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THE ROLE OF PLANNING IN THE EVOLUTION OF BARCELONA

A Master of Arts thesis presented at the Department of Geography, the University of Durham.

By

Martin G. Wynn

June, 1977.

ABSTRACT

This thesis attempts to assess the role of planning in the evolution of Barcelona from 1714 to 1976. 1714 marked the beginning of a long period of military dominance that was to see immediate and drastic alterations in the urban morphology of the city. Other factors also played their part in the vertical and horisontal growth that followed, eventually making expansion beyond the medieval walls an urgent necessity.

This expansion - the 'ensanche' - came in the second half of the 19th century after the passing of the Plan Cerda, that was to remain the official 'plan de ordenacion' for the city for almost a century. Many of the proposals of Cerda's plan were ignored, however, as the city grew in radiocentric form, stretching out across the plain towards the mountain chain and the two parallel rivers that enclose it. In the first half of this century many plans were drawn up in periods of differing political ideology and varying economic prosperity but had little impact on the growth of the city.

The 1953 'Plan Comarcal', which recognised the long-present need to plan on a scale greater than that of the municipality, replaced Cerda's plan as the official 'plan de ordenacion' for Barcelona. It was the first of a variety of plans at Provincial, Metropolitan Area, 'Comarcal', and Municipal level, produced by a new, formal planning machinery. At the same time, the housing and regional economic planning policies of the Madrid Government involved unprecedented intervention by the central authorities in the urban affairs of Barcelona and its region.

The thesis establishes how these plans and policies have affected the evolution of Barcelona and why the growth of the city has continued in as chaotic and disorderly a fashion as ever before.

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Spanish words used in the text

Of the Spanish (Castilian) words used in the text, some are the everyday names used in any discussion about city life. Such are ciudad (city or town), calle (street), Plaza (square), paseo (similar to the French 'boulevard'), cinturon de ronda or simply ronda (ring-road), pasaje (passageway), casa (house) and patio (interior yard).

In addition, ensanche (literally 'expansion') is used as a synonym for the area of the city built after 1860, within the road pattern(trama) planned by Cerda. Manzana is used specifically to mean the octagonal blocks found within the ensanche. This is explained graphically, along with other terms used by Cerda, on page 76.

As regards plans and planning, anteproyecto (rough draft or first proposal) and ordenacion (ordering, arrangement) are commonly used. In Chapter 5 (the post-war) the term planes parciales (partial plans, that is piecemeal, isolated intervention) appears regularly as does plusvalia (loosely meaning unearned increment, normally from upvaluing of land).

Certain housing terms are also used, particularly in Chapter 5. These include barraca (autoconstructed slum - from 1930 onwards), barraquistas (the inhabitants of the barracas), corea (a sturdier form of barraca dating from the 1950's) and poligono (housing,and sometimes industrial,estate)Equipamiento is used throughout to mean collective services - (schools, nurseries, markets, cultural, social, religious centres, sports zones, hospitals, but usually excluding green zones (zonas verdes).

Ayuntamiento (Council) and Diputacion (the Provincial governing body), Gobernador Civil (Civil Governor) and Comarca (city region - see pages 224/5) also appear.

Abbreviations used in the text

A.A.I. 'Area de Accion Inmediata' (Area of Immediate Action) Part of the A.M.B. (see page 268).

A.H.B. 'Archivo Historico Municipal de Barcelona' (Municipal History Archives of Barcelona).

A.H.U. A.D. 'Arxiu Historic d'Urbanisme, Arquitectura i Disseny' (the Historical Archives of Urbanism, Architecture and Design). Part of C.O.A.C.B.

A.M. 'Archivo Administrativo Municipal' (the Municipal Administrative Archive)

A.M.B. 'Area Metropolitana de Barcelona' (the Metropolitan Area of Barcelona).

C.A.U. 'Construccion, Arquitectura y Urbanismo' (Construction, Architecture and Urbanism). Publication of the 'Colegio Oficial de Aparejadores y Arquitectos tecnicos de Catalunya'.

C.D.C. 'Construccion de la Ciudad' (Construction of the City). Periodical.

C.M.B. 'Corporacion Municipal de Barcelona' (Municipal Corporation of Barcelona).

C.O.A.C.B. 'Colegio Oficial de Arquitectos de Cataluña y Baleares' (Official College of Architects of Cataluña and the Balearic Islands).

C.P.U. 'Comision Provincial de Urbanismo' (Provincial Commission of Urbanism).

C.S.O.P.B. 'Comision Superior de Ordenacion Provincial de Barcelona' (The old name for the C.P.U.)

CUAD. 'Cuadernos de Arquitectura y Urbanismo' Publication of C.O.A.C.B.

C.U.B. 'Comision de Urbanismo de Barcelona' (Commission of Urbanism of Barcelona) otherwise known as the 'Comarcal' Commission and 'Comision de Urbanismo y Servicios Communes de Barcelona y otros Municipios'. The 'comarcal' planning authority, incorporated into the C.M.B. in 1974.

E.M.M.B. 'Entidad Municipal Metropolitana de Barcelona' (the Municipal, Metropolitan Entity of Barcelona). Created in 1974, but really only a new name for the 'comarca' of Barcelona.

G.T.P. 'Gabinete Tecnico de Programacion' (the Technical, Programming Cabinet). The investment budgeting/programming team of the Barcelona Council.

I.N.V. 'Instituto Nacional de la Vivienda' (National Institute of Housing). Incorporated into the M.V. in 1957.

M.V. 'Ministerio de la Vivienda' (Ministry of Housing).

O.F.S. Occupied free space (see page 258).

O.S.H. 'Obra Sindical del Hogar' (the Syndical Housing Body) Housing body under the control of the M.V.

P.M.V. 'Patronato Municipal de la Vivienda' (Municipal Housing Foundation) Housing body under the control of the Barcelona Council.

P.P. 'Plan Parcial' (Partial plan, i.e. isolated, piecemeal intervention).

P.R.E.P.O.U. 'Ponencia de Revision y Extension del Plan de Ordenacion Urbana de Barcelona' (Report on the Revision and extension of the Plan of Urban 'Ordenacion' of Barcelona) One of the sub-teams created in 1968 to further develop the Plan Director as it affected the Barcelona Municipality, (see page 286).

U.F.S. Useable free space (see page 257).

U.V.A. 'Unidad Vecinal de Absorcion' (unit of housing for absorption). Minimum dimension, low quality housing used specifically to rehouse those expelled from the city centre - previously encamped in 'barracas' - in the late sixties and seventies.

V.F.S. Vacant free space (see page 257).

Z.F.S. Zoned free space (see page 257).

A note on references

In the text the source of a quotation, figure or table is usually not given in full. Rather, a number in brackets is given. This number corresponds to the bibliography included at the back. Sometimes this number is followed by a stroke and then another number; this latter number is the page number of the work referred to.

Street Map

A street map is enclosed in the back envelope, which also includes a large version of the Plan Cerda (Figure 46).

Photographs

Photographs are presented in a separately bound volume.

Introduction

This thesis examines the role of planning in the evolution of Barcelona from 1714 to the present day. Generally speaking, the thesis follows the chronological order of events, although in Chapter 5, dealing with the post-war, something of a thematic approach is adopted.

With very few exceptions, information has been taken from Spanish sources. No effort has been made here to compare or contrast the Barcelona situation in any of its many aspects with other case studies from Spain, Britain or elsewhere. Rather, it is hoped that this work will help form the basis for future research in this direction.

Historical Background: From Earliest Times to 1714

The name Barcelona comes from the settlements of uncertain origin (Greek, Phoenician, Carthaginian or Iberian), that existed in Pre-Roman times in the Collcerola, the mountain ridge running parallel to the coast and backing today's city. One of these settlements (known collectively as the 'poblados Ibericos') was called Barcino and this name was used by the Romans for the settlement founded by Augustus on a small hill - Mons Taber - between the Collcerola and the coast in the first century A.D. The walls surrounding this settlement were completed by the end of the 3rd century (Figure 1) and still exist, in parts, today.

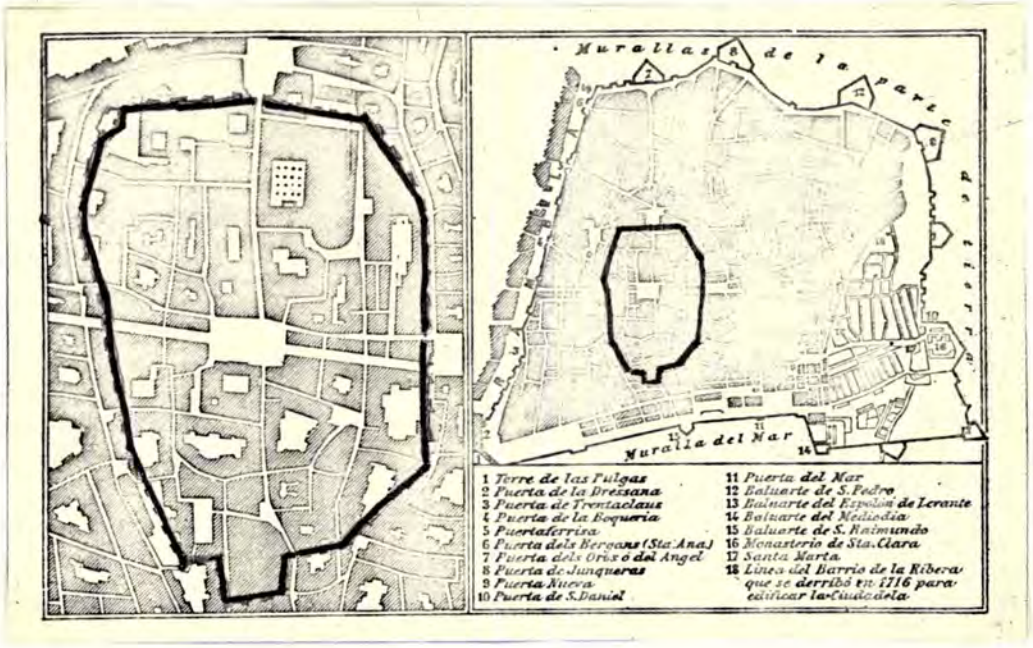
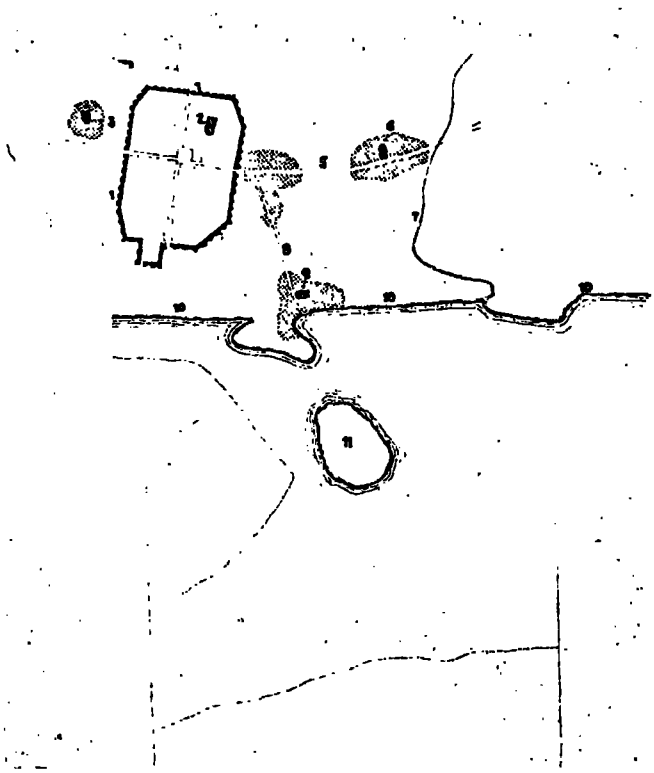


FIGURE 1 THE ROMAN WALLS (LEFT) AND THE FIRST MEDIEVAL ENCLOSURE

The Roman enclosure covered 10.5 hectares and the first medieval enclosure 131.2 hectares. After the second medieval enclosure (Figure 3) the walled area totalled 218 hectares. Source A.H.B.

With the decline of the Roman Empire the city suffered the waves of conquest of the Moors and Visigoths, and in 985 it was devastated by the Arab chief Almanzor. By the 11th century, the city had recovered, settlements were established beyond the walls (Figure 2) and commerce and artesan industry began to flourish. By the 12th century, Barcelona had become the

centre of a mercantile empire, exploiting its strategic position between the Mussulman Empire to the south and the eastern Mediterranean lands. During this period of medieval splendour new city walls were built on the order of Jaime I in the 13th century. This new walled area (Figure 1) encompassed the Roman settlement, extending south to the port and west to the Ramblas, today one of the busiest and most attractive streets of the city, but then the course of a river, which was diverted in the 14th century to flow beyond a further extension of the walled area (Figure 3). By 1350 the Roman city of 10-15,000 had become one of 32,000.



1. Roman wall
2. Cathedral
3. Santa Maria del Pi
4. Main Gateway
5. Roman road to the East
6. Sant Cugat del Rec
7. Drainage Ditch (Acequia del Rec Comptal)
8. Sea Road
9. Santa Maria de les Arenes
10. Coast Line
11. Isle of Mayans

FIGURE 2 BARCELONA IN THE 11TH CENTURY Source (16)
The line shown in the sea in the diagram marks today's coastline (Barceloneta)

In the middle of the 14th century began a series of calamities - plague, demographic decline, financial crisis, slaughter of the Jews, defeat of the Catalan dynasty by the Genoans and Civil war - which all contributed to the crisis period of the 15th century. Only in the 17th century did the city really awaken when invasion by Castillian troops, occupation by Juan of Austria and final defeat of the Hapsburgs in 1713-14, ending the war of Spanish succession, left the city in the hands of the Bourbons.



FIGURE 3 BARCELONA IN 1492

The river has been diverted to flow outside the second Medieval Enclosure. The wall of the Ramblas divides the two areas. Source (95)

Although the Medieval walls no longer exist, the enclosed area, known as the old city or old quarter, still forms a distinctive part of the city. Apart from the medieval street layout that exists in places, certain religious and public buildings and hospitals (Figure 5) date from this period as well as a few simple houses (Figure 6).

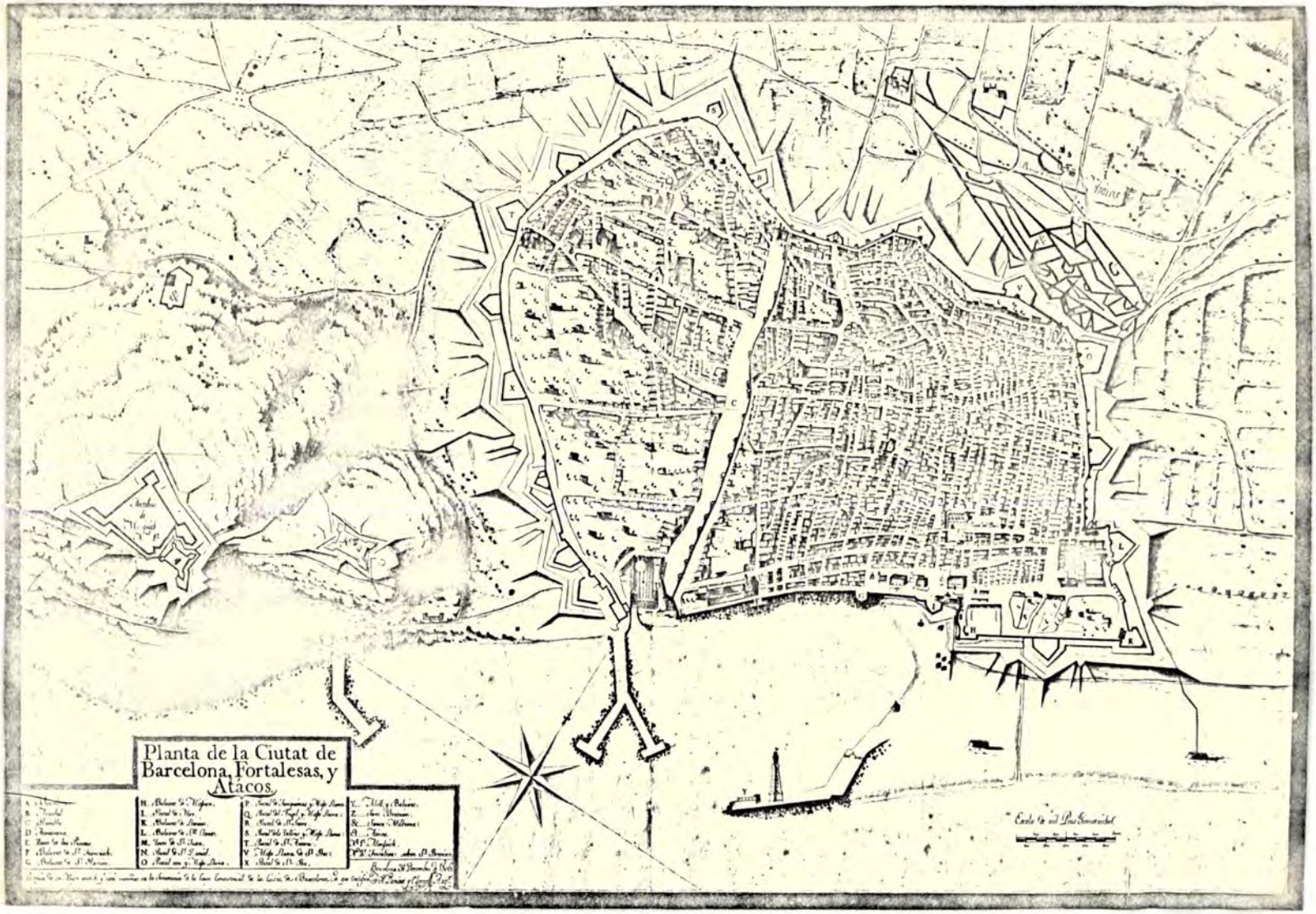


FIGURE 4 - BARCELONA 1696

Little change since 1492. The Second Medieval Enclosure remains relatively empty. Almost no buildings exist outside the walls. Note the castle to the left on the hill of Montjuich built in 1640.

Source A.H.B.

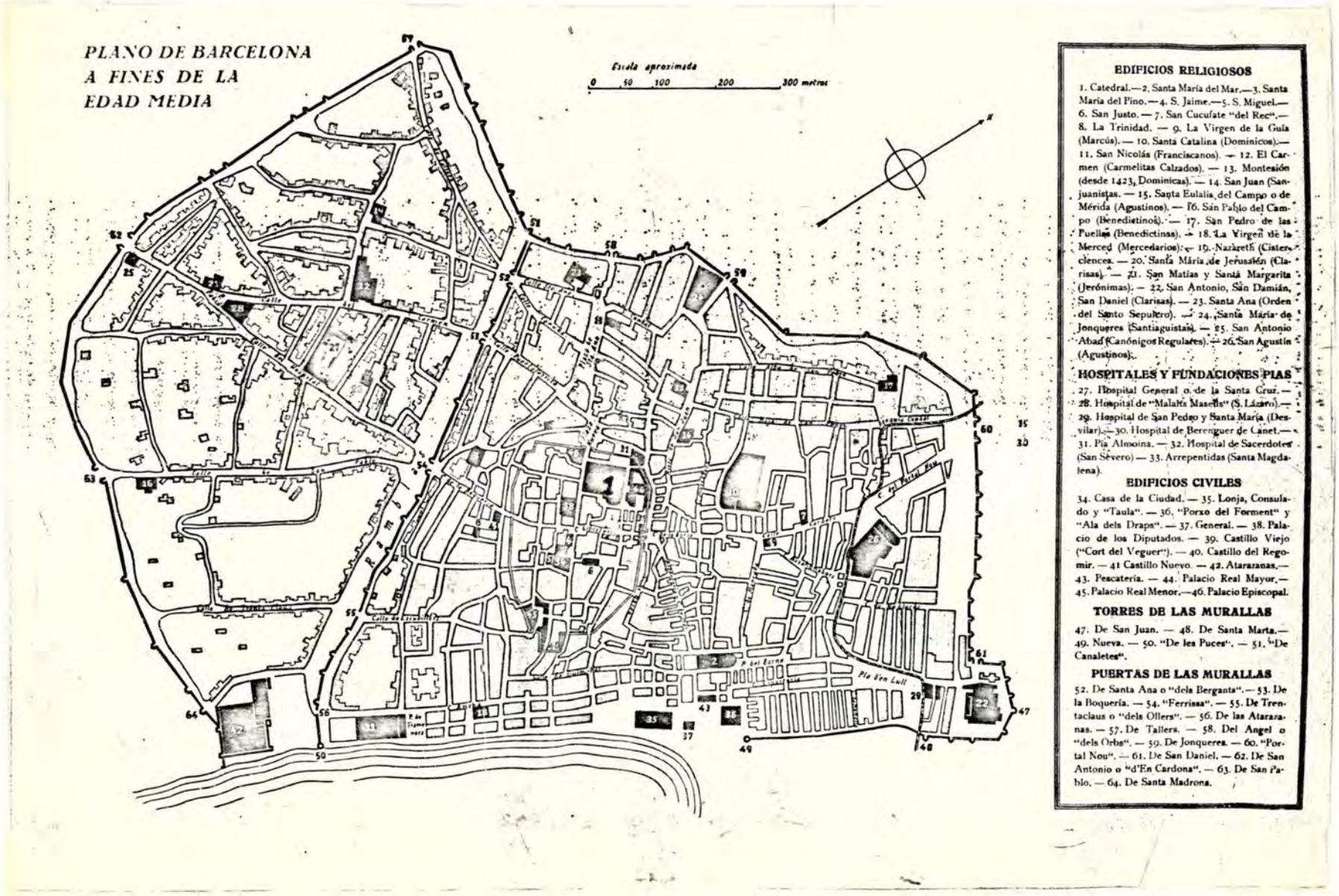


FIGURE 5 BARCELONA AT THE END OF THE MIDDLE AGES Source A.H.B.

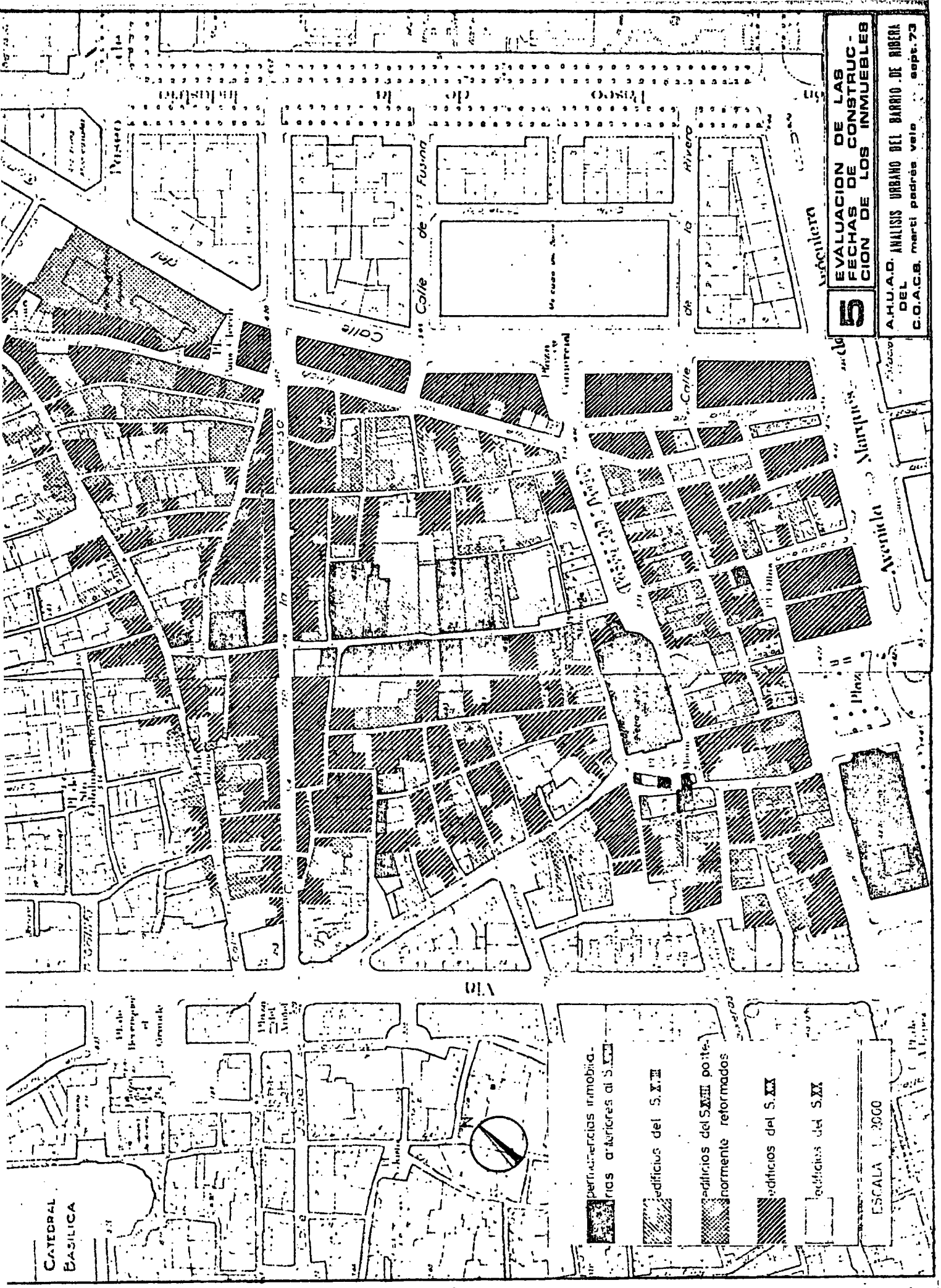


FIGURE 6 THE BARRIO DE LA RIBERA 1973

One of the oldest parts of the old city. Notice the number of pre-eighteenth century buildings (dark solid shading). Source (16)

CHAPTER 1

FROM MEDIEVAL TO INDUSTRIAL CITY (1714-1837)

1. BOURBON RULE AND THE NEW STATUS QUO [1]

When Barcelona fell to the Bourbons in 1714 the city had previously experienced a long period of stability. There existed a typical pre-industrial society, characterised by an earlier period of stagnation (after the Catalan/Aragonese monarchy of the 13th and 14th centuries), when the medieval form of the city remained largely unaltered. After the Catalan crisis of the 15th century, the economic system remained the same too, based on a guild organisation and an archaic political system. Between the 14th and 18th centuries the population of Barcelona remained at approximately 30-40,000, with no real pressure to expand, as is witnessed by the survival of the 14th century walls and the existence of large orchards within the walled city even at the end of the 18th century. (Figures 3,4, and 15)

As the majority of the population belonged to the corporations, which monopolised production, there persisted a type of urban house directly linked to the medieval social-economic structure. Most buildings were both place of work and living-quarters, organised by the guild master, under whose orders lived and worked servants, apprentices and officials. The workshop was below, with one or two storeys above (accessible from below), used as living quarters. The building did not totally occupy its parcel of land, but space was left behind for a garden or orchard. The parcel was generally narrow (4-5 metres frontage) but deep, the building itself being perhaps 10 metres deep. (see Figure 195)

With the autonomous municipal governments surviving until 1714, Barcelona did not experience the changes brought by the authoritarian monarchs until the 18th Century. These changes, known in Western Europe since the beginning of the 14th century, included the incorporation of a new architectural style and new street lay-outs into the make-up of the city, transforming the medieval city into the so-called 'Ciudad Barroca' (baroque city).

