifically studied the history of fairs in Champagne, accepts and develops this theory. The focus is on the consequences of fairs and industrial activity in the cities of Troyes, Bar/Aube, Provins and Lagny.

The "cities of fairs" in Champagne were the locations of the largest trading markets in western Europe during the Middle Ages. The study of Troyes, of its institutions and its development during the XIII century could not be done without a careful analysis of the fairs. Those events, occurring twice a year during a six week period, were the main economical resource for the city, and they had a deep influence on the institutions and the society of Troyes.

Troyes, as a trading center, is explained by its location. Roads ran from the Mediterranean to the North Sea through the province of Champagne. Troyes was an important cross-road of Roman routes, situated at the junction of the Via Agrippa from Milan to Boulogne, and the roads of Sens, Paris, Harfleur, Meaux and Senlis. Those roads were the basis of the medieval network.

2. CHAPIN, E. Les Villes de foires de Champagne des origines au début du XIV° siècle. Paris, 1937

10

Troyes, founded as Augustobona by the Romans, was built on an eminence surrounded by the marshes of the Seine River. Typically, after the decline of the Roman Empire, Troyes became an episcopal city. The Norman invasions reduced it to a small city whose walls outlined an area much smaller than the previous Gallo-Roman agglomeration. During the X and XI centuries, Troyes differed from other cities like Chalon/Marne, Meaux or Reims because of the growing power of the Counts of Champagne over the episcopal authority. The first document concerning the existence of fairs at Troyes is dated 1114.

FAIRS AND INDUSTRIES

The fairs attracted the Italians who brought broadcloth, silk, horses and merchandise from the Orient in a five-week journey through the Alps. The merchants of Marseille had alum of Alep, and the Languedocians, indigo. Travelling by the St. James pilgrims' trails, the Spanish brought the famous leather of Cordova and the iron of Toledo. The Flemish, before entering the Province of Champagne, had to pay the *tonlieux* at Peronne and Bapaume. The Germans came from the East with linens and furs. Travelling alone or in caravans, the merchants from all European countries conveyed their merchandise in wagons, carts or on

horse-back. They also had professional *vectuarii* who delivered the goods to their agents at the fairs.

Arriving in Troyes, the merchants first had to find lodgings for themselves and their horses and, shops to display their merchandise. During the first part of the XII century, stalls and temporary dwellings were erected;[3] merchants quarters became more permanent during the course of the century. Thibaut II protected the rights of *the old market people* who rented lodgings for the fair of St. Martin and the fair of May. Also, during the middle of the XII century, the Canons of St. Jacques built houses for the lodging of the itinerant merchants. The housing and trading of the merchants was settled around the *forum trecense*, in the proximity of the church St. Jean du marche; nearby also were located the Lodge of Justice and the Office of Weighing. By the end of the XII century, and after the disaster of 1184, many of those houses were rebuilt in stone to resist fire.

The Counts, the religious institutions, the nobles and the bourgeois of Troyes all benefited from this seasonal activity. The fairs were an important stimulation of the activity of Troyes; new built-up areas settled around the location of the fair. Each year some of the foreign merchants settled in Troyes. Some of them became important notables and held positions in the Counts administration like Bernard de Montcuc, from Cahors, who became Chamberlain in 1230 and Mayor from 1236 to 1239.[4]

3. PIETRESSON de SAINT-AUBIN, P. La Formation de Troyes, la Vie en Champagne, n° 177; Troyes, 1969.

4. CHAPIN, E. Op.Cit.

The fairs gave important responsibilities to the citizens. The institution called *Gardes de Foires* was initially in charge of the litigations occurring during the fairs and progressively had the rights of *Basse Justice* over the men and women of Troyes. The *Gardes* were eminent merchants or magistrates, part of the bourgeoisie and designated by the Count.

By the end of the XIII century, the different industrial quarters were established. A high density of artisans settled in the vicinity of the church of St. Jean, which served as the trading center; the clothmakers settled in the south-west corner, and the butchers and tanners in the south-east. North of the St. Jean area were the wheelwrights, and the wood and horse merchants.[5]

Once the fever of the fair was gone, industry gave to the city a more stable activity. By comparison, Beaucaire in Provence or Bar/Aube in Champagne which had important fairs during the Middle Ages but a total lack of industry, never developed as cities. Although very active during the fairs period, they kept the aspect of small rural villages most of the year.

The two important consequences of trading and industrial development at Troyes concerned its formation and its society. The progressive growth of the faubourg led to an extension of the city itself, with the building of new walls in 1125. The

5. PIETRESSON de SAINT-AUBIN, P. Op.Cit.

PLAN.

FAÇADE

COUPE
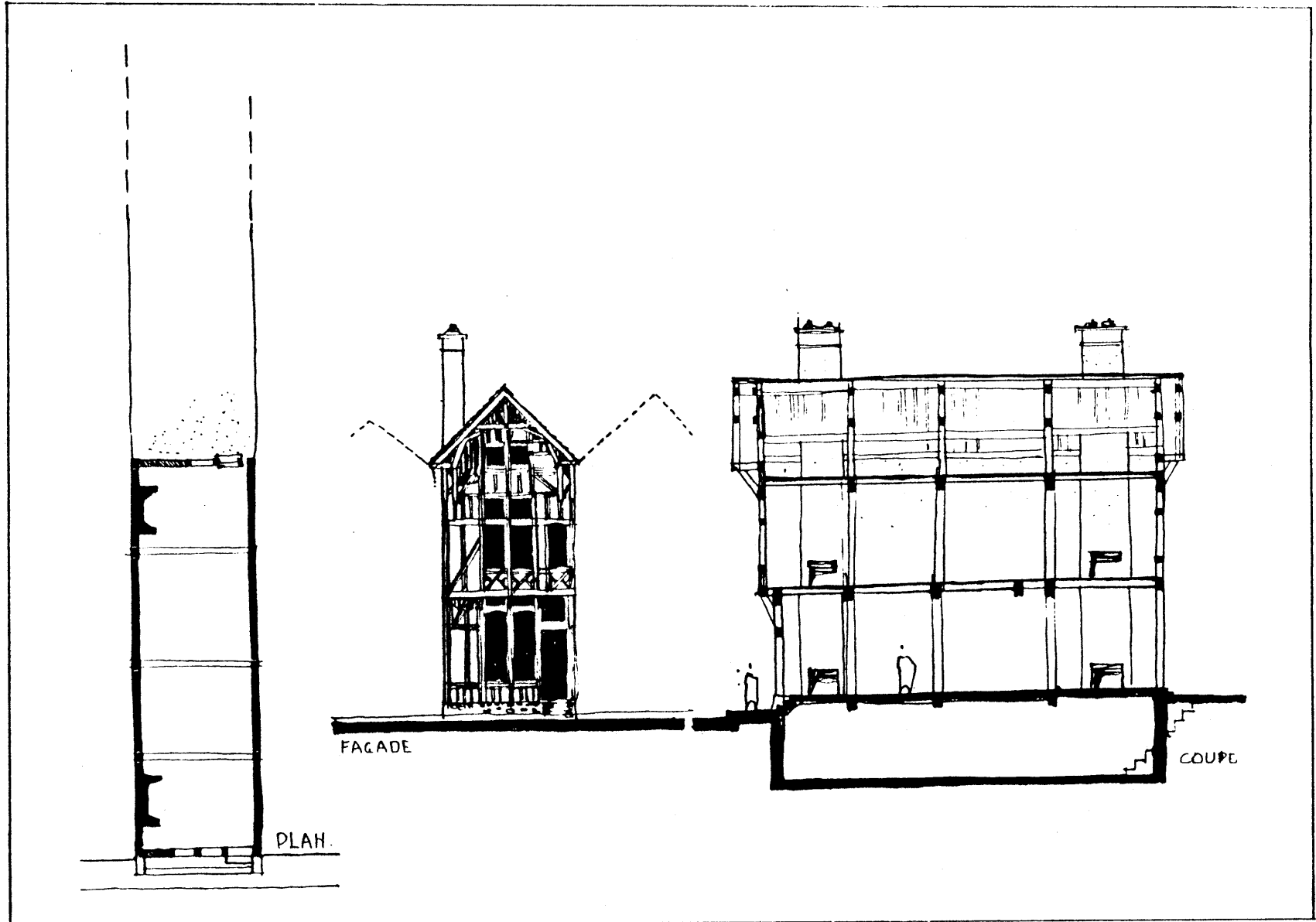
1 Timber-framed house of Troyes, in Marot (23)

14

establishment of a stable class of "old market people" or bourgeois, as they happened to be called, introduced a new actor to the institutional scene of Troyes.

BOURGEOIS AND INSTITUTIONS

During the XII and XIII century a new "bourgeois state" developed in the mercantile agglomerations. Anxious to attract new inhabitants to their cities, the feudal lords conceded unoccupied land in exchange for a *cens* and granted new franchises to the newcomers. As Chapin pointed out, *"Their goal was not to obtain this cens in place of the revenues, the forced labour and other rights they had on their rural domains, but to benefit from the tonlieux, augmentations, forfeits, and other sources of profit, necessary consequences of the industrial activity of the growing population."*

The individual freedom--the right to go freely, the exemption from servile occupations and dues--was needed by the inhabitants involved in trading and industry. With the personal freedom came the *tenure en bourgage*--the right to own land in exchange for a *cens*. The land value was increased by the privileges and became a source of profit new and extensible for the

lord and the free bourgeois, by the building of houses and workshops.

At Troyes in 1164, Henri I, Count of Champagne, confirmed to his *"churches, clercs, knights, bourgeois and any man owning houses in the limits of the fairs"* the fairs' regulations given by his father. He settled the boundaries of the fair, proclaiming that the merchants violating those limits would be accountable to his justice. Half of the profits of the house renting within the boundaries would be paid to him. Beside those profits, the Count expected other *coutumes and revenues* like the *tonlieux*—tax on articles sold in the market.

The situation of the bourgeois of Troyes was different from his counterpart in the Flemish cities analyzed by Pirenne or even of Chalon/Marne and Meaux. In those cities the privileges were obtained from religious institutions or contested feudal lords. In Troyes the liberties were granted and restricted by a powerful lord.

Charters conceding rights to a commune in 1230 by the Count Thibaut IV who was in need of money for the crusades were dismissed less than ten years later. A financial collapse of the commune seems to have been the pretext for a step back to the old statues. Those restrictions in the liberties were counterbalanced by the involvement of the bourgeois in public

16

affairs, within the Count's administration.

Notables and magistrates like the *Mayor*, the *Chambellan*,
the *Prevôt*, were notables belonging generally to the cloth-
making families like the Lorgnes or the d'Acenais.   The *Gardes
de Foires* were also designated among the bourgeoisie by the
Count.   Thibaut V in 1270 issued an act ordering that two
Prud'hommes, one chosen by him, the other by his men and women
of Troyes, would be in charge of the maintenance of the roads,
the pavements and the watch of the city.   Controlled by Count
appointees, the *Prud'hommes* had to raise the taxes needed and to
supervise the works of maintenance, specifies another act.   The
defense and supply of water were also under their responsibility.

In spite of the restricted role of the bourgeoisie in the
political life of Troyes, the Counts were clever precursors of
the progressive attitude of the Kings of France and England,
by employing bourgeois appointees instead of noblemen.   In this
system, it should be noted that the bourgeois, as *Prevôt* or *Prud'
hommes* held charges directly influencing the urban environment.

In the X and XI century, the episcopal city which formed
the original agglomeration on the site of the Roman castrum had
an area of 32 areas.   Its principal axis was the old *Via Agrippa*.
Within the walls, rebuilt after the Norman invasions, were sever-
al religious establishments: the Cathedral, the Bishop's

TROYES BEFORE 1100

The city is behind the roman walls.
The trading area is along the rue de la
Cite, the major east-west axis. By the
end of the XI century, small faubourgs
are developing along the main roads.
The churches settled outside the walls
are dependent of the cathedral chapter.

ROMAN WALLS

CASTLE

St REMI

St NIZIER

St JEAN

RUE DE
LA CITE

VICOMTE CASTLE

St AVENTIN

St DENIS

2
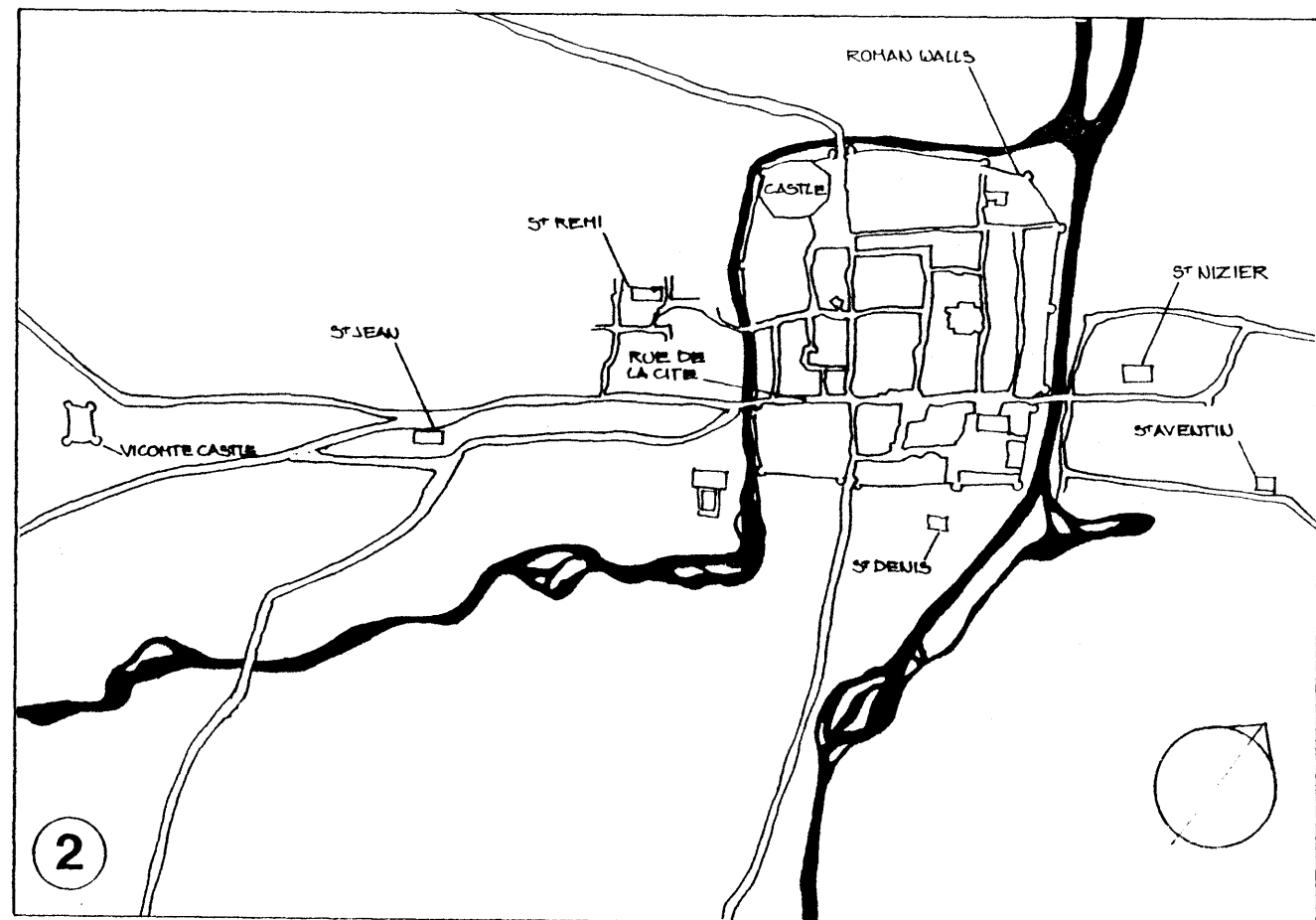
palace, the Canon's houses, the Abbey St. Loup, the priories
St. Quentin and St. Jean en Chastel, which, together with their
pastures and vineyards, occupied a large part of the area.

There is much evidence of investments from religious
establishments in the built-up operation of the fair quarter.
Yet, no religious order seems to have settled in this part of
the city. Most of the convent's and monastery's foundations
were located in the original city, or in the eastern faubourg;
at the same time, churches were founded in the west side. St.
Jean du Marché became the center of the fair area and a landmark
in the incoherent mass of more or less temporary buildings. St.
Nicolas and St. Pantaléon were founded westward as the population
grew. St. Urbain was founded along the main streets of the
trading area, by Pope Urbain IV, from Troyes. The churches
implanted in this part of the city are like calls for donations
to the rich and enterprising merchants of Troyes.

The Bourg-l'Evêque, a small faubourg at the eastern gate
of the city under the juridiction of the Bishop, suffered from
the lack of privileges. The restrictions imposed by the conserv-
ative ecclesiastic authorities constrained its development.
Bourg-l'Evêque was a rural faubourg with its own market, isolated
from the dynamic activity of the fairs.

TROYES FROM 1100 to 1157

The fair area, or *suburbium Trecassinum*,
is situated along the main road, from
the west of the old wall to the St.
Nicholas church. The new walls are
built before 1125.

Most of the buildings in this trading
quarter are temporarily *logettes*, built
for the fair, or shops. Almost all the
buildings are constructed of wood.

On the east side of the old city, the
faubourg controlled by the church does
not develop significantly.

WALL OF 1125

ST JEAN

BOURG L'EVEQUE

SUBURBIUM
TRECASSINUM

ST NICOLAS

WALL OF 1125

③
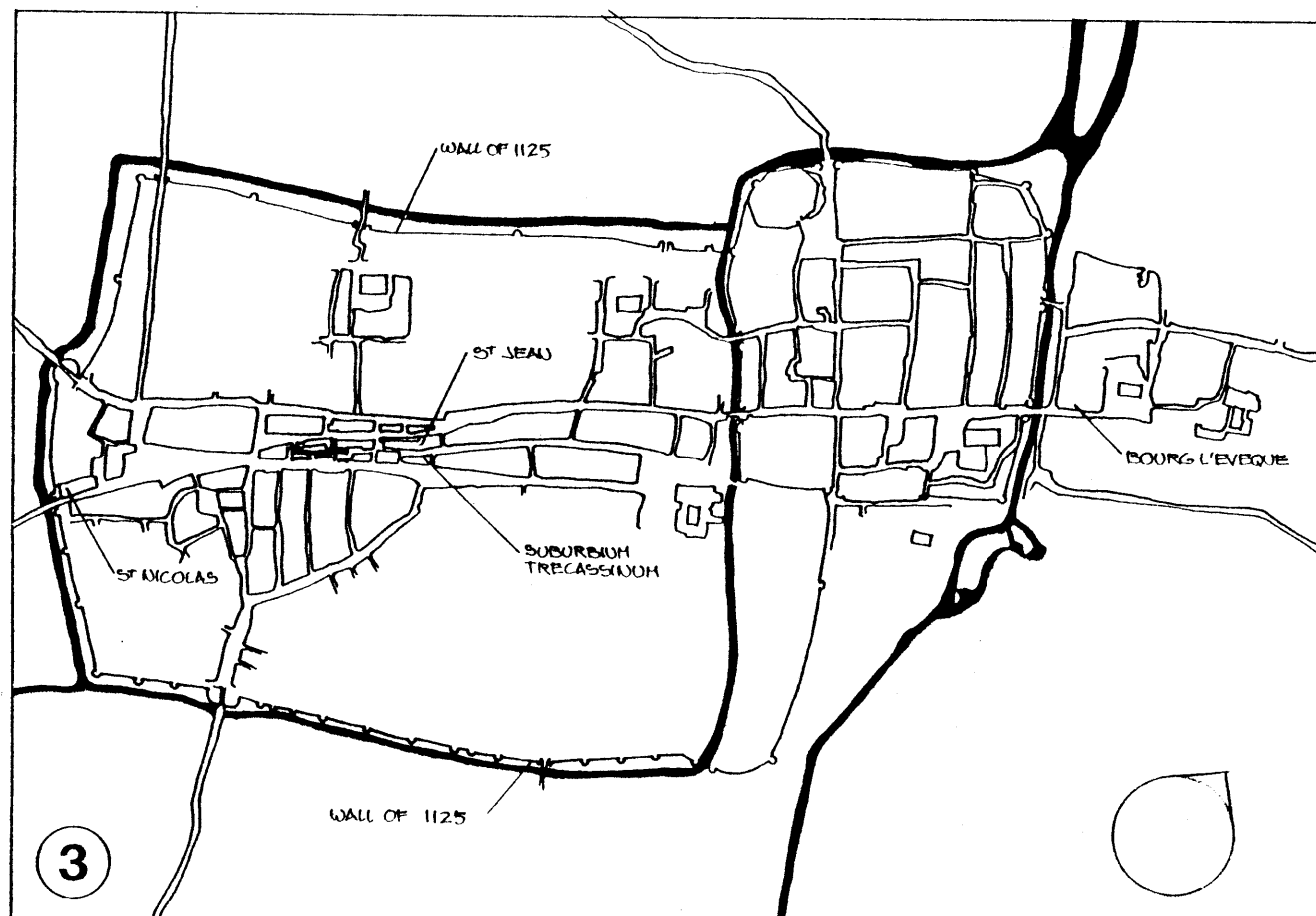
Owning most of the episcopal city and larger area around
it, the Church was passive during Troyes' development. The
religious establishments took certain advantage of the economic
growth of Troyes, but their conservative attitude was reflected
in the poor growth of the faubourg under their jurisdiction.
This lack of initiative and the loss of their power for the
benefit of the Counts explains the minor role played by the
Church in the formation of Troyes.

Chapin sees Troyes' formation determined by three main
factors: the political influence of the Counts, the existence
of fairs and the development of industry. Unquestionably, the
Counts played an important part in the formation of Troyes.
Indeed, they were involved in most of the circumstances having
a direct effect on city form.

In 1125, Count Thibaut II built the fortifications of the
west-side. By enclosing an area almost four times larger than
the city itself, the Count gave to Troyes limits that were not
surpassed by city growth until the last century. The major part
of the land within the walls was not even cultivated. What were
the intentions of the Count? Defense was certainly one of his
goals. The walls continued on the east-side to protect some
convents and faubourgs outside the gates of the city. Neverthe-
less, the wall became so long that it is difficult to imagine
how the small population of Troyes could defend the new

TROYES FROM 1157 TO THE END OF THE
XIV CENTURY

11-57 - 1174: construction of the
drainage system South-West of the city.
The count built his palace outside the
city walls.
1170: construction of a new wall on the
east side, and an artificial arm of the
Seine River.
1228: the quarter north of the trading
area is developed in an apparent new
lay-out system.
1239: new walls on the east side. New
ditches and moats.

NORTH QUARTER

CATHEDRAL

COUNT
PALACE

WALL
OF 1239

WALL
OF 1170

CANALS

④
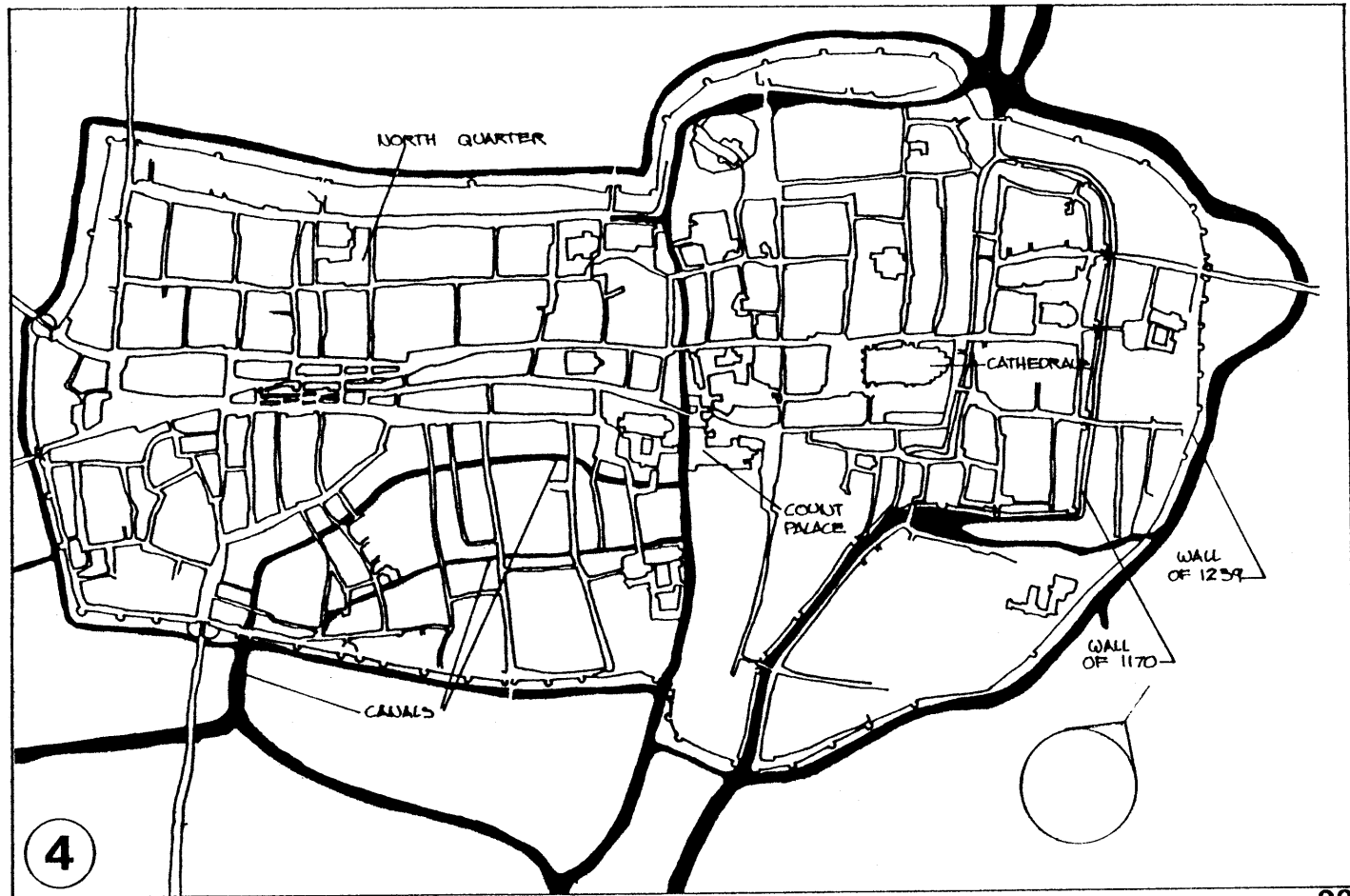
protected area. The fairs never filled the space, and at the time of the fortification fairs were much smaller than during the height of the XIII century. The wall construction is explained and justified by the political situation at Troyes, and above all, by the rivalry between the Counts and the Bishops.

The episcopal city was in the hands of the Church. The Count's intention was to counter-balance this situation by creating his city, controlled by himself, inhabited by his people. The western part of Troyes was, in some ways, a new town and the walls were its consecration; in Paris, Philippe Auguste outlined the right bank of the Seine at the same time. The land enclosed was much larger than the actual agglomeration, and included the important market of *Les Halles*. By doing so, the King clearly promoted this side, mercantile and bourgeois, against the left bank where abbeys influenced and controlled the city life. Later, the Counts established their own residence in the new area; the Kings of France left the *Ile de la Cité* for the *Louvre,* on the right bank.

Progressively, improvements followed the extension of the city. Between 1157 and 1174, the Count Henri I canalized water streams and marshes in the southern part of the city. The canals provided a sewage system for this part of the city, a defense against fire and a circulation of water very useful for tanneries and butcheries which has settled in the area.

The more important initiative of the Counts for the
development of Troyes, however, was the granting of liberties
to the inhabitants of the *suburbium Trecassinum*.

(5) Map of Troyes in 1964, in Marot (23)

"There is seldom much perfection in works
composed of many separate parts, upon
which different hands had been employed,
as in those completed by a single master.
Thus it is observable that the buildings
which a single architect has planned and
executed, are generally more elegant and
commodious than those which several have
attempted to improve, by making old
walls serve for purposes for which they
were not originally built. Thus also,
those ancient cities which, from being
at first only villages have become, in
course of time, large towns, are usually
but ill laid out compared with the
regularly constructed towns which a
professional architect has freely plan-
ned on an open plain."

DESCARTES:
Discours de la Methode

Richelieu, Designed Town

Richelieu is situated within the confines of the provinces of Touraine and Poitou, 12 miles from the Loire Valley. The site of its foundation was part of the domain of the Cardinal de Richelieu's ancestors.

The history of Richelieu's creation is closely related to the activities and ambitions of this important personage. In 1624, Armand du Plessis, Cardinal de Richelieu, became the Prime Minister of King Louis XIII. In 1625, he visited the domain which consisted of a medieval castle, a few hamlets scattered between poor meadows and fields, and isolated from the important roads. It was the site of "the first completely new town, planned and carried out in one effort since the founding of the free towns of the Middle Ages"[1] and "The most artificial realization in the history of city-planning."[2]

1. BLOMFIELD, R.A. A History of French Architecture, Vol. 2, London, 1911.

2. SCHULZ VAN TREEK, M. Richelieu, L'Oeil n° 127/128, 1965.

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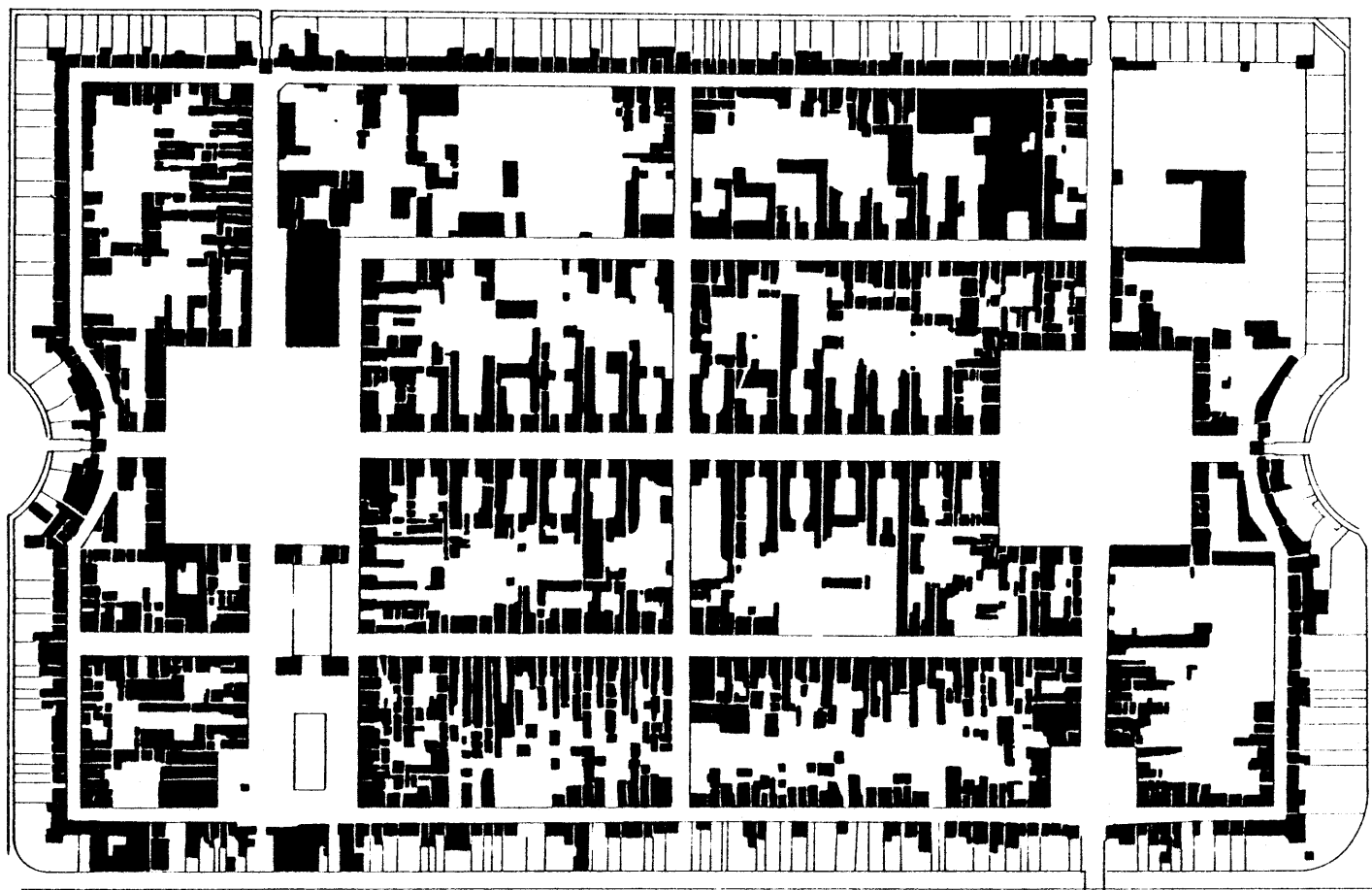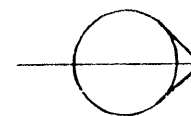
(1) Cadastral plan of Richelieu today, in Boudon (3)

3. PEPIN, E. Une ville créee au XVII siècle, Richelieu, cité du Cardinal, La Vie Urbaine. 1966.

E. Pepin[3] suggests that the Cardinal developed during his visit an ambitious project, in three acts:

- To transform the old castle into a sumptuous residence, to rival the greatest architectural ensembles of his time.

- To augment his possessions, by buying or exchanging, in order to constitute a vast domain, and justify the promotion into a Duché-Pairie by the King, which would give to the Cardinal one of the highest ranks among the dignitaries of the kingdom.

- To create a new town near the castle, providing religious, administrative and judiciary services, and perpetuating the name of Richelieu.

At his death in 1642, the Cardinal had achieved most of his projects, the essential elements of the town of Richelieu were built.
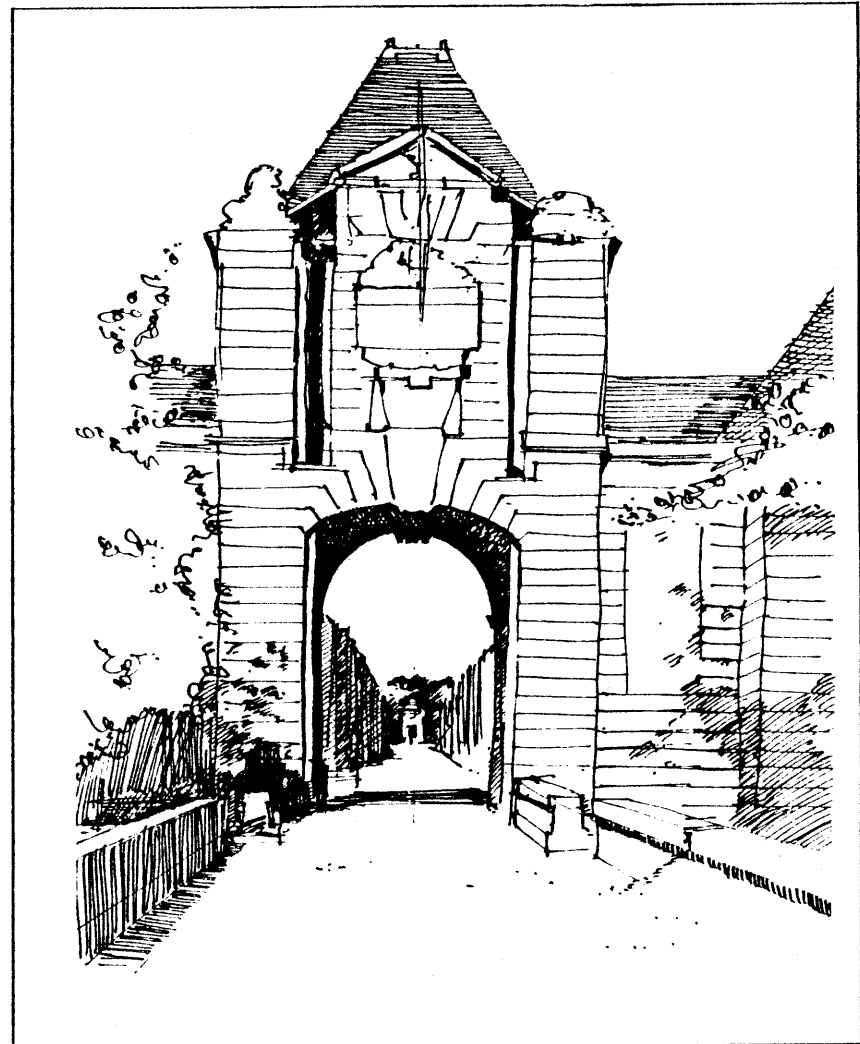
DESCRIPTION

Built near the castle, the town is a separate entity, connected only by a road, perpendicular to the main axis of the château. Richelieu's plan is rectangular, symmetrical, and enclosed within walls and moats. The principal axis of the
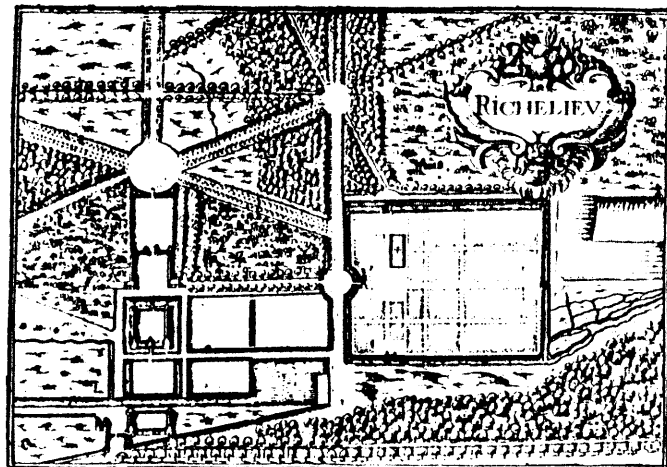
② Plan of the town and the castle of Richelieu, by Tassin, 1634

Porte de Chatelrault ③

rectangle, oriented North-South, is the *Grande Rue*, which connects the two squares of the town. The *Grande Rue*, or Main Street, is intersected in its middle by a transversal street. At equal distance from this intersection, the main street enters a square in the middle of its side. In the center of each square, the *Grande Rue* meets one transversal. Those two transversals as well as the *Grande Rue*, are connected to gates on both ends. Consequently there are six gates; two at each length and one at each width of the rectangle.

On the Main Street are 28 private hotels, in four groups of seven. The houses are identical and face one another exactly. Parallel to this street, 12 meters wide, are two other streets, 9 meters wide and along the walls two others, 6 meters wide.

The two squares have the same dimensions; one hundred by one hundred yards. Around the sides of the square are two-story houses, each of uniform design, but at the end of each block, where the roadway enters the square, the design is altered and the houses are carried up another story, forming eight pavilions.

On the south square, closest to the castle, are the church, occupying half a side, and the *Halle* or market, facing the church. Here, too, is the *Hotel de Ville*, once the *Palais de Justice*. This *Place du Marché* is the real heart of the town.
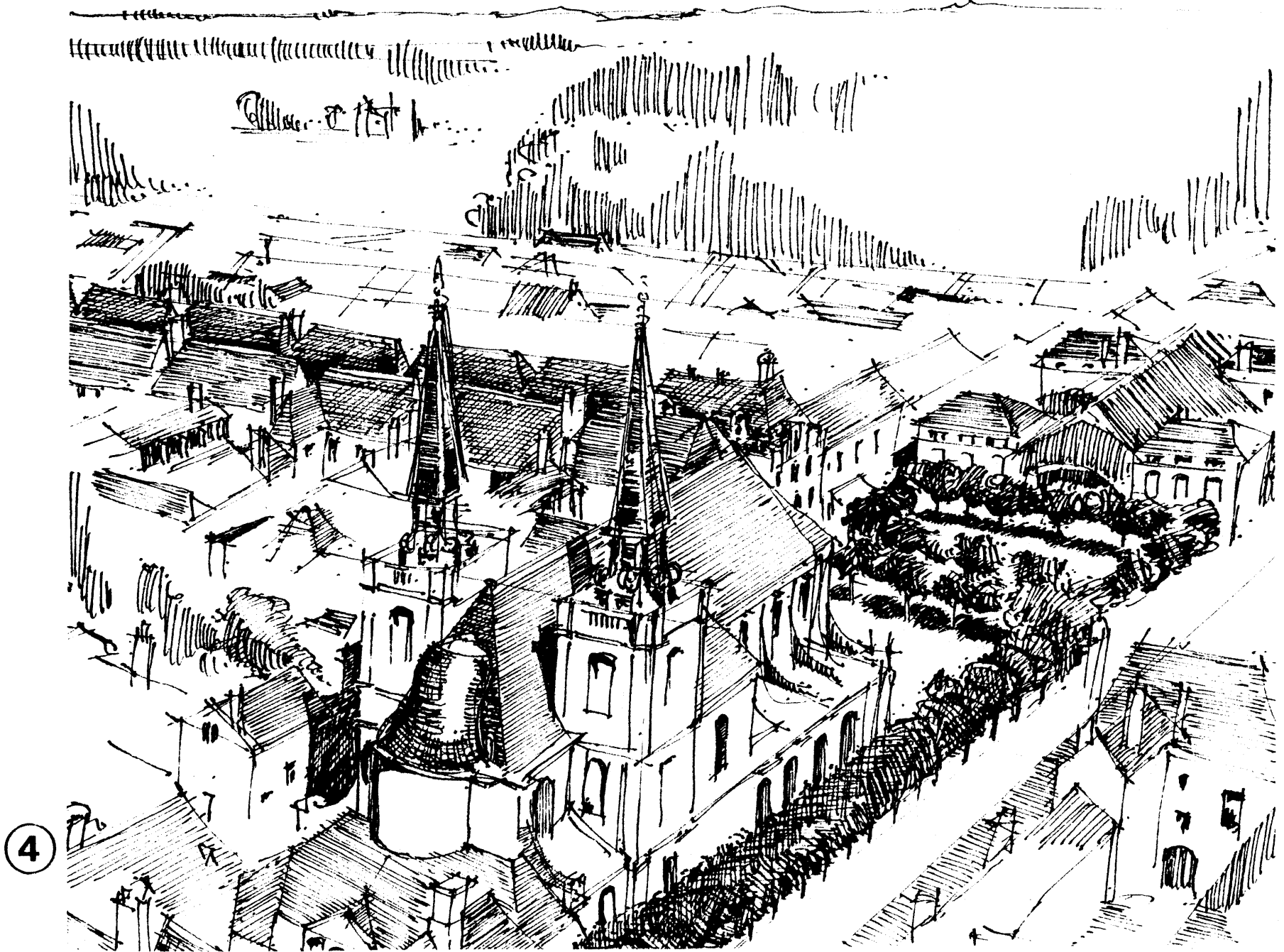
④ Air view of Richelieu, the church and the South square.

Here also are the principal inns, and shops. The other square, *Place des Religieuses*, is residential only.

Beyond the south gate, the axis of the *Grande Rue* becomes an alley of the park and then runs along the facade of the castle.

THE ACTORS OF RICHELIEU'S CREATION

Like many statesmen of his time, the Cardinal was a builder. "Richelieu had much inclination for building, and all that he undertook seemed more like the work of a king than that of a private person."[4]

4. RICHARD, Abbé. In:
BOUDON, Ph. La Ville de Richelieu.
Etude de la notion d'échelle en
Architecture. Paris, 1972, p. 25.

At Richelieu, the cardinal was primarily interested in the building of a vast residence where he could receive the King. In 1625, a project was ordered to Jacques Lemercier, who was the architect of the Palais Cardinal. A project had to be made for a town also, to provide the dwellings for the nobility and the services needed in the castle. In 1631, permission was granted by the King to establish a walled town with markets and fairs privileges. The Cardinal's interest was in a castle, its decor, its amplitude and the supervision of the town of

Richelieu's business was left to one of his friends, the Bishop of Bordeaux. Richelieu was in Paris and rarely visited the work fields. His intentions are reflected in his correspondance.

When it appeared that a lack of enthusiasm among the settlers could jeopardize the success of the town, the cardinal used his influence and his power to bring new inhabitants, generally courtiers and high officers from Paris. "The population is so beggarly that they don't even have the means of building a pidgeon-house" wrote the Bishop of Bordeaux.

The architect's role in this project is less known.[5] Jacques Lemercier, architect of the King, spent nine years in Rome. He was "the Vitruve of his time" said Sauval. Lemercier worked in Paris on the extension of the Louvre, on the Palais Cardinal, and the Church of the Sorbonne.

5. CHARPENTRAT, P. In Boudon: "L'architecte, personnage si mal connu dans le monde baroque qu'il tourne à l' abstraction, être de raison reconstitué à partir de l'ensemble, souvent mal délimité, de ses oeuvres."

He delegated his two brothers, Pierre and Henri at Richelieu, where they had a more direct role. Pierre is assumed to be the architect of the Church of Richelieu.

The two important contractors, Thiriot and Barbet, were also Parisian and had worked for the Cardinal on other projects. The financial transactions between the new inhabitants, the constructors and the Cardinal were passed through a mysterious personage, Alphonse Lopez, sort of a secret agent for the Cardinal.

All the actors have a common point; they were directly related to the Cardinal. The inhabitants often owed him their position, or were in debt with him. Lemercier was "his" architect, Thiriot "his" mason, etc... All the possible resources were used by the Cardinal de Richelieu to achieve his goal. The work force was composed of galley-slaves and the expenses for the settlement were paid by taxes raised for road maintenance.

The essays and articles written on Richelieu are all focused on the 28 hotels of the *Grande Rue*, and nothing is said about the rest of the town. It seems that the *Grande Rue* and the two squares, for some time, were the only elements of the town.

THE ROLE OF DESIGN IN RICHELIEU'S CITY-FORM

Richelieu, the "designed" city, as opposed to Troyes, the "organic" city, is discussed in this essay. By designed we mean preconceived with the use of graphical documents such as plan, sketches, maps, etc...

6. This thesis, based on interpreta-
   tions of original documents was not
   oriented toward an extensive re-
   search of such information. Boudon's
   efforts in this domain have been
   unsuccessful.

7. The contracts passed between the
   contractor and the "clients" of the
   Grande Rue mention "plans" as ref-
   erences. In the same contract, the
   lot is measured: 10 toises wide,
   40 toises deep.

fig. a

Nancy, plan by La Ruelle, 1611 in Lavedan
(19)

Original plans of the early XVII century City-Planning
are very rare, and this is true also for Richelieu; there are no
surviving original plans nor drawings used during the planning
process of Richelieu.[6]   However, contracts referring to "plans"
and giving lot dimensions[7] are enough evidence of the precon-
ceived character of the town of Richelieu. The hypothesis
that Richelieu's planning involved graphic documents is support-
ed by the following observations.

After the German invasion of 1587, the Duke Charles III
of Lorraine decided to implant a new city next to the core of
his capital, Nancy. In 1588, a plan was drawn by Jerome Citani,
Italian *"Ingénieur, Fortificateur et Visiteur Général des Villes
et Forteresses de Lorraine."* Between 1590 and 1592 the land
was surveyed and from 1591 to 1598 the land was distributed. In
1611, La Ruelle drew a plan of the city (Fig. a).   In 1599,
the Grand-Duke, Frederic I of Würtemberg proposed to his archi-
tect Schickhardt, a project for a new town to house the French
protestant refugees. After an initial plan which was refused,
(Fig. b), a second was carried out and built (Fig. c). Livorno:
Around 1575, Francis I de Medicis requested Bernardo Buontalenti,
to make plans for a new town to settle near the old town of
Delle Girandole. Engravings made of this plan have the title:
"drawing of B. Buontalenti of the enlargement of Livorno under
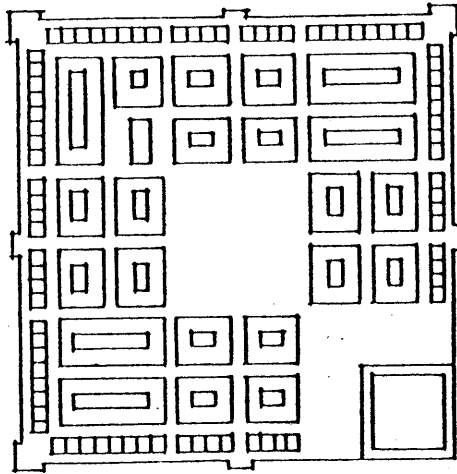the Grand-Duke Francis I (Fig. d).

36

fig. b

Freudenstadt, reconstitution of the first plan by Lavedan (19)

fig. c

Freudenstadt, reconstitution of the second plan by Lavedan (19)

The scenario of Richelieu's creation is assumed to be similar to these three examples. The form-making process involves plans, the planner is a specialist, and the origin of the creation can be attributed to the will of an autocrat.

The Fig. 5 shows a plan dated August 6, 1634, sent by one of the contractors of Richelieu, Barbet, to the Cardinal. The purpose of the plan was to demonstrate the progress of the work to second a request for money. The document shows the houses and the property lines of part of the south square and half of the Grande Rue. Some houses were completed, some were being built, and other lots were shown empty. The plan of Barbet was not only a description of the current situation, it was done relative to the final objective. Barbet's plan has references to an existing project, like the property lines, the streets, the church and the market. Barbet was contractor, a professional able perhaps to read plans, but not to invent them. However, the use of a plan in this situation implies that such a document was used in City-Planning as it was in architecture. Therefore it is reasonnable to assume that, even without surviving plans or sketches of the planning process, the town of Richelieu was "designed", that is, graphically preconceived.
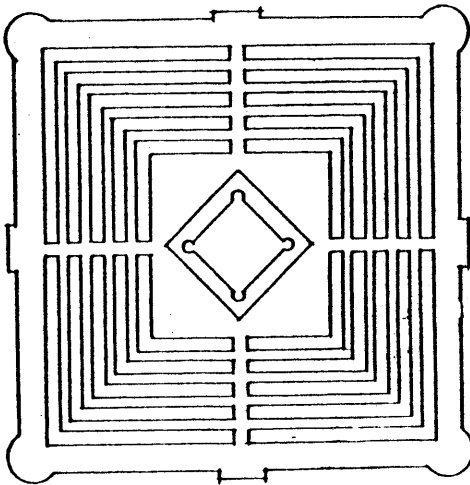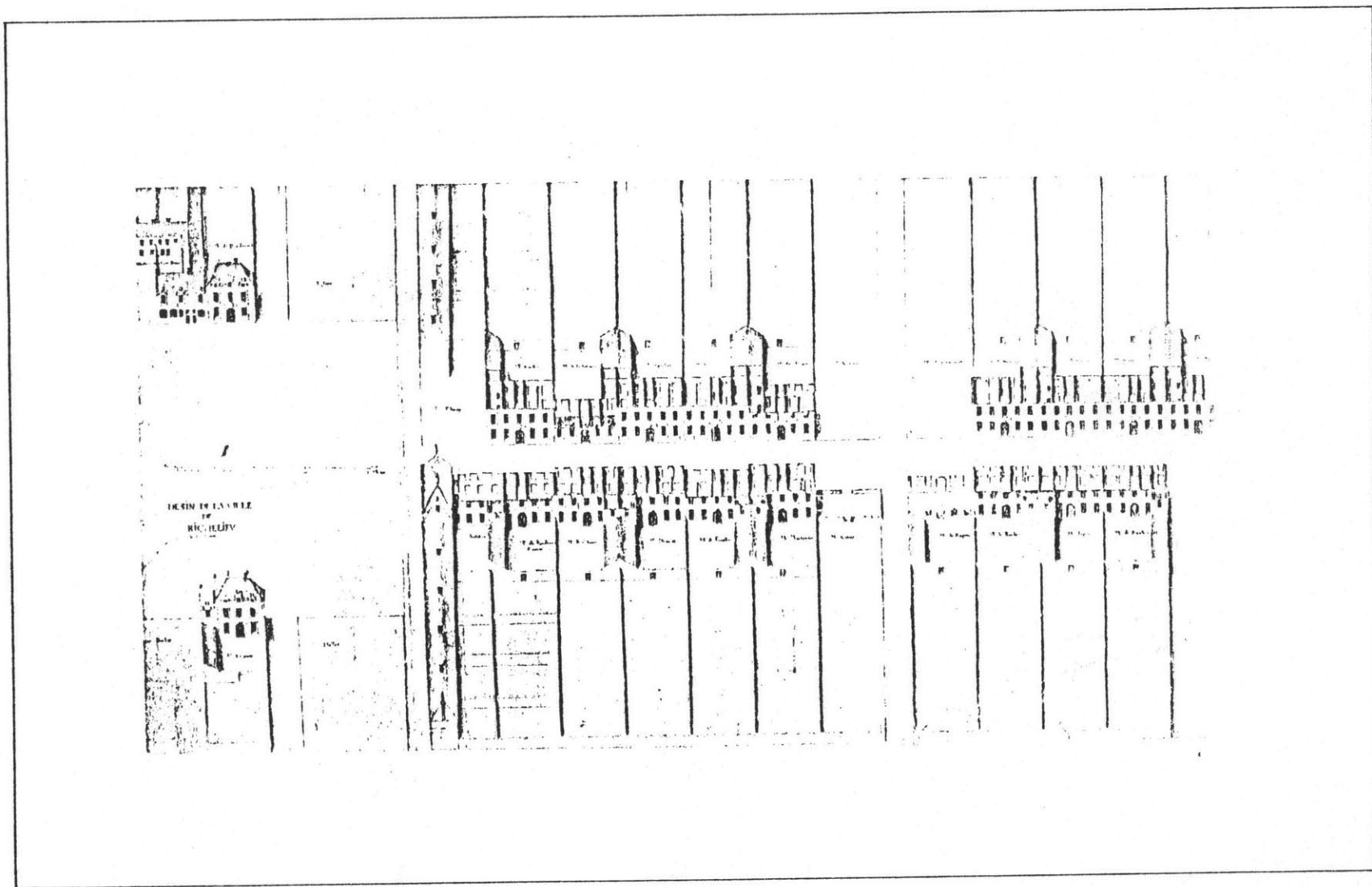
The influence of such a process and the role those graphic media had on Richelieu's form are now focused here.