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1. 'La Nueva Planta' - the new status quo - involved the reorganisation of the city under Bourbon rule. Two days after the fall of the city, on September 16th 1714, the Marquis of Berwick , leader of the conquering army, nominated Jose Patino 'Presidente de la Real Junta Suprema de Justicia y de Gobierno de Principado de Cataluna'. This body, and Patino in particular, played the leading role in the changeover from autonomous municipal government to Bourbon rule. See Mercader J. (1)

The break with the medieval period was immediately expressed in the structure of government. With the coming to power of Felipe V [1], an absolute monarch, the autonomous system built on the guilds declined. Consequently, the influence of the corporations was much reduced and replaced by the ultra-urban power (i.e. representatives of the central monarchy), which was to dominate urban life in the first 50 years of Bourbon rule.

The decline of the 'Consell de Cent',[2] the main instrument of the guilds in local government, favoured in the long run the appearance of new economic and social forms, which the new orientation of the region made possible. Thus, in 18th century Barcelona, there were three main forces in the development of the city:-

1. The Guilds and the Council (the 'Consell de Cent' in new form)
2. The Captain General [3] (the representative of the central monarchy) and his military and judicial hierarchy.
3. Groups and individuals concerned with the promotion of new commercial and industrial forms.

These three groups frequently confronted each other, particularly in the second half of the century, when economic and demographic growth brought about a new urban situation and new urban problems.

---

[1] Felipe V ruled Spain from 1714 until his death in 1746. He ruled with what Bruguera calls "el mas repugnante despotismo". (7)

[2] The 'Consell de Cent' (Council of 100) was founded by Jaime I in the 13th century as the main body of municipal government. Internally, it was based on a three 'estate' system - clergy, nobility and commons, but came to be dominated by the guildmasters, who followed a general policy of conservation and opposed change in any form. On 16th January, 1716, the 'Consell de Cent' was dissolved and replaced by the 'Ayuntamiento' (the council), composed of a mayor, two deputies and 24 aldermen, being responsible for judicial and fiscal matters. It soon came to represent the traditional elements of the city - a 'Consell de Cent' in new form, but with far less power.

See Mercader J. (3)

[3] The Captain General retained all real political power in the city, although in the years immediately after the conquest much of this authority was given to Patino's 'Superintendencia'.
The Marquis of Berwick was the first Captain General.

See Mercader J. (4)

2. 'EL CATASTRO' 1717

> "As it turned out, the coming to power of the Bourbons was a turning point in the history of Barcelona; it is thus important to establish the nature of Barcelonan society at this time. We can do this with the help of the 'Catastro', a precious document that typified the new status quo under the Bourbons". (2)

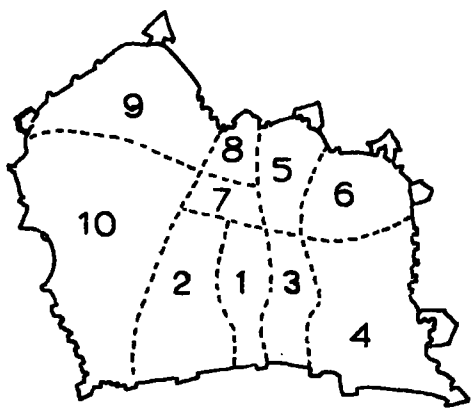
The 'Catastro' was, in fact, a census, divided into two sections - the 'Catastro Real', (mainly concerned with property) and the 'Catastro Personal', (mainly concerned with people and particularly their earnings). There have been two principal analyses of this source of information, one by Salvador Tarrago (6), the other by J.Nadal and E. Giralt, (2) and it is from these two writers that the following information is taken.

	According to TARRAGO				According to the 'Catastro'			According to NADAL and GIRALT				
ZONE	Badly damaged houses	Uninhabited houses	No information	'Good' houses plus 3 previous columns	'Good' houses	Uninhabited houses	Total	'Good' houses (inhabited)	'Good' houses (uninhabited)	Badly damaged (inhabited)	Badly damaged (uninhabited)	TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12
1	5	-	43	175	139	25	164	146	-	13	12	172
2	3	24	34	387	459	11	470	435	13	2	12	453
3	8	9	24	598				595	13	75	13	699
4	5	37	41	1285				1319	17	9	33	1380
5	2	15	22	436	400	89	489	414	60	15	6	495
6	16	210	47	840				607	34	254	183	1087
7	-	55	9	236				203	9	52	43	307
8	1	24	13	162				111	10	44	13	180
9	-	20	23	401				397	15	2	-	416
10	-	37	46	579				531	33	28	2	595
TOTAL	40	431	302	5099				4758	204	506	295	5784

TABLE 1 HOUSES IN THE WALLED CITY 1717 - A COMPARISON OF THREE SOURCES

Source:-(6)

Information contained in the 'Catastro' is grouped into streets and zones (barrios), not permitting a house to house study. The division of the city into ten zones was new, but in fact only subdivided the five pre-existing sectors ('cuarteles'), which dated from the medieval enclosures of the city. (See Figure 7) The area of the ten zones is given by Tarrago as 234.03 hectares.



Source (6)

Numbered areas are Bourbon Zones

Bourbon Zones	Medieval Sector
9 and 10	V
1 and 2	1V
3 and 4	III
5 and 6	II
7 and 8	I

Area of Bourbon Zones:-

ZONE	AREA (Hectares)
1	6.87
2	20.21
3	11.05
4	42.09
5	13.27
6	26.52
7	9.47
8	8.37
9	34.67
10	61.67
TOTAL	234.03

FIGURE 7 MEDIEVAL SECTORS ('CUARTELES') AND BOURBON ZONES ('BARRIOS')

Houses

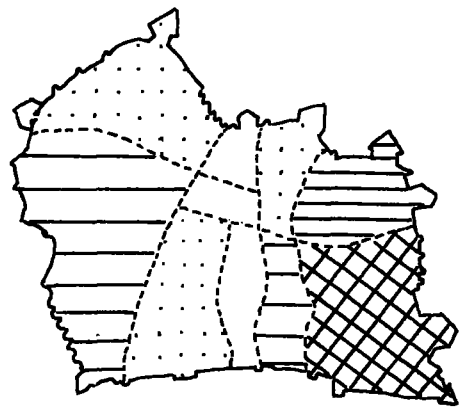
The 'Catastro' gives house totals for only three zones - zones 1,2 and 5. Tarrago and Nadal and Giralt, however, have compiled zone by zone totals. The differences between these three sources are shown in Table 1. Tarrago's total (column 4) is 88.2% of Nadal and Giralt's (column 12).

Tarrago's figures are expressed in percentages (Table 2 and Figure 8), which shows zones 4,6,3 and 10 to contain the most houses, and density per hectare

(Table 2 and Figure 9), which probably gives a clearer picture. Zone 3 has the highest density (54.3 houses per hectare), followed by zones 5,6 and 4 (approximately 30 houses per hectare) and then zones 1 and 7 (25 houses per hectare). Zones 9 and 10 (the second medieval enclosure) are the least populated. The wall of the Ramblas, dividing zones 9 and 10 from the rest of the city acted as a barrier to expansion and continued to do so until its destruction in the second half of the 18th century.

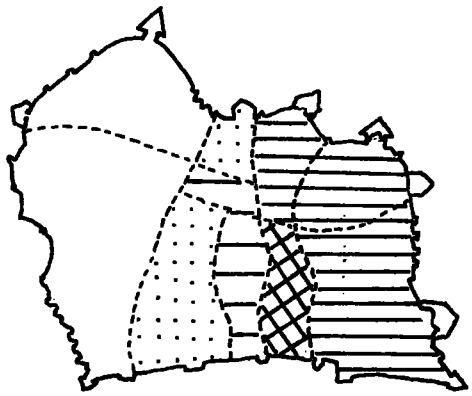
zone	HOUSES (TOTAL)	% of TOTAL HOUSES	DENSITY/ HECTARE
1	175	3.43	25.5
2	387	7.59	19.2
3	598	11.71	54.2
4	1285	25.21	30.5
5	436	8.55	32.8
6	840	16.65	31.7
7	236	4.63	24.9
8	162	3.17	19.4
9	401	7.90	11.6
10	579	11.38	9.4
TOTAL	5099	100.00	21.79(av.)

TABLE 2 HOUSES - % OF TOTAL PER ZONE AND DENSITY PER HECTARE



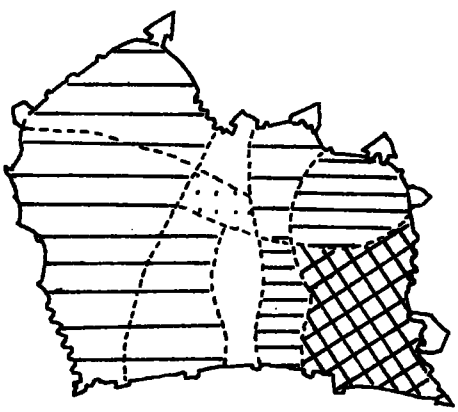
ZONE	%
4	25.21
6	16.65
3	11.71
10	11.38
5	8.55
9	7.90
2	7.59
7	4.63
1	3.43
8	3.17

FIGURE 8 HOUSES - PERCENTAGE OF TOTAL HOUSES PER ZONE 1717 Source (6)



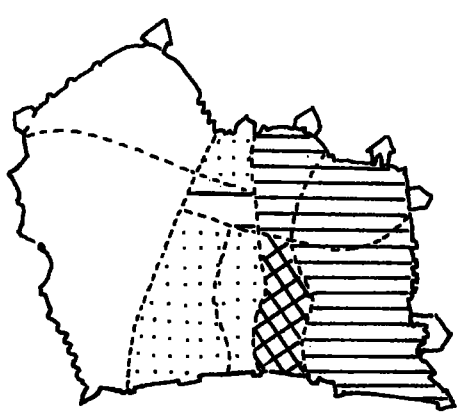
ZONE	HOUSES PER HECTARE
3	54.2
5	32.8
6	31.7
4	30.5
1	25.5
7	24.9
8	19.4
2	19.2
9	11.6
10	9.4

FIGURE 9 - DENSITY OF HOUSES PER HECTARE PER ZONE 1717 Source (6)



ZONE	% of INHABITANTS
4	27.15
6	18.00
3	15.10
10	8.19
5	8.00
2	7.09
9	6.59
7	4.81
8	3.17
1	2.82

FIGURE 10 - INHABITANTS - % OF TOTAL PER ZONE Source (6)



ZONE	DENSITY PER HECTARE
3	430
4	203
6	202
5	189
7	159
1	129
8	118
2	110
9	59
10	41

FIGURE 11 - DENSITY OF INHABITANTS PER HECTARE PER ZONE Source (6)

The Inhabitants

The two analyses of the 'Catastro' give slightly different figures for the population of Barcelona in 1717. Nadal and Giralt have also studied the 'Fogatge' [1] of 1516, and are thus able to make comparisons between the two dates.

According to Nadal and Giralt's analysis of the 'Catastro' there were 33,010 people living in Barcelona in 1717 (Tarrago - 31,422, see Table 3).

ZONE	INHABITANTS	% OF TOTAL	INHABITANTS PER HECTARE
1	884	2.82	129
2	2228	7.09	110
3	4735	15.10	430
4	8552	27.15	203
5	2508	8.00	189
6	5391	18.00	202
7	1506	4.81	159
8	995	3.17	118
9	2056	6.59	59
10	2567	8.19	41
TOTAL	31,422	100.00	134 (av.)

TABLE 3 - INHABITANTS 1717 Source (6)

This figure excludes troops, people in transit etc. and represents the people who normally resided in Barcelona. The authors add that the figure could be increased by several hundreds, for, in a fiftieth of cases, largely in zone 1, the census mentions only the heads of families and gives no information about the rest of the household. However, taking this into account, Barcelona is still seen as a relatively unimportant city. It could also be said that the census was taken in a naturally unfavourable moment, a little after the assault on the city by the Bourbon forces in 1713-14, when 7,000 Barcelonans died and 3,000 were injured. [2]

---

[1] 'Fogatge' 1516 - An early form of census taken periodically under the Hapsburgs.

[2] According to Bruguera M. (7)

The destruction caused by the siege is reflected in the census itself in the number of damaged houses (Table 1). This should not be overestimated, however, considering the rapid powers of recuperation [1] and the probable increase in immigration [2]. In any case, Barcelona cannot cite the then recent adversities of war as the sole cause of its demographic inferiority to 10 French cities, to its old Italian rivals (in 1700, Genoa had a population of 77,000, Florence 66,000, Palermo 100,000, Venice 138,000, Naples 186,000)[3] or to the main Spanish ports (Cadiz, Valencia).[4]

Turning now to Tarrago's study (Table 3, Figures 10 and 11) we find that inhabitants per hectare by zones coincides very closely to houses per hectare (Figure 9) as would be expected. Zone 3 emerges as the most densely populated part of the city, followed by zones 4, 6 and 5. It is perhaps worth noting that whilst the highest density then was 430 persons per hectare, the average today is 914 (according to source (9)).

According to Nadal and Giralt, there were 7,717 'heads of families' [5] in Barcelona in 1717, (Table 4 and Figure 12) and 6,388 in 1516, from their studies of the 'Catastro' and 'Fogatge' of 1516. This represents an increase of 20.8%,

---

[1] Nadal and Giralt (2) quote the birth rate of the 'paroquia de San Just' as showing the period 1706-14 to be not as bad as that in 1650-52 - the time of the Black Death - in terms of decline in birth-rate.

[2] In 1717, the hospital of Santa Cruz, in Zone 10, noted the highest number of discharge certificates since 1457. Nadal and Giralt (2) suggest this as an index of recent arrivals, although figures were only recorded every 20 years.

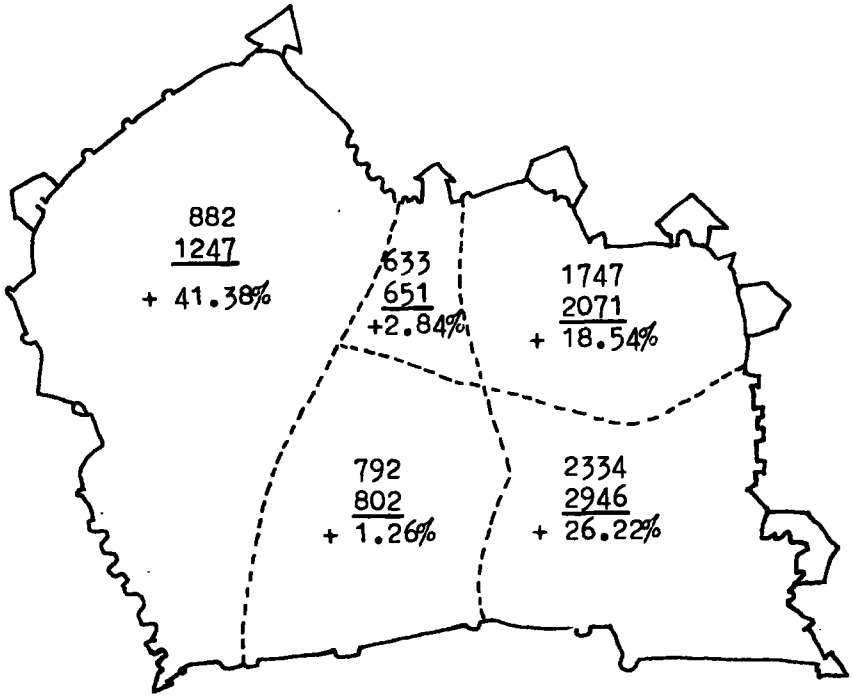
[3] The French and Italian figures are from:- Reinhardt M. and Armengaud J. - 'Histoire generale de la population mondiale' - Paris 1961 Pages 173 and 197.

[4] From Dominguez-Ortiz A. - 'La Sociedad Espanola en el siglo XVIII', Madrid 1955 Page 74. (8)

[5] In this sense 'family' means what Tarrago calls the artesan family i.e. mother, father, children, and relations living with them, plus servants , clergy and any others living under that roof.

It is also interesting to note the ratio of families to houses:-
7,717 to 5,264 (inhabited houses) according to Nadal and Giralt.
7,237 to 4,326 - Tarrago's figures differ - (inhabited houses).

very little considering the time and availability of building land within the old walled area. (The first Medieval Enclosure).



TOTALS

Heads of Families	1516	6,388
Heads of Families	1717	7,717
Increase	1516-1717	+ 20.8%

FIGURE 12 - INCREASE IN HEADS OF FAMILIES PER SECTOR 1516-1717 Source (2)

The greatest increase in fact, affected zones 9 and 10 (or sector V), i.e. the Second Medieval Enclosure, known as the 'arrabal'. (Table 4 and Figure 12) Further, we can estimate the number of people contained in each family by dividing total inhabitants in 1717 by heads and by zones. Zones 3, 1, and 4 appear as having the largest 'families' although the figure for zone 1 was probably considerably higher as this zone contained the majority of households who gave information only about the head of household. (Table 4)

Table 5 helps to explain this distribution. The social and economic structure of the city concentrated many of the unmarried men (as apprentices, shop-boys and servants) and women (as maids) in the richer zones of the city.

SECTOR	HEADS OF FAMILY' 1516	ZONE	HEADS OF 'FAMILY' 1717	GROWTH 1516-1717	INHABITANTS 1717	INHABITANTS PER 'FAMILY' 1717
IV	792	1	210	+ 1.26%	1,028	4.89
		2	592		2,476	4.18
III	2,334	3	984	+ 26.22%	4,980	5.06
		4	1,962		8,975	4.57
II	1,747	5	642	+ 18.54%	2,603	4.05
		6	1,429		5,578	3.90
I	633	7	382	+ 2.84%	1,575	4.12
		8	269		1,039	3.86
V	882	9	555	+ 41.38%	2,115	3.81
		10	692		2,641	3.81
TOTALS	6,388		7,717	20.8% (av.)	33,010	4.27 (av.)

TABLE 4 - HEADS OF FAMILY AND GROWTH 1516-1717
INHABITANTS PER FAMILY 1717 Source (2)

Table 5 divides the population into Family [1] and Non-Family (servants and others). From these figures it is apparent that zones 1 and 3 had the highest ratios of servants: family (13.0 per 100 and 11.3 per 100), and others: family (19.4 per 100 and 11.5 per 100). Of course, as the figures for zone 1 are not complete, the ratios are probably too high, and the population density (Figure 11) too low. It seems nevertheless, that in 1717, the richest people lived in the most densely populated parts of town, in contrast to the Barcelona of today. Zone 3 appears as the 'core' of the city, with 4, 5, and 6 having considerably higher densities than zones 2, 7, and 8 near the Ramblas. Although zones 9 and 10 experienced the largest percentage increase in the years 1516-1717, they remained relatively empty.

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[1] In this sense 'family' means what Tarrago calls the 'extensive family' i.e. mother, father, children and relatives living with them. It excludes servants, apprentices, shop-boys etc. who may also live under the same roof.

ZONE	1	2	3	4	5	6	7	8	9	10	TOTAL
FAMILY	692	1986	3841	7459	2127	4785	1272	813	1857	2372	27,204
SERVANTS:-											
MEN	40	51	95	82	49	64	27	45	15	3	471
WOMEN	96	179	468	628	189	299	177	90	77	74	2,277
TOTAL	136	230	563	710	238	363	204	135	92	77	2,748
OTHERS:-											
MEN	93	158	438	686	157	250	54	41	98	162	2,137
WOMEN	5	43	32	23	13	25	14	12	30	10	207
UNSPECIFIED	102	59	106	97	68	155	31	38	38	20	714
TOTAL	200	260	576	806	238	430	99	91	166	192	3,058
TOTAL INHABITANTS	1028	2476	4980	8975	2603	5578	1575	1038	2115	2641	33,010

TABLE 5 INHABITANTS 1717 Source (2)

3. 'LA CIUDAD BARROCA' - THE CITADEL AND BARCELONETA

> "Subjecting the catalan people to his spiteful nature, Felipe V planned a series of projects that were meant to disgrace and humiliate, to remind the people once and for all of his power and domination ... one of these plans was to erect a superb citadel that, because, of its position as regards the city, would dominate it completely. This citadel was not to defend the city, but only to watch over and threaten its people, as a symbol of their disgrace ... this was the main objective of Felipe V". (7)

The king's decree of February 23rd, 1715, announced the building of the citadel to the Catalan people. It was built in the 'barrio de la Ribera' - zone 4 and so necessitated the demolition of the majority of the buildings in that zone, and more than a fifth of the buildings in all Barcelona. According to Nadal and Giralt (2), this zone contained 1,380 houses (see Table 1) in 1717, and according to Bruguera (7), who gives a street by street account, 1,335 houses and religious buildings were destroyed, most of them in zone 4, making 6,322 people homeless.

Naturally enough, the Barcelonans were horrified, all the more so because this was one of the most popular and most lived-in parts of the city.

> "This zone was perhaps the principal amenity and the most pleasing in all Barcelona, containing in its area magnificent churches, as well as convents, hospitals, luxurious mansions and delightful gardens ... " (7)

Figure 13 shows the city in 1740, 22 years after the construction of the Citadel was completed. Figure 14 , however, shows the transformation in more detail. It involved the destruction of the city eastwards of the line drawn between Portal Nou and the Plaza del Born, (Figure 14) one of the city's most important market places, half of which was demolished. The Plaza d'en Llull disappeared along with the majority of the gardens and orchards (the 'Fusina y Hortes') near the Portal Nou wall. Amongst the religious buildings to disappear were the church and convent of San Augustin, and the Convent of Santa Clara. Of the wall, the bulwarks of Santa Clara and Llevant and the Gate of Sant Daniel were destroyed to make way for the Citadel, which itself had five bulwarks, two facing the city. In front of the Citadel was a wide military esplanade and beyond it a drainage ditch, (Cequia) separating the Citadel from the buildings that remained and those recently constructed in the area immediately in front of the Esplanade. Here there were restrictions on the height of buildings, for security reasons.

The building materials came partly from the locality and partly from outside. In a despatch to Patino [1] in 1715 one of the king's ministers tells him to put sufficient guard on the materials produced in the demolition of 'La Ribera' so that they could be used in building the citadel. At the same time 150,000 'Quintales' [2] of stone were to be hewn from Montjuich [3] and taken on foot to the site of construction. 12,000 spades and picks, and 2,000 'quintales' of best iron were to be ordered from the factories of Cantabria. Wood was to be procured from Barcelona and its surrounds.

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[1] President of the 'Real Junta Supremo' - see note 1 above. Page 9

[2] 1 quintale = 100 kilograms = 220 lbs.

[3] Montjuich is the hill, then fortified, lying to the west of the city. It is clearly visible on Figures 13 and 15.

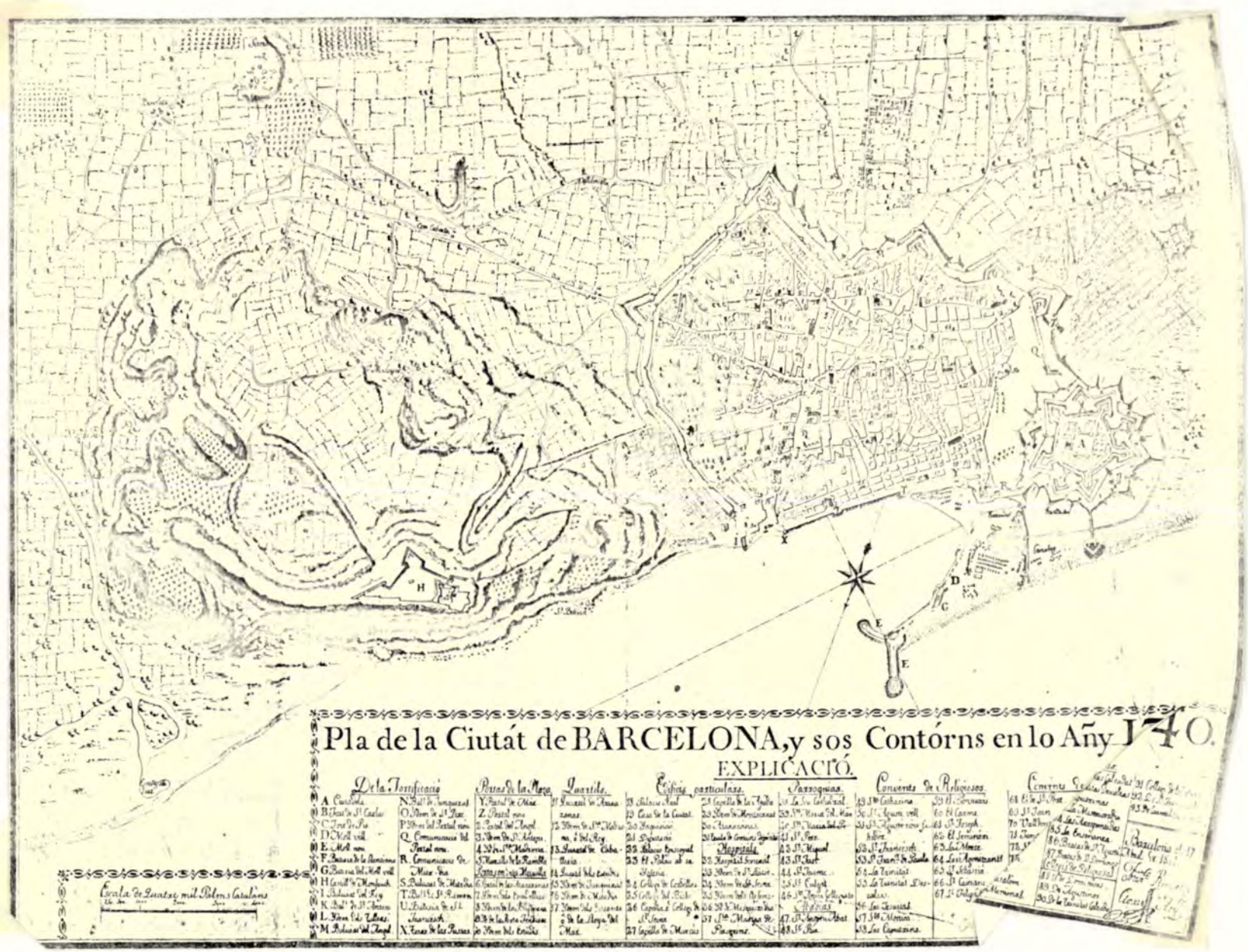


FIGURE 13 - THE CITY IN 1740 (compare with Figure 4) Source A.H.B.

The Citadel has been constructed and much of zone 4 destroyed. Haphazard development of 'barracas' near the harbour.

FIGURE 14 PART OF THE BARRIO DE LA RIBERA (ZONE 4) 1697 AND THE CITADEL 1718 Source (21)

The construction of the Citadel involved the destruction of many buildings (unshaded, except churches of Santa Clara, Santa Marta and Joan Grech) and fields (shaded - lines running from top left to bottom right), as well as the walls and bulwarks of Portal Nou, Santa Clara and Llevant and the gate of San Daniel. Newly constructed buildings (shaded - lines running from bottom left to top right) in some instances built on pre-existent buildings (wider-spaced lines running from bottom left to top right), occupied the area in front of the Esplanade (see also Figure 31) and accounted for the destruction of two other churches - Sant Augusti (below 18) and San Pere de la Puellas (far left). When the Citadel was dismantled a century and a half later, and new buildings erected in its place, a marked discontinuity between the two stages of development resulted and is clearly visible today (Figure 6).