DESIN DE LA VILLE DE RICHELIEU

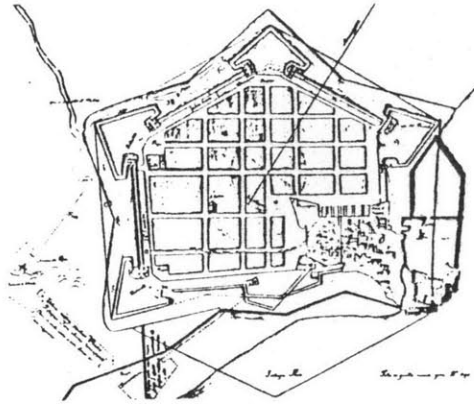(5) Progress report, August 6, 1633, in Boudon (3)

fig. d

'Livorno, plan by Bernardo Buontalenti, est. 1575, in Lavedan (19)

8. The theatrical character of Richelieu has been pointed out by most of the observers, among them Schulz van Treek, Lavedan, Pépin.

9. GODEFROY, L. 1638 in Boudon.

In order to point out clearly the effect of design, the study has been limited to aspects of the city form where other factors as economical, political, and historical could be isolated, and where the influence of design seemed evident. Two areas are covered here:

1. A system of references and dimensions between the town and its contour.

2. A uniformization of the smaller elements such as the houses.

The town of Richelieu is a symbol. A symbol of power, and the symbol of a real town. All its elements, church, academy, market, printing establishment are references to reality, like a decor.[8] The walls also are symbolic. As a visitor noted in 1638: "The walls are not very thick, made less for its defense than for its ornament."[9] Implanted at a time when only the Grande Rue was built, they determined in advance the growth and the shape of the town. What was the basis of such a contour, the references of such dimensions?

The answer is not given by a site analysis, but by a look at the plan of Richelieu. The rectangle of the walls, its dimensions, its references in scale are abstract figures for the observer in Richelieu.

Analysis of Richelieu's plan on Fig.6   shows:

● The side of the square is a fourth of the width of the town, from wall to wall.

● The square side dimension being a unit of measurement, the Grande Rue, from one gate to the other is 6 units long.

● One unit separates the axis of the next parallel street, and one unit is the distance from this axis to the walls.

● The Grande Rue measures 3-1/3 units between the squares, and 1/3 unit is the dimension between the gate and the square.

Is the logic of this construction the consequence of a need, of an economical constraint, or a political intention? Such a system is too rational to be spontaneous, but too abstract to be justified by any approach other than graphic, because *it is generated by the use of a graphic design.*

Boudon[10] shows how the city planner, having a site without references for his design, creates his own scale, his own sig- nificant elements to avoid an abstract composition, to material- ize his design. The use of a grid, of a module are some of the solutions to his problem.

In Richelieu, Lemercier might have taken the square side, or the third of it, as a module to materialize the composition.

10. BOUDON, Ph. Op. Cit. p. 104.

40
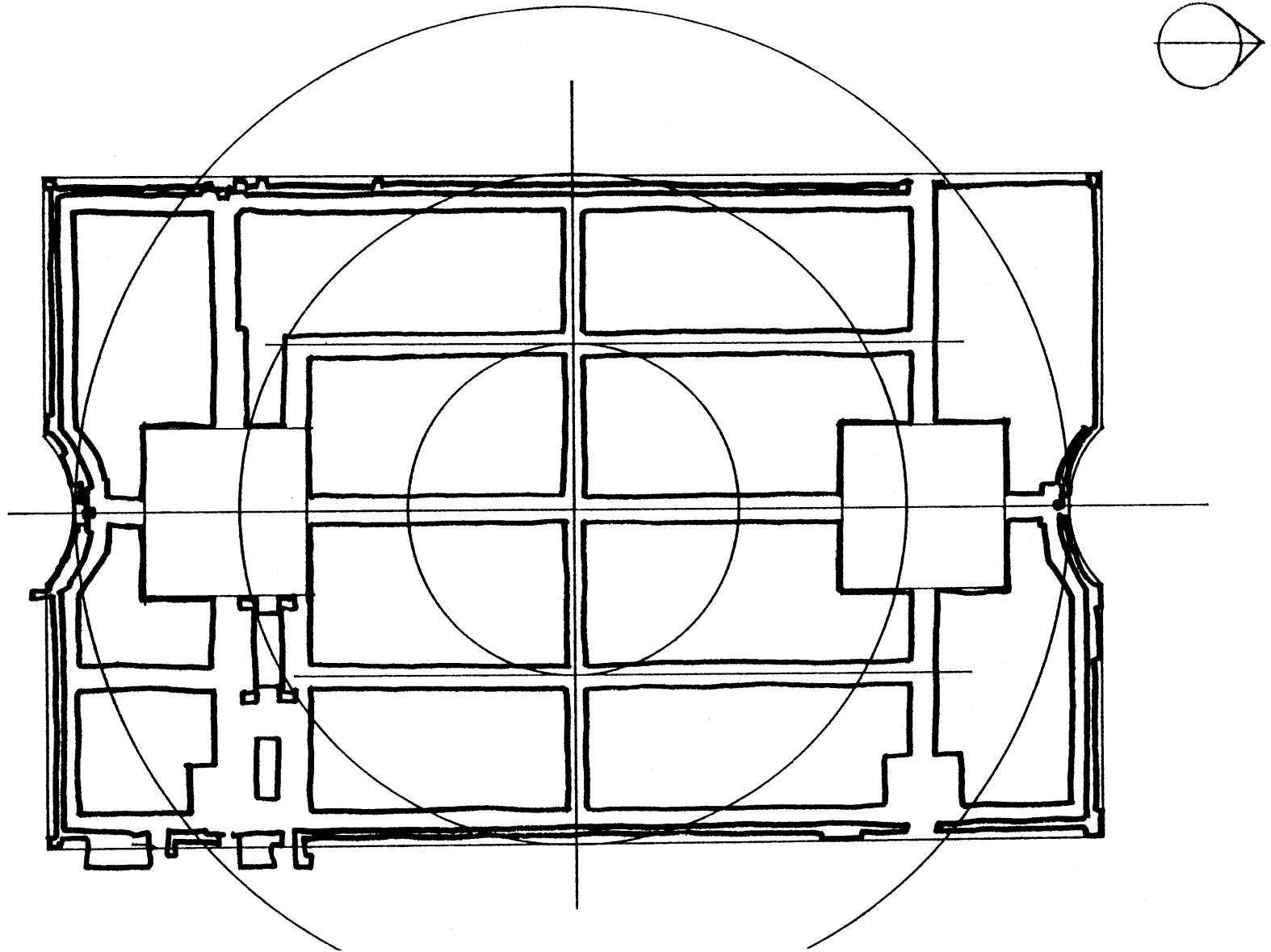
6 Plan analysis, from the cadastral plan, an air view photograph, and a survey, published in Boudon (3)

This modulation is not perceived on the site, but it affects, it orients the design, the plan, and therefore the city form itself.

For most of the XVII century visitors of Richelieu, the first physical characteristic of the town was not the symmetry of the two squares, or the geometrical construction of the grid system, but the uniformity of the houses along the Grande Rue.

The 28 hotels were the first elements to be built. In 1635, an anonymous description of Richelieu indicated that at that time only the Grande Rue was finished. On the south square, the market and the church were not completed, the north square was still a project. The importance of the houses on the Grande Rue for the Cardinal was made clear in his correspondence with the Bishop of Bordeaux who supervised the work.

What were those houses, their role in the town and their significance in the context of this time?

The houses were described by Boudon: "Each facade is identical to the others, with five vertical bays on two levels, a doorway at the ground level of the middle bay. Each hotel is therefore between two party-walls, a carriage entrance leads through it to a backyard bordered by a wing."[11] (See Fig. 8)
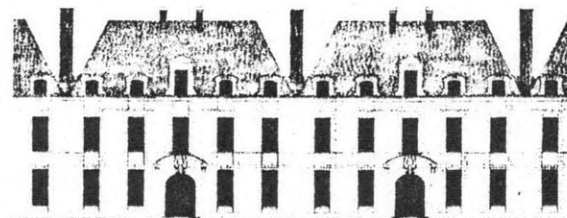
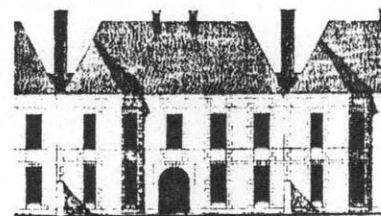11. BOUDON, Ph. Op. Cit. p. 47

42
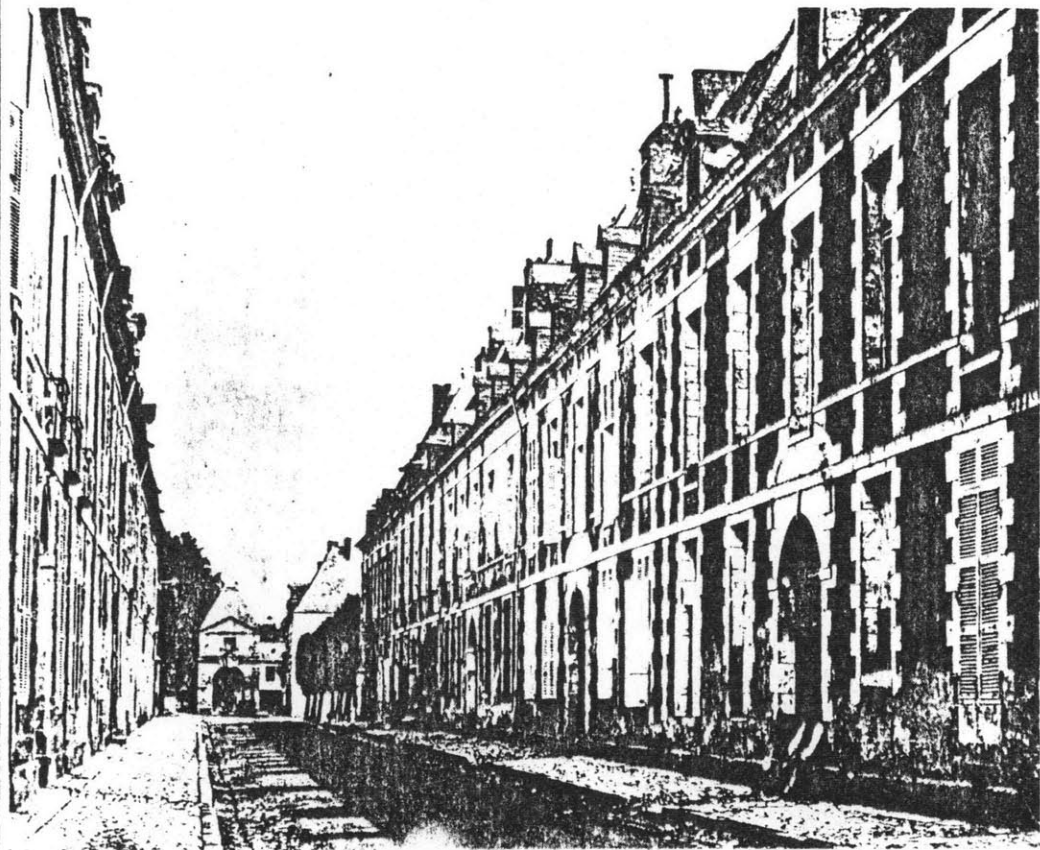
(7) Grande Rue, in Boudon (3)

RICHELIEU

PAVILLONS HOTELS DE LA GRANDE RUE
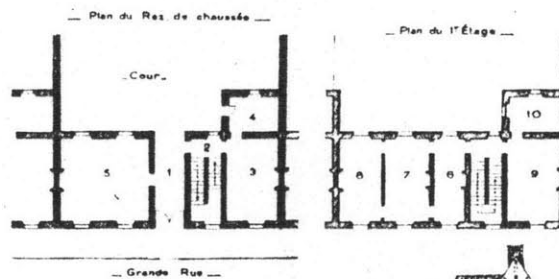
POITOU

_ Façade sur la Grande Rue. Grand Axe de la ville _

_ Façade sur les cours _

_ Plan du Rez de chaussée _   _ Plan du 1ᵉʳ Étage _

_ Cour _

_ Grande Rue _

Survey of Grande Rue
house, in Boudon (3)

(8)

_ Coupe transversale _

12. SAVOT, L: L'architecte francaise
    des batiments particuliers, Paris,
    1642; in Boudon.

The description by Savot[12] of the typical residence for a
gentleman, in 1642, contrasts with the Richelieu model. The
house is "generally in the countryside," wrote Savot, "The prin-
cipal building should be always directly opposed to the princi-
pal entrance, facing it, with front view on a yard and a back
view on some parterres, gardenings, orchards and groves." "The
noble buildings should be isolated, that is, separated from the
others on all sides,"

The reluctance of the first inhabitants, to live in
Richelieu could be partly explained, suggests Boudon, by a total
neglect of those standards in the houses of Richelieu. The
"hotels" were in fact row houses, having little in common with
the archetype of gentlemen residence.

What were the intentions of the Cardinal in promoting
such dwellings? We know how important for him it was to find
"clients". Yet, the success of such operation would have been
more certain with a traditional model, corresponding to the
expectations of a certain class.

The hotels had to comply with other constraints, and
obviously with a design idea. The concept of the straight street,
bordered by identical facades, showcase of the new town, pre-
vailed over the development of the individual elements, that is,
the hotels.

44
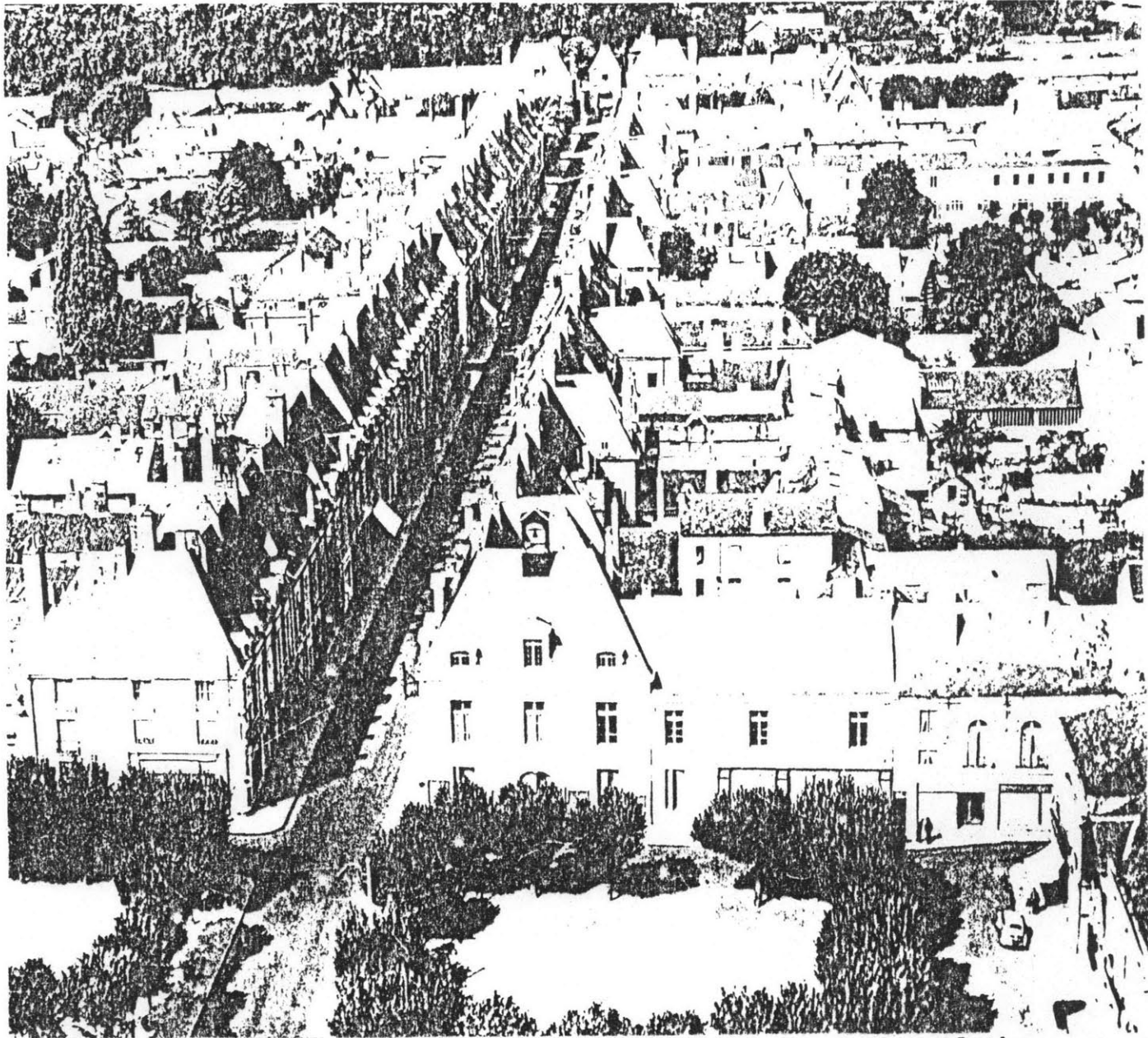
9 Air view of Richelieu, from the South square toward the Grande Rue, in Schulz Van Treeck, (36)
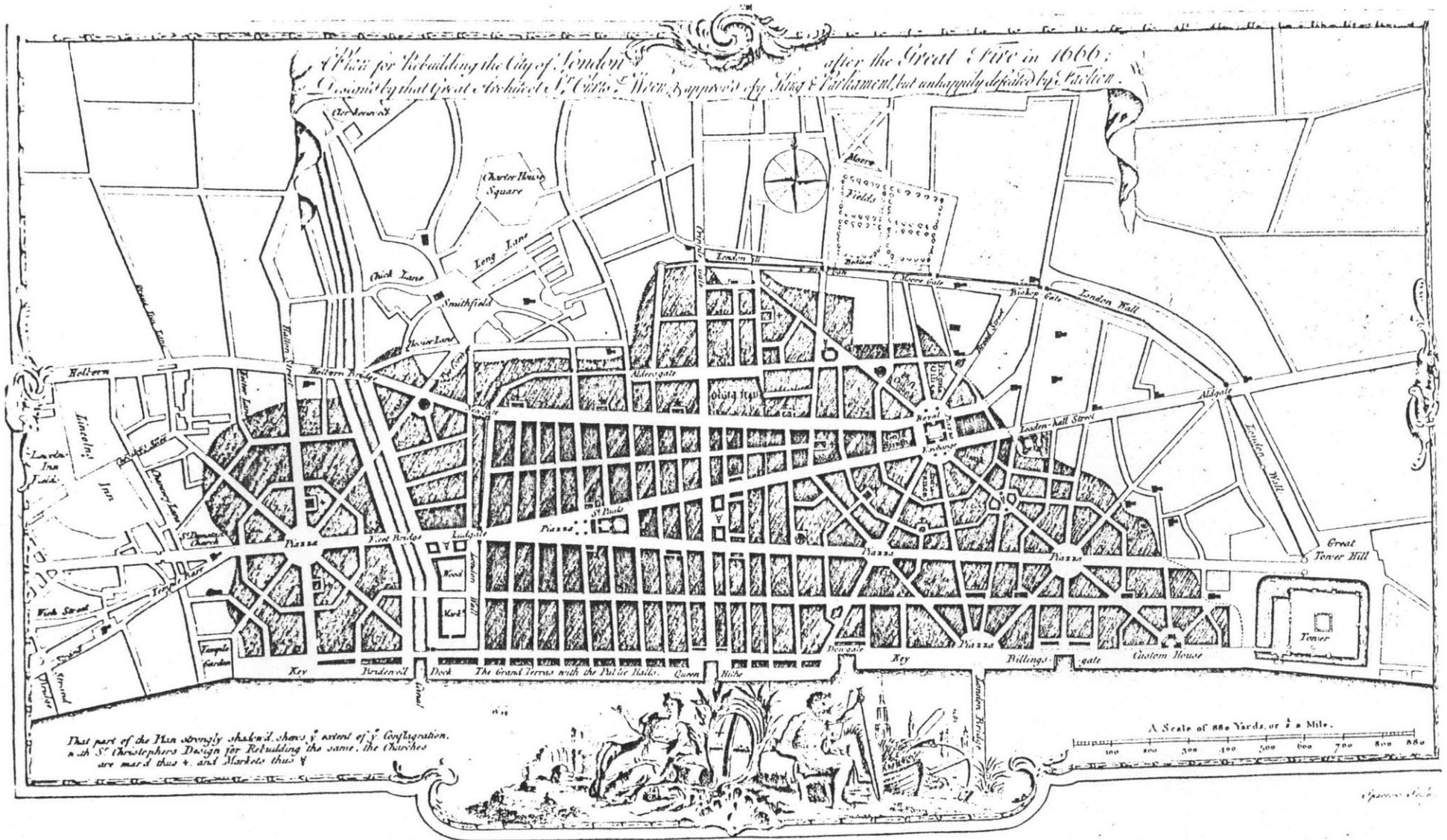
This characteristic of uniformity is an important phenomenon in the design process. The street design prevails over the lot design, but the town structure determines the street system, and the regional plan affects the town organization. The smaller the scale, the more important are the implications of the design process. Flat facades, uniformity of houses, symmetry, are final consequences of an axis on a sketch, a schematic line on paper. The nature of design prevails here, more than any other factor.

Quatremere de Quincy, in the XVIII century, describes the project of Wren for the rebuilding of London after the great fire, (see Fig. 10) and concludes: "The architect Wren conceived this project on one hand with all the conditions required by the ideas of salubrity, of clearing and commodity that are required, on the other hand, the spirit of symmetry and uniformity to which it is difficult not to submit when operating in plan, and in the absence of all constraint."[13]

13. QUATREMERE DE QUINCY: Encyclopédie Méthodique; Paris, 1788, in Boudon.

Other references for Richelieu:

- LAVEDAN, P. Histoire de l'Urbanisme. Renaissance et Temps Modernes; Paris, 1941.

- STEWART, C. A Prospect of Cities; London, 1952.

- WISCHERMANN, H. Ein unveröffentlichter Plan der Stadt Richelieu von 1633. Zeitschrift für Kunst Geschichte, 1972.

Plan for Rebuilding the City of London after the Great Fire in 1666; Designed by that Great Architect Sr Christr Wren, & approv'd by King & Parliament, but unhappily defeated by Faction.

That part of the Plan strongly shadow'd shews ye extent of ye Conflagration, with Sr Christophers Design for Rebuilding the same, the Churches are mark'd thus +, and Markets thus ⸸

A Scale of 880 Yards, or ½ a Mile.

(10) Project for London Rebuilt, by C. Wren, in Reps (31)

Context of

the Bastides' Foundations

The bastides, medieval new towns, founded in the South-West
of France are not the only plantations in the history of city-
planning. The Greeks founded hundreds of ports around the Medi-
terranean coasts between the VII and the III centuries B.C. The
Romans created about 5700 towns as economical and cultural media
for the romanization of their extended empire. The new towns
founded in central Europe between the XII and XIV century by the
expanding Holy Roman Empore are estimated to be no less than two
thousand.[1] The bastides themselves, founded between the XIII and
the XIV century are estimated at 500 by C. Higounet.[2]

Those settlements, by their name, their history and their
morphology are a distinct entity among the new towns. "Small
towns designated under the generic name of *bastides*" wrote

1. ROTTIER. H.C.E.M. Nieuwe steden in
    de Middeleeuwen. In: Spieghel
    Historiael; Netherlands, 1980.

2. HIGOUNET, C. Paysages et Villages
    Neufs du Moyen Age. Bordeaux, 1975.
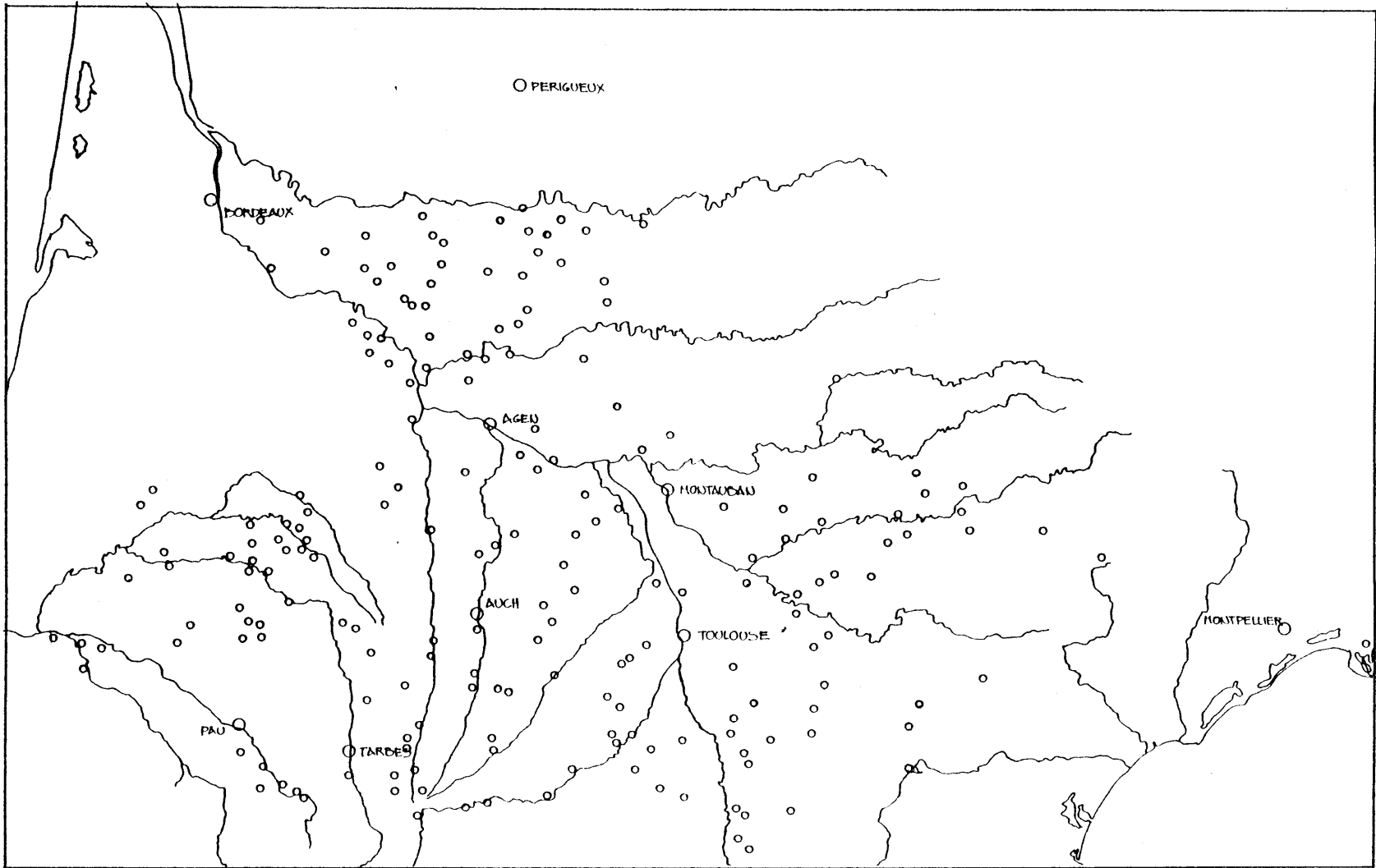
1 Map of the South-West of France with the bastides

3. CURIE-SEIMBRES, A. __Essai sur les__ __villes fondées dans le Sud-Quest de__ __la France au XIII° et XIV° siècles__ __sous le nom générique de bastides__. Toulouse, 1880.

Curie-Seimbres.[3] This name evokes a fortified settlement, having the same origin as *bastion*, *bastille*, and more generally, comes from the verb *bâtir*, to build.

The common characteristics of those new towns is that they have been built at one effort, in a very short time, all during the same period. Among the 500 bastides existing in the South-West of France, some have lost their original morphology, altered by growth or decay, others never presented any form of regularity in their plan. However, a group of 150 bastides' plans, published by Lavedan[4] show a characteristic morphology.

4. LAVEDAN, P. and H. HUGUENEY. __l'Ur-__ __banisme au Moyen Age__. Bibliothèque de la Société Française d'Archéologie. Paris, 1973.

Indeed little has been done to define and explain the bastide city-form. For the historian or the archeologist those small towns did not present a subject consistent enough to focus on. The frustrated city historian always refers to Montpazier's plan which in fact is an exception for its regularity, as the typical bastide lay-out and the quintessence of the bastide founder's intentions.

The recent publications of historians and geographers as Lavedan, Higounet, · Beresford,[5] have inaugurated a method to study

5. BERESFORD, M. __New Towns of the__ __Middle Ages__. London, 1967.

the bastides phenomenon. Instead of focusing some specific cases, and generalizing from them, the bastides are considered as an ensemble, almost statistically. This method will be used here to explore the city-forms of the bastides and their implications

on the history of urban form.

Preceding this analysis, one bastide is described to familiarize the reader with the elements of the plan and with some aspects of a foundation.

BEAUMONT EN PERIGORD: DESCRIPTION

Beaumont en Perigord, unlike Montpazier or Villefranche de Guyenne does not present a rigorous lay-out, but its scale and the well preserved state of its elements are enough reasons to choose it as an example. Beaumont history and form are studied in a methodical monography[6] which makes this plantation exceptionally well documented, if not typical.

6. TESTUT, L. La bastide de Béaumont en Périgord. Bordeaux, 1920.
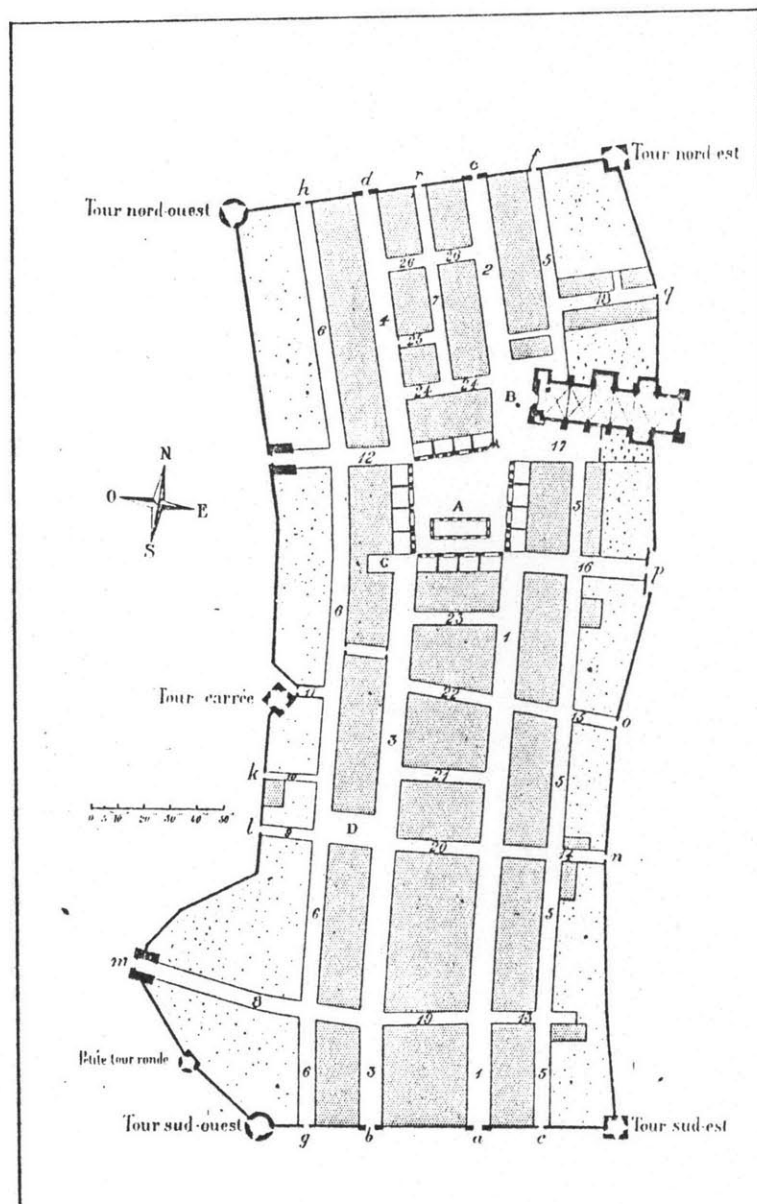
The shape of Beaumont is an elongated rectangle, oriented North-South, like the hill-top on which the bastide is implanted.

Four parallel streets run along this axis, from one end to the other. They meet five transversal streets perpendicularly, or with an angle close to 90°.
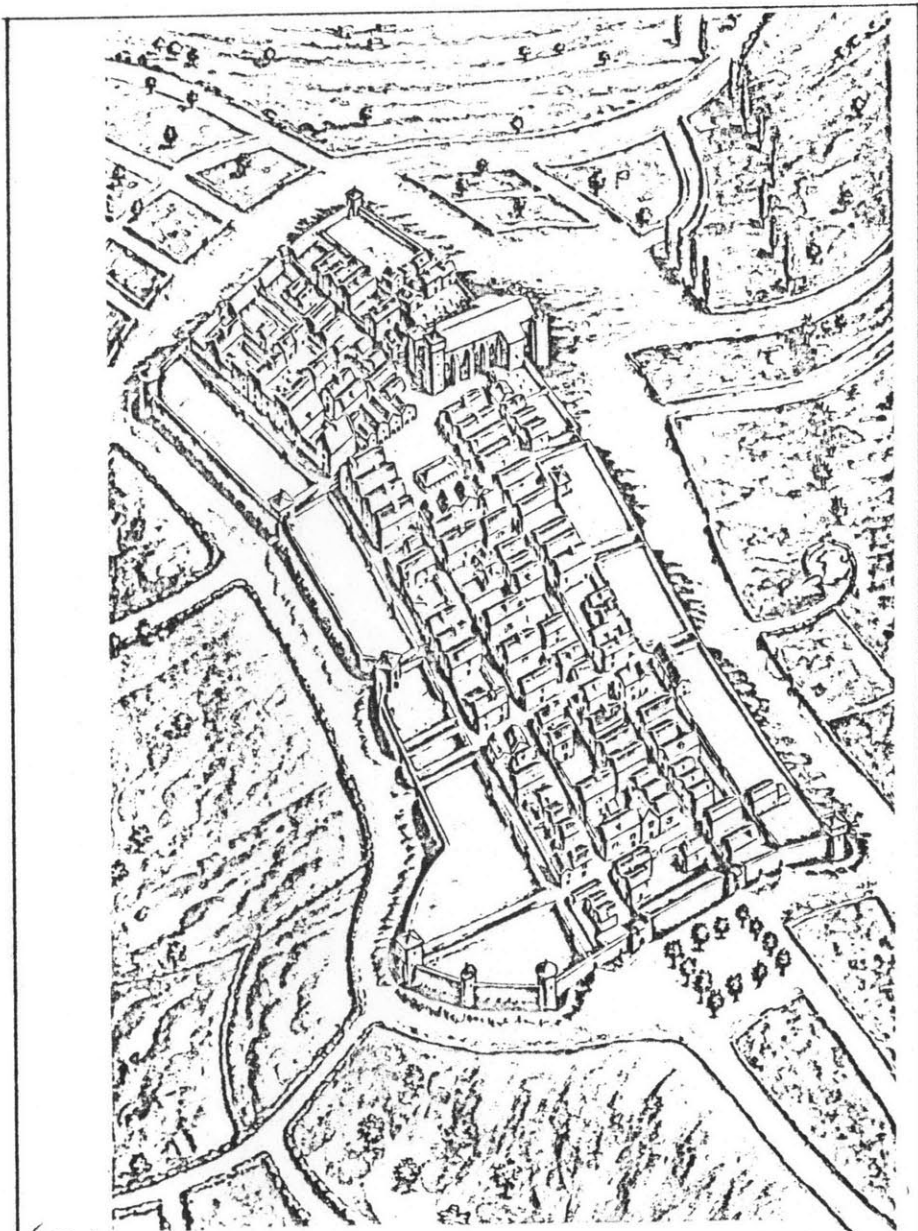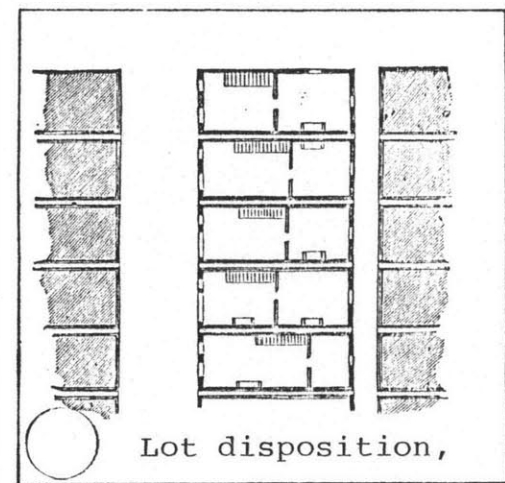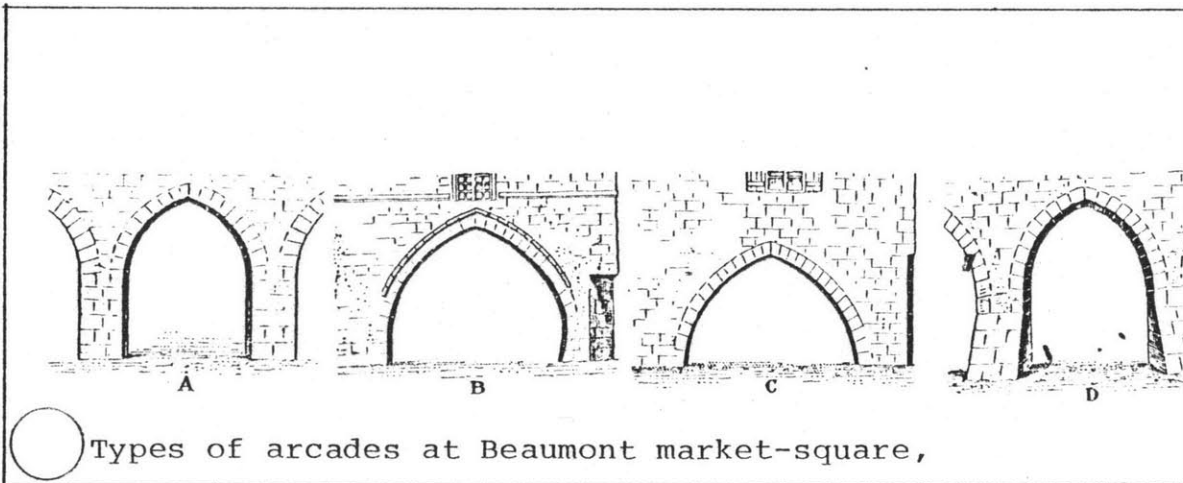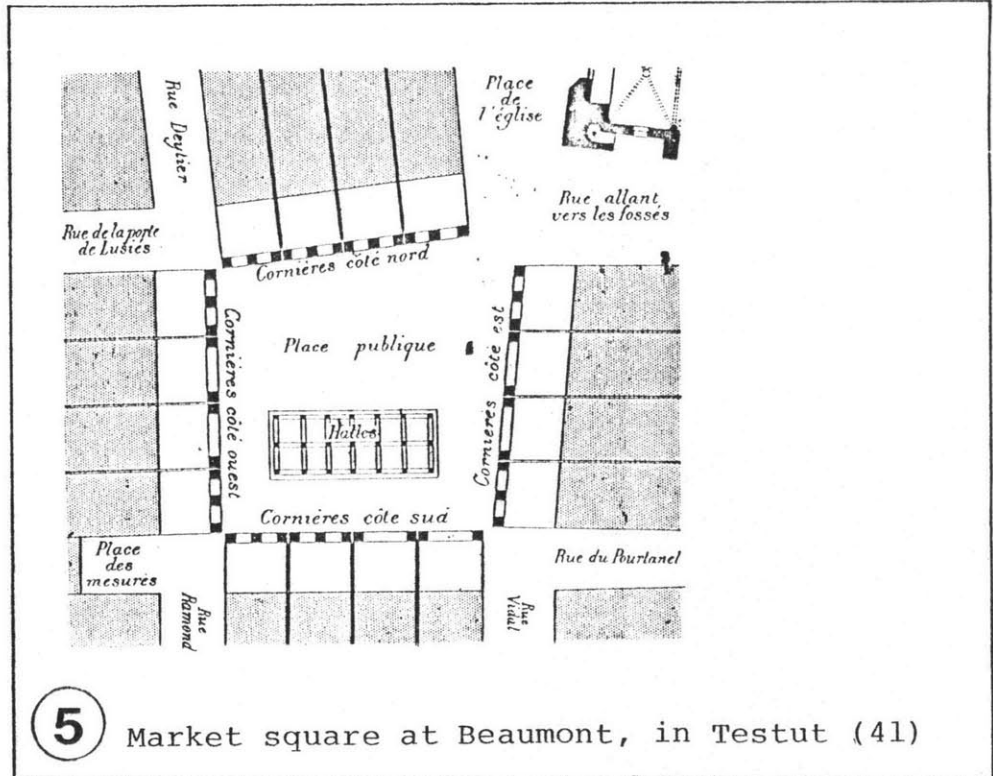
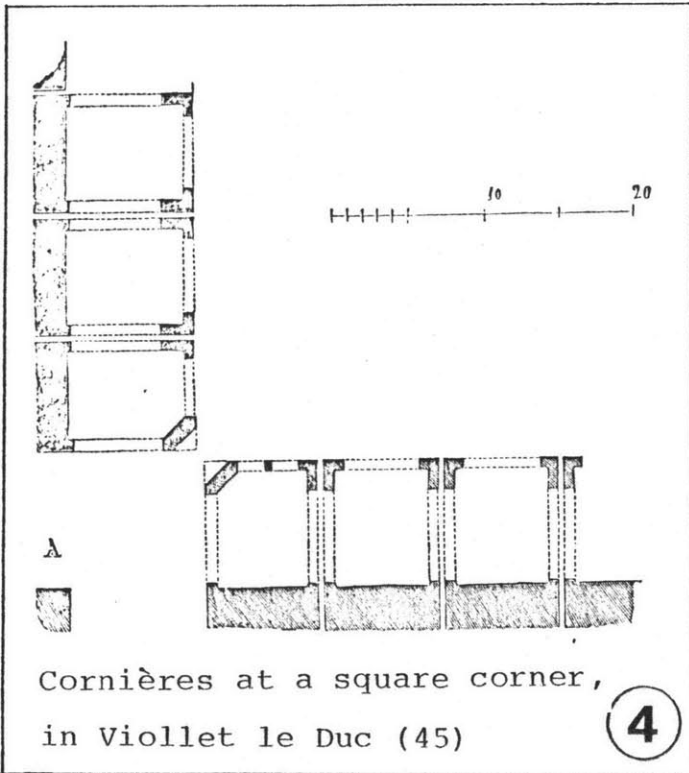(2) Air view of Beaumont, in Testut (41)

(3) Plan of Beaumont, in Testut (41)

52

Two longitudinals outline the contours of the agglomeration and are significantly narrower than the two others, running between them. The main longitudinals are separated by the same interval as the two main transversals. They meet near the church, and the area determined by their intersections tends to be square. This area, surrounded by the four main streets is not built up; it is the market place. Lots are laid out in the other intervals between the streets. The lots tend to be equal in size measuring about 8 meters wide by 16 meters deep.

The market square, which, in fact is a trapezoid, has sides of equal dimension. Each side is divided in four lots. The sixteen houses built on these lots have the same disposition: the upper floors are built forward toward the square and supported by columns or arcades, covering the streets. Because all the houses surrounding the square repeat the same principle, with those *cornières* over the street, they form at the ground level a covered walk, one next to the other. The *cornières* are about 8 meters deep, as is the width of the street. Consequently the porches meet at each corner of the market square. The streets are separated from the square by arcades and columns. On the square stands a *halle*, simple construction supporting the roof. The *halle* is built along the south *cornières*.

Behind the north-east corner of the square stands the church. Its orientation is slightly different from that of the

Cornières at a square corner,
in Viollet le Duc (45)

④

⑤ Market square at Beaumont, in Testut (41)

Types of arcades at Beaumont market-square,

in Testut (41)

Lot disposition,

in Viollet-le-Duc (45)

streets.[7] The position of the church, partially passing the walls shows the importance of this building in the defense system. A small open area, at the main door of the building, is due to a recess of the church from the street.

A wall about 8 meters high, and 1 meter thick, runs along the limit of the agglomeration, interrupted by towers and gates. The ensemble is surrounded by a ditch.

FOUNDATION OF BEAUMONT

The King of England, Edward I, initiated an act of pareage between the Abbot of Cadouin, the Prior of St. Avit and the Lord of Biron, (landlords) and himself to found a new bastide on the site of Beaumont. This contract defines the rights and revenues of the different parties.

Having settled the *act of pareage*, Lucas de Thanney, Officer of the King, founded officially the bastide of Beaumont in 1272. After having erected a *pal*, or post on the square, bearing the King's colors, the seneschal proclaimed the privileges of the bastide, the rights of market and fair.

7. This description, again, could not be generated to all bastides. The church, in most bastides, is following the streets' orientation. A different angle often indicates an existing building preceding the foundation of the bastide.

The lots were distributed to the new population, who had built the houses. The Officer allowed the use of stone quarries and wood from the forests in the neighborhood. The construction had to be rapid and any delay was penalized by a fine.

In 1277, the charters of coutumes are confirmed to Beaumont, defining the rights of the inhabitants.[8]

8. The individual freedom
   The freedom of marriage
   The civil freedom

   The right to devise and inherit
   The right to buy and sell a property

   Definition of the bastide institutions
   Laws of justice
   The taxes.

Two types of magistrates were in charge of the administration of Beaumont: the *consuls* who were elected each year by the inhabitants, and the *bayle* or *bailli* who was appointed by the King. Everybody from the bastides was eligible, and all had the right to vote.

The role of the consul was the management of the bastide affairs, the maintenance of the walls, roads and fountains, and limited responsibilities as judges of *basse justice*.

The consuls invited the population to meetings, called *jurades*, where the political life of the bastice was discussed. The *jurades* existed at Beaumont until the revolution. They were held in the small open area near the church.

The *bayle* relatively educated, was the acting judge of the bastide. He was assisted by a jury composed of notables, often the consuls themselves. One or two *sergents* were the

police constables of the bastide, under the authority of the *bayle*. The first *bayle* at Beaumont was Lucas de Tanney, the founder of the bastide, and he was also *bayle* at Lalinde, another English plantation.

INSTITUTIONS AND INTENTIONS

The first bastide, Cordes, was founded by the Count of Toulouse, Raymond VI in 1222 during the crusade against the Abligenses. Cordes was an outpost against the advance of the crusaders. Settled on a steep hill and surrounded by three rings of walls, the bastide has kept its military character. After his defeat and the treaty of Paris in 1229, the Count of Toulouse founded other bastides like Lauzerte and Montesquieu-Volvestre in the region of Albi. This time, his purpose was not to defend his territory against an army, but to constitute new domains on his land ravaged by the war. Purchasing and exchanging, the Count tried to establish homogeneous estates in this deserted region. When he succeeded, he always created a center of population, a bastide, with privileges and liberties. This policy increased his revenues from taxes raised on the new population. It created better conditions for the cultivation of the land, which also increased his profits. At the same time,

the new inhabitants of those bastides were granted land, liberties and security guaranteed by a powerful authority.

His successor Alphonse de Poitiers, brother of the King Louis XI, Count of Toulouse from 1249 to 1271, used and improved this method of bastide foundation. A memoir dated 1272, counts 38 bastides founded by Alphonse. This document also reports that the value of his domains in Gascony trebled during his lifetime.

In addition to an economical purpose, the intention of Alphonse de Poitiers in founding so many bastides was to Frenchify those provinces, until that time independent of the King. The foundation of settlements under his juridiction, and the granting of liberties to the rural population, created a new situation, giving him and the royal authority a better control of the land. Control was also the goal during the English-French rivalry in the Agenais. Since 1154 England had owned a large territory between the Loire and the Garonne Rivers. From their capital Bordeaux, the English tried to extend their possessions further East, in the province of Agenais. To block this advance, Alphonse de Pointiers created on the disputed border the bastides Castillonès, Villeréal, Villefranche de Belvès, Eymet. The English replied with the plantations of Lalinde, Beaumont and Montpazier. This ongoing rivalry produced a concentration of bastides along the English-French border.

After the death of Alphonse in 1271, the King of France inherited his domains. Appointees and seneschals continued the foundation movement in Languedoc, Gascony, Agenais and Rouergue. The conflict with the English under the reign of Edward I intensified and consequently more bastides were founded in Agenais. Foundations were also imitated by the independent lords of the Comminges, Foix and Béarn provinces. Their goal was to resist the pressure of the plantation policy, by using the same weapon.

The two main purposes for the boundation of the bastide were: Control of the land, and creation of new sources of revenues. The founders themselves were powerful lords, whose credibility was necessary to guarantee the liberties and security granted to the new inhabitants.

In 1254 Alphonse forbade his commissioners and seneschals to build more bastides after protests and petitions from local barons and knights of his provinces. The foundations were a success among the rural population, but raised opposition from the religious establishments, the local nobility, and the existing towns.

The Church's role during the urban development in this part of France, as well as in most of Europe, had been a prominent one during the 11th and 12th century. Implanted in the unproductive

parts of Languedoc and Gascony, the Cistercians and Prémontrés cleared forests and dried up marshes. This activity of clearing procured important estates for the religious orders. Settlements called *granges* or *sauvetés* were built in deserted and unsafe areas, to protect the serfs of the abbey. Unlike the bastides, no liberties were granted to the *sauvetés*, which were small rural hamlets without order or preconceived plan.

The bastide foundations, on the other hand, were a negative element for the Church. The serfs were leaving the abbeys' domains, attracted by the liberties of the bastides. The dynamic development of those new rural cores, dependent exclusively on the King, were an intrusion. The period of clearing and expanding was passed, the religious establishments were anxious to preserve their estates. During his consecration, the Bishop or the Abbot took an oath not to diminish the revenues of Church properties. This conservative attitude of the Church was expressed in excommunications of entire bastides, as Villefranche de Rouergue, and/or frequent appeals to the Pope or the royal courts. Yet many abbeys were, as important landowners, involved in *pareages* with the King, but they seldom initiated plantations.[9]

Neighboring cities and towns were also opposed to the foundation of a bastide, creating a rival market. Polemics and hostilities between bastides and towns are well recorded by the surviving legal documents, illustrating some of the consequences

60

of the bastides creations.