In the same despatch, Patino is advised to compensate the landlords affected by the destruction and help them to build new houses near the Ramblas, (in zones 8, 7 and 2) which, according to Tarrago (6) is exactly where the new buildings of the first third of the 18th century were constructed. Nadal and Giralt (2) also quote a significantly high number of brickmakers, carpenters and glassmakers living in zones 6, 7 and 8 in 1717, which may also have been related to the re-settling of people from zone 4, although the authors connect this with the number of houses in these zones damaged by the war (see Table 1) and needing repair. This apart, there seems to have been very little attempt at a planned resettlement in the years immediately after the construction of the citadel. Figure 13 shows the city in 1740 and reveals the haphazard building of 'barracas' (wooden hut and store - both living quarters and warehouse) on the spit to the south of the Ribera. In many ways, this was only to be expected. Not only was it the nearest empty ground to the Ribera (zone 4) , but a great many of the former inhabitants of the Ribera had jobs connected with the sea in one way or another, (for example, in 1717, 80% of fishermen lived in sector 3 - zones 3 and 4) and already had some form of storage hut on the spit, next to the harbour.

Indeed, the likelihood of this development was recognised by the military authorities. In 1718 the Captain General, the Marquis of Castel Rodrigo, [1] announced a plan for the construction of a new zone in the same place. It ordered the destruction of 'barracas' and laid down building regulations for the new houses.

> "There will be sufficient space within the walls of the houses for the equipment of fishermen and the storage of goods, thus removing the motive that, up till now, has encouraged the building of 'barracas' on the beaches, which are a hindrance to commerce and also cause other dangers to the public." [2]

The same proclamation talks of building houses in the 'arrabal', (zones 9 and 10) in the "gardens and orchards of San Pablo," [3] but there was very little new building there until the last 25 years of the century.

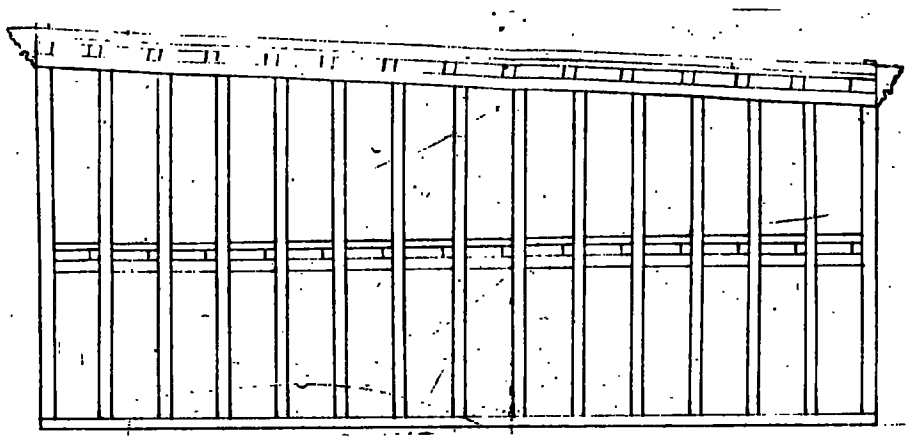
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[1] The Marquis of Castel Rodrigo took over from the Marquis of Berwick as Captain General in 1715. He was a particularly anti-Catalan governor.

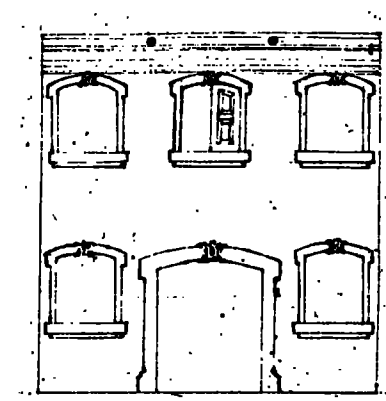
[2] From a proclamation by the Marquis of Castel Rodrigo, October 1718.

[3] From the same proclamation as 2 above. Calle San Pablo was, and still is, one of the main streets in the 'arrabal' - zones 9 and 10. It is visible on Figure 5.

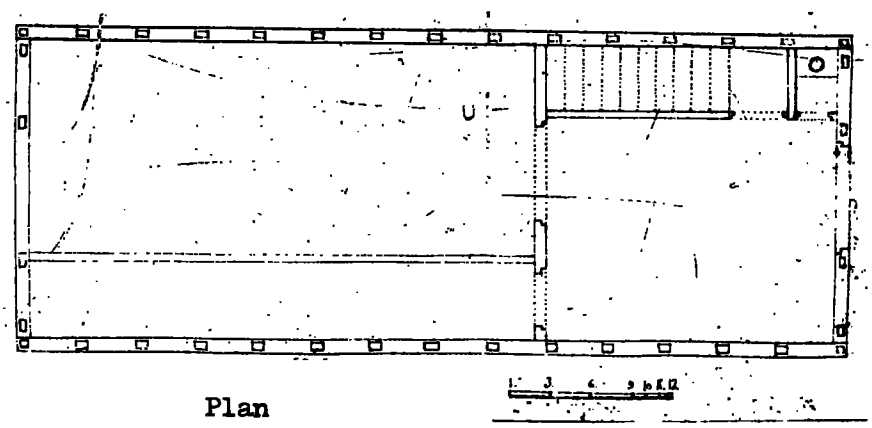
However, the planned construction on the spit - known as Barceloneta - at last took place and was completed in 1753 under the direction of the Captain General, the Marquis de la Mina. [1] Figure 15 shows the city in about 1785. The new 'barrio' Barceloneta - well illustrates the main features of the 'Ciudad Barroca' and planning under the early Bourbons, straight streets intersecting at right angles, uniformity in building styles and dominance of the military square and barracks. Figures 16 and 17 show the types of buildings constructed in more detail - the 'almacen', the designed successor to the 'barracas' to act as both living quarters (in the front of the house) and warehouse (at the back) - and the military barracks, built in Barceloneta in 1753.



Side View



Front View



Plan

FIGURE 16 - THE 'ALMACEN' - HOUSE AND WAREHOUSE IN ONE

Built in Barceloneta in 1753 and again in 1781 when the port zone was widened. Built largely of wood. The scale is in Catalan Palms. (1 Palm = 8 inches (approx))

Source:- A.H.B. 'Libro de Acuerdos' 1781

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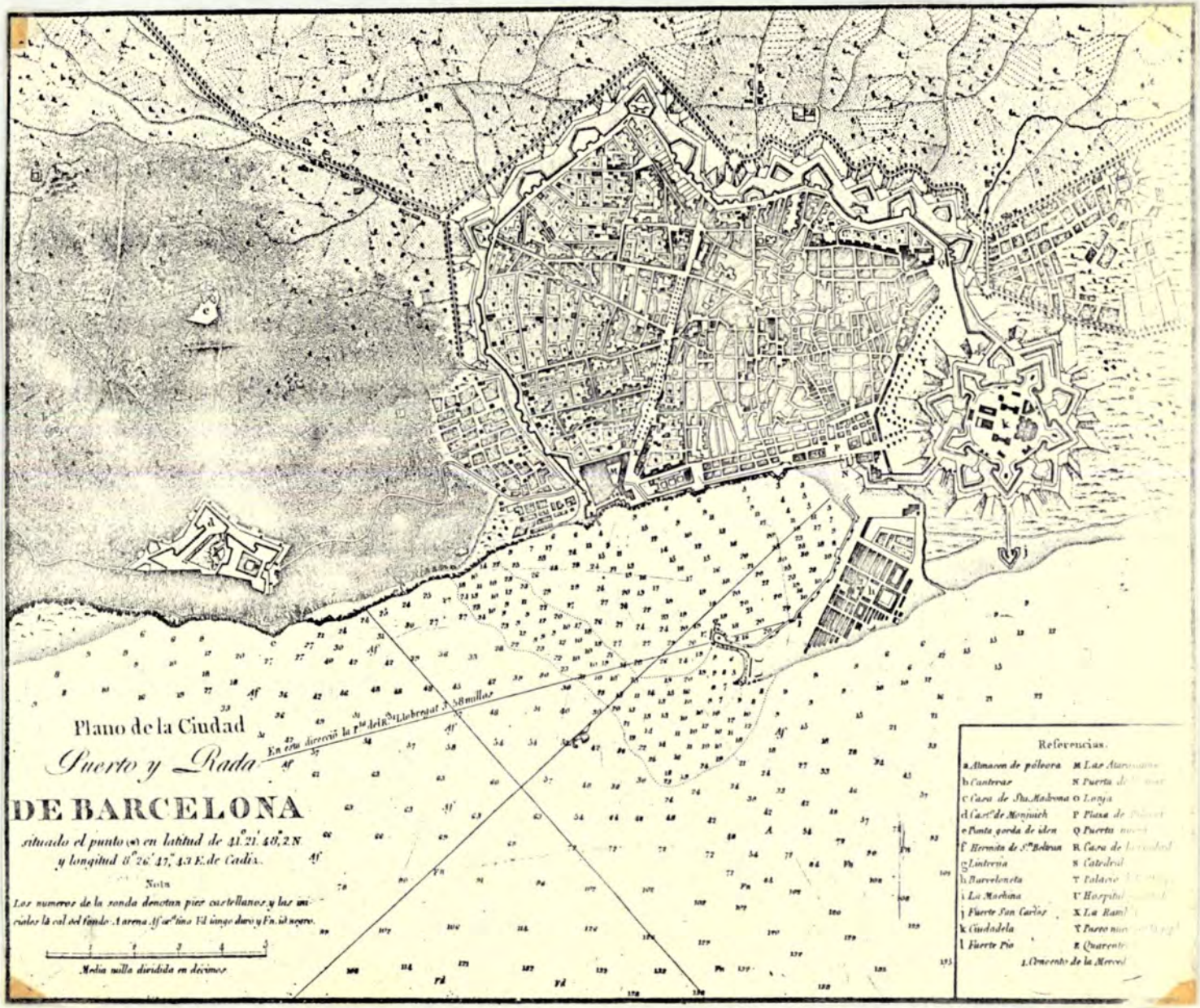
[1] The Marquis de la Mina was Captain General from 1743 to 1767

FIGURE 15 - BARCELONA ABOUT 1780

(Compare with Figures 4 and 13)

The construction of Barceloneta in 1753 typified the uniformity of street and house construction under the early Bourbons. The zone was widened slightly in the 1780's.

Source: A.H.B.



The fall of the city to the Bourbons had one other important effect on its morphology, although this did not become apparent until the 19th century. For security reasons a military zone was established covering the area within approximately 1,000 metres of the walls. Within this zone, building was strictly prohibited, so that when settlements sprang up outside the walls in the late 18th and 19th centuries, they established themselves beyond the military zone. The importance of the location of this 'urban crown' will be discussed later, particularly as it affected the necessities and objectives of Cerda's plan of 'Ensanche' (expansion) in the 19th century.

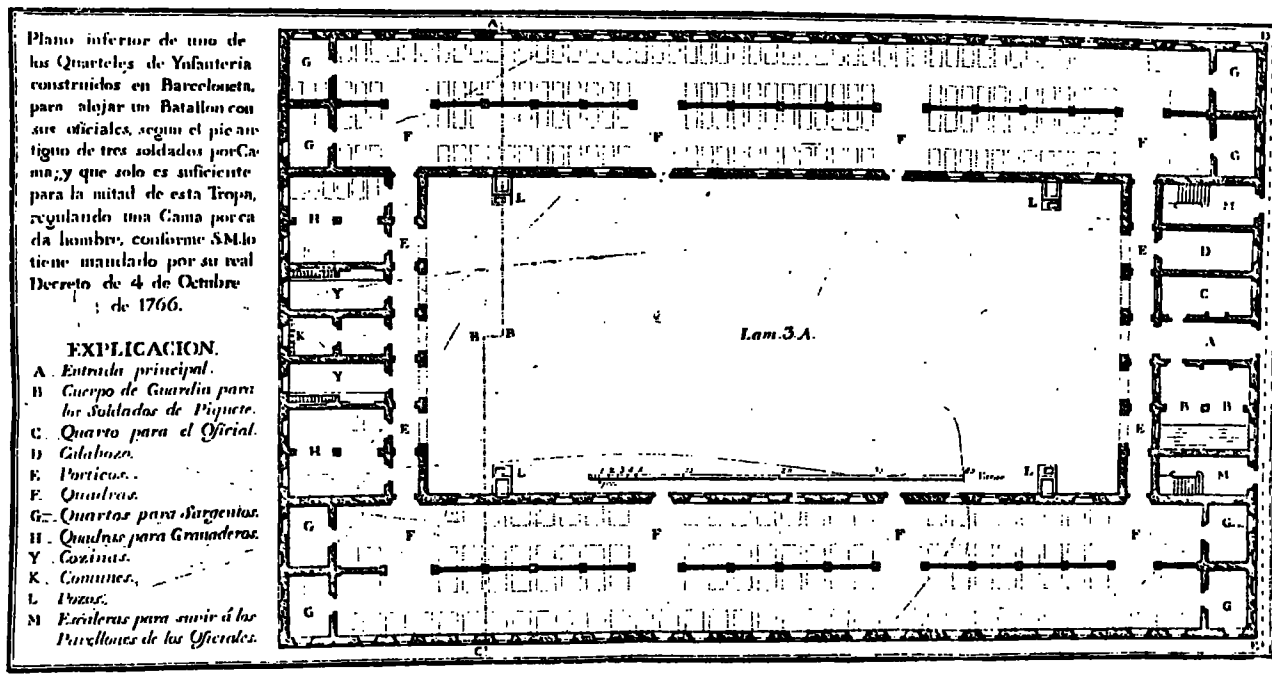


FIGURE 17 QUARTERS FOR THE INFANTRY AND THEIR OFFICIALS

These were constructed according to the old norm of 3 soldiers per bed, which was sufficient for only half of the troops after the Royal Decree of 1766 changed the regulation to one bed per man.

Source:- A.H.B.

4. A CHANGING ECONOMIC AND POLITICAL BACKGROUND: EL CONDE DE RICLA; THE 'PLAN DE OBRERIA'

In the 18th century, Barcelona and to a lesser extent Cataluna, experienced the consequences of the change from pre-industrial to industrial society. Demographically, the city grew from about 34,000 in 1718 to 111,000 in 1787 (Table 6). Agriculturally, the century saw the colonization of western Cataluna, the introduction of new techniques and crops and increased yields. In 1787 we find Young saying that the agricultural areas around Barcelona are amongst the most advanced in Europe.[1] As regards trade, the century saw a change from a national to a colonial market. In 1755, the 'Real Company of Barcelona' obtained a series of trading privileges with the islands of Santa Domingo, Puerto Rico Margarita. Later, the crown granted free trading rights to Barcelona with the above mentioned islands, and Trinidad and Cuba, and in 1789 to all the Indies. This increase in trade brought new markets and new raw materials and had particular relevance to the development of the cotton industry in Barcelona. The textile industry was long-established in Cataluna,but the 18th century saw the development of the printing of imported cloth, and to a lesser extent the spinning and weaving of cotton.[2]

The Barcelona of the 1760's differed in another way from that of 1714. Of the three main factions mentioned earlier - the Council, the Captain General and those connected with new industrial and commercial forms - the Captain General played the leading role in the development of Barcelona in the first half of the century; but after 1750 the importance of the monarchy lessened, as that of the other two increased.

DATE	CATALUNA	BARCELONA
1718	407,000	34,000
1787	814,000	111,000
1857	1,652,000	216,000

TABLE 6 - DEMOGRAPHIC GROWTH 1718-1857 Source (10)

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1 See M.Izard - 'La Economia Catalana Moderna' (10)

2 In 1768 in Barcelona there were 22 factories and 1,017 looms
In 1783 the 'Compania de Hilados' alone had 53 factories and 1,342 looms (according to the 'Junta del Comercio')

3 In 1796 there were 92 factories for printing linen and cotton and 35 for weaving cotton. (According to the 'Mercantile Almanach')

The role of the Captain General became one of instigation, orientation and control; the Council was regarded as the technical department, responsible for drawing up plans and statutes, whilst private enterprise was left to carry them out. But in the 1760's a corrupt council did little to guide private enterprise. Although, in theory, building permits were necessary, verbal agreements were often sufficient, and in any case the fine for not obtaining a permit was less than the price of the permit itself.

In 1763-4, as a result of a grave agricultural crisis, some 9,000 peasants had arrived in Barcelona, attracted by the greater availability of food. Many remained to work in the cotton industry, causing many problems including those of housing and public order. Uprisings in Madrid and other towns in 1766 intensified public demand for solutions to these problems, and in particular for reform of local administration. The consequent introduction of a popular element - representatives elected by heads of families [1] - into the Council gave a more favourable atmosphere to the planning of an urban system within the walls to meet the needs of demographic expansion.

It was in these circumstances that the Conde de Ricla became Captain General of the city between 1767 and 1772. During this period he initiated a new phase of urban planning, that was never fully realized because of opposition from the old elements of the Council. In 1768, in a directive to the Council,[2] he accuses them of not paying sufficient attention to urban problems. He also published a decree,[3] prohibiting the building of extensions onto houses, so that they were overhanging the streets (Figure 18). This extension was over and beyond the foundations and had been used since the 16th century as a means of overcoming the narrowness of parcels of land, but which only added to the narrowness of roads and alleyways, even then considered unsatisfactory. Against this, the Council argued that the building of these extensions was an established right, although they encroached on public land, and suggested a closure of roads in the worst affected zones. [4]

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1 Involved the new posts of 'diputado' and 'sindico personero del commun' See Gran and Lopez (11)

2 A.H.B. Ayuntamiento (Council) Acuerdos 1768 - Folders 549-550. It mentions lack of building regulations, poor paving of streets, rubbish on streets, extension of workshops causing blockages, need for straightening roads etc.

3 A.H.B. Ayuntamiento - Political - 'Real Decretos' 1768 Folder 264

4 A.H.B. Ayuntamiento - 'Obreria' - Box 31

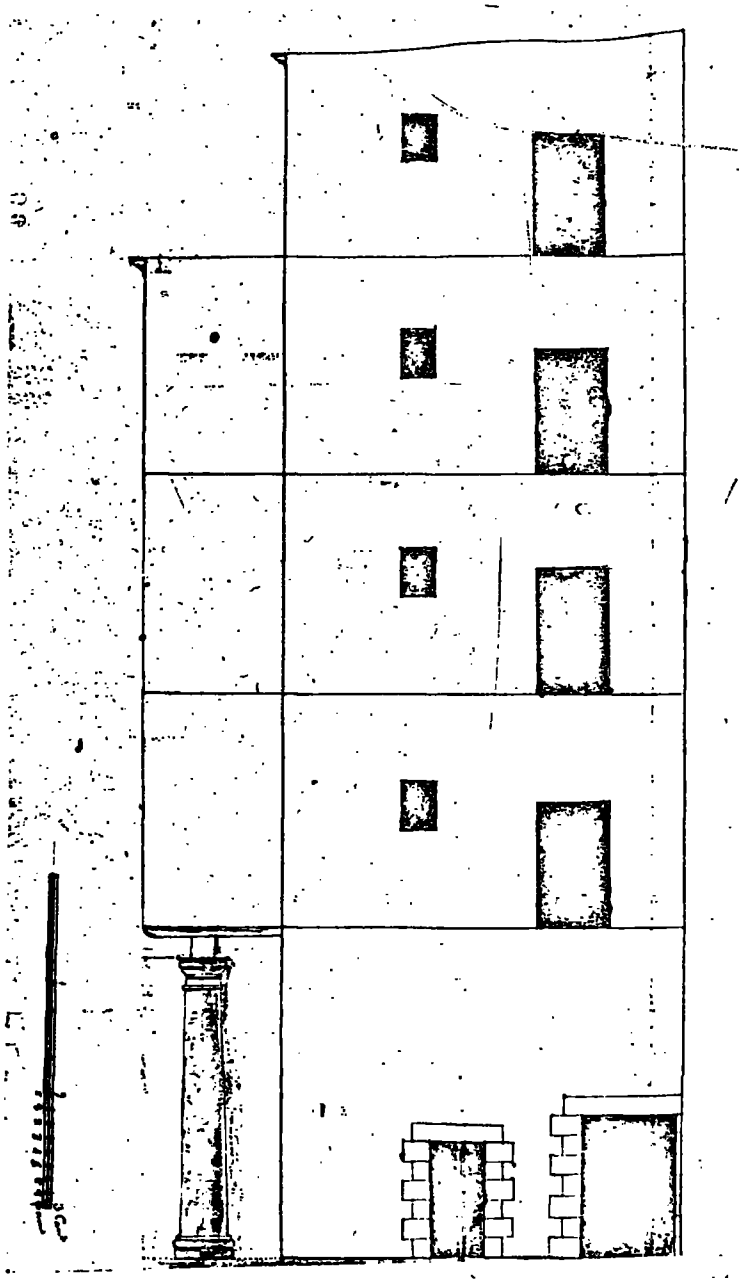


FIGURE 18 - 'CASA CON VOLADA'

(House with overhanging extension.) From the 'Registro de Obreria', entry of August 1772. In a narrow but deep parcel, such an extension added considerably to the living space. They were prohibited by Ricla in 1768, but if the interested party could argue his case, he often managed to add the extension anyhow.

(The 'Registro de Obreria' is a register of all building permits issued after 1772 and includes many plans and diagrams.)

Source A.H.B.

In 1770, despite the repeated demands and requests of Ricla, the Council had still not presented any firm plans for reform. Because of the delaying tactics adopted by the majority of the council, the people's representatives presented a plan to Ricla, to be submitted to the council. The project specified a series of norms for construction, and advocated the suppression of 'Visorios', the corrupt system by which building permits were granted. The Council paid little attention to the suggestions, except that regarding 'visorios', which they opposed strongly, as it was one of their main sources of income. At last, however, in 1771, the Council published the project but it omitted many of the main points suggested by the people's representatives.[1]

[1] A.H.B. Ayuntamiento - Plan de Obreria 1771

This plan - the 'Plan de Obreria' - said nothing about the overhanging extension, nor the alineation of streets, nor the limiting of heights of buildings, all of which had been demanded in the original plan. It did, however, include two important additions to the municiple regulations. First, the system of granting building permits was changed, so that the master of municipal works had to be consulted before a permit was granted; and it established a severe system of fines, thus guaranteeing the co-operation of landlords with the municipal authorities. Second, the document recommended the urbanization of the farms and orchards of the city, between the 'Dressanes' (Atarazanas) and Calle de San Pablo (i.e. the lower half of zone 10), in the 'Arrabal', just as Castel Rodrigo had done in 1718.

Such an interesting start to Ricla's career in Barcelona was to have little sequel. In 1772 he was promoted to Secretary of War in Madrid, and most of his plans were left half completed. By the end of the 1770's only one of his aims had been achieved - the destruction of the wall of the Ramblas in 1779 by Pedro Cemeño, Ricla's chief engineer, who carried on after Ricla's departure. (See figures 19 and 20) In trying to open up the city and encourage its horizontal expansion, Ricla's aims had probably been largely strategic, stemming from an obsession about rioting, always likely after the riots of the 1760's. From this point of view the existence of narrow streets and the complicated structure of bends and overhangs, forming entire zones that were hard to penetrate, all seemed to threaten the military dominance of the city.

In the end, however, the principal role in the development of the city after 1770, was played neither by the Captain General nor the Council, but by the private sector. Between the construction of Barceloneta in 1753 and Ricla's time in Barcelona, the situation had changed profoundly. Not only do we have to consider the new force of Barcelonan businessmen, but also the change in state ideology. The coming to power of the enlightened court of Carlos III, [1] of which Ricla was a representative, meant the dawn of a new economic liberalism. The state began to leave the economy to look after itself.

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[1] Carlos III ruled from 1759 to 1788. In 1760 he introduced a free trade policy which soon brought protests from the Catalan manufacturers, and consequently, in 1768, a return to protectionism, culminating in the ban on all imported manufactured cotton goods. Further information - Richard Herr 'Espana y la evolucion del Siglo XVIII' - Madrid 1964 Page 117 and following pages.

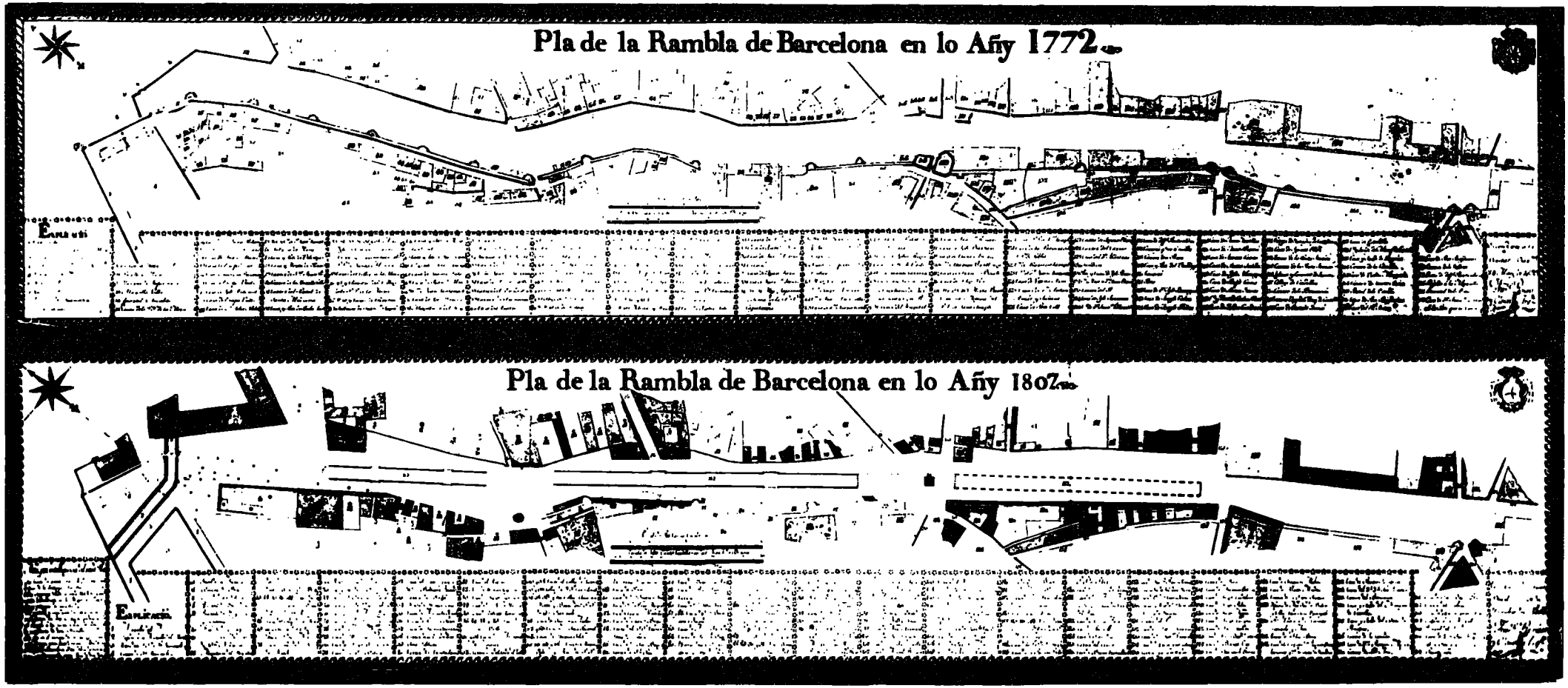


FIGURE 19 THE RAMBLAS 1772 and 1807 Source:- A.H.B.

One of the few of Ricla's plans to be carried out was the destruction of the wall of the Ramblas in 1779, the straightening of the street and the construction of a walkway down the middle of the road. Looking at the 1807 plan, Calle Boqueria (marked 30) is just below the dark square between the walkway sections second and third from the left and Calle de la Roca (marked 131) is a little further to the right, almost parallel with the Ramblas.