Innumerable are the complaints of the nobility against the founders, asking for a withdrawal or modification of the bastides statues and privileges, during the years following their foundation. The principal grief was the loss of the serfs, as workers and as taxpayers. Restrictions to the foundations were often intended by the authories. In 1289 the King promised not to accept the serfs living in the neighboring domains of the provinces of Béarn and Agenais, as inhabitants. Charters often forbade the co-founders own serfs from becoming inhabitants of the bastide.

Association was in fact the only way to cope with the bastide foundations for the local nobility. A prestigious *pareage* with the King, and above all substantial revenues were counter-balancing the dismemberment of feudal society. Like the Church, the local feudals were facing a new situation with the bastides' spread. The two possible attitudes, opposition or collaboration, could not change significantly the bastides expansion. However, they had determined in those institutions fundamental shifts illustrating the part the bastides had in social evolution.

THE INHABITANTS

The military-like organization of space and the homogeneity
of the bastide population have fascinated many historians since
Viollet-le-Duc[9]. This aspect of the bastides is indeed one of
the most outstanding, compared with the highly colored and diver-
sified population of the medieval town at this time.

The demographical increase of the XII and XIII century was
clearly an important factor for the urban development, un-
mistakably demonstrated by any essay on the bastides. But, little
is said of the inhabitants themselves. Where did they come from?
What were their occupations? Indeed very little is known about
them. The contemporary documents are focused on the founders,
the rights, the site, the taxes and the juridication. The popu-
lation of a bastide seems to have always been generated spon-
taneously. In fact, most of the plantations survived success-
fully on the first hand because they were accepted, desired and
sometimes even initiated, by the new population.

In 1264 the inhabitants of Pujol asked Alphonse de Poitiers
to settle a bastide on the bank of the Lot River, in the prox-
imity of the existing town. This land belonged to Alphonse.
The population promised in exchange to pay the rights on the
river toll, the rights of justice, of butchery, of baking, and

9. "It should be admitted that those ideas
   of population centers established under
   apparent statutes of absolute equality,
   that we assumed to be part of our era
   of 'cités ouvrières', are not new, the
   Middle Ages have even reached in this
   direction a practical point which we
   are still far distant from."

   VIOLLET-LE-DUC, E. Architecture
   Civile au Moyen Age. In: Annales
   Archéologiques; Paris, 1847

62

10. LAVEDAN, P. and J. HUGUENEY. Bastides de l'Agenais, Villeneuve-sur-Lot, Vianne. In: Congrès Archéologique, Société Francaise d'Archéologie, 1969.

11. CURIE-SEIMBRES, A. Essai sur les villes fondées dans le Sud-Ouest de la France au XIII° et XIV° siècles sous le nom générique de bastides. Toulouse, 1880.

12. LEBLANC, G. La "bastide" de Mirepoix. In: Congres Archeologique de France, 131° session, Pays de l'Aude; Paris, 1973.

13. SAINT BLANQUAT. O.de. Comment se sont créees les bastides du Sud-Ouest de la France? In: Annales du Midi, IV, 1949.

14. DICKINSON, R.E. The West European City. London, 1951.

to build the bastide. This bastide became Villeneuve sur Lot, one of the most successful of Alphonse's bastides.[10] Réalville's foundation was also proposed by the population to the King of France, and they offered to build the castle themselves, if necessary.[11] After the destruction of their town by inundation, the inhabitants of Mirepoix asked their Lord, Guy de Levis, to rebuild it and to grant it the privileges of a bastide.[12]

Those requests, and the petitions of the barons against the migration of their serfs gives an idea of their origin. St. Blanquat[13] observed that the population never moved more than 20 miles around the foundation. The population was mostly rural, coming from hamlets without urban structure. Some authors have advanced the hypothesis that the typical bastide inhabitant was a younger son in an artisan family, coming from the existing town to settle his practice independently from his older brothers.[14] The information existing seems to contradict this assumption. The part of the artisan and the part of the farmer in the inhabitant activity are difficult to estimate. The market, the genuine center of the bastide, was perhaps offering more produce than craftgoods, as Beresford suggests, for a population rarely exceeding 2000. A field outside the walls was given to the occupant of the lot. Consequently, his occupations were at least partly agricultural. The inhabitant of today's bastides does not seem to have changed the way of life of his ancestors. The vineyard, the pasture outside the agglomeration

and the poultry yard next to the house give a complement to the family income, most of which comes from an "industrial" job in or outside of town.

The population was homogeneous because the other members of the society were not invited to settle in the bastides. Their presence was so unwanted that the fundamental right of tenure, the right to sell or give or exchange the land, was restricted in the charters; it was forbidden to pass the land into the hands of the Church, of the religious orders and of the chivalry. This restriction is motivated by interest reasons more than policy, as Curie-Seimbres and Testut have shown. The religious orders and the nobility were exempted of the *cens*, as any other tax. However, this restriction applied even to a co-founder, having land in the bastide after a confiscation, who had to part with it within a year. In fact, the lot size, the activity, the character of the liberties, and above all the purpose of the foundation, all excluded the nobility and the clergy from this medieval *cité ouvrière*.

IN SEARCH OF AN AUTHOR

Who designed the bastides? Among the surviving documents, there is a troubling lack of information about a possible

64

preconception, or any planning process for the bastide, and about their authors. Most of the historians did not risk any hypothesis on the matter. The others form two opposing groups; two opinions:

o The bastide design is the work of technicians, of engineers, *hommes de l'art* and city planners of their time. (Higounet, Viollet-le-Duc)

o The bastide was laid out by officers, notables or administrators, without preconceived plan. (Lavedan, Beresford)

In the first case the authors are specialists. This implies that there is a knowledge of some sort involved in the bastides creation, but also a basic difference between the notable or the officer, and the author of the planning. The seneschal is the political factor who decides to settle the bastide on a given site, for a given purpose, but who has no part in the form-making process of the plantation. This is the work of the *designer*, the specialist who has mastered a technique and learned a knowledge. What is important here is the assumption subjacent that a specific knowledge is necessary to found a bastide, to make it work.

In the second case there is no such distribution of responsibilities, or such distinction between the designer and the other executants. The bastide is laid out by the person who is in charge of its foundation. A seneschal, a local notary could do it.

65

Examining the few documents giving some insight on the foundation process, we can outline three types of hypothetical authors. The technician, the notable, the seneschal.

The technician. In a document dated 1287 related to the construction of the bastide of Baa, near Bordeaux, maître Gérard de Turri, is qualified *"ad ordinandum bastidum"*.[15] In 1296 *"ordonner et arayer une novele vile"* was the charge of men during the construction of Libourne.[16] A terminology exists; *ordonner* and *arayer* but what is planning and what is surveying in the meaning of those terms? Gérard de Turri could have been a simple land surveyor, taking measurements and square angles with his instruments: a triangle, a pole and a quadrant. The two documents describe so little of the work of those men, that the authorship of the bastides' planning remains questionnable.

The notable. In 1255 Maître Pons Maynard, notary in Agen, is requested by Guillaume de Bagnols, Alphonse de Pointiers' seneschal, to found the bastide of Montréal, *"ad tulliandum carrerias, platea et casaleria et loco dormorum dividenda et adjudicanda"* and to give the coutumes to the town, as he did for other bastides.[17]

In 1259 Maître Pons Maynard is again requested, with Gauthier, bailli of Monflanquin, to implant the bastide of Castillonès. From Bordeaux Edward I wrote to England requesting

15. LAVEDAN, P. and J. HUGUENEY. l'Urbanisme au Moyen Age. Bibliothèque de la Société Francaise d'Archéologie. Paris, 1974.

16. ROYER, J. Libourne, étude d'évolution de ville. Libourne, 1929.

17. VERNEILH, F. de. Architecture Civile au Moyen Age. In: Annales Archeologiques; Paris, 1847.

the authorities to send him four persons competent to lay out

new towns: *"The most able and clever, and those who know best*

how to divide, order and arrange a new town in the manner that

18. BERESFORD, M. <u>New Towns of the Mid-</u> <u>dle Ages</u>. London, 1967. *will be most beneficial to us and to the merchants."*[18]

Similarly in England, the King chose for the layout of

Winchelsea a commission composed of the Bishop, the Governor of

the five harbours, and the Mayor of Bordeaux and London. Sir

Henry le Walleys, Mayor of Bordeaux and London was in charge of

the plantation of new towns in England *and* Gascony.[19] Memoir

for the foundation of the bastide of Beauchalot: *"In consequence,*

19. BERESFORD, M. <u>New Towns of the Mid-</u> <u>dle Ages</u>. London, 1967. *the royal officers, assisted judges of Toulouse, Rivière, Rieux*

and Bigorre, in judging the pareage settled, went on the site

of the projected town and they settled the so-called bastide in

the place called Val Chaillon."[20]

20. CURIE-SEIMBRES, A. <u>Essai sur les</u> <u>villes fondées dans le Sud-Ouest de</u> <u>la France au XIII° et XIV° siècles</u> <u>sans le nom générique de bastides</u>. Toulouse, 1880. Here again the distinction between planning and laying out
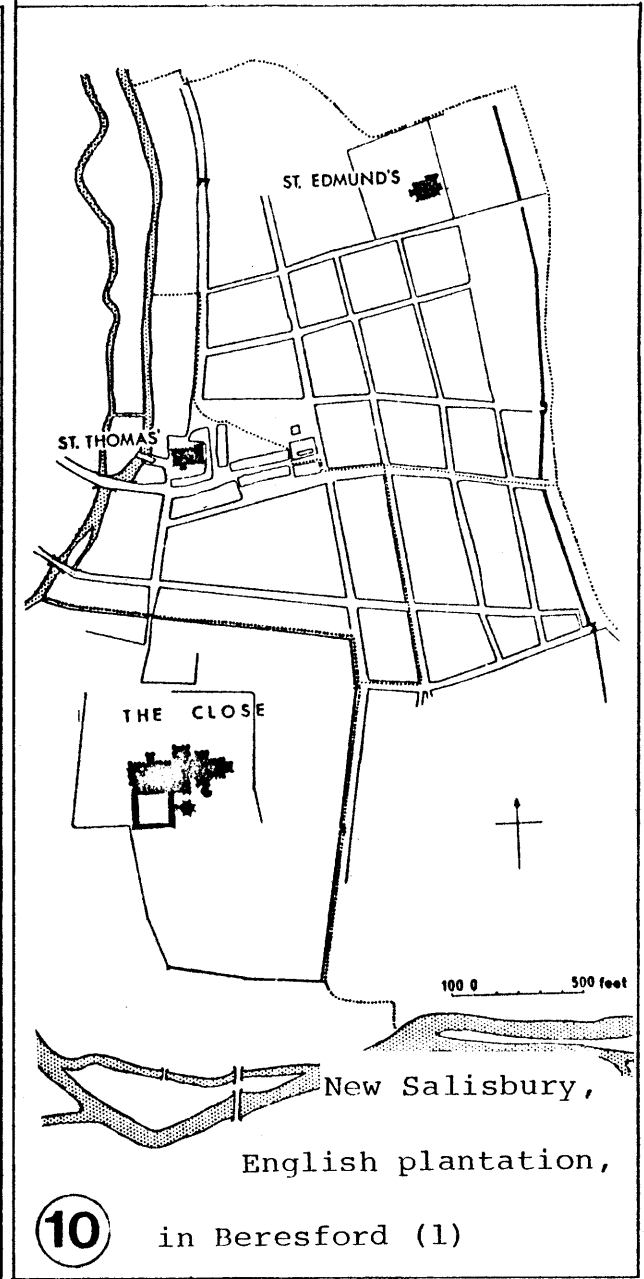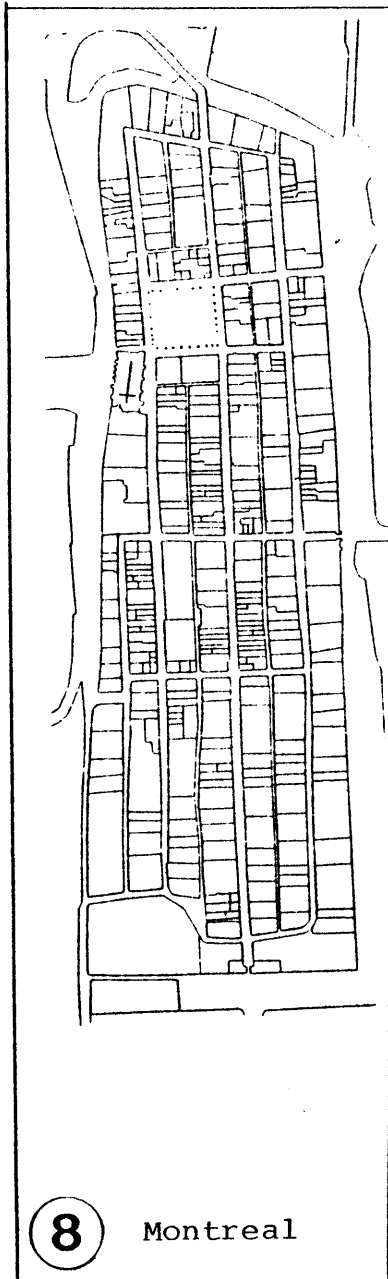
is unclear. However, there is no reference to a plan, to a

preconception. What was the work of Pons Maynard? His role

could have been limited to an attribution of the lots and the

settling of the legan disputes. Similarly, a lawyer was neces-

sary in the new plantations of the American West to authenticate

the property lines and the survey work.

Edward's letter gives a clear enumeration of the qualities

needed to lay out a town. Assuming that those qualities were

possessed by the competent commissioners, they did not have much effect on the morphology of their plantations. Sir le Walleys took part, with other commissioners in new town foundations, both in England and Gascony. Yet the "design" of the English plantation is so different--in clarity and in form--from the plan of the Gascony bastides that the role of those commissioners could hardly be interpreted as having an effect on the shape of the towns. The group of judges and officers at Beauchalot were not concerned with any sort of plan or preconception. For those judges, for the writer of the act, *to settle* has a legal meaning.

The ensemble of those documents, after all, was written for legan matters. A designer, if he existed, would not have been mentioned.

The hypothesis of a foundation without preconception, by a local notary like Pons Maynard is also difficult to support. As we know, dimensions of the lots, and of the streets, were given in the charters of foundation. A preconception of some sort was then necessary. The bastide itself is a complex system where the lots are equally distributed and oriented. The street grid itself is obviously not the result of a spontaneous layout. But how could a magistrate conceive such a plan?

8. Montreal

9. Castillonnès, in Lavedan (21)

10. New Salisbury, English plantation, in Beresford (1)

The third actor having a role in the foundations is the seneschal. Beresford describes the foundation of Toulouzette in 1321: *"William of Toulouse, after whom the town was named, was the King's seneschal in the Landes, and he performed the ceremonies; he dug a hole, erected the pal and made it firm; he declared that any who wished to live in the town should come and build their houses and receive the same liberties as the bastide of Geaune en Tursan, then three years old; he confirmed the articles of the privileges in the name of God, the Holy Virin and all the saints; he handed over the patent letters that bore the seals of the King-Duke and his seneschal. The formalities were complete."*[21]

21. BERESFORD, M. New Towns of the Middle Ages. London, 1967.

Jean de Grilly, seneschal of Edward, Eustache de Beaumarchais, seneschal of King Philippe, or Guillaume de Bagnols, seneschal of Alphonse de Poiters, are not anonymous executants. Their role, as shown in Toulouzette, was to represent the Count. They gave their name to some of their foundations, the name of cities they visited to others, with a casualness indicating their direct involvement, or the little concern they had in this matter, or both.

One seneschal, Eustache de Beaumarchais, stands out among the others for the number of foundations in which he was involved. Born in Rodez, Auvergne, Eustache was an appointee of Alphonse de Poitiers in the Province of Poitou and became seneschal of

Toulouse for the King of France in 1272, until his death in 1294. Like Guillaume de Nogaret, Enguerrand de Mariguy, Eustache de Beaumarchais was a *parvenu* officer of bourgeois origins. More than a founder of bastides, he was a soldier. In 1272 he conducted the royal troops against the Counts of Foix and Armagnac. In 1276, he took part in the expedition of Navarre, which lasted two years. As Lavedan demonstrated, we may find a relationship and a similar system of planning in some of Eustache's foundations. But this is an exceptional characteristic.

When the bastides are grouped by founder, they present a diversity of form and system which can only reinforce the assumption that, in a bastide, the form-making process was not the characteristic of one author, be he a technician, a notary or an officer. Each of these actors seems to have had a part in the act of foundation, but the *designer*, as the Renaissance generated him, did not exist yet.

A bastide was never judged as a *form*. The idea of a plan would have been an anachronism here. If design specialists existed, they would have been recongized as such, they might have given their name to the bastide, they would have been part of the foundation process.

The technical achievement of some of the bastides' plans, as they appear today, makes it difficult for us to realize that

the bastide was, for the medieval man, nothing more than a tool.

A new town, like a monument, has an aura; it is considered as a major work, involving knowledge, skills and ideals. The bastide is definitively not related, neither by its form nor by its history to those works. Its practical purpose, its almost anonymous foundation process, gives to the bastide a unique position in the history of city-planning. Was the bastide organic or planned?

Analyzing in the next chapter the "bastide pattern" itself, I assume that an empirical system developed locally, and based on simple geometric abstractions, could give to the bastides their characteristic form.

I come to land--survey this Air of yours,
With the straight rod I measure out, that so
The circle may be squared; and in the centre
A market-place, and the streets leading to it
Straight to the very centre, just as from
A star, though circular, straight rays flash out
In all directions.

ARISTOPHANES: *The Birds*.

Form-Making Process

of the Bastides

This chapter tests the hypothesis that the form-making process of the bastide:

- did not involve graphic design

- was empirically developed

- was based on elementary geometry.

After a characterization of the bastide morphology, 150 plans of bastides are confronted to specific parameters. Time, technique, context, founder, and site are evaluated as factors in the form-making process. A speculative reconstruction of this making-process at the end of the chapter, is an attempt to validate the hypothesis.

A BASTIDE PATTERN

1. REPS, J.W. The making of Urban
    America, a history of city planning
    in the United States. Princeton,
    1965.

2. HIORNS, F.R. Town Building in His-
    tory, an outline review of condi-
    tions, influences, ideas and methods
    affecting "planned" towns through
    five thousand years. London, 1956.

3. MORRIS, A.E.J. History of Urban
    Form; Prehistory to the Renaissance.
    London, 1972.

Reps,[1] Hiorns,[2] Morris[3] and many others have recognized in the bastide form a specific feature, asserted and accepted by all. Yet, few have tried to characterize its morphology, to define it--apart from the ever present plan of Montpazier. In fact, each bastide has its own form and a generalization about the bastide morphology is difficult to formulate.

More than a form, the bastide is a system, an organization of elements. The principal elements are: the lots, the blocks, the streets, the market place, the church, and sometimes the walls.

The lot is a rectangle in a proportion of 1 x 2 or 1 x 3, oriented with its smaller side towards the street. The house occupies most of the lot, and always is in the part adjacent to the street. The lots are equal in size. The lot is a genuine module for the bastide plan, giving to the block its proportion.

The block is composed of a specific number of lots, delimited by four streets. Generally rectangular, sometimes square, block is filled with the lots. A small "back alley" can divide the block, running at the rear of the lots.

The street is straight, and meets other streets at a right angle. Streets may vary in size, depending on their traffic, or their orientation. The streets often follow the site condition, along the hilltop, or parallel to a river. The street system is very rarely oriented on the cardinal points.

The market square has been considered[4] the generating element of the bastide, because of its position in the plan, and, its dimensions are consistent with the blocks, the lots and the street dimensions. The square itself is a non-built space of a block area, bordered, like a block by four streets along its sides. Those streets run under arcades called *cornières* or *auvents* which creat a barrier protecting the square from the traffic. However, these arcades are also found in organic villages of this region and cannot be considered as specific characteristics of the bastides. The lots surrounding the market square are sometimes larger. The square tends to be square, but is often rectangular or trapezoidal. The square area varies with the bastide dimension, although some bastides, such as Cologne have a square occupying 1/9 of the total surface, and others, like Villeneuve sur Lot, only 1/57.

The church is rarely on the square, sometimes it is at the outskirts of the bastide or one block away from the market. The church, with the cemetery, often occupies a block. It is the largest building of the settlement, built of stone, while

4. LAVEDAN, P. and J. HUGUENEY. Bastides de l'Agenais, Villeneuve-sur-Lot, Vianne. In: Congrès Archéologie, Société Prancaise d'Archéologie, 1969.
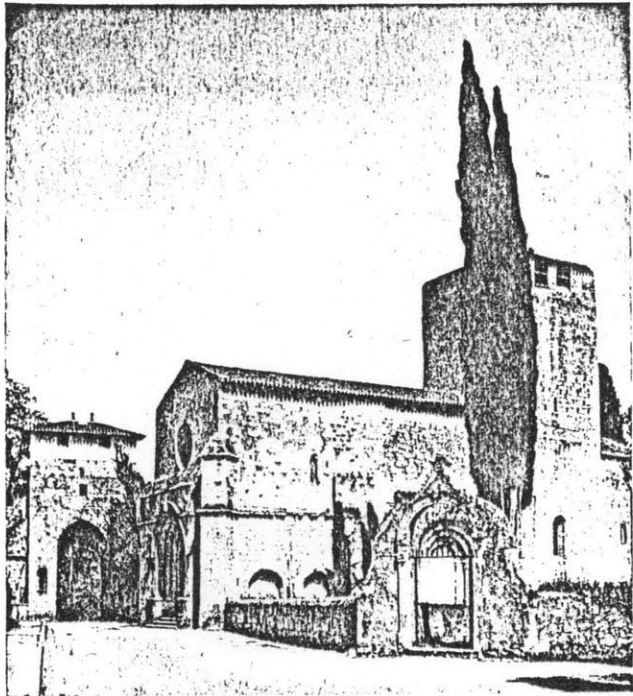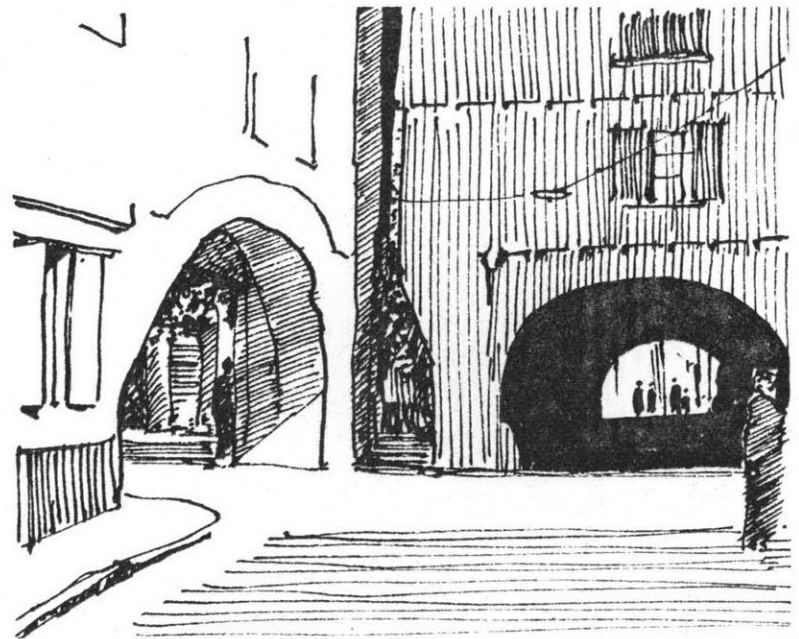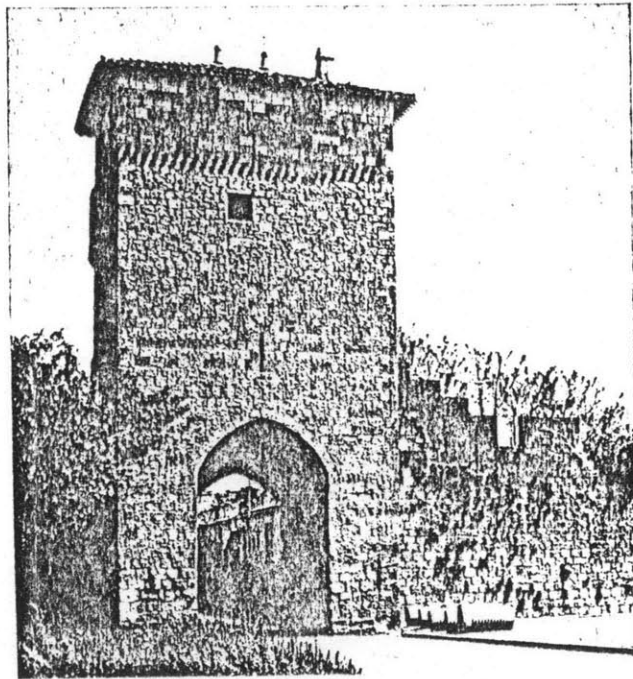
RAYNAUD, P. The use and role of maps in city form. Unpublished, 1979.

Sauveterre d'Aveyron, Market square

76

1 Church and gate of Vianne,

in Lavedan (20)

2 Cornières at Ste. Foy la Grande.

77

most of the houses are built of wood, plaster and brick. The orientation of the church follows that of the streets. The church is edified some years after the construction of the bastides.

The walls and gates, like the church, were built after the foundation. The construction of the walls is under the responsibility of the inhabitants, the co-founder is in charge of the gates. However, many bastides did not have any sort of fortification.

Compared with an "organic" town equivalent in size, the bastide would have the following characteristics:

1. Straight streets;

2. Streets along the four sides of the square;

3. Equal lots;

4. The lot dimension is a module for the block;

5. An orthogonality of the street system;

6. Symmetry around the square, the square is the pole of attraction;

7. Arcades around the square;

8. Continuous streets, from one end to the other of the agglomeration.

Many of these definitions do not apply in all the cases, but they represent a tendency, an ultimate stage, toward which the intentions of the bastide founders, whoever they were, was oriented.

A PRECONCEPTION

5. CURIE-SEIMBRES, A. Essai sur les villes fondées dans le Sud-Ouest de la France au XIII° et XIV° siècles sous le nom générique de bastides. Toulouse, 1880.

The essay of Curie-Seimbres[5] which was the first attempt to consider the bastide penonmenon globally and to risk a definition stated that: *"The bastides were all founded a novo, at one effort, at a fixed data, on a preconceived plan, generally uniform, and this during the period from 1250 to 1350."* Curie-Seimbres' data consisted of the charters and the legal surviving documents. In employing the word *plan*, did he mean the graphic expression, or any sort of pre-abstraction? There is little doubt about the existence of a *pre-conception* at the reading of the charters of foundation, which contain information as:

- In Montauban, each house lot will be 6 *astadios* wide and 12 long.

- At Albias lots of 8 *brassées* long by 4 wide.

- Monségur and St. Osbert: 24 x 72 feet.

- Bruges en Béarn: 16 *arases* wide, 62 long.

- Beaumont de Lomagne: 1000 house lots are laid out, 1000 *arpents* for gardens, 1000 *arpents* for vineyards.

- Grenade/Garonne: 3000 house lots and only 2000 places for gardens.

The streets and the square are sometimes described also in the charters:

- Monségur streets should be 24 feet wide.

- In Ribousse and Lignairolles, the main streets have 4 *brassées*, the secondary streets only 3 *brassées*.

- Albias should have three public squares, each one having an area of one *cestayrée*.

These statements concerning dimensions and quantities were done during the foundation period and were anticipations of the bastide plan. But how was this pre-conception worked out? Was it graphic, a written, a three-dimensional document? Was this pre-conception developed empirically or not?

FORM VS. TIME

As we said, different bastide forms were developed during the period of foundation. Looking at the morphology of the bastide, we might be able to determine whether the planning process was empirical or depended on a knowledge, or an ideal.

If there is any "idealistic" intention in the form-making process, if the bastide form was not the result of an empirical attitude, there should be a consistency of form over time. The types of plans of the bastides, founded from 1222 to 1370 would have evolved, developed. It would then be possible to define influences of plans, and, as for many Renaissance and post-Renaissance new towns, categories or styles could be isolated in a specific period to time. If variations of the plan exist, are they related to chronological differences?
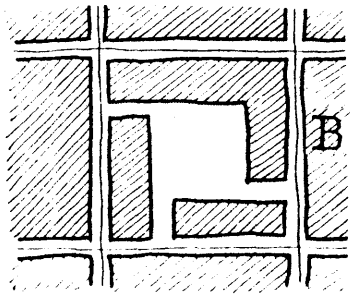
Among the 150 plans known, the variations of the "system" are classified in eight categories, or types.
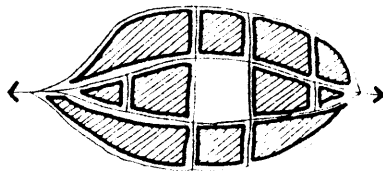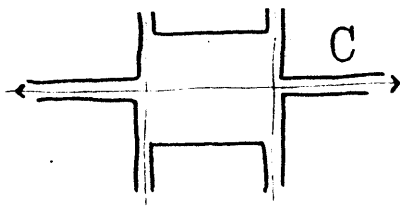

A

Type A: The spindle.

A hilltop bastide. The longitudinal streets are connected at the two gates, and spread from those ends. The square is located in the wide part.
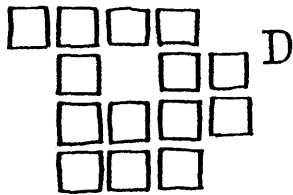
Type B:

The square is isolated from the main streets by a block on each side. The church is often on the square. The form of the plan varies.
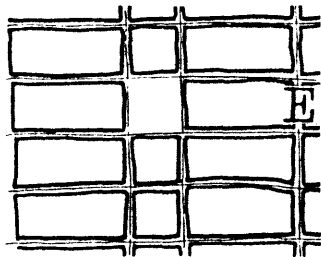
Type C: The axis.

This type is not typically a "bastide pattern" because of the street running across the square. The layout shows generally a loose geometry.

Type D: The square grid.

The grid is non-oriented, composed of square blocks, without hierarchy in the street. The square is here a genuine empty block, having no "generating" role.

Type E: The grid.

The blocks are rows of rectangles laid out in a strict orthogonal system. This bastide is settled on a plain. The plan has an orientation, unlike Type D. Growth is possible.
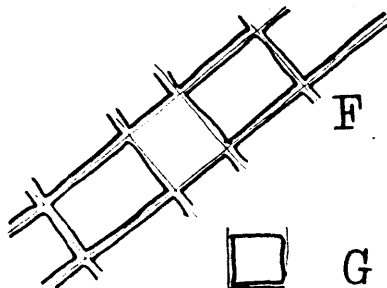
Type F: The ladder.

Typical of hilltop settlements, this linear plan has 2 or 4 longitudinal streets and transversals at regular intervals.
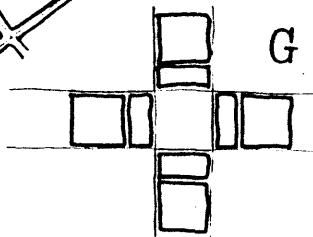
Type G: The cross.

The square is here the focus. The symmetry around it seems intended, 2 streets for each direction are clearly determined, and connect at the square.

82

	Before 1235	35-44	45-54	55-64	65-74	75-84	85-94	95-1304	'05-14	15-24	25-34	35-44	45-54	After 1354
Type A														
Type B														
Type C														
Type D														
Type E														
Type F														
Type G														
Type H														
All plans *														
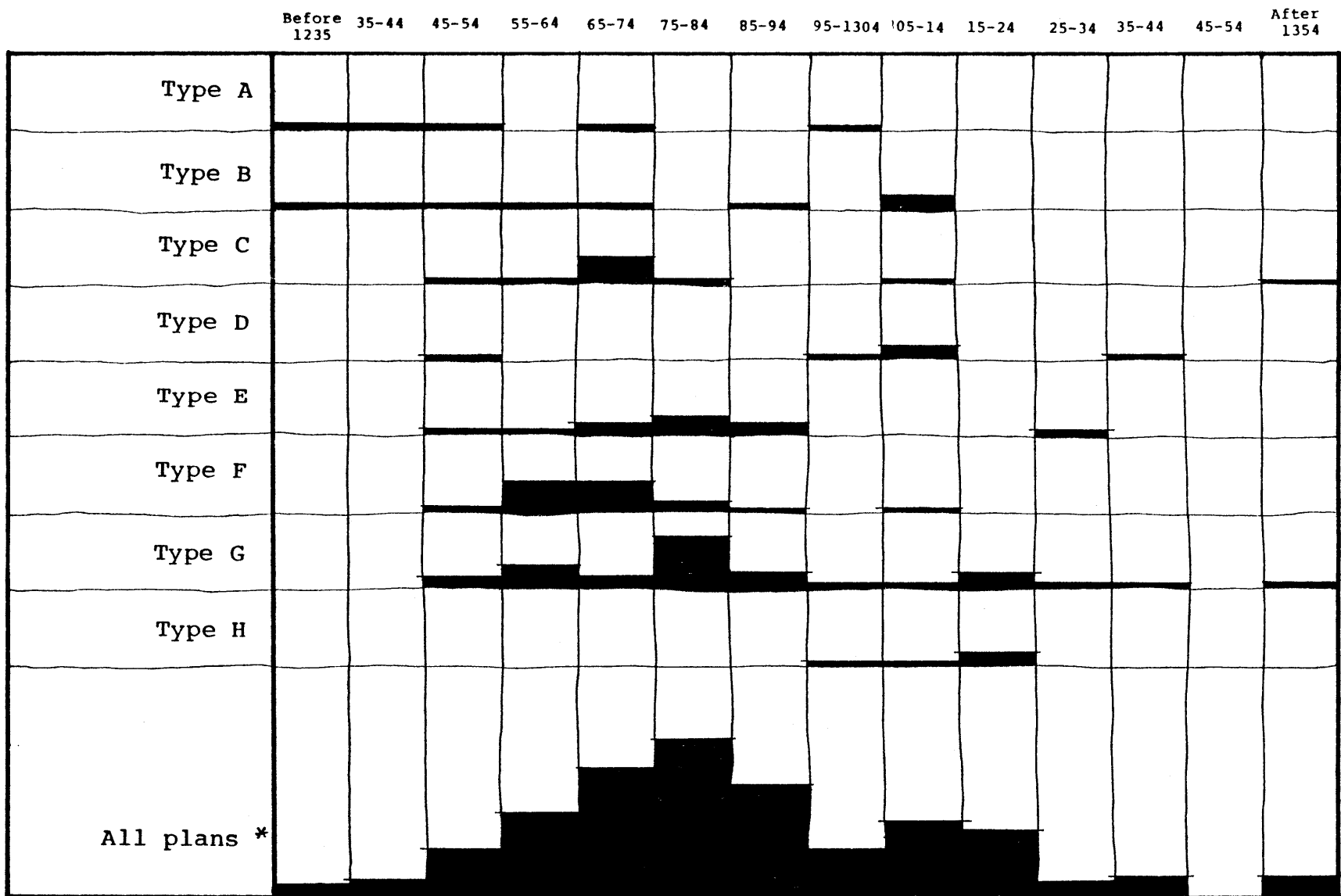
(3) FORM VS TIME   * Including the bastides' plans not represented by a type.

83
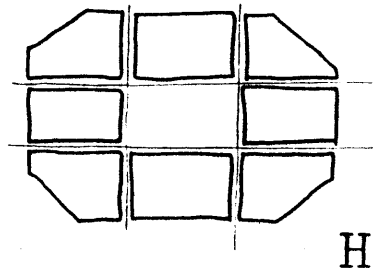
Type H: The octagon.

Composed of 9 equal rectangular blocks, the square is a rectangle. The outline of the wall cut the angles, giving an octagonal shape.

The chart presenting the bastide types over time shows no evidence of an actual consistency between form and time.

1. Some types are created throughout the entire period considered: G from 1245 to after 1354, C from 1222 to 1305 - 14.

2. Other types emerge from time to time, isolated from any logical development. Types E, A and D appeared again after a period of withdrawing for 30 years or more.

3. The categories are more varied at the beginning and the end of the foundation period. 7 types founded between 1245 and 1354, 6 types between 1305 and 1314 but only 4 types during the culmination of the foundations, 1275 - 1284.

   In an environment subject to influences of style, one would expect an evolution but 5 of the 6 types of the 1305 - 1314 period are found in the 7 types of 1245 - 1254.

4. The types H and D foundation times are very limited, but the small number of bastides concerned does not

allow a generalization.

5.   The Type G, which is indeed one of the most sophis-
     ticated in its form, is also the only category showing
     a real consistency over time, that is, a significant
     increase and decrease, and a continuity. However, the
     very long span of time, 120 years in a total period of
     140 years, only demonstrates the stability of the form
     types against any hypothetic influence or fashion.

In conclusion, those basic observations tend to reinforce
assumption that the bastide planning was developed empirically.

FORM VS. FOUNDER

This is a comparative analysis of three groups of isolated
bastides, according the following criterions:

1.   Having the same "founder".

2.   Founded in the same region.

3.   Founded in a limited period of time.

4.   A plan layout clear enough to interpret intentions.

The goal is to question the existence of a consistency between a group of bastides and a specific plan form. Are the bastides comparable within one founder group?

The groups are: 11 bastides founded by Alphonse de Poitiers in Agenais from 1255 to 1270. 10 bastides founded by Edward of England in Agenais from 1265 to 1286. 9 bastides founded by Eustache de Beaumarchais in Gascony from 1280 to 1290.

Alphonse's group

1255: *Montréal de Gers* and *Ste. Foix la Grande*

Almost everything differs in the plans of these bastides. Ste. Foix is a grid, Montréal is laid out along an axis. The Ste. Foix type is unique at this time and it stands as a new demonstration of the lack of consistency of the bastide form over time. The only comparable grids are found in Eymet, 1270 or Grenade, 1290. The non-centered square, in both cases, could indicate a growth, from the original plantation. In Montréal the generating element is the street, axis of symmetry. In Ste. Foix, it is the block and its dimensions.

1256: *Monflanquin* and *Damazan*

Resemblances of the structure, the dimensions, the scale. The principal difference between these two bastides is the looseness of Monflanquin's layout, compared to the almost perfect orthogonality of Damazan. Monflanquin is settled on the top of a hill, the square at the highest point, Damazan's site

Sainte Foy la Grande, 1255

Damazan, 1256   Monflanquin, 1256

Castillonnès, 1259

Montréal du Gers, 1255
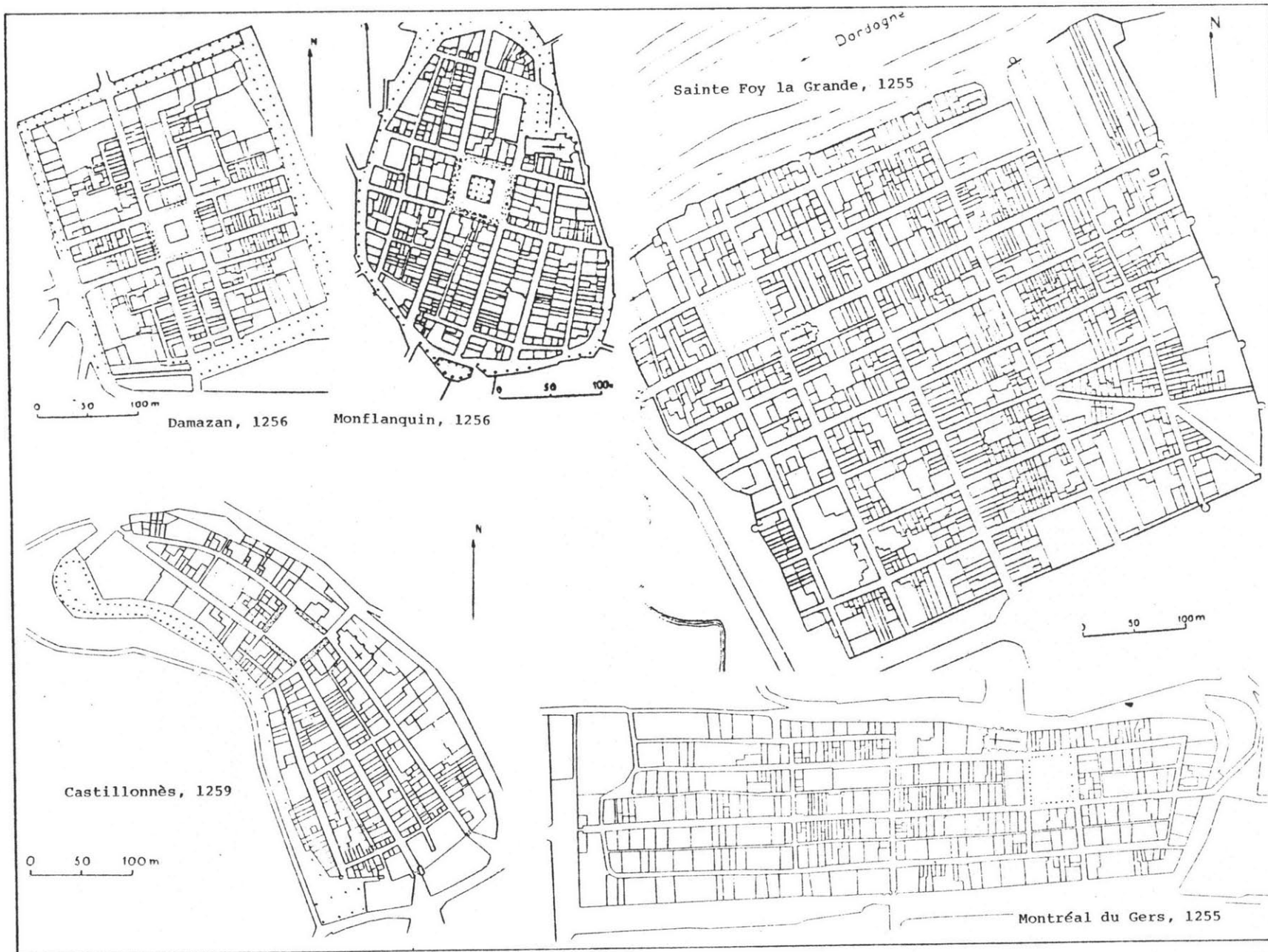
4 Alphonse's bastides, in Lavedan (21)

is flat. Did the site alter the works of the surveyors?

1259: *Castillonès*

Like Montréal du Gers, Castillonès' foundation was pro-
claimed by the seneschal Guillaume de Bagnols, who hired the
notary Pons Maynard, in both cases. The intentions might have
been similar, but the site conditions have curved the main axis
of Castillonès' plan. The blocks are one lot deep only,
separated by back alleys. All the lots, except around the
square, are oriented perpendicularly to the main axis. All the
bastides of the group, except Ste. Foix and Damazan, follow this
rule.

1260: *Villefranche de Belvès*

Again, a linear plan. Guillaume de Bagnols is also in-
volved in the foundation. The square is crossed by the main
street, following the one-lot-deep-block system, along an axis.

1264: *Villeneuve sur Lot*

The original bastide is on the right bank of the Lot River.
Four different types of layout are grouped around the square.
The bridge is built later. The bastide has considerably extended
its limits since its foundation.

1265: *Villeréal*

The cross type structure is comparable to Damazan and Mon-
flanquin. An earlier agglomeration remains at the south-west
corner of the square. The blocks around the square could be the

Castelsagrat, 1270

Laparade, 1267

Villeréal, 1265

Villeneuve sur Lot, 1264

Eymet, 1270

Villegranche de Belvès, 1260
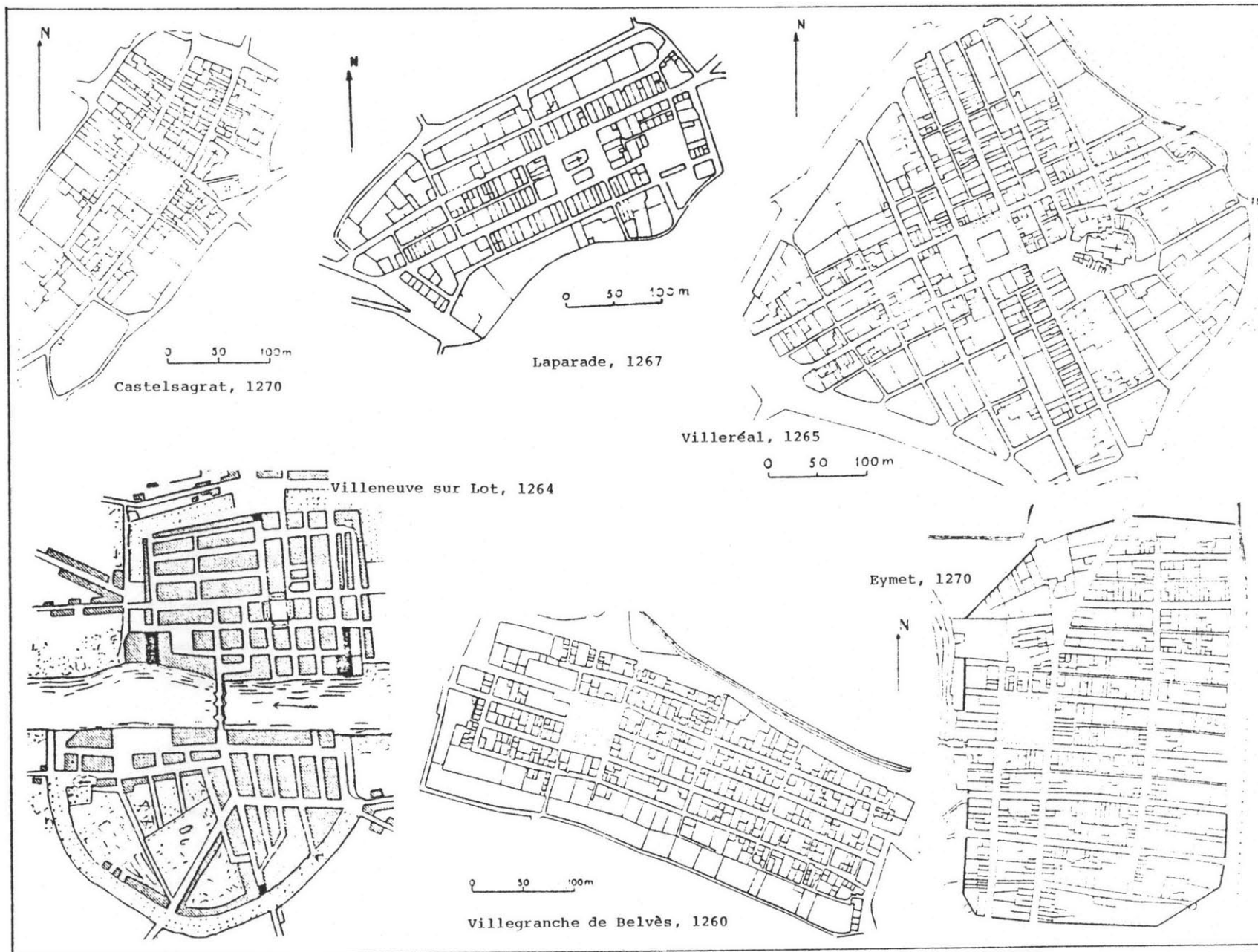
(5) Alphonse's bastides, in Lavedan (21)

module for the entire layout. Like most of the cross type plans, Villeréal shows a weakness in the angles of the cross, where the blocks are inoccupied, and less defined. Is the looseness of those parts caused by an absence of layout, or by an abandonment of the inhabitants?

1267: *Laparade*

Located, like Montreal and Damazan at 18 miles from Agen. The plan belongs also to the ladder type. The church in the square is exceptional in the bastides.

1270: *Castelsagrat* and *Eymet*

No trace of back alleys in Castelsagrat's plan, which might have been, originally, a cross-type. Eymet's pattern is very similar to Ste. Foix, with a looser layout. The church, one block from the square, is more characteristic of a Eustache's creation.

Edward's group

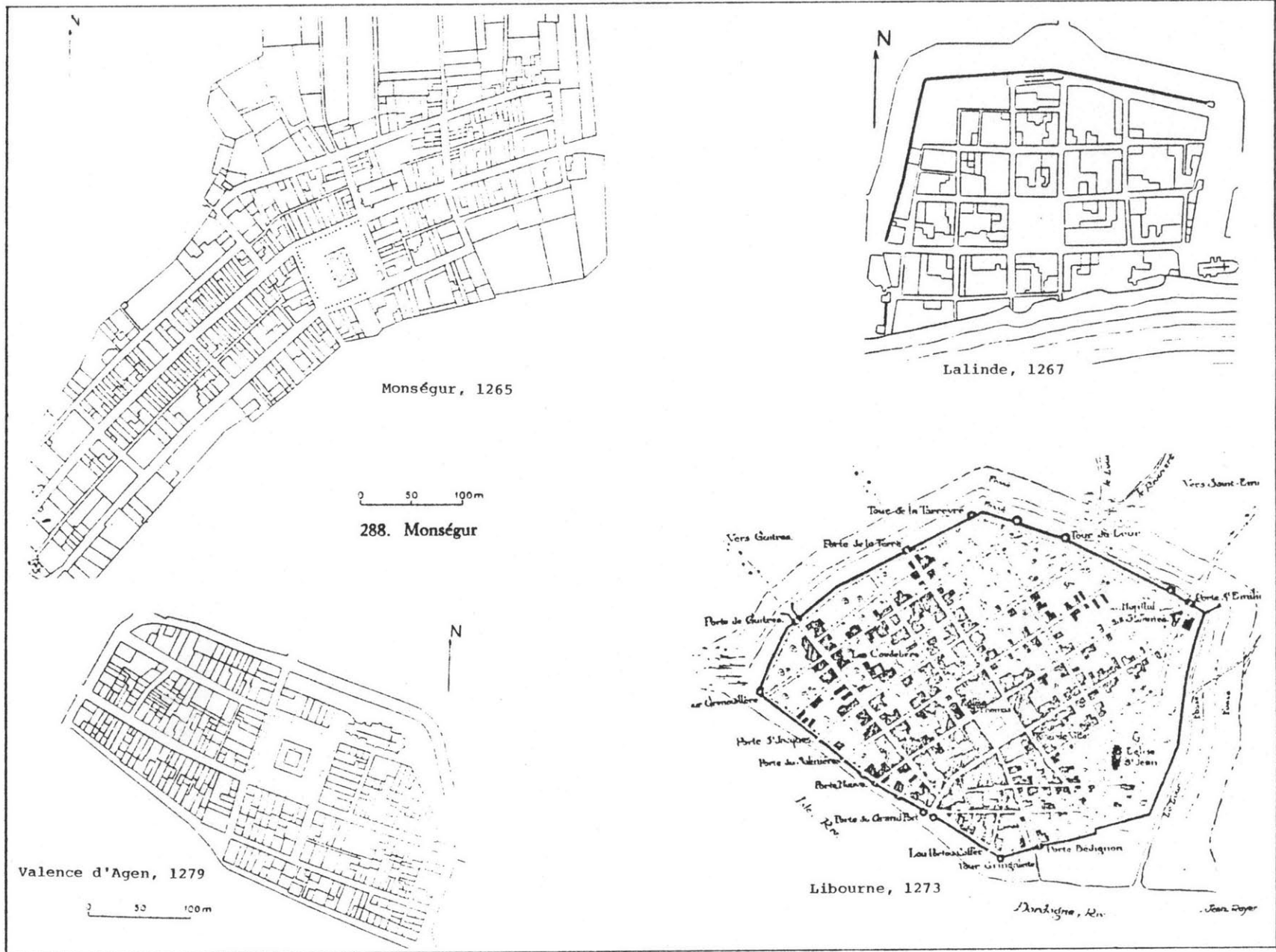1265: *Monségur*

Typical ladder type, Monségur is comparable to Montréal du Gers or Castillonès, Alphonsine bastides. No distinctions in the plans could substantiate the group difference.

1267: *Lalinde*

Church at the periphery. Loose grid of blocks.

Monségur, 1265

Lalinde, 1267

50   100m

288. Monségur

Valence d'Agen, 1279

50   100m

Libourne, 1273

⑥ Edward's bastides, in Lavedan (21

1273: *Libourne*

A grid, like Eymet, Ste. Foix, Grenade sur Garonne. All those bastides are settled along a river, in a flat valley.