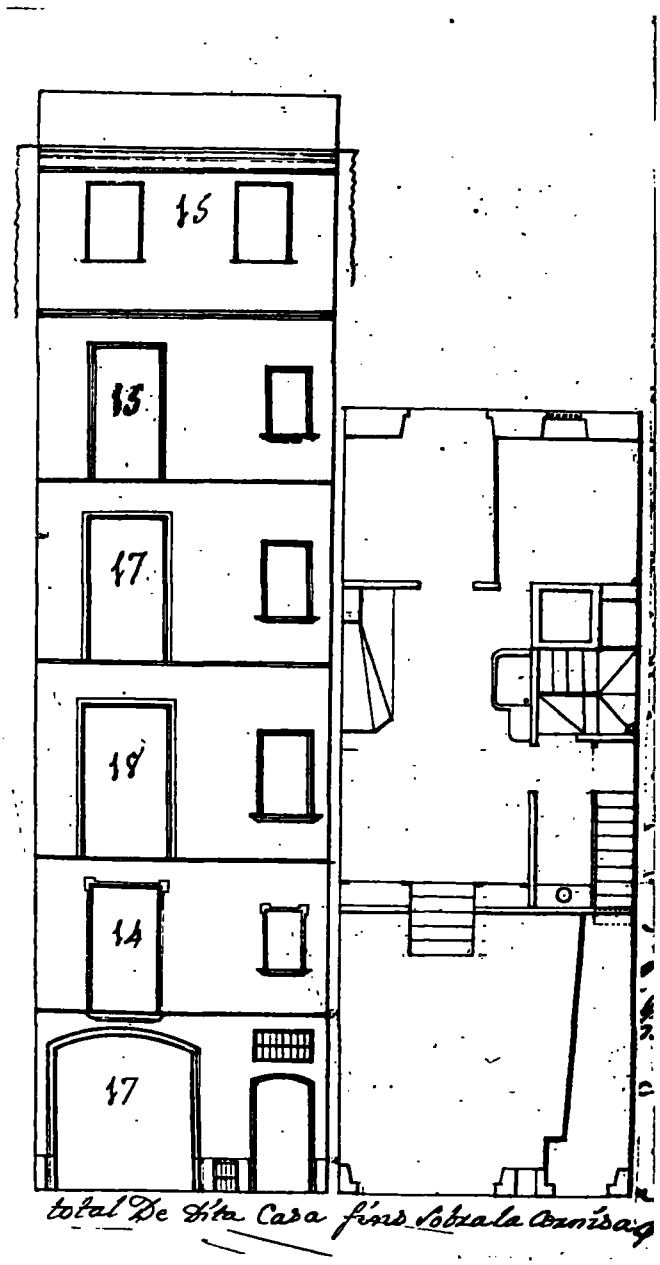


FIGURE 20 NEW EXTENSION IN THE RAMBLAS

With the destruction of the wall of the Ramblas, the houses in Calle de la Roca, a street running parallel with the Ramblas (see Figure 19), received unexpected extensions. These houses, which formerly backed onto the wall, were extended to have a second frontage - this one facing the main street of the city. Figure 20 shows the new frontage on the left, and a plan view of this extension on the right, the section at the bottom being the new extension. On the left, the height of each floor is marked in Catalan palms (one palm = 8")

Source A.H.B. - Registro de Obreria 6th May, 1785

In Barcelona, the urgently needed spatial modification of the city was not going to be done in an authoritarian way, as were the changes of the first half of the century, but rather induced by individuals.This,according to the economic thought of the time, would lead to perfect order.

5: PRIVATE ENTERPRISE AND PROPERTY: THE VERTICAL EXPANSION AND INTERNAL MODIFICATION OF HOUSING IN THE LAST THIRD OF THE EIGHTEENTH CENTURY

> "The fine and magnificent aspect of the buildings and of the city have largely disappeared in this century ... We have had the rebuilding of ruined and damaged houses,(resulting from their bombardment between 1691 and 1714) the demolition in the last 30 years of many of the old houses that were left intact and finally the rising up of new buildings, that were constructed to house the ever-increasing population in small spaces, ... Thus the old plots with spacious yards have been reduced, and with the narrowness of its streets, this city has come to be like a pine forest of houses, towers, domes, balconies and roofs."

(Antoni de Capmany i Montpalau, writing at the end of the 18th century (12))

In the last third of the 18th century, the construction of buildings increased sharply. The situation is well illustrated by the number of building permits granted between 1772 and 1791 (see Figure 21) and is supported by the increase in builders' wages. (Figure 22) The curves suggest two phases of expansion (1774-78; 1785-9) and one of recession (1779-84), undoubtedly coinciding with the war with England, (1778-83) and the resultant difficulty in importing goods. The average number of permits granted per year 1787-91 is 275, almost double that of 1772-6.

However, the urban expansion did not follow the intended course of Ricla. Instead of extending the city outwards, and constructing new houses, the business men and householders opted for another solution - the intensive use of space already urbanized. Of all permits granted between 1772 and 1791, only



Source (11)

FIGURE 21 - BUILDING PERMITS 1772-91

2% are for new buildings on unoccupied land - largely in the 'Arrabal', zones 9 and 10, after 1786; 17.8% are for the reconstruction of derelict houses; 15.2% are for the addition of new floors to pre-existing buildings and general transformations; 65% of the permits are for the installation of stairs and shops and the internal subdivision and adaptation of rooms. [1]

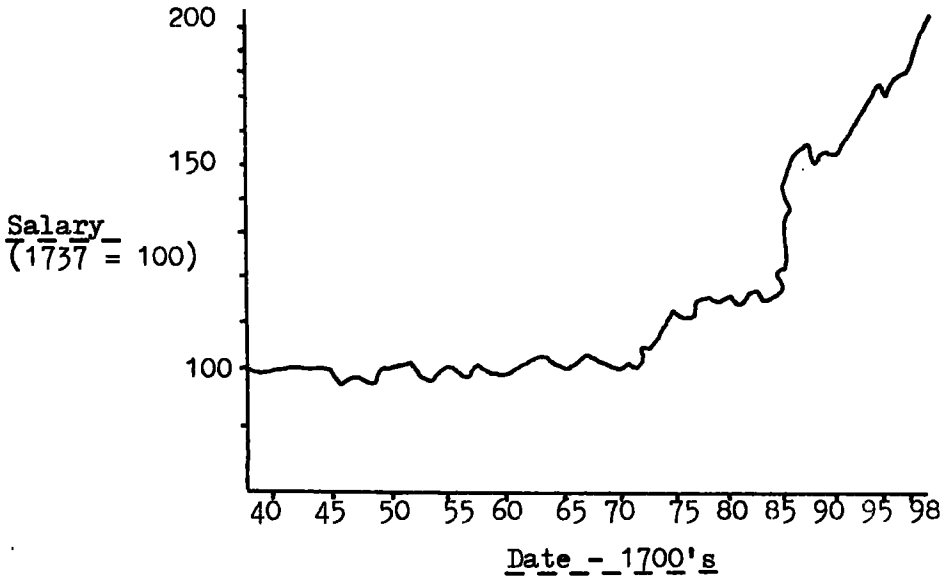


FIGURE 22 SALARIES OF CARPENTERS AND BRICKLAYERS 1740-98 Source (20)

The subdivision of space particularly affected the upper floors where the old 'secondary rooms' (i.e. those not normally used for living in such as lofts and storage rooms) were converted into tiny lodgings, although the lower floors, often the living quarters of the house-holder himself, were frequently left unchanged. This period also saw a building on all the medieval parcel,and on the garden behind, with a consequent increase in poorly lit and poorly ventilated rooms and an increase in the number of floors and thus the height of the building. (see Table 7)

In this way, the land speculator avoided the time and expense needed for the building of the streets, sewers and general infrastructure of new zones. This trend signified the end of the medieval house and of the relatively good living standards of the earlier 18th century and the beginning of the 'filling-in' within the walled city that was the main feature of the first half of the 19th century. It was the price paid for the lack of any real urban initiative,

[1] This is an analysis of permits 1772-91 by Grau and Lopez as in Source (11)

or any effective control of private enterprise. Inadvertently, the regulations regarding private construction only encouraged the process. The granting of building permits depended on the Council, who, since the time of Ricla and the 'Plan de Obreria' had a series of regulations regarding quantity of materials, thickness of walls and height of rooms, for the extension of the medieval house to one of ground floor plus two or three storeys above. It was presumed that any floors above this were to be used for 'secondary purposes' (storage, lofts etc.), so that whilst the ground floor and first floor had to be made of stone, the regulations said nothing about the uppermost floors, leaving it to the house-holders and builders to construct them according to their needs and desires. Consequently, it was far more profitable to add one or two floors, constructed largely of tile, to pre-existing buildings, than to build a new house from the foundations upwards. The upper floors were, in Barcelona, the area free from restrictions that the speculators of other cities sought in the suburbs or beyond.

NUMBER OF STOREYS	1772-3 % OF PERMITS		1790-91 % OF PERMITS	
1	6.6		1.0	
2	16.6		8.3	
3	63.3		16.6	
4	10.0	13.5%	34.7	72.2%
5	3.5		37.4	
TOTAL	100.00		100.00	

TABLE 7 1772-73 AND 1790-91 - % OF BUILDING PERMITS GRANTED IN THESE YEARS REFERRING TO BUILDINGS WITH CERTAIN NUMBER OF STOREYS Source (11)

Whilst only 13.5% of permits related to buildings of 4 or more storeys in 1772-3, the figure had risen to 72.2% by 1790-91.

This freedom permitted a process which responded in its form, to the ready made demand for cheap housing, as Mumford has remarked:-

> "The maximum gains were not obtained by creating comfortable accomodation for those who could pay a good price, but by piling up in hovels those people to whom pennies were scarcer than pounds were to the rich." (13)

In the last 30 years of the century, the 'Junta de Sanidad' [1] continually

[1] A Council body dealing specifically with health and hygiene.

criticised the conditions,[1] particularly those in the upper floors. The increase in the number of floors over the period 1772-91 has already been mentioned (Table 7), but there was also a reduction in the height or rooms with the height of the building (Figures 20 and 23). According to Lopez (14) a house of 15 metres height in 1771 would have four floors in total (average 3.75 metres per floor), whereas in 1791 a house of the same height would have six floors (average 2.5 metres per floor). But this reduction often affected only the upper floors,[2] whilst the lower floors, frequently living quarters of the landlord, remained the same height as before. In this way, the classic contrast between high and low which existed in the medieval house was accentuated and changed from a functional difference within the family house, to a class difference within rented property - what Bohigas calls the 'Eighteenth century urban house.'

> "The lower floors were inhabited by the moneyed classes. The economic level of the tenants declined with height. The absence of a lift and the distribution of smoke and sun made the 'principal' [2] floor ... the most pleasant and the most luxurious part of the building. The walled Barcelona was socially segregated along vertical lines rather than in horizontal zones." (15)

---

[1] This hierarchy was noted and accepted by the 'Junta de Sanidad'. They sought only to moderate it. In 1780 they proposed that the maximum height of houses should be set at 18 metres with two possible distributions.

(i)	5.4 metres	Ground floor and 'Entresuelo' (see note 2)
	4.4 metres	First floor
	4.0 metres	Second floor
	3.2 metres	Third floor
or (ii)	4.4 metres	Ground floor
	4.4 metres	First floor
	3.8 metres	Second floor
	3.0 metres	Third floor
	2.4 metres	Fourth floor

In 1814, municipal regulations prohibited the construction of floors less than 2 metres high.

[2] In Barcelona in the 18th and 19th centuries houses were usually built with an 'entresuelo' (literally 'between floors') and/or a 'piso principal' (principal floor). One or both of these came between the ground floor and the 1st floor (see below).

Piso Tercero	-	Third floor
Piso Secundo	-	Second floor
Piso Primero	-	First floor
Piso Principal	-	Principal floor
Entresuelo	-	Between floors
Planta Baja	-	Ground floor

Typical lay-out of floors in 18th and 19th century houses (See Figures 20 and 23 for examples).

Thus, although the building of new houses in zones 9 and 10 had been recommended by Ricla,[1] and later by the medical authorities, [2] the last 30 years of the century saw relativly little horizontal expansion. Instead, the transition from medieval to industrial city meant the coming of a new type of house - basement of stone, upper floors of thinner materials, progressive reduction in height of rooms from the first floor upwards, general reduction of light in rooms and minimal sanitary installations. Despite the reports and suggestions of the 'Junta de Sanidad' [3] and the master of municipal works,[4] the Council's regulations, by being either inappropriate or not strictly enforced, had little effect. The military authorities played a minor role in this era, although in 1797, in the face of public demand, they set a limit on the height of buildings, by which time it was really too late. The change to the new type of house was too well established, as its extension to other parts of the city in the next century was to prove.

---

1 " Occupy the depopulated and empty parts of the city, beginning with the farms and gardens of San Pablo and Santa Madrona ... making sure there is perfect regularity in all buildings, in latitude and longtitude, equality of flats, height and everything that adds to a generally better view."
From a directive sent by Conde de Ricla to the Council quoted in (14)

2 "Although the number of inhabitants of the city grows day by day, and thus more rooms are needed, there is not such a lack of space that houses cannot be built in the unpopulated areas of the 'Arrabal', where enough houses can be built...."
From A.H.B. - Obreria -'Aclaracion del dictamen medico'- 5th May, 1779

3 "We say that ... the narrowing of the streets and the building of houses up to 5 or more floors prevents the free ventilation of the city and the entrance of the sun. Thus, with so much vapour rising from the sewers, public places and factories, it is not easy to get rid of ... and if the houses are further raised, it would encourage epidemics more often..."
From A.H.B. - 'Obreria Aclaracion del dictamen medico' 5th May, 1779.

4 In 1770, the master of Municipal works made a plea for the introduction of regulations limiting the height of buildings. He suggests a limit of 75-80 Catalan palms (15-16 metres), with a maximum of 3 storeys plus an attic. The plea was never realised.
See A.H.B. - Obreria - Box 31 - 1770 Representacion del Maestro de Obras- 10 November 1770.

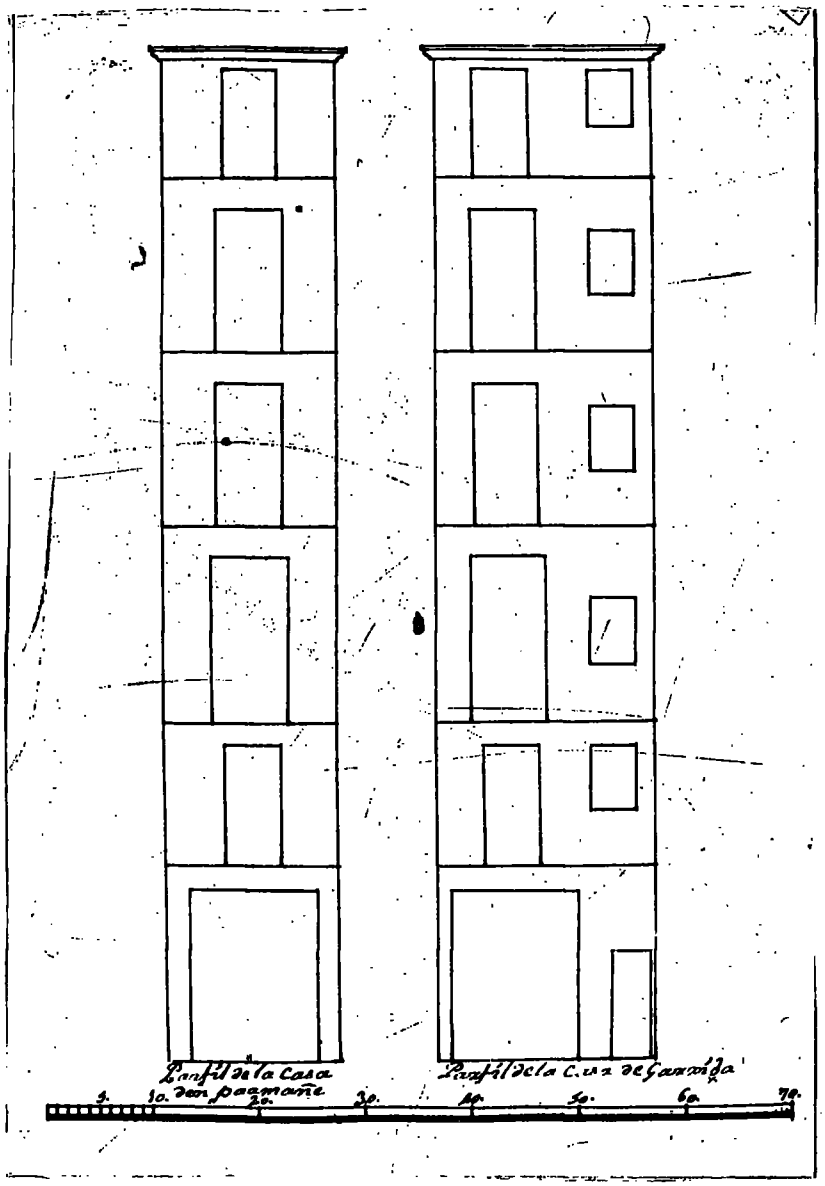


FIGURE 23 - TWO HOUSES IN CALLE BOQUERIA

Source: A.H.B. - Obreria- 18th March 1785

6: THE COTTON INDUSTRY AND HORIZONTAL EXPANSION OF THE CITY

The expansion of the cotton industry after 1750 has already been mentioned (see page 27). According to the Council, the vital date when the cotton industry made its impact on the city was 1765-66. Using the cheap labour provided by the influx of agricultural poor in 1763-4, the cotton manufacturers embarked on a programme of rapid expansion, marking a further decline of the power of the guilds and corporations and the ascendence of a freer economy. This expansion had a profound effect on the post-medieval urban space.

In the first place, the 'parcel' division of land was affected. Whilst the smaller firms could install themselves in old buildings, often introducing

certain modifications, the larger manufacturers needed a new type of building, not only for their factories and workshops, but also to house the workers. Even by the middle of the century, there are various examples of a firm building houses for the workers, within the grounds of the factory. Thus the installation of a factory was often preceeded by a regrouping of 'parcels' of land: the frontage of a medieval house would be 5-8 metres, that of a factory 20 metres or more (see Figures 24 and 25).

Second the cotton industry was responsible for the urbanization of new zones within the walls, particularly the 'Arrabal' [1] (zones 9 and 10). This part of town was not regarded as particularly important by the Council, and thus building in this zone created fewer problems. Indeed, in a campaign against the manufacturers by the Council in 1783-4, [2] they recommend the delimitation of chosen industrial zones, one of which was the 'Arrabal'. Particularly interesting in the expansion in the 'Arrabal' is Bastero's project, which is discussed at the end of this section.

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[1] Pujal (17) and Vilar (19) both suggest the urbanization of the 'Arrabal' after 1780 was entirely due to industrial expansion.

[2] Against all manufacturers who had abandoned the guild/artesan organisation, The Council criticized the new industry in that:-

a) The factories were unhealthy both for the workers and near-by residents.

b) The town was expanding and new factories were occupying ground needed for houses.

c) Factories occupied the best part of the city as they could pay the higher land prices.

d) Factories led to public disorder when so many people were grouped together.

They suggested that a special system of permits be introduced, delimiting four industrial zones - the 'Arrabal', Levante, Besos and the Esplanade. The protest came to nothing, however, after the Captain General intervened on behalf of the manufacturers.

Third, the cotton industry affected the development of the city beyond its walls. Although cotton was sometimes spun and woven in Barcelona, the industry was essentially one of printing imported calico. This latter process necessitated the acquistion of fields, usually beyond the walls, for drying and finishing the cloth, and so land on the plain of Barcelona was ceded to the manufacturers. Although the factory and the 'prado' (grounds for finishing and drying processes) were sometimes together, they were usually separate, the factory within the walls, and the 'prado' outside. In 1768, of the 22 factories listed by the 'Junta de Commercio' of the Council, [1] 20 had 'prados' outside the walls. Because these factories needed water for the finishing processes, they were concentrated in certain areas, especially near the coast towards the River Besos [2] and near the foot of Montjuich. The construction of workshops and houses for employees soon followed, establishing small centres of industry, outside the military zone, that were to grow rapidly in the 19th century. The nuclei of the municipality of San Marti de Provencals [3] started as 'prados' of 18th century cotton manufacturers.

The Projects of Camps and Bastero

Apart from Barceloneta, the two most ambitious attempts at a 'planned' solution to the housing problem in the 18th century were the projects of Camps and Bastero. Both projects were undoubtedly connected with the expansion of the cotton industry, in both the time and location of their appearance. Camps presented his plan to the Council in October 1771. The plan was to construct 70 houses alongside the drainage ditch ('Acequia/Cequia'), that ran in front of the citadel; the houses were to stretch from the sea up to the northern walls, occupying the land of the Esplanade. Not surprisingly the project was resisted by the military authorities. As early as 1771, Cermeno, Ricla's chief engineer,

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1 Listed by the 'Junta de Comercio' -Law 53 - 'Regulations for calico factories in Cataluna in February 1768'.

2 The River Besos (Rio Besos) is to the right of the old city, looking from the sea, and well beyond the walls. Today it is part of the city. (See for example Figure 51)

3 These nuclei can be seen in Figure 41, just outside the military zone, to the east of the city. The municipality included Clot, Campo del Arpo, Sagrera and Taulat. In 1846, the population of the municipality was 2,444, and by 1877 (after expansion of the old city beyond its walls) 23,982. It became known as 'La Manchester Espanola'.

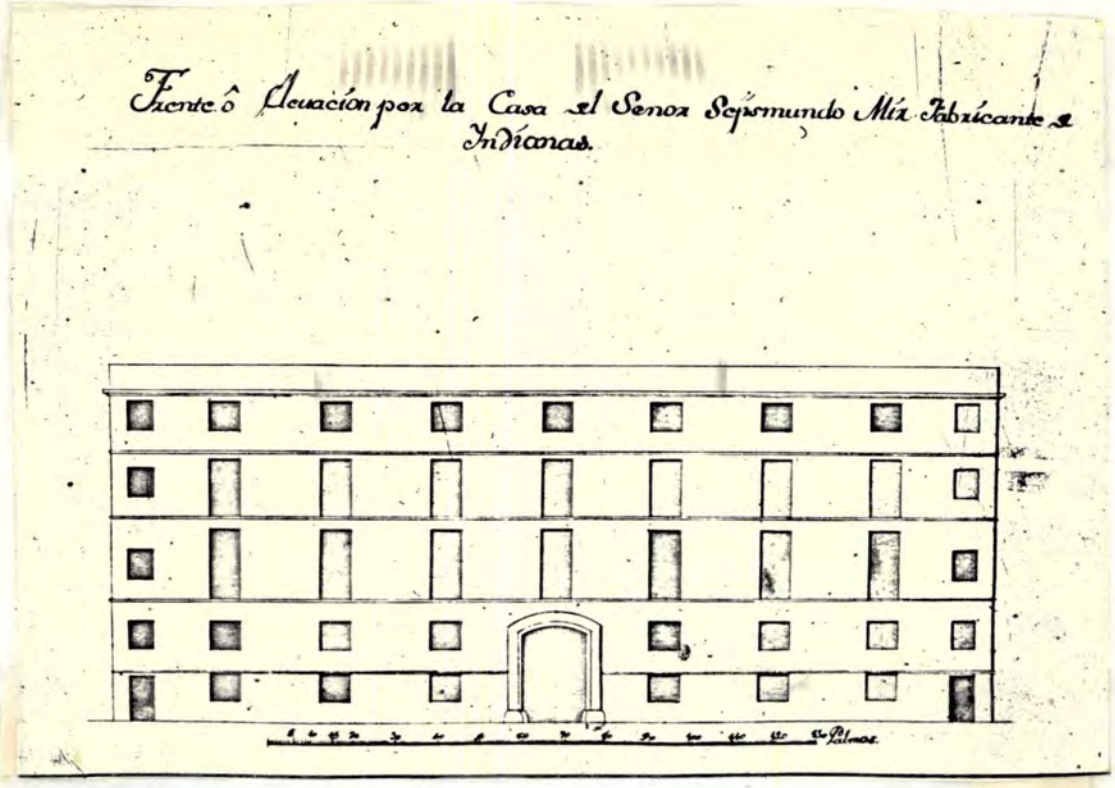


FIGURE 24 - A FACTORY IN THE ARRABAL

The factory owner is Senor Segismundo Mir, 'Fabricante de Indianas' - the general name given to cotton manufacturers be they weavers, spinners, printers or all three. The scale is in Catalan palms (1 palm is equivalent to 8 inches). This factory has a frontage of 200 palms or about 40 metres, and because of its size, had to be built in the 'Arrabal'. Source:- A.H.B. - Obreria - Box 51.

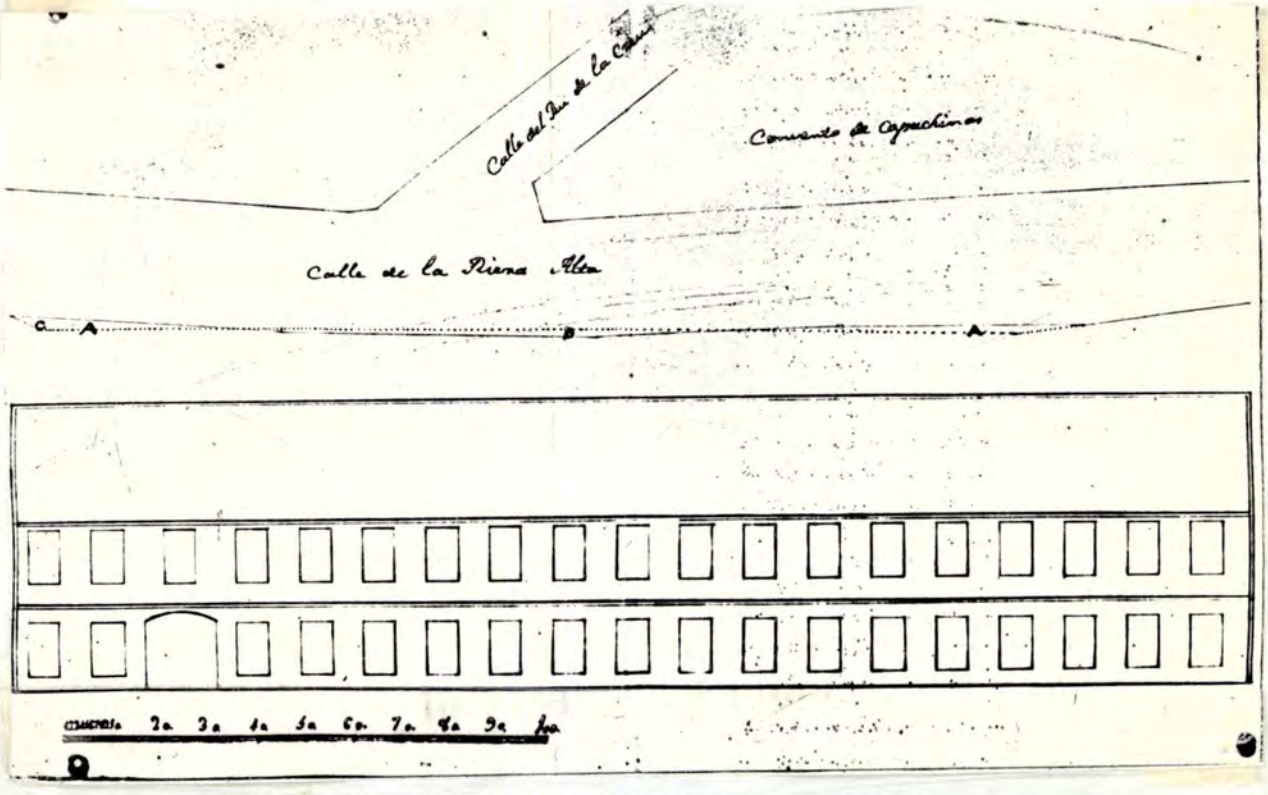


FIGURE 25 - THE FACTORY OF ERASME DE GONIMA

Situated in the Arrabal, the factory has a frontage of over 50 metres. It was just opposite the factory, in Calle Riera Alta, that Bastero planned to build his estate. Source:- A.H.B. - Obreria Box 45 Folder 156

had vetoed the project.