1278: *Miremont de Guyenne*

The first genuine cross pattern in this group. Founded by the seneschal Jean de Grilly. In this plan the angles are filled continuously. The walls have a square shape and are more strictly laid out than the streets.

1279: *Valence d'Agen*

Another creation of Jean de Grilly and his lieutenant Guillaume de Valence.

1281: *Sauveterre de Guyenne*

Again a cross type. The regularity of the layout contrasts with most of the bastides founded during this period. The gates were built in 1283, the walls in 1288.

1284: *Montpazier*

This bastide, famous for the perfection of its layout, is a grid. However, its square is rectangular and its dimensions introduce an irregularity to the layout. The east and west sides of the square have six lots, the north and south only a little more than five. The two blocks at the south-west and north-west corners of the square are oriented transversally,

92

Miramont de Guyenne, 1278

Montpazier, 1284

Vianne, 1284

Molières, 1286

Sauveterre de
Guyenne, 1281
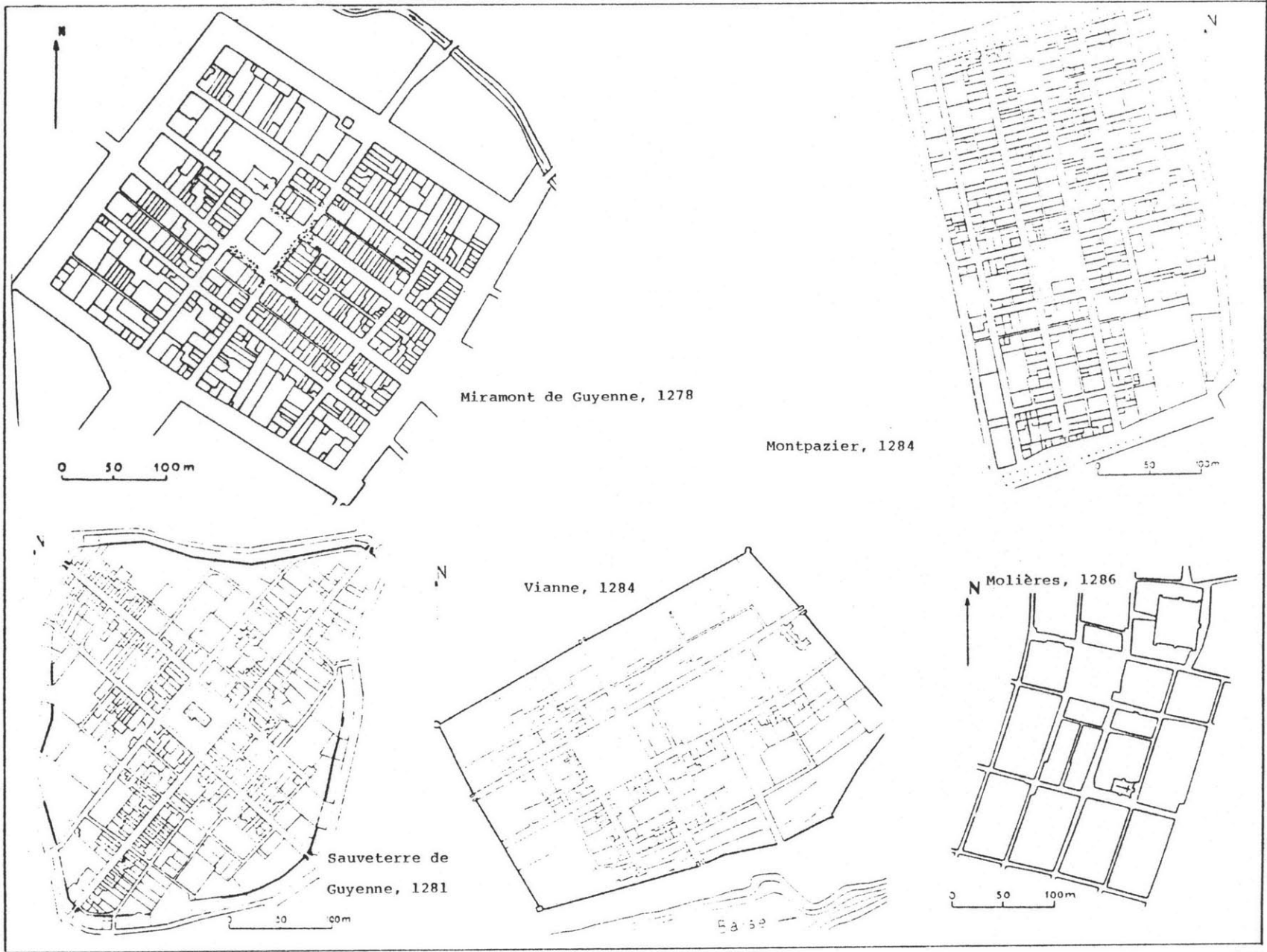
(7) Edward's bastides, in Lavedan (21)

indicating the importance of the transversal streets over the longitudinals. This peculiarity appears also in the Sauveterre de Guyenne plan.

1284: *Vianne*

The plan of Vianne is related to Montpazier's. Here again the blocks have a tendency to be displayed along the main traffic currents. The church, existing at the time of the bastide foundation has been integrated into the system of blocks, but at the outskirts of the agglomeration. The seneschal was, here again, Jean de Grilly.

1286: *Molieres*

This plan is related also with Montpazier pattern, but the layout is more uncertain. A castle disorganizes the original north quarter. Jean de Grilly was also in charge of this foundation.

Eustache's group

1280: *St. Lys* and *Revel*

The two plans are very different. St. Lys is one of the few bastides whose square is crossed by the main street. This street might have existed in the previous settlement, the square being a transition between the old and the new quarters. The blocks are equal. Revel's layout appears to be more sophisticated. With only two types of rectangular blocks and a square

market place, the plan of Revel is unique. The square is large, compared to the bastide's total area. The church is at the periphery, two blocks from the square.

1281: *Mirande* and *Pavie*

Founded the same day, the bastides have a comparable morphology. Same square blocks, same lot dimensions, and the church, one block from the square. Pavie's development was limited by its proximity to the city of Auch. Both plantations were founded in *pareage* with the Abbey of Berdoues.

1284: *Cologne* and *Solomiac*

Assumed by Lavedan to be a creation of Eustache, Solomiac's plan shows many similarities with the Cologne plan. The church is typically, one block from the square. The plan of these bastides suggests that the nine blocks surrounding the square were the original layout, in the foundation process. More blocks could be added later, if the bastide was successful, following the same grid pattern. Cologne and Solomiac have an octogonal outline, like Revel. Since the walls were built later, were the corner's angles cut then, to improve the defense?

1285: *Plaisance du Touch*

Without genuine square, and with a variety of block dimensions, the plan of this bastide is exceptional for a Eustache creation. In this case, and perhaps in many others, it is

Pavie, 1281

Cologne, 1284

Saint Lys, 1280

Solomiac, 1284

Revel, 1280

Mirande, 1280

8 Eustache's bastides, in Lavedan (21)

questionable to use XIX century surveys which do not show necessarily the original layout. The square area is surrounded by rows of lots, isolating it from circulation, is characteristic of a Type B.

1288: *Beaumarchès*

A new form, for Eustache's group. This plan has some relationship with the ladder type of some of Alphonsine's creations.

1290: *Grenade sur Garonne*

Contrasting with the two last bastides studied, the plan of Grenade sur Garonne is one of the most sophisticated in the bastides creation. The different dimensions of the rows have suggested the use of an "order" during the layout. The block width is constant: two lot lengths but the length of the block varies, and depends on the distance from the central row. The church is, again, one block from the square. This bastide is related by its plan form to Ste. Foix, founded 35 years earlier by Alphonse, and then innovating the grid type.

The grouping by founder and period have shown that some characteristics of the plans can be related to groups. The Montpazier pattern was repeated in different English creations. The church one block from the square is typical in Eustache's bastides, and Alponse's plans are often laid out with blocks

97

Plaisance du Touch, 1285

Beaumarchès, 1288

Grenade sur Garonne, 1290

9 Eustache's bastides, in Lavedan (21)

only one lot deep. Yet, each group does not have a typical
form of plan. Similarities between groups and differences
within a group contradict the assumption of an existence of a
typical form for each founder. The cross and the ladder types
are used by all the founders; Ste. Foix, founded by Alphonse,
is related by its form to Libourne, English, and to Grenade,
founded by Eustache. The resemblance of two bastides like Pavie
and Mirande, born the same day, clearly demonstrates that a
founder could determine a form. Eustache de Beaumarchais
created various plans because his goal was not a form but a
product, adapted to a side and a function. The similarity of
Pavie and Mirande, the differences between Revel and St. Lys are
due to a process, not to a research of style, or the imagination
of a designer. The site conditions are here obviously more
important than ideals and aesthetical tendencies. The goal was
the same for Edward, Alphonse and Eustache: *to settle a concen-*
tration of taxpayers in a manner easy to number, to defend and
to control. The analysis of a plan may be in fact inappropriate
to understand the authors intentions, since they did not use any
plan for the foundation. A better alternative would have been
to survey the plantations and to compare numbers.

Another way to better understand the form-making process
of the bastide is to study how the form emerged. What were the
first bastides? Again, if empirism prevailed on knowledge, the
build-up of the bastide pattern would be progressive. New

features and improvements would be added over time and the analysis of the first bastides plans would be able to illustrate a genesis of a form.

GENESIS OF A FORM

In an attempt to define the bastide pattern, eight characteristics have been pointed out at the beginning of the chapter. They will be the parameters under which the bastides are considered.

Historically, the first bastide was Cordes, founded in 1222. Montauban, founded in 1144 is not a bastide, but it has a form so close to the bastide pattern, that its role in the genesis of the form might have been important.

The first bastide having all the characteristics is Lisle d'Albi, founded in 1248 by the Count of Toulouse. Therefore, all the bastides founded between 1222 and 1248 are considered in the following chart.

Aigues-Mortes and Carcassone are represented separately as Louis IX creations.

Name and date of foundations
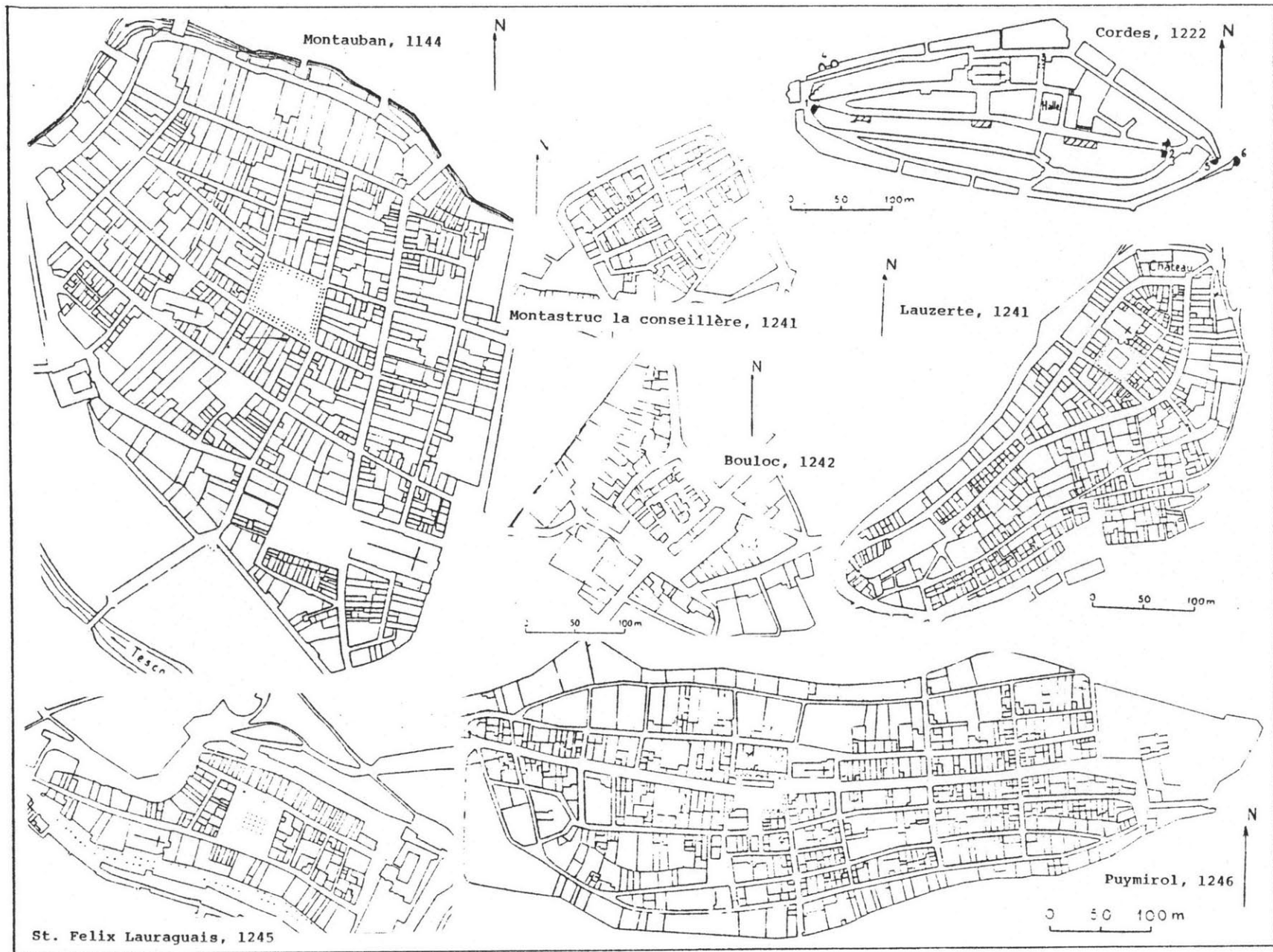
	Montauban, 1144	Cordes, 1222	Montastruc 1241	Lauzerte 1241	Bouloc, 1242	St. Felix Lauraguais, 1245	Puymirol, 1246	Aigues-Mortes, 1246	Carcassonne, 1247	Montesquieu-Volvestre, 1248	Lisle d'Albi, 1248
Streets straight	◪	◪	◪	◪	◪	◪	◪	☐	☐	☐	☐
Streets around the square	☐	☐		☐	◪	☐		◪	☐	☐	☐
Lots equal in width	☐	◪	☐	☐	☐	☐	☐	☐	☐	☐	☐
Lots equal in width and length	☐						◪	☐	☐	☐	☐
Block multiple of lot						◪	◪	◪		☐	☐
Orthogonality						◪	◪	☐	☐	☐	☐
Symmetry from the square							◪	◪			☐
Cornières around square	☐			☐			☐	◪			☐
Streets continuous	◪					◪	◪	☐	☐	◪	

101

The increase in the number of characteristics in the
bastides' plans over time is significant. It reinforces the
assumption that the bastide pattern has developed progressively.

The influence of the existing plantations is perceptible.
The features of a successful settlement could be copied and
adapted. Aigues-Mortes and Carcassonne, founded by the King of
France, introduce an important improvement. Because they are
settled on a plain, they develop very differently than the pre-
vious ones, all on hilltops. A level ground is easier to
survey, the layout is more precise. Streets can run straight
and continuously throughout the agglomeration.

The King's bastides, however, seem to differ from the
others on one important point. In the form-making process of
Aigues-Mortes and Carcassonne, the street grid is the generating
element, which determines the others. The blocks are then
filled with equal lots. This was certainly the case in Car-
cassonne, where the block dimensions are obviously inappropriate
to be divided in equal lots, creating a loose area in the center
of each block.

On the contrary, in Montesquieu-Volvestre, Lisle d'Albi,
and in Puymirol founded by the Count of Toulouse, the lot dimen-
sion seems the starting point of the planning process and the
streets depend on it.

Montauban, 1144

Cordes, 1222

0 50 100m

Montastruc la conseillère, 1241

Lauzerte, 1241

Château

Bouloc, 1242

0 50 100m

0 50 100m

Tesco

St. Felix Lauraguais, 1245

Puymirol, 1246

0 50 100m

11 Plans of the first bastides, in Lavedan (21)

Carcassonne, 1247

Montesquieu-Volvestre, 1248

1246
Aigues-Mortes,

Lisle d'Albi, 1248

12 Plans of the first bastides, in Lavedan (21)

A combination of the two systems is the origin of the "bastide pattern." The lot as a module would give to the bastide a coherence, where blocks, square and streets would be interdependent and therefore laid out in the same process. The orthogonality of the King's bastides brings a regularity at the block scale.

From Montastruc, 1241, to Lisle d'Albi, 1248, only seven years were necessary to develop the bastide form. In this period the development appears to be made by influences and experiences; no design was necessary as a conceptual tool in the genesis of the bastide form. After Lisle d'Albi's foundation, the variations were multiple, but no significant improvement emerges in the making-process of the bastides during the following one-hundred years.

RECONSTITUTION

Having assumed that the bastide was laid out following simple geometrical rules transmitted without the support of drawing, this chapter has developed the following points:

1. The bastide has a specific form.

2. The bastide physical organization is preconceived.

3. The process of form-making is not subject to style.

4. The site condition and the purpose are determinant factors of the morphology.

5. The development of the form-making process is empirical and was progressively developed.

Those statements reinforce the hypothesis but they do not give an answer to the problem: What was the form-making process?

This hypothesis is now tested by a speculative attempt to reconstitute the foundation process. The scenario is totally imaginary, but complies with the known facts.

fig. 1. Villelongue is a small hamlet settled near the baisse where the road of Lavardac passes the river. Church of the XII century.

fig. 2. In 1284, Edward I, in reply to the foundation of Lavardac, asks the seneschal Jean de Grilly to settle a bastide at this place. When the *act of paréage* is settled with the local lord, the seneschal orders the razing of the existing agglomeration, keeping only the church. Two ropes intersecting perpendicularly

106

①

②

③

First rope

line

a

b

e

Line

Second rope

a

b

c

e

107
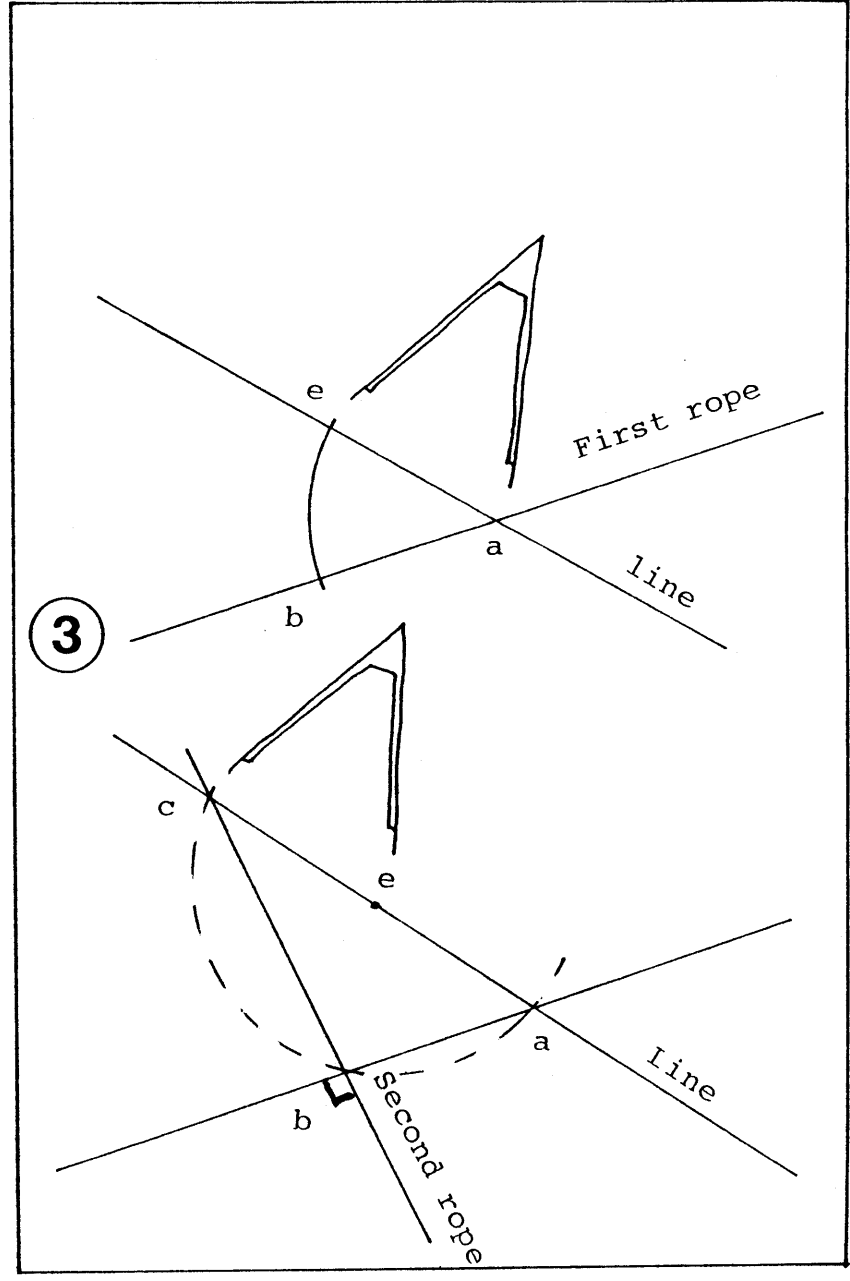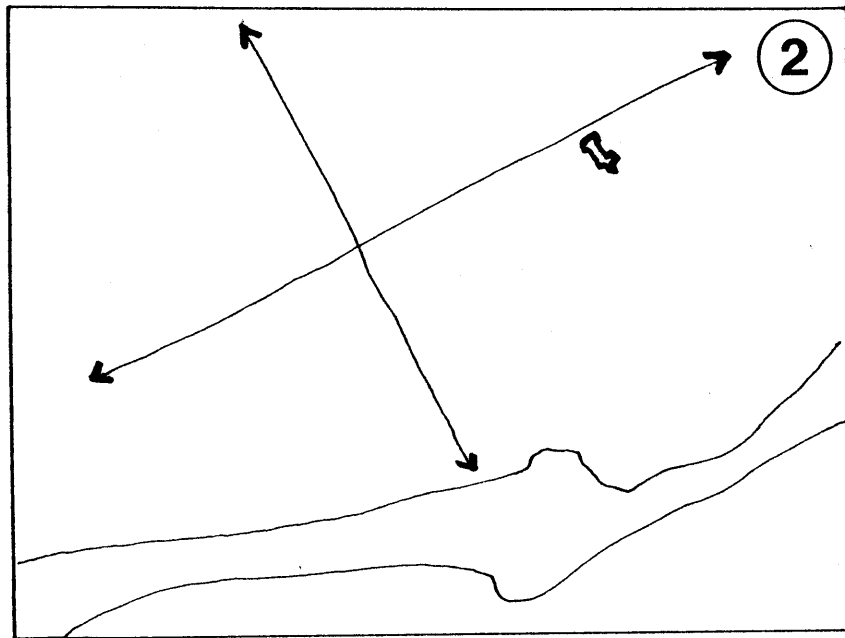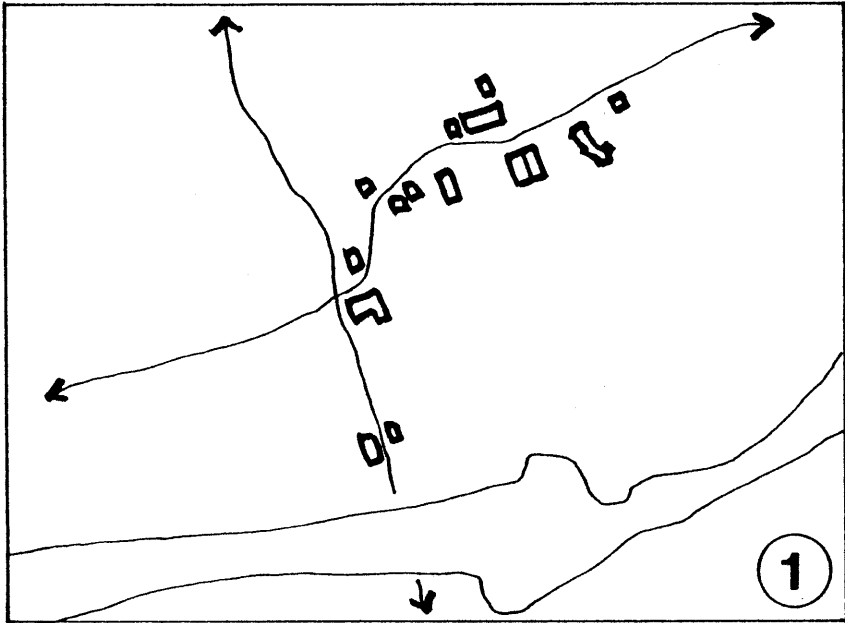
representing the two roads. One of the ropes passes
near the church.

6. SHELBY, L.R. Gothic Design Technics.
The Fifteenth-Century Design Book-
lets of Mathes Roriczer and Hanns
Schmuttermayer. Carbondale, Ill.,
1977.

fig. 3.   The way to make perpendicular to a given line, is
described by the cathedral builders of the same
period.[6]

fig. 4.   The ropes are divided in 2 *brassées* sections. Two
lines, at a distance of 2 *brassées* from the ropes, and
parallel to them, are laid out. Those lines will
become the limits between the street and the property
lines.

fig. 5.   The seneschal's intention is to layout 6 lots on each
side of the square. A lot is 4 x 12 *brassées*, a rec-
tangle containing 6 lots would be 24 x 12 *brassées*.

The surveyors, starting from the intersection of
the two ropes count 2 *brassées* for a half-street,
then 24 *brassées* for the 6 lots, then 2 *brassées* again,
along the two ropes. At the two points determined,
they trace the perpendicular lines, with the 2 *brassées*
distance on each side. The streets around the square
are now determined.

fig. 6.   Rectangle of 12 *brassées* deep is laid out on each side
of the square. The first lots of the bastide are settled.

④ ⑤ ⑥ ⑦
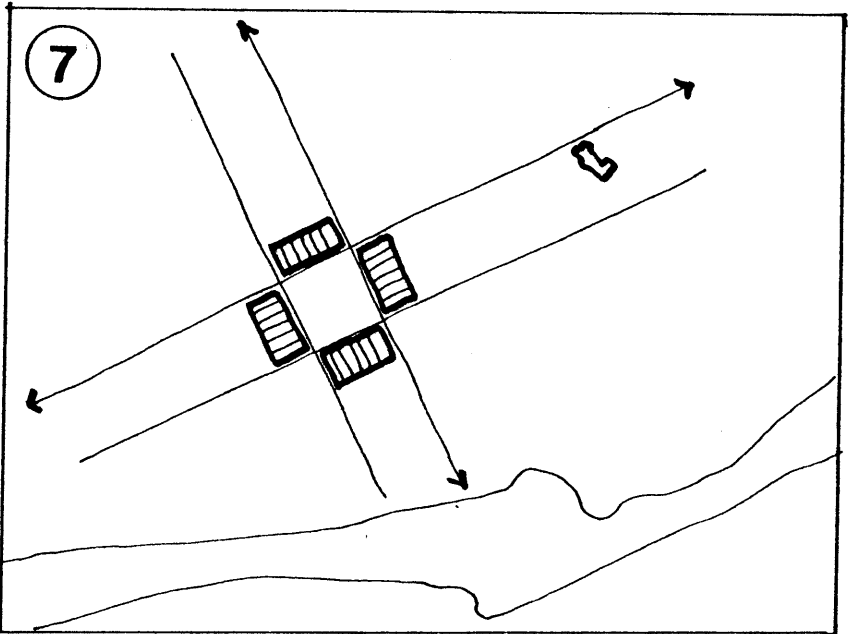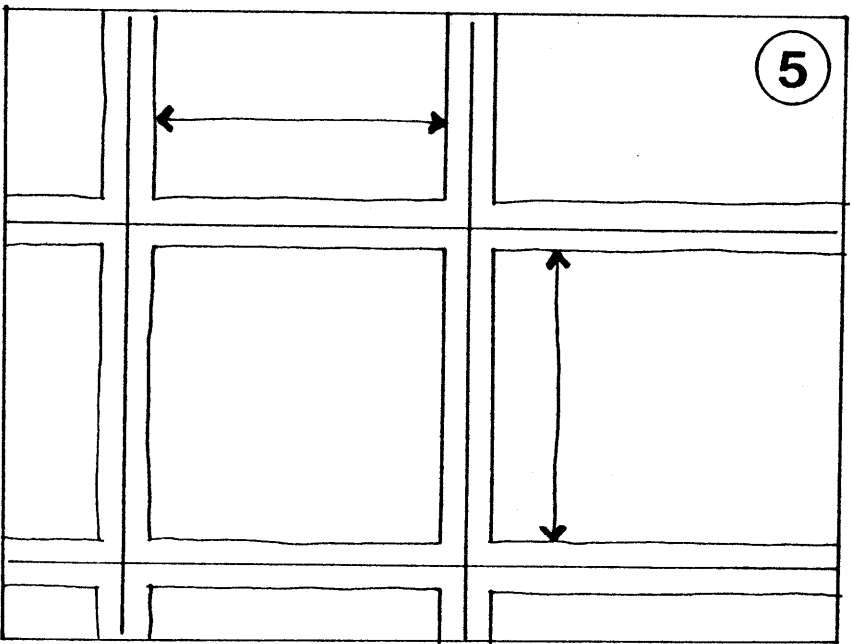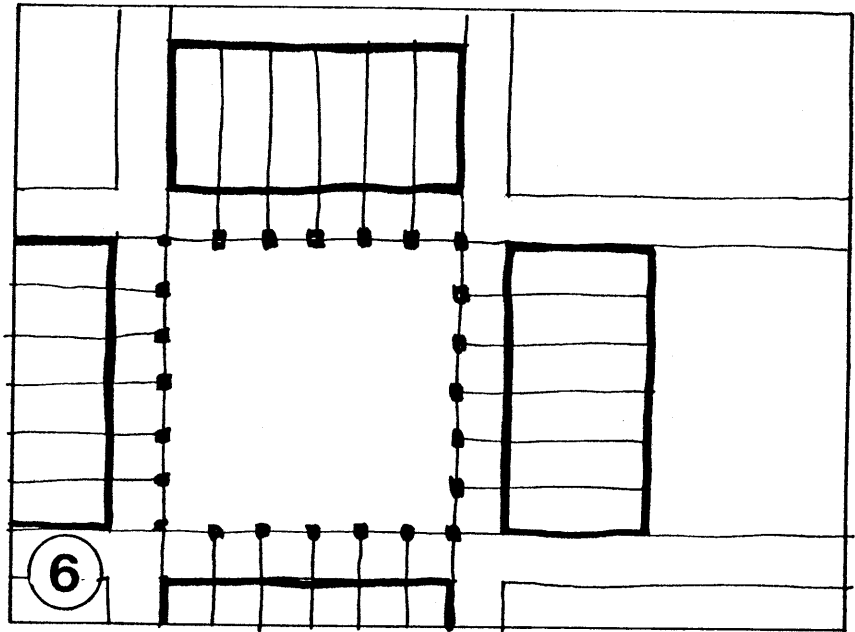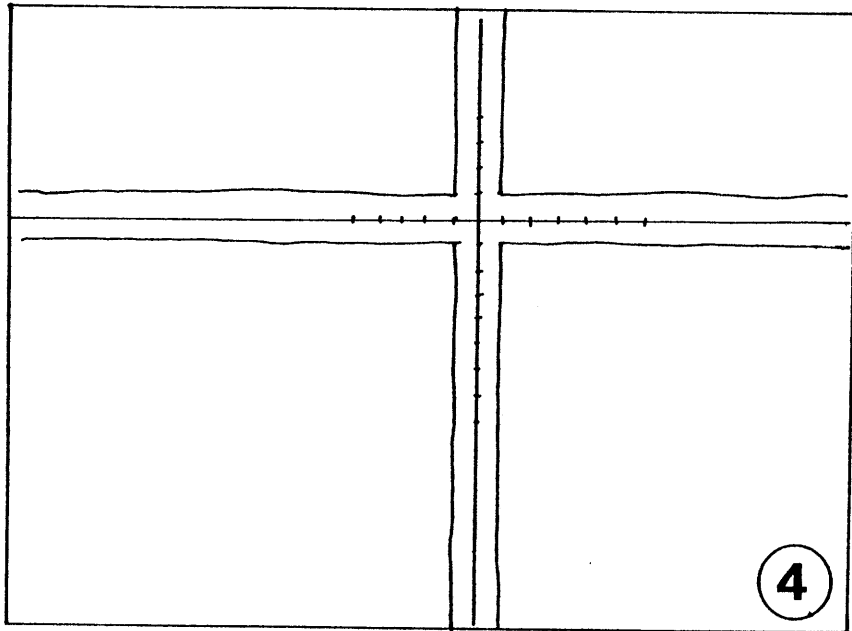
fig. 7. The dimensions of the streets, of the first block, decided during the first operations, will influence the dimensions of every element of the bastide.

fig. 8. Square blocks formed by two 12 x 24 modules, back-to-back are laid out. The equality of the lots, of the blocks, is useful for the surveyors to number the parcels.

fig. 9. The first lots occupied are along the main roads. The block's longer side is oriented towards the road which is the most important.

fig. 10. The surveyors have settled now a large area around the square and set some marks to limit the lots. The inhabitants settle in preference along the first two axes.

fig. 11. Walls are built some years after the foundation, following the directions of the outside streets, or being influenced by the site configuration, like the river bank. Gates are built on the roads having the most traffic.
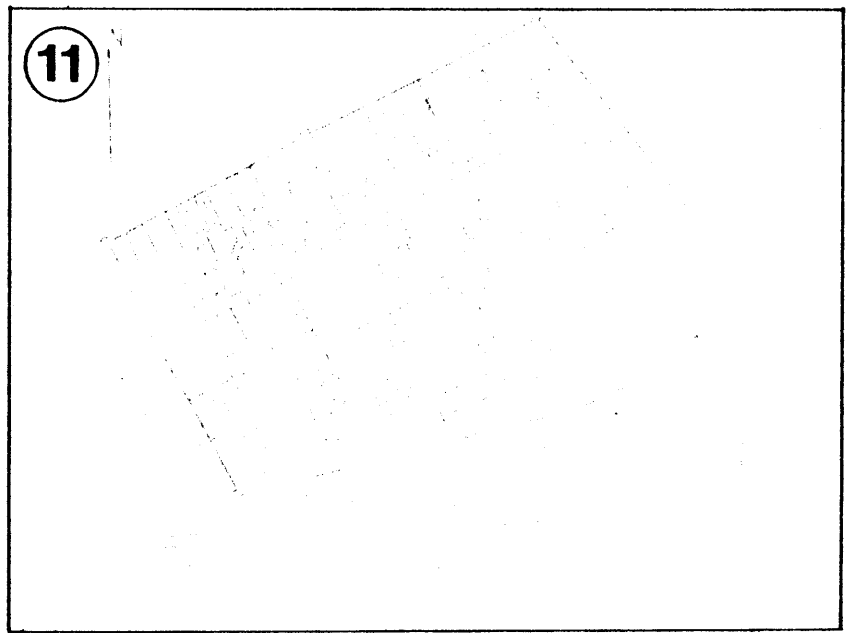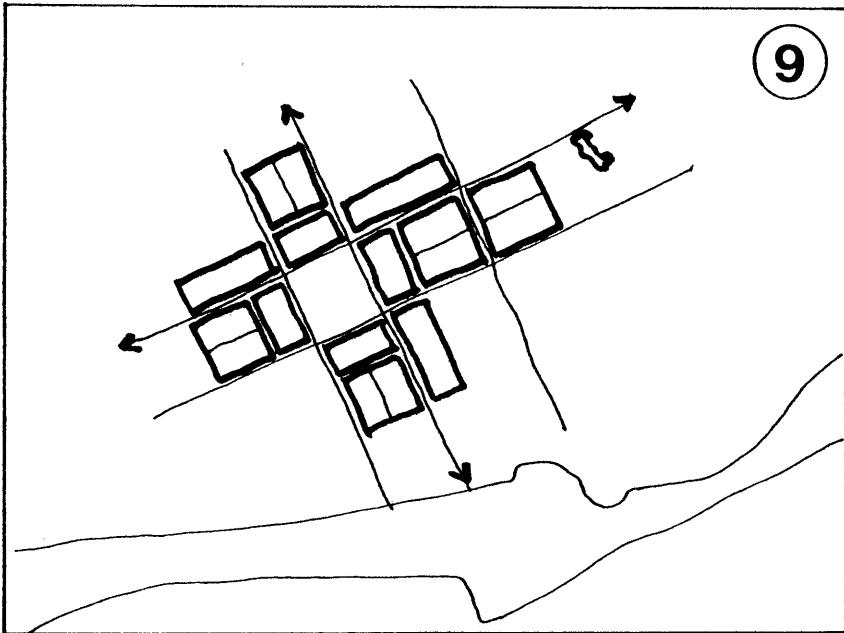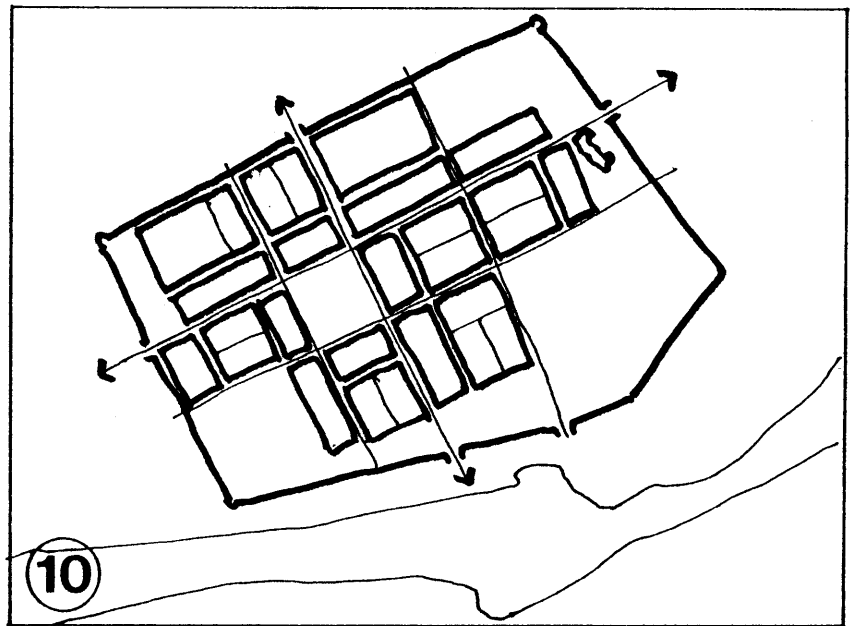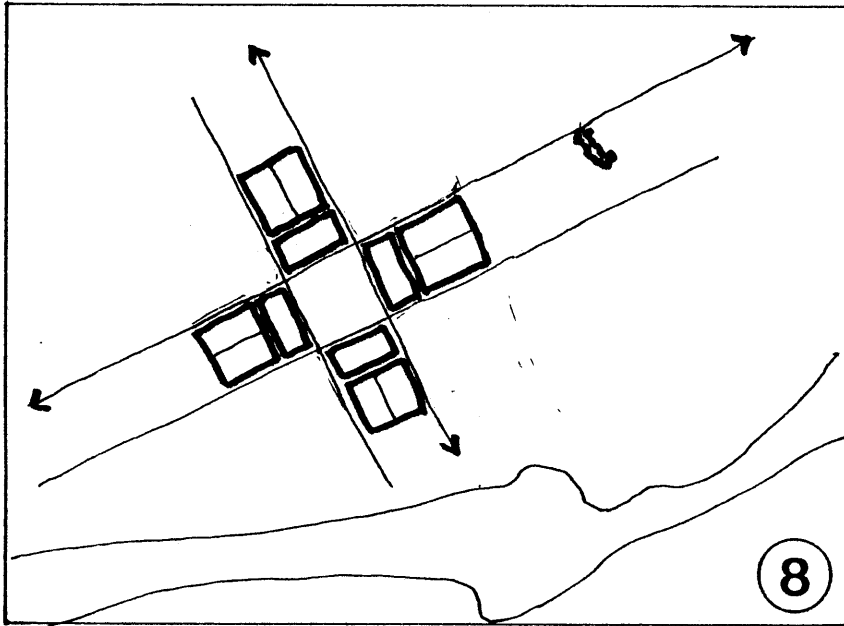
Are the bastides designed or organic?

Planned is the street system, the longitudinals crossing the transversals perpendicularly, at regular intervals. Planned is the square, inserted in the center with streets running along its four sides. Planned are the orientation and the dimension of the lots, the equal repartition, the homogeneity.

Yet, there are no new towns, in the history of urban form, as "vernacular" as the bastides. The absence of monuments, the non-hierarchical disposition of the plan, the adaptation to the site, to the growth, of the bastide pattern are exceptional characteristics among the planned new towns.

An analysis of the bastide city-form, of their context and their form-making process lead to the conclusion that the bastides are neither organic nor planned, but a transition, both in form and in process, between Troyes and Richelieu.

Conclusion

Three urban forms have been studied in the previous chapters, illustrating three types of form-making processes.

Among the differences of form, some were inherent to the use of design. Particularly, the definition of a contour during the preconception and the uniformization of the elements to comply with an "idea" are characteristics due to the use of design as a medium for the conception.

THE NATURE OF DESIGN

Design and the use of scale have introduced in the conception a classical method of switches of the project, from one scale to another, "from the site plan to the door knob." This technique was used in Richelieu, as it is in architecture and city planning today.

The planning process of a designed city like Richelieu would be characterized as follows: after a programming and an analysis of the site, a first sketch, on a small scale, takes into account the proximity of the castle, the park alleys, the local constraints, and the program. A *parti* emerges, a synthesis of solutions formulated graphically. The idea of an axis, a line, starts here. On a larger scale, the line becomes a street, two squares are symmetrically--in plan--attached. The contour, the limit between the town and the countryside, materializes the city for the designer. The next switch of scale shows the buildings, the church, and the market. These elements have to follow the *parti,* to emphasize it. The first sketch is kept as a reference. The tendency is to *adapt* the church, and the houses to this gross approach. The constraints being too obstrusive, the *parti* may have to be abandoned, or modified. Then the process begins again, from the smaller to the larger scale.

The built-up process in an organic city is totally different. The starting point is the house, the shelter. This element

(1)

QUARTIER DU GROS RAISIN
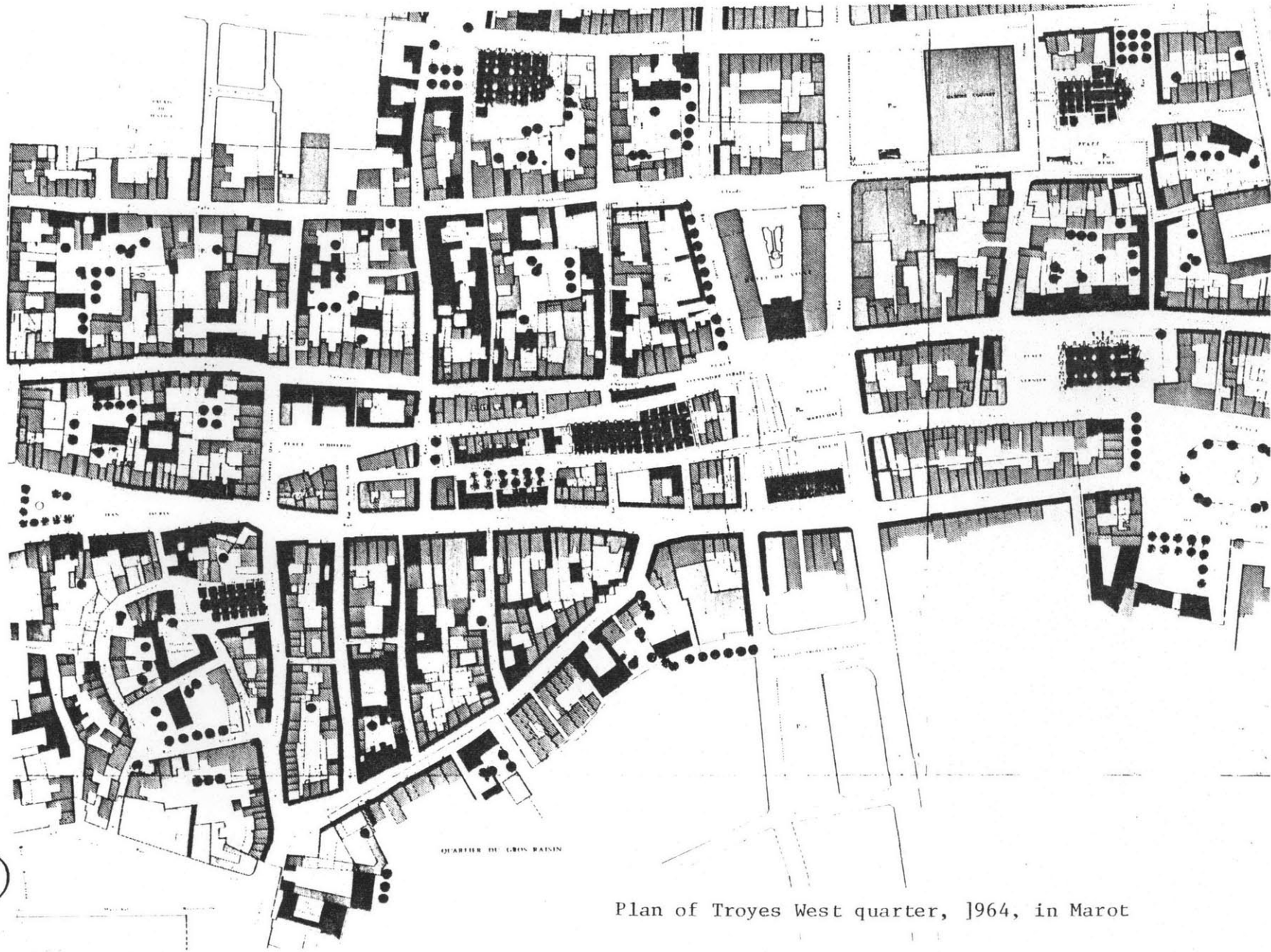
Plan of Troyes West quarter, 1964, in Marot

115

has to comply with a very large number of parameters and con-
straints, from the span of a beam to the position of the sur-
rounding buildings, the street traffic, the orientation of the
wind, the purpose of the building itself, etc... There is no
overview of the aspect of the city environment. Each element
copes individually with the immediate constraints. The concept
of a dialectic built - unbuilt or house - street, does not exist
yet.

The construction of the walls, in 1125, around the trading
area of Troyes is almost independent of this process. When the
wall is built, far beyond the limit of the existing agglomera-
tion, it does not interfere with the city form; it is a gesture,
an act of power, which is not related to a planned intention.

The bastide form-making process differs from both cases.
Like the organic city, it starts from the unit, the lot is the
module for the dimensions of the blocks, the square and the
streets. Like the designed city, it follows a logical system.
The square dimensions are related to the streets and the blocks,
but the square itself is determined by a number of lots on each
side, while in Richelieu the square dimension is not related to
a functional necessity.

Visiting Richelieu, C. Stewart remarks: *"It is a difficult
town to get to know in a short time, as all the roads are straight,*

*all run at right angles and all--up to a point--are very much
alike.   That is to say that while one could tell whether one was
near the center of the town, because of the small, poverty-
stricken dwellings, or between the two, because of the half-way
character of the buildings, it would be hardly possible to tell,
except by the sun or a compass, in which direction one was
travelling.*"[1]   This observation has never been made for any

1.   STEWART, C. A prospect of Cities.
     London, 1952, p. 118.

bastide.   In Richelieu the symmetry has been developed to an
extreme only perceptible only on a plan, abstract in the reality
of the city environment.   The symmetry at the bastide, on the
contrary, is justified by practical reasons: the lots are
easier to number, the growth of the settlement is distributed
regularly around the square, etc...

The contour of Richelieu, as we have demonstrated previous-
ly, is very much related to the town structure.

In the bastide, the contour is a result.   The walls are
generally implanted some time after the creation, to allow a
reasonable growth.   The walls, if they exist, follow the shape
of the town.

The fortifications of Troyes enclose an area larger than
the agglomeration of the XIII century.   The contour considered
here is one of the urban tissues.   Without document, this out-
line is difficult to characterize.   It was probably a graduation

117

between the built and the non-built, until the agglomeration
had reached the walls and was contained by them, after the
XIV century.

The concept of contour in city planning is a notion inher-
ent to design. Consider the designer sketching on tracing
paper. He draws lines on a flat surface. The use of lines has
a significant influence. A line separates and generates two
surfaces. It provokes juxtapositions, contrasts, balances be-
tween each side. The line as a limit excludes any progressive
transition between the two areas. This contrasted definition,
or delineation of forms will be a constant aspect in the nature
of the design language: built and non-built areas, shadow and
light, inside and outside, differences of contents, differences
of colors, etc...

This evaluation of the nature of design is not exhaustive.
A straight line can also orient and structure a drawing. Axis,
and then symmetry and convergence are concepts in the nature
of design, or generated by design. Much could be said also of
the conventions of design; elevation, plan, section, perspective
are some of them. The size of the support, its orientation,
and the concept of scale are determinant devices in the design
language.

DESIGN AND SOCIETY

The idea that a society shapes its own city is not new. *The Town is the symbol of a political or social idea,* wrote Zucker.[2] Focusing on the role of design, we tend to say that the form-making process of a city is a consequence of social, political, religious, cultural and economic practices.

"At the first stage of the confrontation face to the mirror, the child does not recognize himself. He is center. The city in its early childhood exists at the image of a man who does not know himself yet.

At the second stage, the child perceives himself partially, because in fact, says Lacan, he sees himself with the eyes of his mother. It is the stuttering city, inhabited by the scatter-ed seeds of its future.

At the third stage, at last, the child recognizes his image. He becomes "I", acquiring his identity, defining him-self as a global and unique person, in regard to the world. It is the space - city totally humanized, achieved."[3]

The shaping of the environment in an organic city is a complex phenomenon where traditions, participation, individual acts and local constraints are mixed. The life in the city was not less contrasted and complex. The systematism of the bastide

2. ZUCKER, P. Town and Square from the Agora to the Village Green. New York, 1959.

3. GOUVION, C. and F. VAN DER MEERT. Le symbolisme des rues et des cités. Paris, 1974

119

and the Renaissance new towns was unknown. In the bastides, where collegiality ruled, the rational purpose of the founders corresponds to the logic of the layout. Design was not necessary to obtain this result as we demonstrated in the last chapter. The bastide inaugurated a new style of settlement which could be found in Spain during the XV century, in South and North America during the colonization and in North Africa during the last century. *The bastide was a philosophical as well as a morphological ancestor of the American city.*[4] The grid of Worcester, Providence, Newport, Cambridge, New Haven, Boston are for Vance a "reminiscence" of the bastides. How would design have tolerated such a non-hierarchical, homogeneous system? The design process, by transforming the plan into an object, is giving aesthetical connotations to the city form. Those notions are definitively absent from the mercantile plantations cited. The common ground was not a design, but a purpose: trade.

"The world of architecture is not distinct from the one where the society as a whole evolves... The French classic period is the symbol of this situation. The society of the court is hierarchized in the simplest way. Each built ensemble is ordained around a unique monumental principle, like the nation around the monarch."[6]

The design, by its nature, because it emphasizes symmetry, uniformization, hierarchization, is the appropriate process to

4. VANCE, J.E. This scene of man. The role and structure of the city in the geography of western civilization. New York, 1977, p. 29.

6. BOUDON, Ph. La Ville de Richelieu. Etude de la notion d'échelle en Architecture. Paris, 1972, p. 25.

generate the form which corresponds to such society.

Rationalization and centralization are the instruments of control of the planning process during the classical period, and design is the best expression for it. The inevitable alteration of the messages it carries, goes in this direction. Design is generated in specific conditions and also *generates* certain situations. There is a designed world, and it belongs to the post-Renaissance era, to the Baroque style, to the system of absolute monarchy, to the systematism of Descartes *Discours de la Methode*.

Because they were obviously planned, the bastides were assumed to be designed. The confusion of the two meanings is significant. It explains why today we are using a Baroque language to conceive and plan modern cities. We did not yet invent an alternative to design, a language able to carry out the aspirations of our time.

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