> "When the king decided on the construction of the Citadel, he formed the 'Acequia', to separate the Citadel and the Esplanade from the people; to achieve this, he demolished the nearby houses and limited the height of those remaining in the vicinity. The situation which motivated that action is equally relevant today."[1]

As a result of opposition by the military authorities, the plan was never realized.

Although it never reached fruition, it is worth noting its connection with the cotton industry. Two of the main promoters of the plan were Antoine Pongem and Jose Sagui, both important textile manufacturuers.[2] The date of the plan, 1771, coincided with the period of greatest expansion of the cotton industry, after the protective measures of Carlos III[3] had been introduced. The spatial connection is clear: in the part of the city near the Esplanade lay the majority of factories in one of the most overcrowded parts of the city, where the rise in height of buildings during the years 1772-91 was greatest of all[4] - the zones of Portal Nou and Sant Pere de las Puellas (See Figure 14). Of the 22 factories listed by the 'Junta de Comercio' in 1768, 11 are in this zone. In 1772, the 'Obreria' notes the appearance of a new factory in this area and again in 1774.[5] During the epoch of prosperity and expansion of the cotton industry, between 1768 and 1778, the epicentre of activities was the zone of Portal Nou. Camps's project tried to decongest this zone.

Bastero's project (Figure 26) was to build 90 houses in an 'estate' in the 'Arrabal'. His project encountered none of the difficulties that Camps's had and the council granted the building permit in February, 1787. Although there is no record of the completion of the project, it was certainly partly realized, and acted as a model for 19th century industrialists. (According to Grau (13))

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1 From 'Archivo de la Corona de Aragon'- Comandancia de Ingenieros: Box 8 'Camps'.

2 Antonio Pongem and Jose Sagui: for further information see :- 'Archivo de Registro de Propriedad, Registro Hypothecas ' 1778 - Book 5, folder 409.

3 See note 1 page 30.

4 This according to Grau R. (18)

5 From A.H.B. Obreria - Boxes 32, 33.

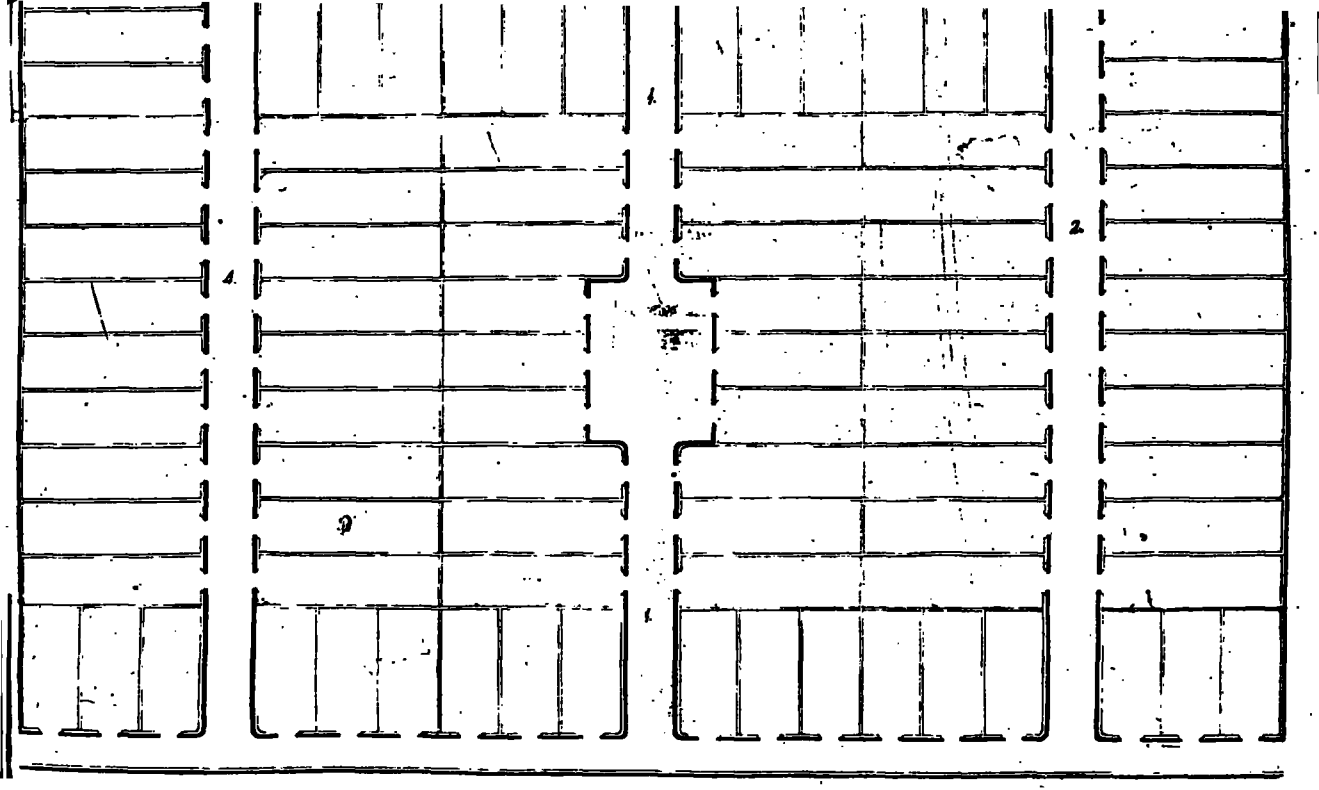
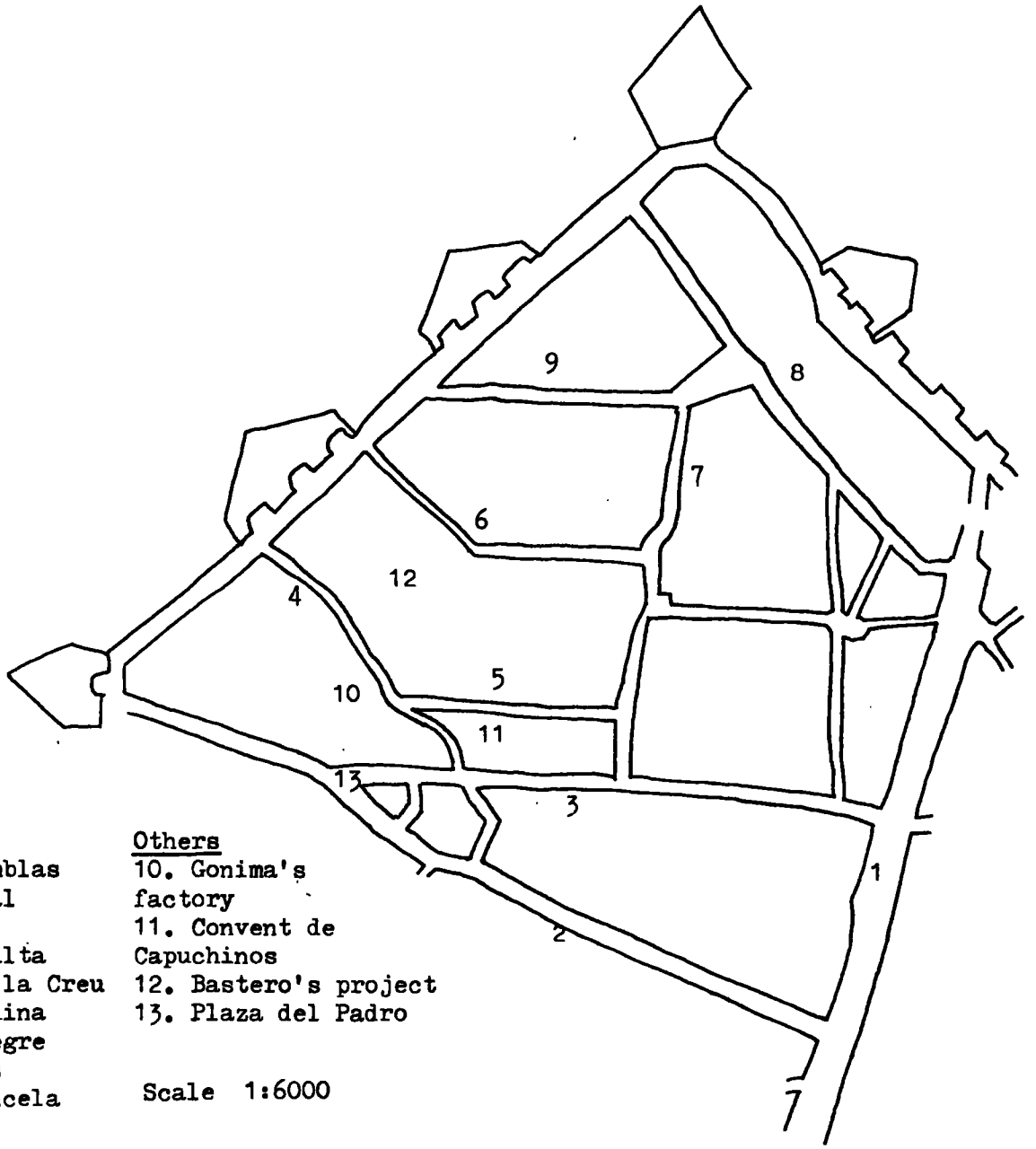


FIGURE 26 BASTERO'S PROJECT

The 'estate' consisted of 90 houses of 2 storeys only and 4 streets. Streets 1,2 and 4 were to be 22 palms wide (approximately 4.5 metres) and street 3, 20 palms wide (approximately 4 metres wide), to be widened later if houses were also built along Callejuela de Ferlandina, which was to border the estate a little way northwards, calle Riera Alta being immediately to the south. The central 'plaza' was to be 75 palms long (approximately 15.5 metres) and 55 wide (11metres).
Although there is no scale on the plan, it is obvious from the given dimensions that each house was to have an approximate frontage of 5 metres and a depth of 10-15 metres, although not all of this depth would be occupied by the house. Bastero was undoubtedly trying to preserve the old medieval house form. Because of the proximity of the estate to the Convent de Capuchinas (see Figure 25), the walls of the Convent along Calle Peu de la Creu were to be raised.

Source:- A.H.B. - 'Ayuntamiento - Acuerdos 1787- Folder 43.

The connection between the project and cotton industry is again clear. After the war with England (1778-83), the cotton manufacturers experienced a new phase of expansion that was to last until the wars at the end of the century caused a far greater interruption to trade. In 1783-4, the wall of the Ramblas had been destroyed, the Council were trying to locate factories away from the built-up areas and the 'Arrabal' had thus become the ideal location for the installation of factories and their 'prados'.



Key

Streets	Others
1. The Ramblas	10. Gonima's factory
2. Hospital	11. Convent de Capuchinos
3. Carmen	12. Bastero's project
4. Riera Alta	13. Plaza del Padro
5. Peu de la Creu	
6. Ferlandina	
7. Montalegre	
8. Tallers	
9. Valldoncela	

Scale 1:6000

FIGURE 27 - NORTHERN PART OF THE ARRABAL (ZONE 9) AT THE END OF THE 18th CENTURY

Around the orchards and gardens that Bastero would try to urbanize were installed numerous factories. On one side, between Calle Ferlandina and Calle Tallers (see Figure 27), the 'prados' were established, whilst the houses already built, such as existed, for example, in Calle de Montalegre (Figure 27), were used for production purposes. To the seaward side of Bastero's estate new factories appeared in Calle del Carmen and Calle Peu de la Creu [1] (Figure 27), especially around the Plaza del Padro, near to which Erasme de Gonima, who was later to become one of the most famous of Barcelonan industrialists, had his factory. [2] (Figures 25, 27). It was just opposite Gonima's factory, in Calle

1 All these activities are recorded in A.H.B. Obreria Box 44 1784.
2 For further detail on Gonima's factory see 'Archivo Historico de Protocolos de Barcelona' - Manuel Oliva y Viloca - ' Contratos de venta y enfitensis a favor de Erasme de Gonima ... en las calles de Riera Alta y Carmen.'

Riera Alta, that Bastero's estate was to be built. Again, it was an attempt to house workers employed in the cotton industry.

7 1793-1838 WAITING FOR CERDA

The end of the 18th and the beginning of the 19th centuries was an anti-climatic period after the changes of the previous 20 years. From 1793 until 1814 Spain was involved in the French Revolutionary and Napoleonic wars. The resultant blockade ruined trade with the Americas - the colonial market was gone for good. There followed a period of political instability under the repressive government of Ferdinand VII, culminating in the First Carlist Wars in the 1830's.

Change to industrial city continued, but at a far slower pace. Nevertheless, this period saw some interesting developments within the city. With the defeat of Napoleon and particularly after the defeat of the 'Cien Mil Hijos de San Luis', an insurgent force from France in 1823, French influence in the city was less marked and the age saw the resurgence of the 'plaza' as a typical feature of the city, in contrast to the baroque style of construction that typified the Bourbon rule of the previous century. It was in the period 1820-40 that many of the 'plazas' in the old city were established, notably San Justo, part of San Miquel, the three surrounding the church of Santa Maria del Pino (see photo 60), San Pedro and Santa Maria del Mar. At the same time many of the 'cul-de-sac' streets were converted into through-roads or else disappeared altogether. Some, however, remain today(e.g. Calle Petons, Calle Tripo, Pon de l'Estang, Pon de l'Estanc, Calle Cap de Mon - all are marked on figure 86). One of the main figures in these changes was Master of Municipal Works, Jose Mas y Vila, who was later to design the much copied house frontage design of Calle Fernando. Calle Fernando was one of a series of roads crossing the city from left to right, that was opened between 1760 and 1850. Following the construction of Calle Conde de Asalto in 1763 - largely because of the efforts of the Captain General of that name - Calle de Barbara, just above Conde de Asalto, was urban-ised, but not until 1836 was Calle Union built, linking Barbara with the Ramblas (see photo 62). Because of the relative emptiness of the 'Arrabal' these two streets caused relatively few problems in their construction, but Calle Fernando on the other side of the Ramblas, linking it with Plaza de San Jaime (or Plaza



FIGURE 28 BARCELONA AT THE TURN OF THE CENTURY (1800)

The marked lines represent those ways most used by the people of Barcelona for recreational, religious, military purposes etc. (Continuous, broken and dotted lines give 3 levels of importance, the first being the most important.)

1. The Ramblas
2. "Pla de la Boqueria"
3. Muralla de Mar
4. "Portal del Mar
5. Plaza Palacio
6. Paseo de la Esplanada
7. Puerta San Antonio
8. Calle Hospital
9. Plaza San Jaime
10. Plaza del Angel
11. "Portal Nou"
12. Calle de la Plateria
13. Plaza Santa Maria
14. Calle Ancha
15. "Mercat del Born"
16. "Portas del Angel"
17. Plaza Santa Ana
18. "Pla Nova"
19. Calle San Pablo

Source (150) Catalan is in inverted commas.

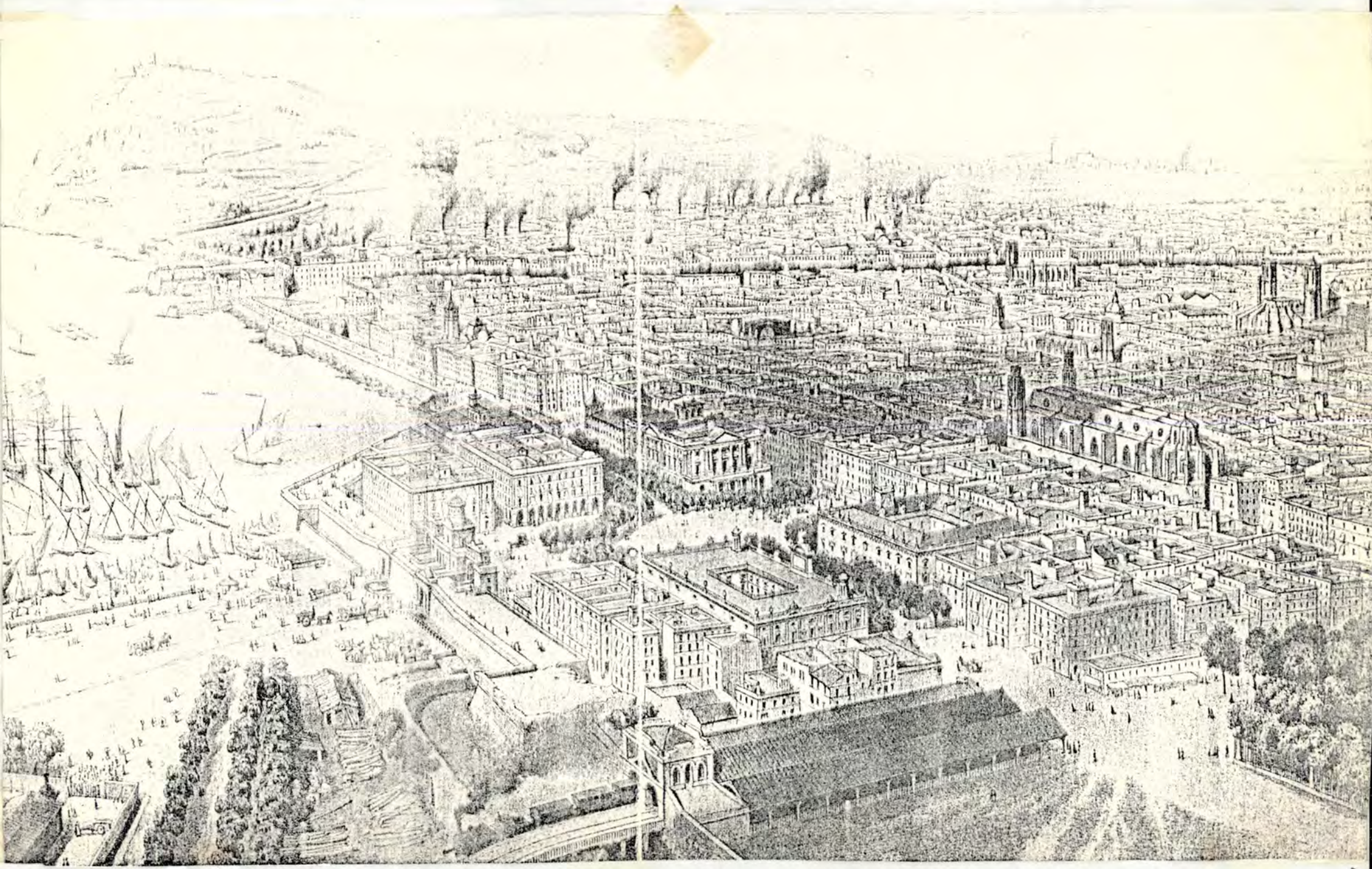


FIGURE 29 BARCELONA ABOUT 1850 BEFORE THE DESTRUCTION OF THE WALLS Source (21)

de la Constitucion) was built through an area of housing. Its construction was started in 1823 and reached Calle Avino by 1826, but not until 1848 did the road reach Plaza San Jaime. (It was later extended - as Calle Princesa - to link the Ramblas with the Citadel Park.)

Whilst the years 1772-91 had seen a vertical differentiation, so in the early years of the 19th century a horizontal differentiation became more apparent, again based largely on class differnces. The Judicial, Administrative and Religious centre of the city remained in the old Roman sector, around the Cathedral, typified by the Council and 'Diputacion' buildings and the 'Palacio Real Mayor'. The commercial centre was undoubtedly around Plaza de Palacio (see Figures 28 and 29) near the port, around which some of the most important buildings of this period were constructed e.g. Casa Lonja. The 'Muralla de Mar' (sea-wall) linking Plaza de Palacio with 'Atarazanas' - at the foot of the Ramblas - became a very important 'paseo' (Figure 29), second only to the Ramblas itself. It was around these two streets, the Ramblas and the 'Muralla de Mar', or to be more precise, Calle Ancha, just behind the'Muralla de Mar' that the residences of the nobility and 'alta burguesia' stood, generally in a severebaroque style, dating from the previous century (Figures 30a and 30b). The more modest housing (Figure 30c) of the proletariat was built around the newly installed factories. For reasons previously discussed, most of the newly installed industry was located in the 'Arrabal', as Figure 29 clearly shows, although longer established factories also existed in the area not shown in Figure 29, to the right of the Ramblas, but above the Cathedral in the zone of San Pedro.

According to Carreras Candi ("Geographia de Cataluna"1916), the Paseo de Gracia, linking the walled city with the outlying suburb of Gracia, was a beautiful, tree-lined way in 1760, with a park - 'Campo Eliseos' - in its middle course in 1792. Between 1808 and 1814, however, both the Paseo and the Park were destroyed because of the threat of foreign invasion, making an advance upto the walls from the landward side more difficult. Within the walls, the Esplanade (Figure 31), dividing the Citadel from the city, was used as an open 'Paseo' for public use after 1806 (and as the site of the peacock market on St Thomas's Day).

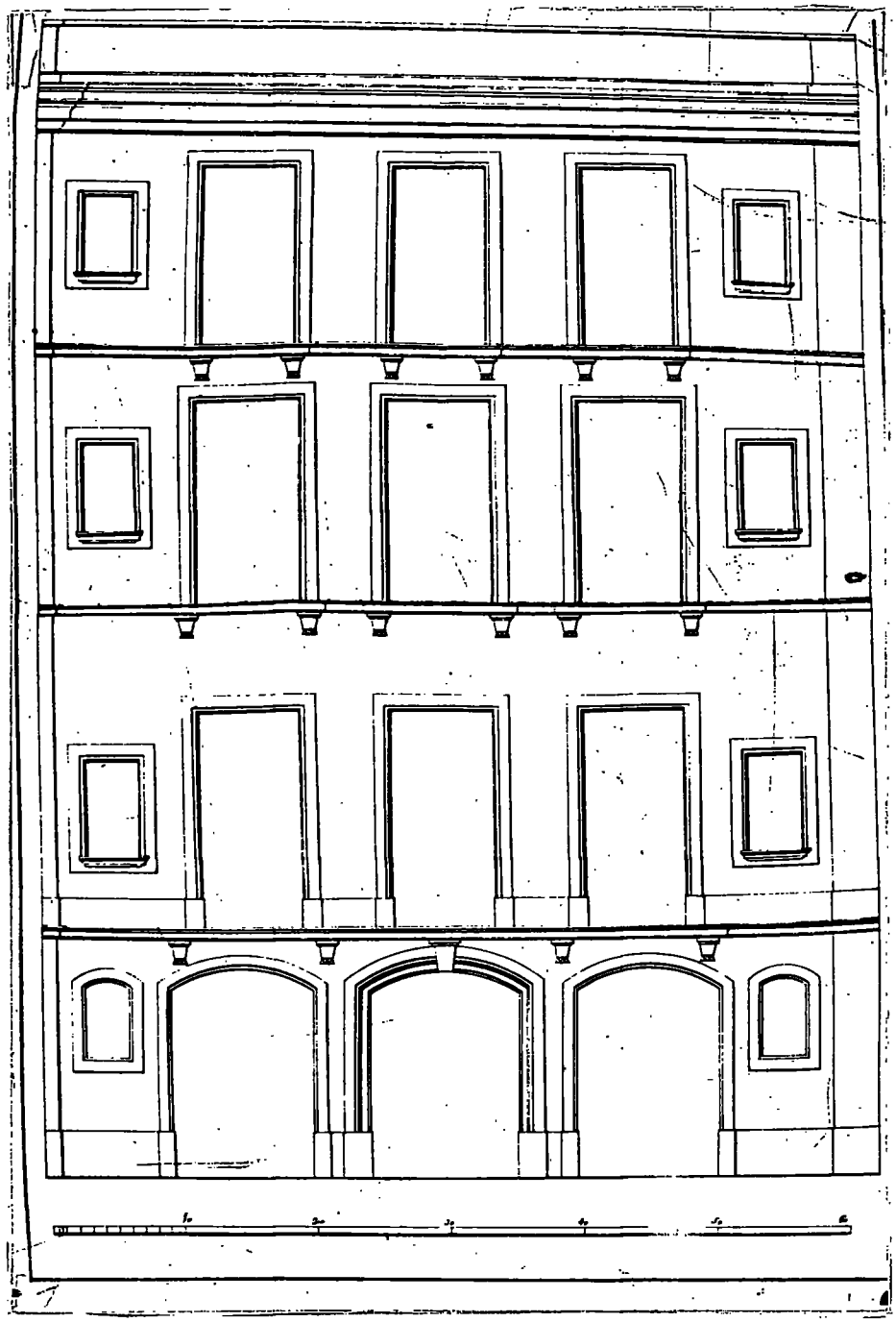
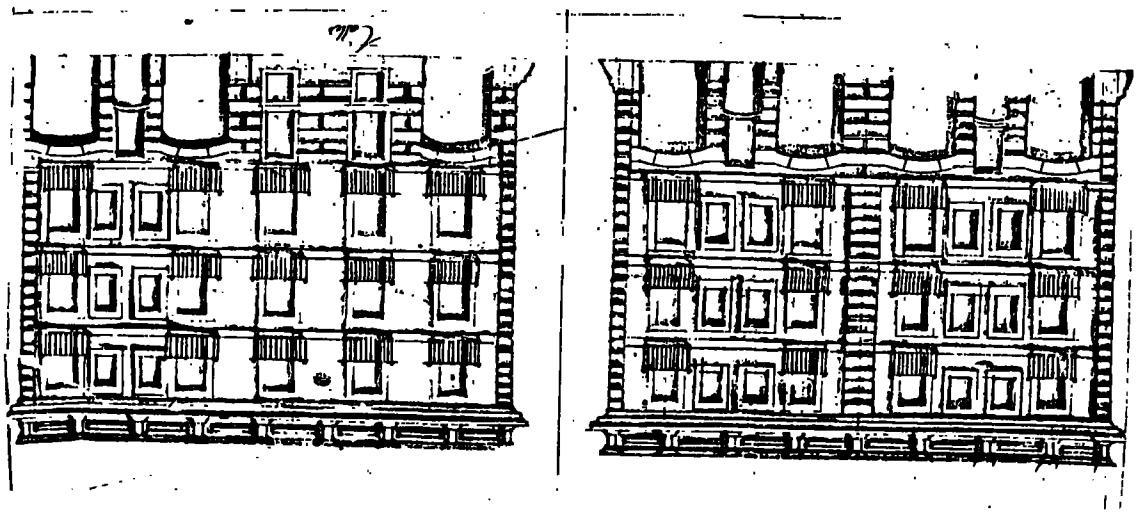


FIGURE 30 HOUSES AT THE END OF THE 18TH CENTURY -(a) RESIDENCE FOR THE 'ALTA BURGUESIA' Source A.H.B.

After 1785, the houses of the upper-middle class began to rival those of the nobility, the former having become rich through commerce, business or industry. Despite the severity of its lines, typical of the 'ciudad barroca', such housing was generally luxurious within.

Pressure of population in the city increased. Overcrowding had worsened, if not caused, the cholera epidemic of 1834 and yet the convents and monasteries occupied relatively large and spacious grounds. In 1835 the mob rioted and razed to the ground a number of religious buildings. The following year (1836), this land was officially given over to the municipality to be used for buildings for the benefit of the public. The buildings destroyed included the convents or monasteries of Santa Catalina (today a market of the same name), of



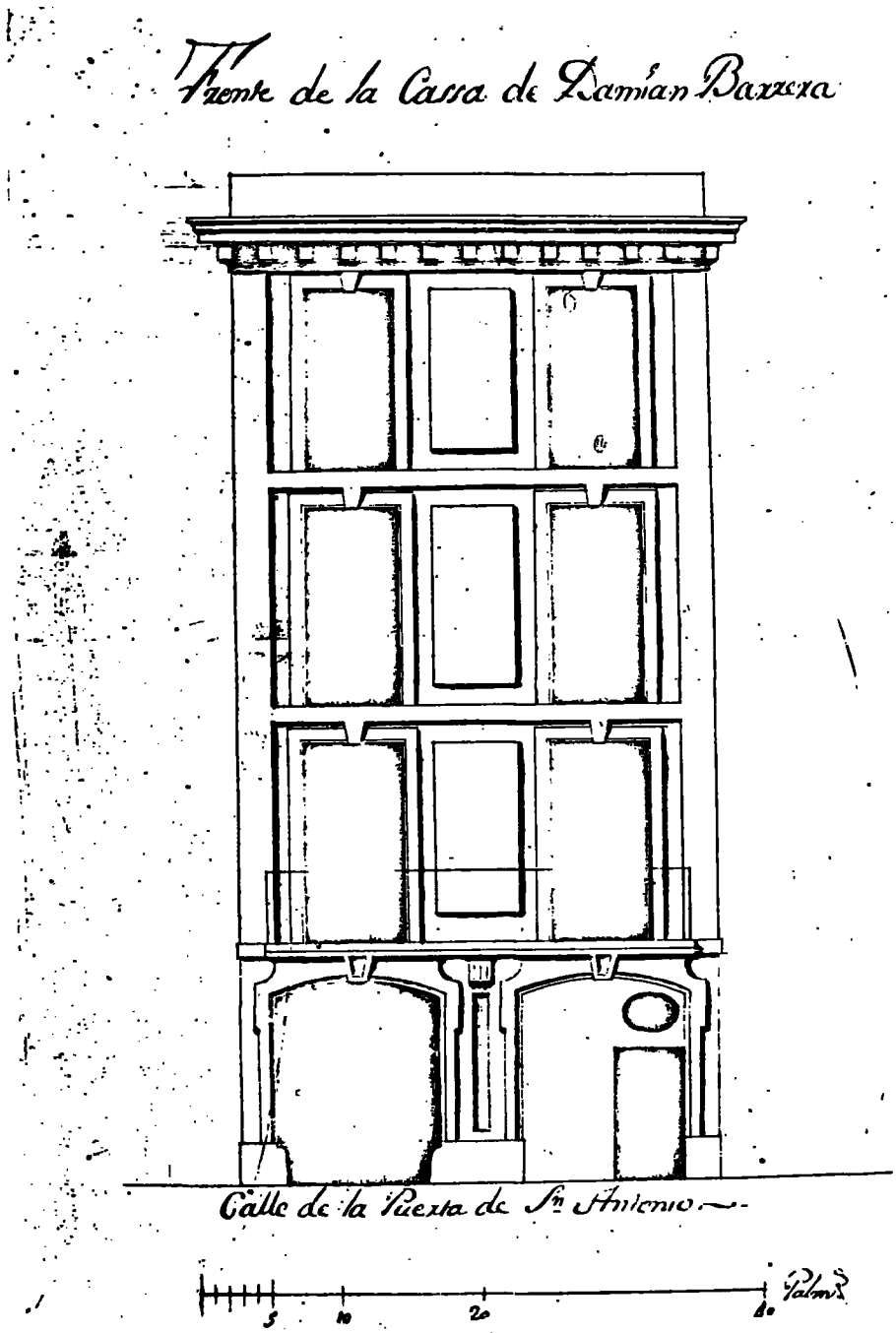


FIGURE 30b (ABOVE) - A NEW TYPE OF HOUSE BUILT ON A LARGER 'PARCEL' OF LAND

These appeared in the horizontal expansion of the city, in the last 15 years of the 18th century and first half of the 19th century. Some of the rooms were rented out but the frontage is rather more decorative than earlier styles and inspired by the 'gran palacios' of the epoch.

Source A.H.B.

FIGURE 30c - MORE MODEST RENTED PROPERTY - BUILT ON OLD MEDIEVAL PARCEL OF LAND

Note the allusion to symmetry with the two archways at ground level, one of which, much reduced in size, is, in fact, the lodger's doorway, the other a shop. Note also that the difference in height of the 3 floors is almost imperceptible.

Source A.H.B.

Jerusalem (today the market of San Jose), San Francisco (today plaza de Medinaceli) Trinitarios des Calzos (today the Liceo Theatre) and Capuchinos (today Plaza Real - See Figure 80). Similarly, the Botanical Garden, created in 1784 on the initiative of the Marquis de Cintadella, became a luxury in a city so hard-pressed for space. In 1837, architect Soler i Mestres drew up a plan for the urbanisation of the space (Figure 32), carried out in the 1850's when a new garden was created outside the medieval city beyond what is now 'Diagonal'.



FIGURE 31 THE ESPLANADE 1797 Source (150)

This, then, was an interim period of war, depression and instability between the urban impulse of 1772-91 and the early attempts at 'ensanche', preliminaries to the Plan Cerda, which was to see the destruction of the medieval walls and the connection of the old city with its suburbial ring.

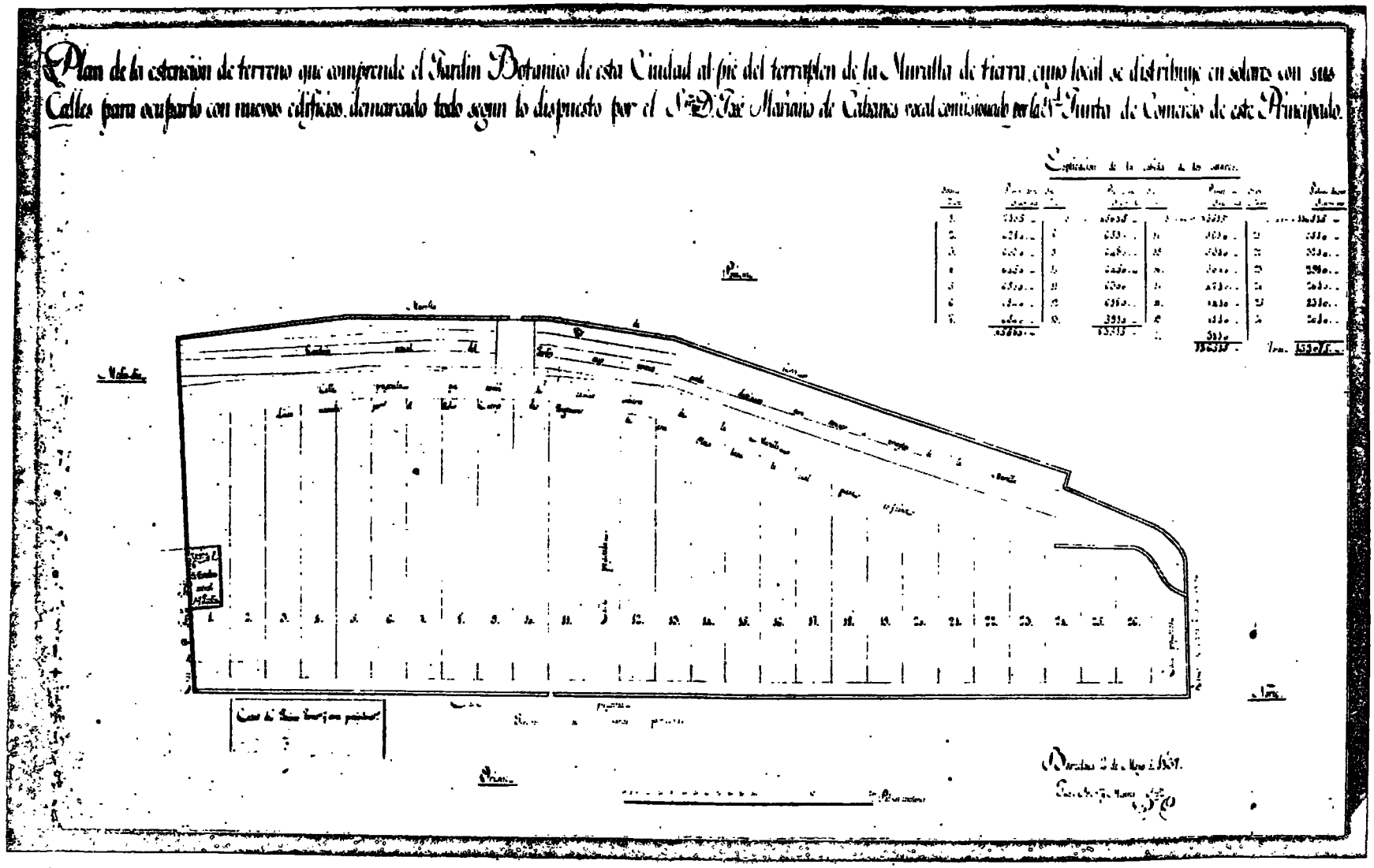


FIGURE 32 - PROJECT OF URBANIZATION OF THE 'BOTANICAL GARDEN' Source (92)

Given to the city in 1784, the garden was situated at the foot of the wall near Calle de la Cera in the 'Arrabal', to be used for the cultivation of medical herbs and plants.

CHAPTER 2

CERDA AND 'ENSANCHE' (1838-1860)

PART A: BACKGROUND

1. CERDA - LIFE AND WORK

Ildefonso Cerda was born on the 23rd December, 1815, the third son of a farmer and merchant, in Cantellas, in the province of Barcelona. He first came to Barcelona in 1834, - a walled, overcrowded city, full of contrasts with his rural upbringing. He witnessed the cholera epidemics of 1834 and 1835 and the popular uprisings of 1835, which saw the razing to the ground of the convents in the city.

In 1836 he registered in the School of Engineers of Roads and left, a qualified engineer, in 1841. Between 1841 and 1849, Cerda was involved in the construction of roads, railways and aquaducts, but gave up his career in 1849, because of his "already irrestible affection for the study of urbanisation," (31/9) to pursue his studies, which he financed himself, having been left the family fortune after the death of his father in 1844, and his two brothers in 1837 and 1844. From then on the most important of his knowm works can be summarized as follows:-

1855:	'Topographical Plan of Barcelona' 'Noticias Estadisticas' (69)
1856	'Statistical Monography of the Working-Class of Barcelona.' (71)
1859	'Project of Reform and 'Ensanche' of Barcelona' 'General Theory of Construction of Cities'
1862	'Anteproyecto of Interior Reform of Madrid' 'Theory of Urban Movement' (82)
1865	'Anteproyecto of the Station of Stations.' 'Theory of Linkages between land and sea routes.'
1867	'General Theory of Urbanisation and its Application to the 'Ensanche' and Reform of Barcelona', otherwise called the 'Teoria General' (31 and 32)
1873	'Project of Regionalisation and Provincial Communications'

More is said about these works in Appendix 2, but a brief outline is given here. The Topographical Plan of Barcelona has already been referred to. It formed the basis for all the projects entered in the competition, held in 1859, to find a project of 'Ensanche' of Barcelona. In 1856 his 'Statistical Monography of the Working-Class in Barcelona' signalled his involvement with the working-class and formed the statistical base for some of his later studies.

Of the 'General Theory of Construction of Cities' that accompanied the 'Reform and 'Ensanche' of Barcelona,' we only know that it existed, and that it consisted of 3 large volumes (33j/494) and that the second had more than 518 pages

(33j/499).

Of the 'Anteproyecto of Interior Reform of Madrid,' all we know of it is the favourable review given it by the Consultant Body of Urban Police and Civil Constructions and some chapters of the accompanying explanation of the project, published in 'La Revista de Obras Publicas' in 1863-4 and in a separate pamphlet under the name of 'Theory of Urban Movement.'

We only know of the 'Anteproyecto of the Station of Stations' (or the 'Mercantile and Marine colony') through a report of the Academy of Five Arts of St. George, which tells us that the 'anteproyecto' was the application of a 'Theory of Linkages between land and sea routes' to the case of Barcelona.

Of the 'General Theory of Urbanisation and its Application to the 'Ensanche' and Reform of Barcelona we have only the first two volumes and lack what would probably have been the most interesting. In the third he was to'establish the fundamental principles of the science of urbanisation' (31/337), and synthesise many of his previous theories, a lot of which remain unknown. Of the two volumes that we have, the first deals with urbanisation in general, whilst the second, 700 pages long, consists largely of data and statistics referring to the urban situation in Barcelona. As we shall see, these two volumes (and the third) have been the subject of much controversy, particularly in that they constitute the field of study for new interpretations of the 'Plan Cerda' (see appendix 2).

Lastly, the 'Project of Regionalisation and Provincial Communications Network' was published in part amongst the proposals of the 'Diputacion' of Barcelona (a Provincial Administrative Body - in many ways an extension of the power of the Council of Barcelona into the Province), but the bare tables and lists of figures give little idea of the accompanying theory.

These works, however, form only the tip of the iceberg. Much of his work remained unpublished. In the late 1850's after he realised that the 'Ensanche' of Barcelona was going to be a slow process, he formed a special society called 'The Promotion of 'Ensanche',' which was set up to help, add to and develop his ideas. Although he influenced some contemporaries, he was nevertheless unable to found a true school of thought or find true disciples. Thus, when he died, "broken, weary, poor, forgotten and hurt in the depths of his heart" (33/662), so died

for a long time the urban science that, according to Soria y Puig (23/10), Cerda "invented, founded and developed ... of the gigantic theoretical and scientific contribution that Cerda made, nobody, as yet, has been able to reconstruct the full picture."

It is also worth noting that Cerda was also a politician and that his role as such undoubtedly helped the formulation of his ideas. Between 1854 and 1856 he was a member ('sindico') of the Council and a member of the Commission that mediated in the General Strike of 1855. In 1868 he became a Representative ('diputado') of the Province of Barcelona after the revolution of that year and in 1873 became vice-president of the 'Diputacion' during the first Republic. He died in 1876.

2. BARCELONA

The Industrial Revolution first came to Barcelona at the end of the 19th century, much before the rest of Spain. When Cerda first became interested in urban matters - about 1844 - the problems of Barcelona were in many ways "graver than those of any other industrial city, in France or in England." (23/41)

From the point of view of urban space, the Industrial Revolution produced a change over from dispersed, artesan-based production to an increasingly concentratedindustrial production. The effect this change had on housing at the end of the 18th century has already been studied (pages 33-38) and needs no further comment. In spite of overcrowding and poor sanitary conditions, the population of Barcelona continued to grow in the 19th century. Again immigration into the city was the main reason for growth. According to Cerda (32/508) there were more deaths than births in the city between 1836 and 1847, but 53,712 immigrants arrived in the city in that period, a staggering figure, considering the total population of Barcelona and its suburbs was only 175,331 in 1849. (32/63) By 1857 the total population had reached 215,942 (32/252) and 533,000 by the end of the century. (See Table 8)

As Tables 8 and 9 and Figure 41 reveal, continued migration to the city had its effects outside the walls. The small nuclei that existed outside the walls at the end of the 18th century increased rapidly in size during the 19th century to form the suburbial ring of Pueblo Nuevo, [1] Clot, Gracia, Las Corts and

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[1] The more recent name for the settlements of Icaria and La Llacuna

Sants (see Figure 41). Whilst some of these were industrial settlements (Clot and the smaller settlements of San Martin de Provencals), some were bourgeoisie residential areas (Gracia) and others remained small agricultural settlements until the beginning of the 20th century, when they became the new residential zones of the bourgeoisie (e.g. Sarria) or the working-class (e.g. Horta). Apart from these settlements within the 'plain' of Barcelona, the pull of the labour market also accentuated the differences between Barcelona and its region, (migration from the rural areas of Cataluna to Barcelona) then between Barcelona and various regions of Spain (migration from Valencia, Murcia and Andalucia) and finally between the region and North Africa (migration from Morocco).

DATE	1717+	1787‡	1830x	1836o	1849o	1857o	1877x	1899x
POPULATION								
MEDIEVAL CITY	33,010	111,000	116,000	136,000	146,322	183,787		**
BARCELONETA					12,738			359,986
SETTLEMENT ON THE PLAIN					16,271	32,155		* 173,014
TOTAL	33,010	111,000	116,000	136,000	175,331	215,942	250,000	533,000

* This figure refers to settlements still to be reached by the 'Ensanche'.

** Includes areas reached by 'Ensanche'.

Sources

\+ Nadal and Giralt (2)

‡ M.Izard (10)

x Escude i Bartoli (28) -1902

o I. Cerda (32)

TABLE 8 - POPULATION OF BARCELONA 1717-1899

Within the walled city living conditions steadily worsened as population density increased, the poorest being most affected. Table 10 crudely reflects how economic station governed life-span. It is worth noting that during the period considered (1837-47) there was no cholera epidemic in the city, and that in those periods -for example 1862-5 - figures were even lower. Table 11 gives details of the worst epidemics to affect Barcelona during the 19th century and Table 12 makes comparisons with other cities. The higher death-rate in Barcelona was undoubtedly connected with population density, for, as we shall see later, it was one of the most densely populated cities in Europe at this time. Cerda concluded that "as the urban space per inhabitant is getting smaller, so it is increasing the death-

rate of the population." (32/543)

Poverty was another feature of the age. According to Cerda, Table 13 represented the daily diet of a working-class family with two children, which accounted for 53.62% of family expenditure (32/662). Wheat, which was so important a factor in the survival of the poor, rose in price, whilst salaries tended to drop. Cerda also made calculations to show that the property market favoured the rich. Whilst "in the other articles on the market, you are accustomed to pay ... in proportion to the services, utilities and advantages that each object has " (32/700), he estimated that a poor man living on the fourth floor could pay upto 37% more per square metre of rented property than his rich neighbour, living in far better conditions on the first floor (32/551).

	1786	1791	1846	1849	1860	1877	1890	1900
SANTS	662+	800+						
GRACIA				12,975 °	19,968+		45,042+	
SAN MARTIN DE PROVENCALS (Clot/Sagrera/ Tancat)			2,444+			23,982+		
SAN BELTRAN				3,180°				
HORTA								4,354*
SARRIA								6,576*

TABLE 9 SETTLEMENT ON THE 'PLAIN'OF BARCELONA (by no means exhaustive

Source

+ M. Domingo (76)
o I. Cerda (32)
* Escude i Bartoli (28) 1902

	'RICH' CLASS	'ARTESAN' CLASS	'DAY-WORKER' CLASS
MALE	38.83	25.44	19.68
FEMALE	34.11	24.90	27.43

TABLE 10 AVERAGE LIFE-SPAN (YEARS) OF INHABITANTS OF BARCELONA 1837 - 1847

Source:- Laureano Figuerola (74)

YEAR	CAUSE	DURATION	DEATHS	POP$^{n.}$ OF CITY	DEATHS PER 1000
1821	YELLOW FEVER	111 DAYS	6,244	100,639	62
1834	CHOLERA	?	3,521	118,280	29
1854	CHOLERA	70 DAYS	5,675	160,000	35
1865	CHOLERA	80 DAYS	3,717	191,000	20
1870	YELLOW FEVER	60 DAYS	1,278	194,382	7

TABLE 11 - EPIDEMICS IN BARCELONA 1821-70

Source:- Cerda (32) and Pedro Garcia Faria (66)

CITY	DEATHS PER 1000 INHABITANTS
LILLE (1832)	10
MOSCOW (1831)	15
PARIS (1832)	24
BARCELONA (1834)	29

TABLE 12 - CHOLERA EPIDEMICS IN 1830's

Source:- L. Chevalier - 'Le Cholera. La Premiere Epidemie du XIX Siecle' Volume XX of the Bibliotheque de la Revolution de 1848, - 1958.

BREAKFAST	CHILDREN:	A CRUST OF BREAD AND A GLASS OF WATER EACH
	PARENTS:	SARDINE SALAD AND BREAD
LUNCH	ALL FAMILY:	400 GRAMS OF BEANS (TOTAL)
SUPPER	ALL FAMILY:	1,400 GRAMS POTATOES (TOTAL)

TABLE 13: DIET OF WORKING-CLASS FAMILY OF HUSBAND, WIFE AND 2 CHILDREN (1856)

Source:- Cerda (32)

To this background, the large amount of political activity and working-class discontent that was evident in the city is no surprise. Engels said of Barcelona that its "history has registered more fights involving the barricading of the streets than any other in the world." [1] During the cholera epidemic of 1835, the mob rose and burnt the convents to the ground. A year later, in 1836, the central government issued the 'Desamortizacion de Mendizabal', in which all convent lands were given to the Municipality for housing purposes. In 1841, a pamphlet written by Pedro Felipe Monlau, entitled 'Down with the Walls' was published and much talked about in the city. Public demonstrations were not to cease until the walls were destroyed. In 1843, a large procession to the Citadel was dispersed by the army. In 1854 widespread uprisings preceded the so-called 'Liberal Biennium' (1854-56) of General Leopoldo O'Donell, when the destruction of the walls was finally authorised.

Finally a note on population density. Table 14 shows figures for other European cities at about the time of 'Ensanche' in Barcelona, revealing that density in Barcelona was almost ten times that of London and more than double that of Paris. Only one small zone of Bilbao comes near to Barcelona. Further, Baumeister's figures (Table 15) show that neither walled German cities such as Mainz, nor important ports like Hamburg and Amsterdam had densities comparable with Barcelona's. Even the most densely populated part of Paris had a lower density than the most spacious of Barcelona's four districts as defined by Cerda in 1859, which had 724 inhabitants per hectare (32/54 and 205). Even the Jewish quarter of Prague, with a density of 1,428 inhabitants per hectare in 1847 is less than that attributed to zone 10 of District 2 as defined by Cerda, which had a density of 1,724 inhabitants per hectare in 1859.

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[1] Frederick Engels 'Los Bakuninistas en accion' in 'La Revolucion en Espana' 1966 Ariel Barcelona Page 231.

CITY	INHABITANTS / HECTARE
LONDON (1858)	86 *
MADRID (1857)	348 *
PARIS (1859)	356 *
LILLE (1858)	411 +
MADRID (1857) not including parks	534 *
BILBAO (1860)	546 ‡
BILBAO 'LA VIEJA' (1860)	826 ‡
BARCELONA (1859)	859 ∮

TABLE 14: POPULATION DENSITIES OF OTHER CITIES COMPARED WITH BARCELONA ABOUT THE TIME OF 'ENSANCHE'

Sources:-

* Carlos Maria de Castro in 'Memoria Descriptiva del Ante-proyecto de Ensanche de Madrid' - Madrid 1860.

+ Pierre Perrard - 'La Vie Ouvriere a Lille sous le Second Empire' Paris 1965 Page 88.

‡ 'Memoria del Proyecto de Ensanche de la Villa de Bilbao' Madrid 1878.

∮ Cerda - 'General Theory of Urbanisation ...' (32)

CITY	POPULATION DENSITY INHABITANTS PER HECTARE
MAINZ - interior of walled area	357
COLOGNE - interior of walled area	400
PALMA DE MALLORCA (1885)	416
AMSTERDAM - (including canals)	500
HAMBURG -old quarter (1874)	555
BILBAO (1869)	585
LONDON	
All the city	100
The 'city'	454
BERLIN (1873)	
All the city	151
Old quarter	286
Densest part - zone of Spandau	588
PRAGUE (1874)	
Within fortifications	286
Old quarter	476
Jewish quarter	1,428
PARIS	
Between exterior 'boulevardes' and limits of city	111
Between interior and exterior 'boulevardes'	322
Within interior 'boulevardes'	714

TABLE 15 - POPULATION DENSITIES IN EUROPEAN CITIES 1876 (unless otherwise stated)
Source - (23)- Originally from Baumeister 1876, except the Palma figure.

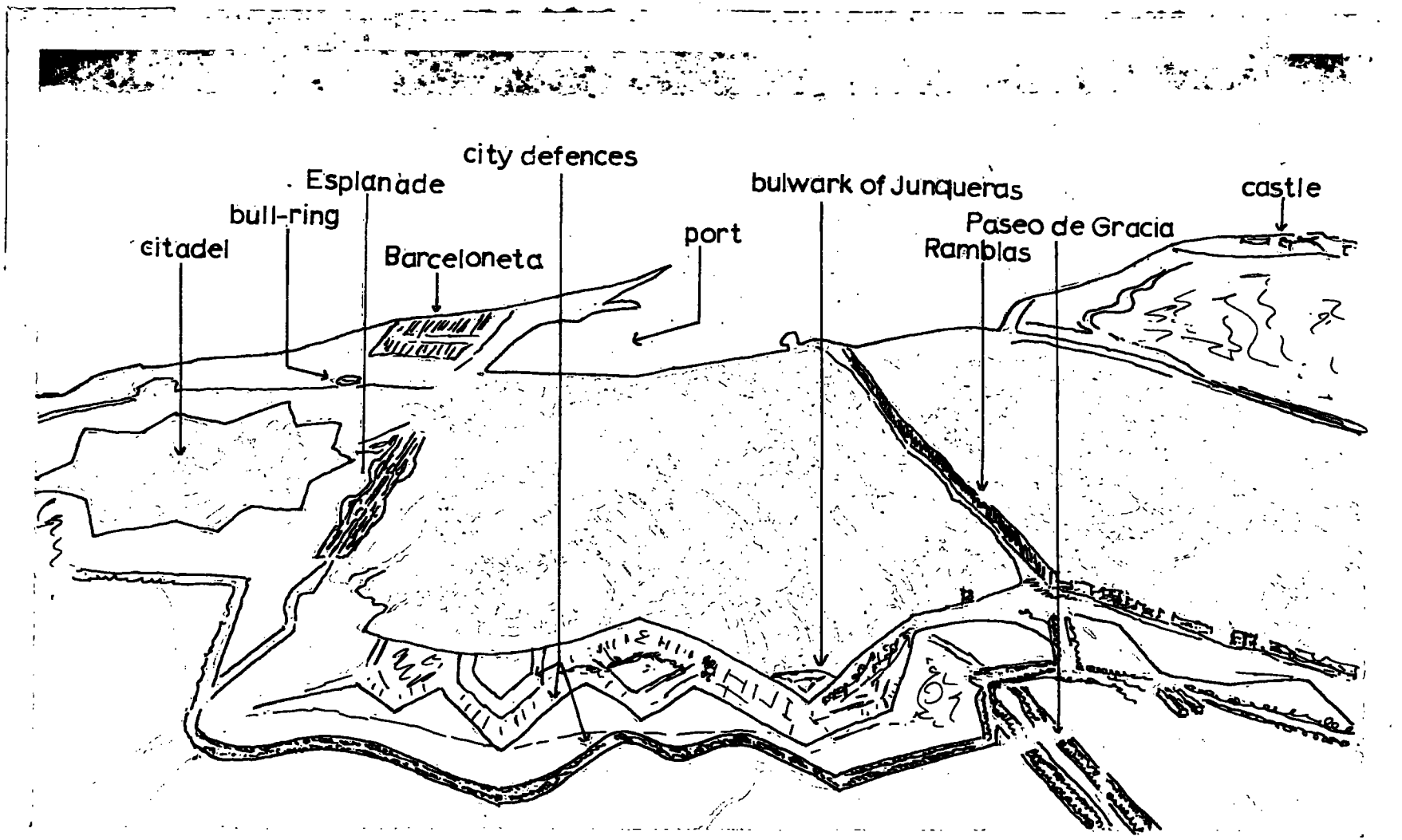


FIGURE 33 AERIEL VIEW OF THE CITY LOOKING SOUTH, ABOUT 1850

Source (24) Original model by A.H.U.A.D.

PART B. PLANS FOR THE 'ENSANCHE' OF BARCELONA 1838-60

> "Like Goethe in his agony, Barcelona asked for more light ... It had the sun and air within reach; from the height of its glorious but filthy and mildewy walls, the Barcelonans contemplated the plain, that stretched like a fantastic Mesopotamia from the Llobregat to the Besos, protected by an undulating, mountainous ridge."
>
> Alberto de Castillo (46)

> "The building land provided by the convents, burnt by the mobs in the uprisings of 1835, had been used up. The gardens of the larger houses had been totally or partly built on. The number of floors in rented property had risen excessively in relation to the narrowness of the streets; there were so many inhabitants that they were heaped together on top of each other - Barcelona had to break the stone surrounds (i.e. the walls) that oppressed it."
>
> Martorell, Florensa, Martorell (89)

1. FIRST ATTEMPTS 1838-53 - LIMITED EXTENSION OF THE WALLED AREA

The attempts to extend the city beyond the walls in this period are in many ways a continuation of the struggle between the Barcelonan Council and the Military authorities (representing the central government) that prevented any effective control of construction in the late 18th and early 19th centuries.

In 1838, the 'Junta de Obras' (a Council body dealing with construction) presented a plan to the Captain General "proposing the expansion of its (Barcelonas) population to a line drawn between the bulwarks of Tallers and Junqueras (see Figures 33 and 35) and coinciding with a new gateway at the head of the Ramblas." [1] (see Figure 34)

The proposal could hardly have been more modest, limited to the triangle represented today by the streets of Pelayo, Fontanella and the Ronda de la Universidad. Nevertheless, the Military authorities were not satisfied and instead proposed a 'Project of Works and Defence' that was "to be carried out between the bulwarks of Tallers and Junqueras, to supplement the plans (of the Council) that were to destroy the wall between the said bulwarks" [2]

This project (Figure 35) involved the reconstruction of the walls between the two bulwarks, so as to include the area of expansion proposed by the Council within them.

The project was finally approved by the central government in June 1844. Within a month, however, the Council had sent back a counter-proposal (Figure 36) Whilst the Military Engineers proposed a more intensive use of space, thus

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1 From the library of the 'Comandancia de Ingenieros' Plan number 144

2 From the library of the 'Comandancia de Ingenieros' Plan number 237

catering for the most pressing need of the city, the municipal architects presented a more geometric plan, sacrificing, in parts, the intensive use of space for the greater width and prolongation of the Ramblas, which was to end in a public square ('plaza'), and for the establishment of central 'patios' (yards) in the new blocks of buildings. In both plans the streets remained relatively

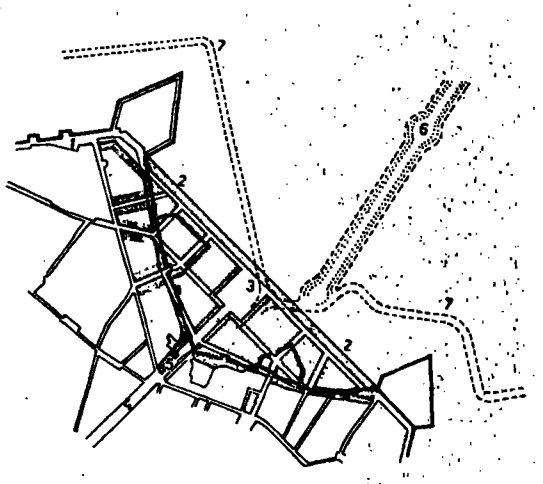


FIGURE 34 - PROPOSAL OF COUNCIL 1838

1 - City Walls 1838
2 - New Wall
3 - New Gate
4 - The Ramblas
5 - Barracks
6 - Paseo de Gracia
7 - Paseo de Circunvalacion

Source:- The Library of the 'Comandancia de Ingenieros' Plan no. 144

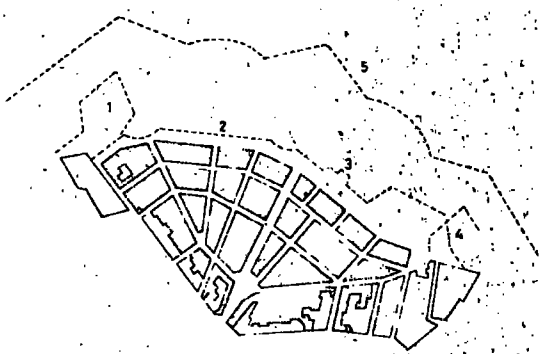


FIGURE 35 - PROPOSAL OF 'COMANDANCIA DE INGENIEROS' 1844

1.- Bulwark of Tallers
2 - Proposed fortifications - interior line.
3 - New Gate
4 - Bulwark of Junqueras
5 - Proposed Fortifications - exterior line.

Source:- The Library of the 'Comandancia de Ingenieros' Plan no. 237

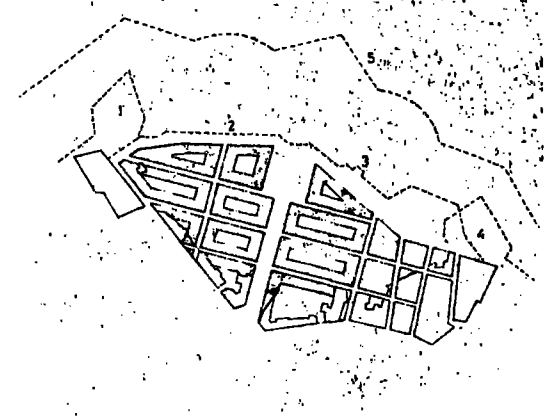


FIGURE 36 - COUNTER - PROPOSAL OF THE COUNCIL - 1844

1 - Bulwark of Tallers
2 - Proposed Fortifications - interior line
3 New Gate
4 - Bulwark of Junqueras
5 - Proposed Fortifications - exterior line.

Source:- Archivo Administrativo Municipal.

Figures 34-36 are reproduced in source (89)

narrow, in keeping with the rest of the streets in the walled city. Furthermore, disagreements arose over the ownership of the land to be built on, and in the ensuing exchanges, the much desired extension of the city was left suspended.

In 1846, a new phase of planning started, largely on the insistence of the inhabitants of Gracia, who found support amongst the Council for the idea of joining Gracia with the city. Consequently, the government nominated a group of military engineers to consider the possibilities of such an expansion. This group - the 'Comision topografica y de Ensanche de Barcelona' - first drew up a topographical plan of the area immediately outside the walls (1847) and then a series of 3 plans of expansion, largely to the west of the city, linking it with the foothills of Montjuich. (1848) (Figure 37). However, because of the European situation at the time, such an expansion, involving the destruction of the western walls, was left in the air, and in 1853 the military authorities submitted a new plan to the Council, which , like their plan of 1844, was based on the urbanisation of the space between the bulwarks of Tallers and Junqueras (Figure 38). Again, the municipal architects were not

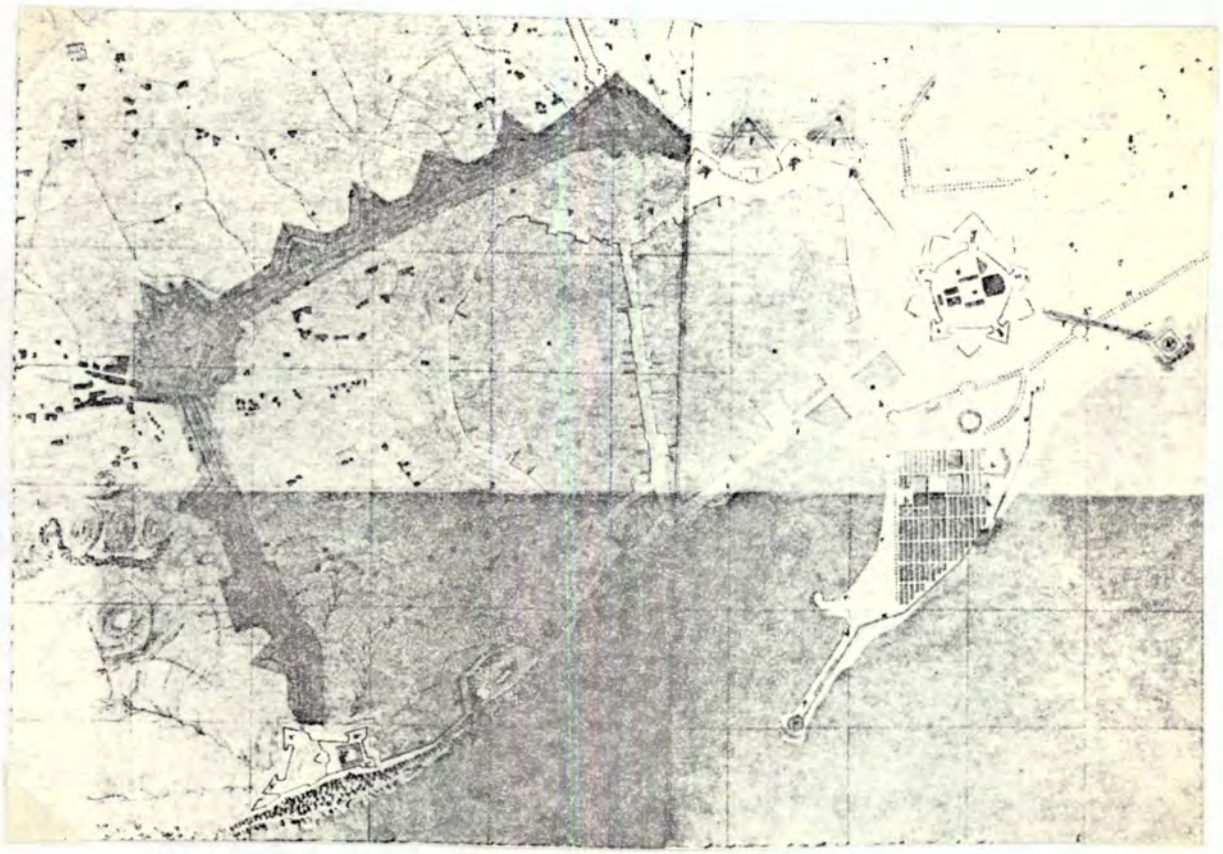


FIGURE 37 PLAN OF 'ENSANCHE' EXTENDING THE CITY TO THE FOOTHILLS OF MONTJUICH

One of a series of plans drawn up by the military engineers in the late 1840's. Source (92)

satisfied. One of them, Francisco Daniel Molina, criticized the plan on three counts - its spatial limitation, the narrowness of the extension of the 'Ramblas' and the general shortage of free space. He, himself, presented a 'counter'-project (Figure 39), in which the said defects were rectified, especially in that it made development northwards towards Gracia possible.

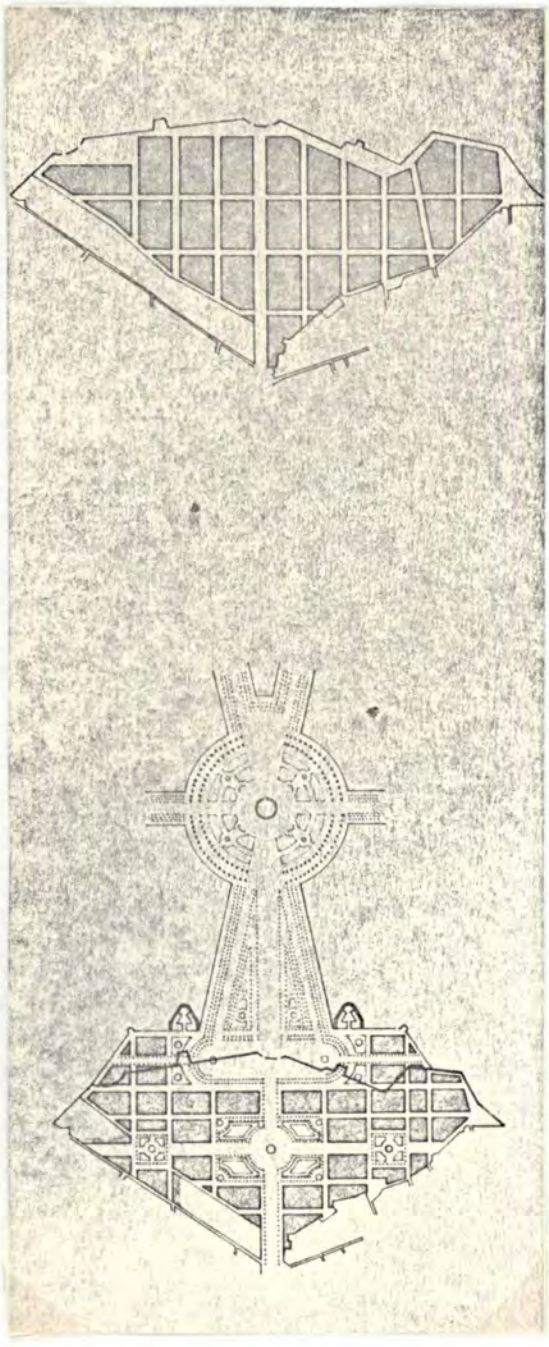


FIGURE 38 NEW PROPOSAL OF 'COMANDANCIA DE INGENIEROS' 1853

Source:- A.M.

FIGURE 39 COUNTER-PROJECT OF MOLINA 1853

Source A.M.

Both figures 38 and 39 are reproduced in Source (89)

Three 'plazas' and a hippodrome were planned within the new urban space, which was slightly larger than that planned by the military; the Ramblas was prolonged northwards to meet the Paseo de Gracia in a great circular 'plaza', a focal point for other projected 'paseos'. The plan also suggested that the wall should be reconstructed further away, and then only the foundations, to be fully built in the unexpected circumstances of a foreign invasion. While

this was being done, the city "could be closed with an iron fence, sentry boxes and other necessary buildings, following the present method used in almost all foreign capitals, some of which are still considered as strong-holds."[1] Finally, two bulwarks "capable of accomodating infantry" were to be constructed with a view to protecting the 'plaza' if and when necessary.

As before, neither of the two plans was finalized, nor was a similar project forwarded by Planas in the early 1850's (Figure 40). By 1853, the destruction of the walls, and discussion about the possibilities of unlimited 'ensanche' had become real political issues. All depended on the central government's decision as to whether Barcelona was still considered a necessary stronghold in the fortification of the Realm. If not, the walls could be destroyed

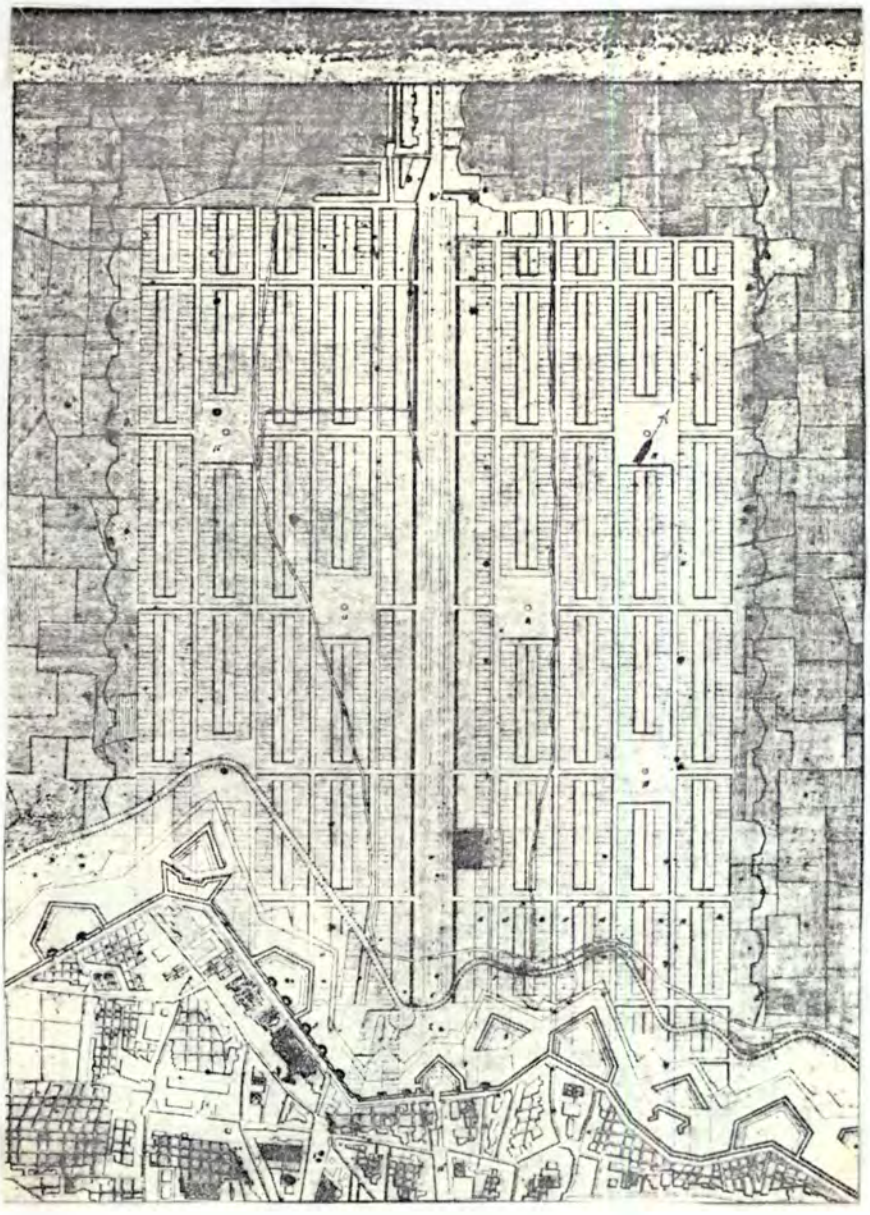


FIGURE 40 PROJECT OF JOSE MARIA PLANAS

This project was to join the city with Gracia, the largest of the settlements on the plain. The new area was fortified on both sides, with two rivers, the Riera d'en Malla and the torrent de l'Olla, flowing through it.

Source (92)

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1 From Molina's accompanying notes quoted in (89)

2. PLANS OF UNLIMITED 'ENSANCHE' 1854-60

With O'Donell's coup d'etat of 1854, the destruction of the walls was finally authorized, [1] although the right to refortify the city if necessary was reserved. The decision was no doubt influenced by the cholera epidemic of that year in Barcelona, reflected in the death-rate of 35 per thousand. The destruction of the walls followed immediately, after which the role of the military engineers (La Comandancia de Ingenieros) in the planning of Barcelona almost disappeared, after 140 years of involvement in the city and conflict with the local Council. The involvement of the central government, however, did not cease. The Minister of Development (today the Minister of Public Works) took the place of the Minister of War and his local representative, the civil Governor, that of the Captain General.

And so, with the problems of defence no longer of importance in plans of expansion, the Civil Governor put Don Ildefonso Cerda, engineer of roads, canals and ports, in charge of the "works of drawing up a plan of the suburbs of the city," putting it in his charge "by virtue of his high authority." (89) This was in December 1854. By the end of 1855, Cerda had completed the task - to a scale of 1:5,000 (Figure 41) and complemented it with his 'Noticias Estadisticas'.

In November 1857, Miquel Garriga y Roca was chosen by lottery from amongst the municipal architects to draw up a plan of 'Ensanche', linking the old city with Gracia. The plan (Figure 42) was accepted by the Council on April 6th, 1858. According to the accompanying description of the plan,

> "the new population should be distributed in large blocks, most of which have dimensions of 200 metres longitude and 140 metres latitude, capable of containing spacious dwellings with delightful gardens. The streets, all perfectly straight, are in general 10 metres wide, some being 20, and the 'paseos' 50 metres wide." (33d/367)

The central part of the plan consisted of 6 groups of 8 blocks, each group surrounding a central 'plaza'. Although the plan was principally concerned with linking Gracia to the old city, it also created two large semi-circular 'plazas', one to the left and one to the right, to act as focal points of any future expansion to the other suburban settlements.

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[1] 12th August, 1854 "Las murallas de Barcelona que miran a la parte de tierra ... seran demolidas." (Real Orden)

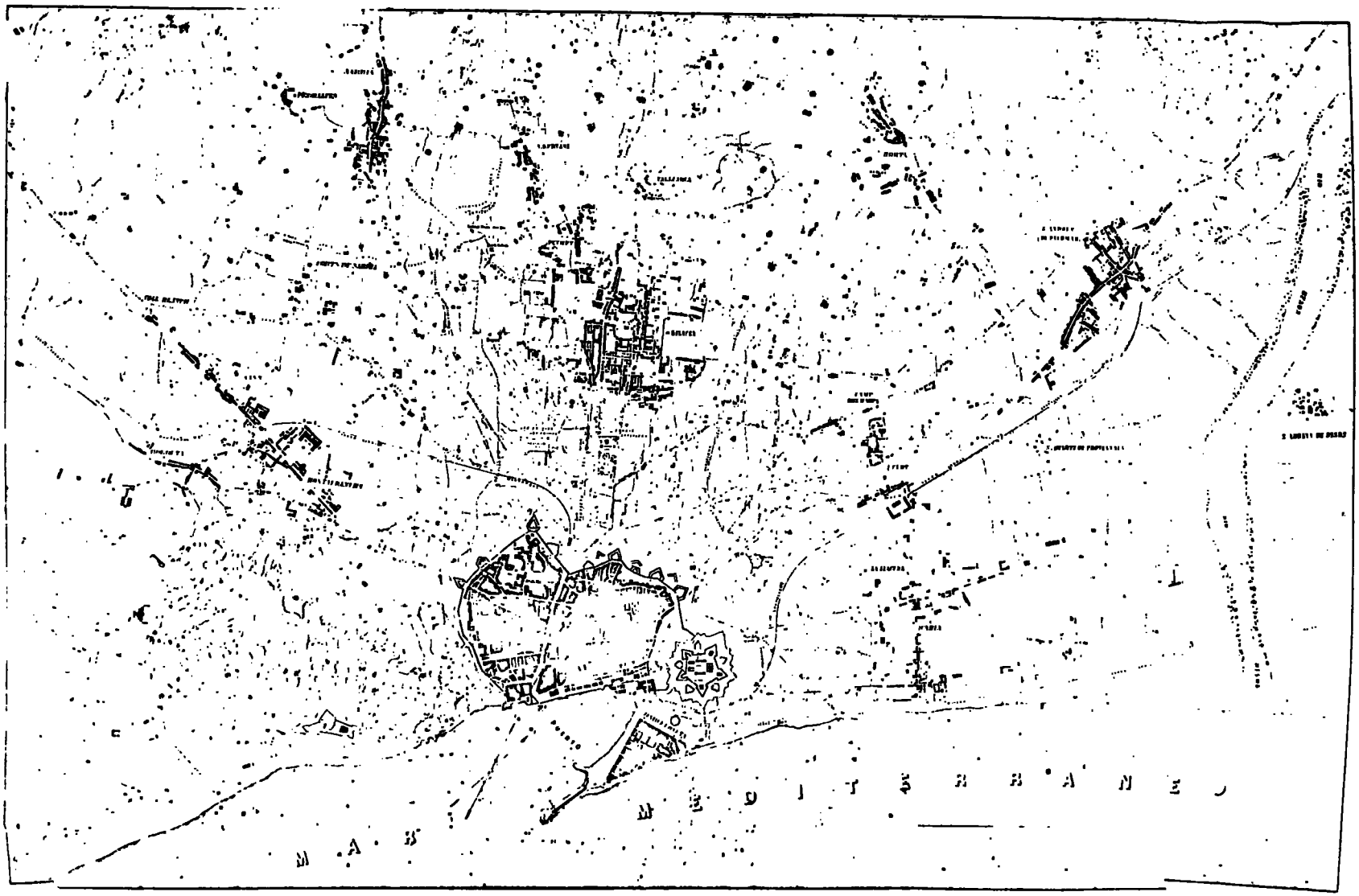


FIGURE 41 CERDA'S TOPOGRAPHICAL PLAN OF BARCELONA AND ITS SURROUNDS - 1855 Source:- A.H.B.
(Shows settlements on the 'plain' of Barcelona; from left to right:- Collblanch, Bordeta, Sants, Pedralbes, Hostafranchs Corts de Sarria (Las Corts), Sarria, San Gervasi, Puchet, Vallcarga, Gracia, Horta, the settlements of the municipality of San Marti de Provencals - Camp de l'Arpa, Clot, La Llacuna, Icaria - San Andres de Palomar + San Adrian de Besos).

Garriga y Roca's plan, however, was not carried out. Although the destruction of the walls had been authorised in 1854, the reservation about refortifying the city had prevented the Military authorities from selling off all the lands previously occupied by the walls. Now, however, the Royal Decree of 9th December 1858 stated that "Barcelona must conserve and improve the fortifications of the Castle of Montjuich and the Citadel and also organise the port defences," but the previous reservation was removed. Thus permission had now officially been given for an unlimited extension of the city across the plain, widening the possibilities of 'Ensanche' and making Garriga y Roca's plan obsolete. There followed a series of public meetings and discussions, the Council finally deciding on the running of a competition to find the best plan of 'Ensanche' for Barcelona. They announced their decision on 15th April 1859, together with the basic principles with which all entries had to comply. All entries had to be handed in by the 31st August of that year.

In the meantime, the central government in Madrid had not abandoned their interest in the matter. Rather than leave things in the hands of the Barcelonan authorities, the Minister of Development had appointed Ildefonso Cerda to draw up a plan of expansion for the city on 15th February, 1859 and accepted the project on 7th June 1859, whilst the competition in Barcelona was still in progress. After many protests, the central government agreed to reserve its final decision until the competition itself had produced a winner. On 27th October 1859, all the projects entered were put on public display. There were seven contestants, but one had entered six projects, and there was also Cerda's, which had not been entered for judgement, but was on display on the insistence of the central government. The total number of projects was thus 13.

The judging body consisted of the Rector of the University of Barcelona, the Director of the Academy of San Fernando, four architects, one engineer, a lawyer and a professor of physics. Their decision was as follows:-

(1) The prize to go to the project of architect Antonio Rovira i Trias, (Figure 43)

(2) 1st runner-up - the project of Francesc Soler i Gloria (Figure 44)

(3) 2nd Runner-up - the project of Architect Francisco Daniel Molina (who had presented a project of limited expansion in 1853 (Figure 39)). There seems to be no record of the project.

(4) 3rd Runner-up - the project of 'master of works' and 'Director of outer road construction,' Josep Fontsere i Mestres (Figure 45) (Fontsere i Mestres was later to be of considerable importance in the execution of Cerda's project, in his role as 'master of works.')

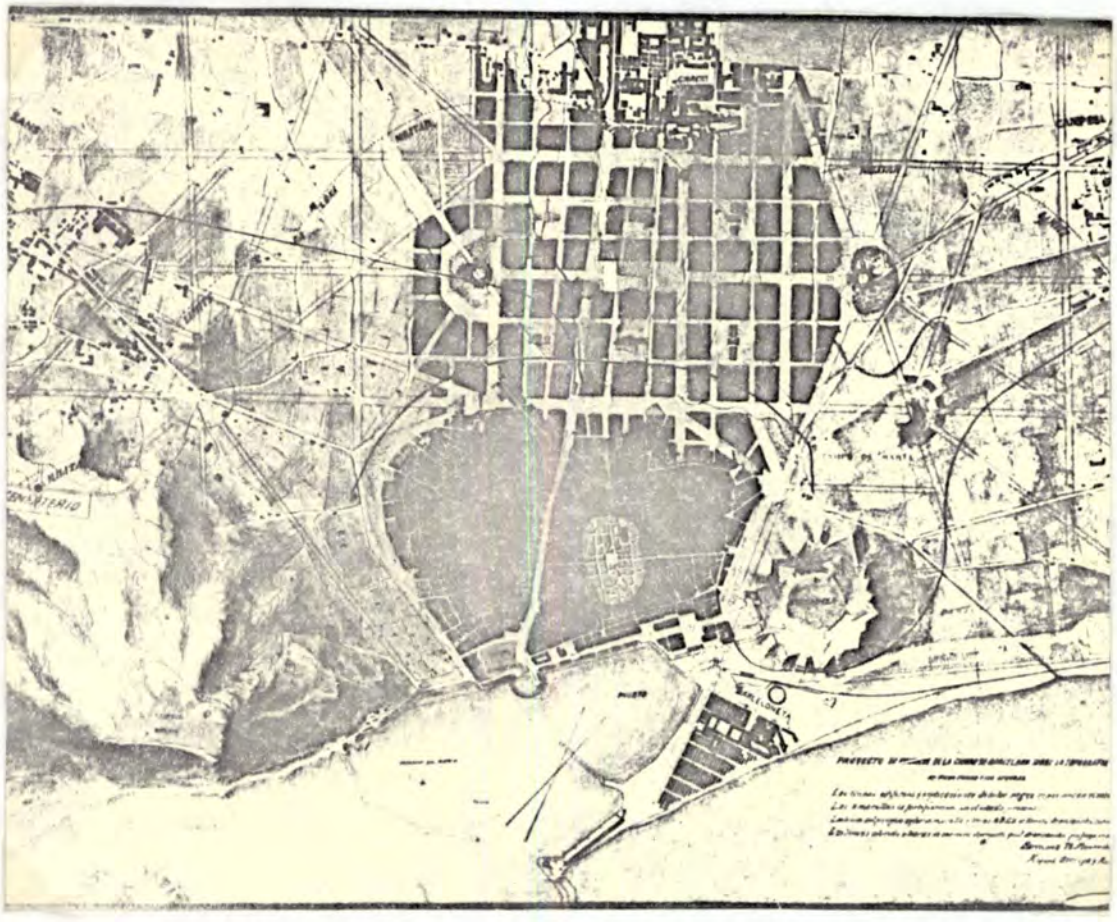


FIGURE 42 - PLAN FOR 'ENSANCHE' OF GARRIGA Y ROCA 1857 Source A.H.B.

The basis of Rovira i Trias's project was to extend the city northwards in a polygonal form, growing outwards in stages. The judging body described it as follows:-

> "The streets that radiate out from the old city link it, in an easy, natural manner, with the outlying villages, whilst at the same time, preserving their individual form in their entirety. The polygonal form is made up of straight lines, not so short that the number of crossing points impedes movement, and not so long that the traveller is discouraged ... Within the radial road pattern, the author has been able to establish a rectangular system (of smaller roads) which is the most appropriate for buildings; this attractive plan is equally far from disorder and monotony." (quoted in (89))

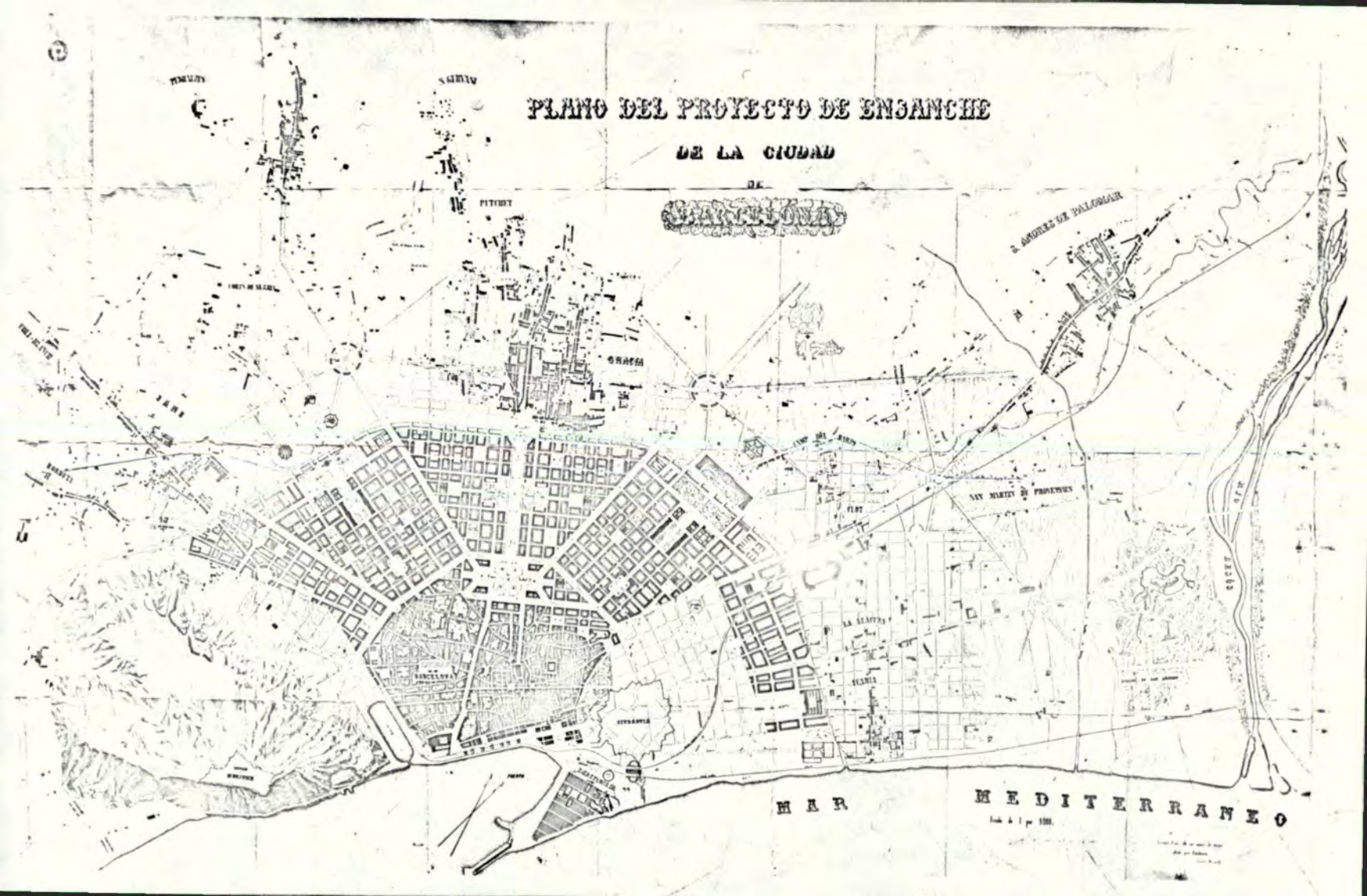

PLANO DEL PROYECTO DE ENSANCHE
DE LA CIUDAD
DE
BARCELONA
S. ANDRES DE PALOMAR
SAN MARTIN DE PROVENSALS
MAR
MEDITERRANEO

FIGURE 43 - PLAN OF 'ENSANCHE' OF ROVIRA I TRIAS 1859 Source A.H.B.

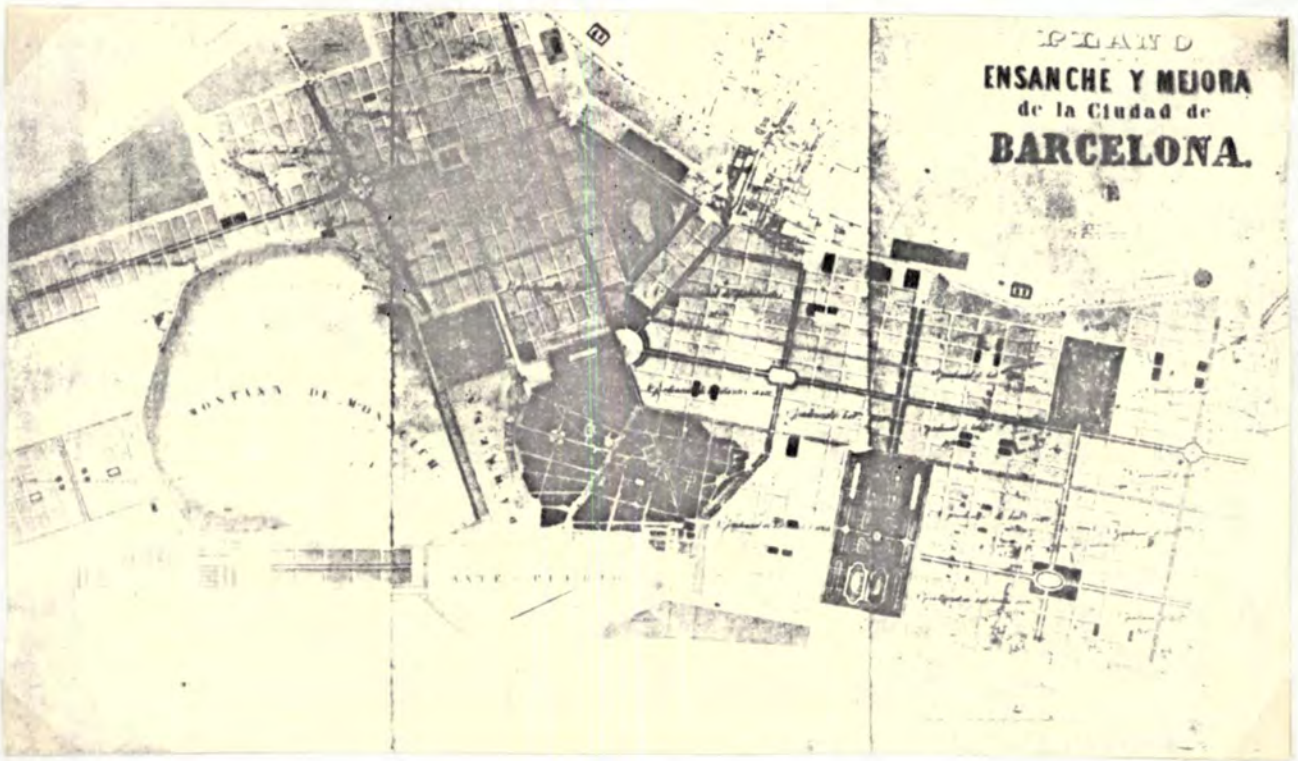


FIGURE 44 - PLAN OF 'ENSANCHE' OF SOLER I GLORIA - 1859 Source:- A.H.B.

As regards the other plans entered for the competition, the judging body did not seem to think very highly of them. In their report, they mention that if Rovira i Trias's project had not been entered, they would not have given the prize to any of the others . "The adoption of any one of them would be, to out way of thinking, an unwise resolution." Nevertheless, they were sent, along with the winning project, to the central government for a final decision. Despite efforts of every kind by the Barcelonans, the government approved Cerda's project on 31st May 1860, "considering that Rovira i Trias's did not fulfil the principal conditions of the programme." Protest after protest followed, but the decision stood. The plan of 'Ensanche' of Barcelona was to be that of Ildefonso Cerda.

What were the motives of the Minister of Development in over-riding the Council's decision? There has been, and was at the time, much discussion about this. It seems it was simply a favour from one engineer (the Minister) to another (Cerda) and represented a form of promotion for Cerda, who had established himself as one of the bright 'up and coming' engineers of the 1840's. To think that there were political motives seems to be wrong (Cerda was even accused of

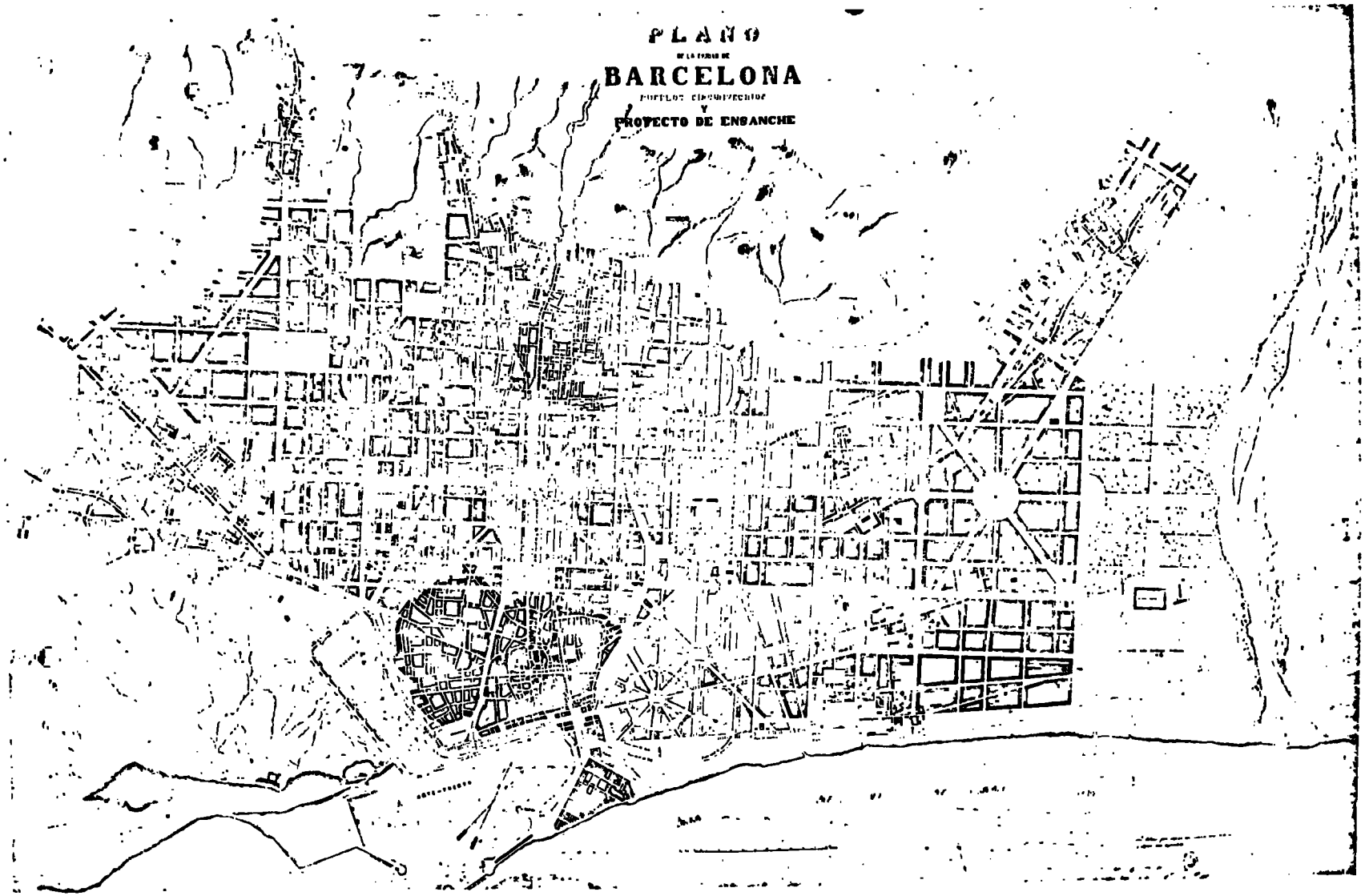


FIGURE 45 - PLAN OF 'ENSANCHE' OF FONTSERE I MESTRES. Source:- A.H.B.

being a Centralist spy). The Catalan bourgeoisie wanted an expansion of the city that would enable them to convert the plain of Barcelona into an area of land speculation. Cerda's plan, just as those of Rovira i trias or Soler i Gloria, served their purpose equally well. If there was anything 'political' in the decision, it should be seen as a professional fight between the relatively young engineer (Cerda), supported by the Minister, with bold new ideas about how recent technological advances could solve the then current problems of society, and the architects, the old profession of tradition, whose values were largely centred on artistic considerations. This, certainly, is Domingo's view (76) and is supported by Garrut (67), who says that in the Rovira i Trias/Cerda conflict, most of the older persons involved tended not to be on Cerda's side, whilst those under 40 were.

PART C. THE PLAN CERDA AND SOME NOTES ON ITS REALIZATION (OR BASTARDIZATION)

> "Barcelona lost the opportunity of becoming a city that even today would be one of the most modern, and, what is more, one of the most beautiful in Europe."
>
> J.M.Garrut (67)

1. DESCRIPTION OF THE PLAN CERDA

Cerda's plan of 'Ensanche' was officially entitled 'Plan of the Suburbs of Barcelona and Project of their Reform and Expansion,' but is usually referred to as the 'Plan Cerda! Figure 46[1] shows how the outlying villages were to be joined with the old city, some being completely enveloped by the quadricle road pattern (such as the villages of Camp de l'Arpa, Clot, La Llacuna and Icaria that formed part of the municipality of San Marti de Provencals), whilst others remained on the borders of the plan (Sants, Bordeta, Gracia) and others were not included within the new city at all (Collblanch, Pedralbes, Sarria, San Gervasi and Horta). Two settlements, Hostafranchs (to the left) and San Andres de Palomar (to the top right) form a kind of 'in-between' group between the first two groups mentioned. They were both 'within' the 'Ensanche' and yet because of the necessary adaptations in the road pattern, they remained in many ways 'without'. Something similar could also be said of Gracia.

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1. Figure 46 is included at the back of this volume.

To use Cerda's terminology, the road system consisted of a 'warp' of streets more or less parallel to the sea, and a'weft'of streets, crossing the former at right angles, running from mountain to coast. Nearly all the streets in the 'warp' and 'weft' were 20 metres wide. The exceptions in the 'warp' were Calles de las Cortes (today Jose Antonio, Primo de Rivera, but usually known as 'Gran Via') and Calle Aragaon, both of which were 50 metres wide. In the 'weft', Paseo de San Juan was 50 metres wide and Calle Urgel 30 metres wide. There were two large diagonals crossing the quadricle road pattern, Avenida de la Meridiana, and what is today Avenida de Generalisimo Franco (but usually referred to as 'la Diagonal'), and one bordering the 'Ensanche' to the left, Calle del Marques del Duero (usually called 'Paralelo'). All three were 50 metres wide. No public way, including passages, was less then 20 metres wide.

Within the road-pattern Cerda planned octagonal 'manzanas' (otherwise referred to as 'intervias' = blocks , but not, as the word may imply, fully built up), consisting of squares with their corners bevelled off to form 'chaflanes' (= bevelled edges). Theoretically, the 'chaflanes' were to be 20 metres long (although, as we shall see later on, they were not in practice) to form octagonal 'plazoletas' (= small squares) at every cross-roads, each side being 20 metres. (Figure 47)

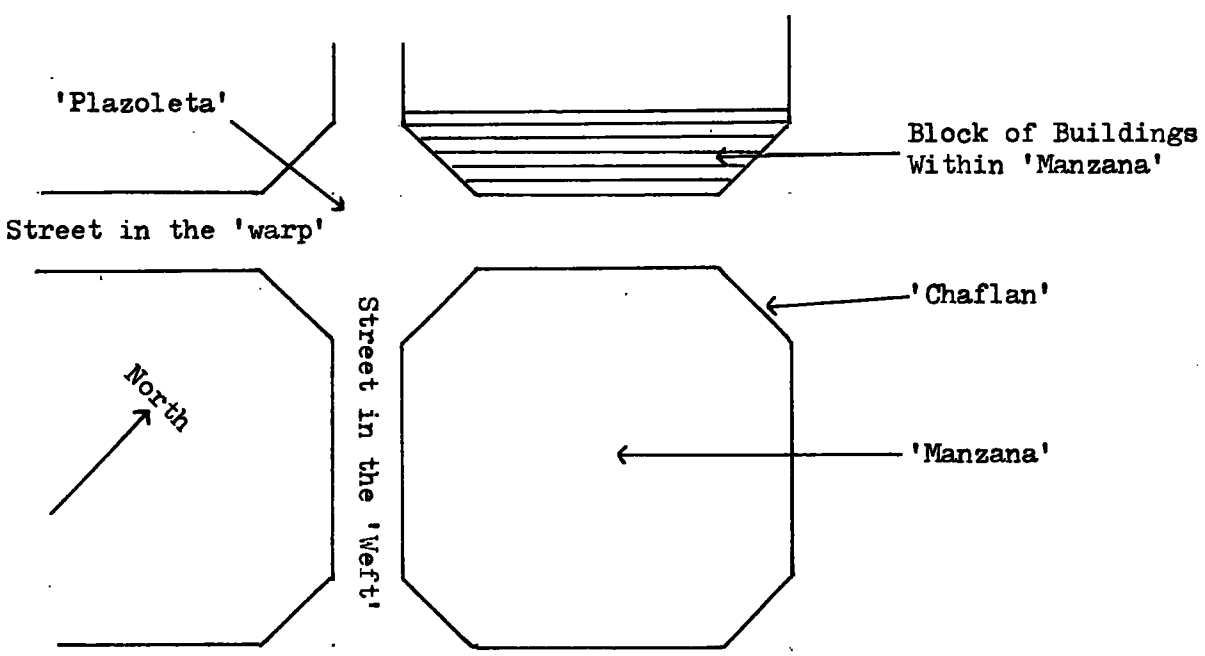


FIGURE 47 - TERMS USED IN CERDA'S 'TRAMA' (= STREET LAY-OUT) (not to scale)

Within the 'manzana', buildings were to occupy only two sides and to be 20 metres deep and 16 metres high (maximums). The 'manzana' itself stretched 133.33 metres from road centre to road centre (see Figure 48), a sector of 9 'manzanas' thus forming a square of 400 x 400 metres. Within each 'manzana' the blocks of buildings were not always parallel, nor did they always occupy the sides of the 'manzana' (see Figure 49) In general, however, the interior of the 'manzana' was occupied by orchards and gardens, Of the 20 metres of the average street, 10 were to be occupied by pavement and 10 by roadway. Of the 'manzana' of 133.33 x 133.33 metres, 28% was occupied by buildings, 30% by streetway and 42% was free space. [1]

Table 16 summarizes the distribution of services within the plan.

	NUMBER IN PLAN	NUMBER OF 'MANZANAS' OCCUPIED BY EACH ONE	TOTAL NUMBER OF 'MANZANAS' OCCUPIED
MARKETS	10	1	10
PARKS	7	2 - 9	38
HIPPODROME	1	14	14
'SOCIAL CENTRES'	32	1	32
STATE BUILDINGS AND INDUSTRIAL ESTABLISHMENTS	8 groups	2 - 4	30
TOTAL			124
'Manzanas' of Housing (excluding San Andres de Palomar and the old city.)	750 (approx.)	1	750

TABLE 16 - SERVICES WITHIN CERDA'S 'TRAMA' (ROAD SYSTEM) -(Wynn.)

N.B. Three Hospitals, the Cemetery, a slaughter house and wood of the River Besos were located outside the road system.

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[1] These percentages are quoted in (23) (Cerda Centenary) and are based on a building depth of 24 metres. The figure quoted as being the depth of building that Cerda intended often varies, because he seems to have changed his mind. In his 'anteproyecto', the buildings had depths of 15, 17.5 and 20 metres. In the final project of 1859, all blocks were 20 metres deep; but the manzanas designed by the 'Promotion of 'Ensanche' Society' in 1863 had depths of 24 metres. Although this increase in depth may seem to lend weight to Grau's arguments about Cerda (see appendix 2) Soria y Puig points out that such depths (24 metres) "were usual in Barcelona and the progressive increase in depth cannot be disconnected from the arguments and pressure brought to bear by the proprietors" (23)

Around the 'social centres', the adjacent roads were widened from 20 to 40 metres and surrounding 'manzanas' often included a 'plaza' or were at least well-divided by passage-ways to enable a good view of the buildings. In this context it is worth noting that the streets were also widened at various other points within the plan, to act as stopping places for traffic, or to improve viewpoints. As an example, both Calle de Urgel and Primo de Rivera were widened where they crossed, the former from 30 to 70 metres, the latter from 50 to 80 metres, (Although Bordoy omits this modification in Figure 49, it is clearly visible in Figure 46).

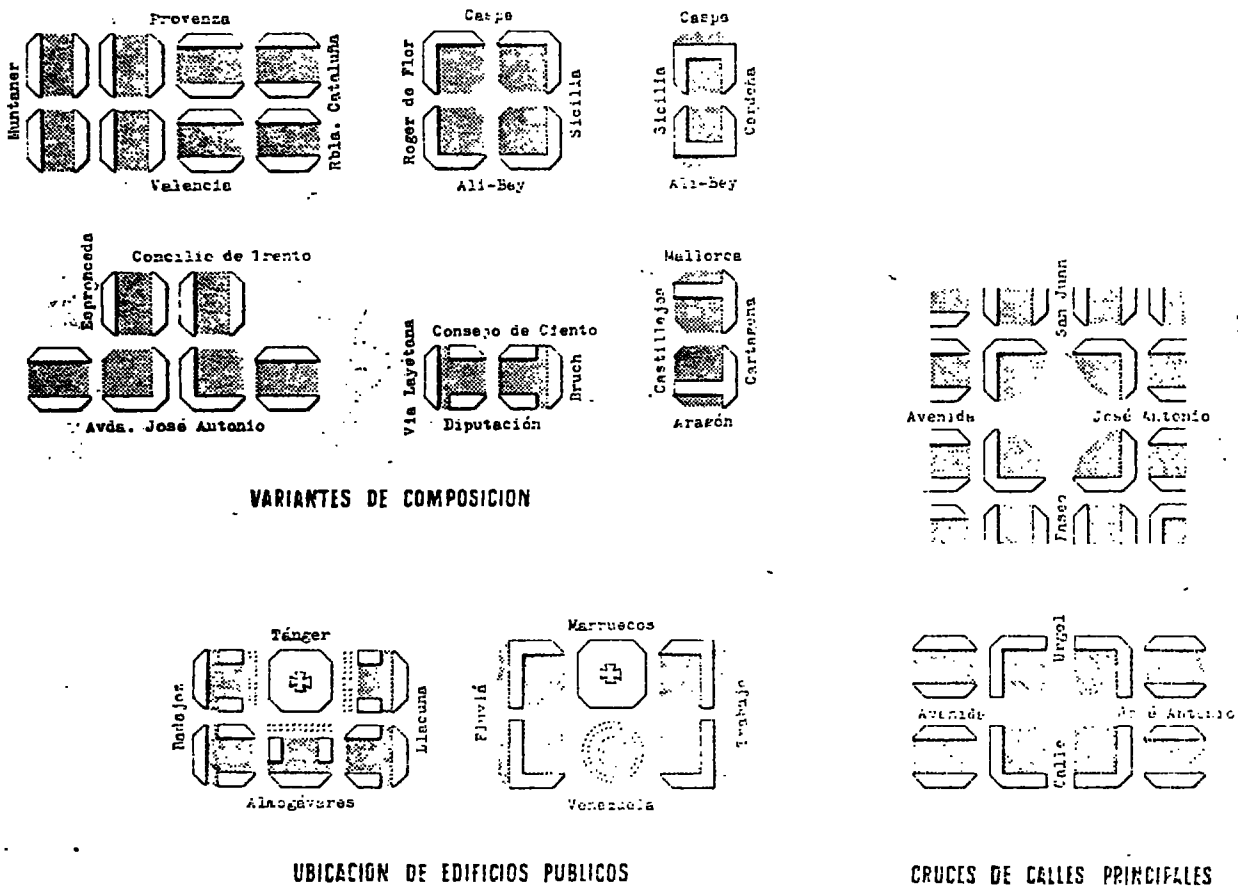


FIGURE 49 - VARIETY OF ARRANGEMENTS OF BLOCKS OF HOUSING WITHIN THE MANZANA

Source :- Bordoy (52 and 54)

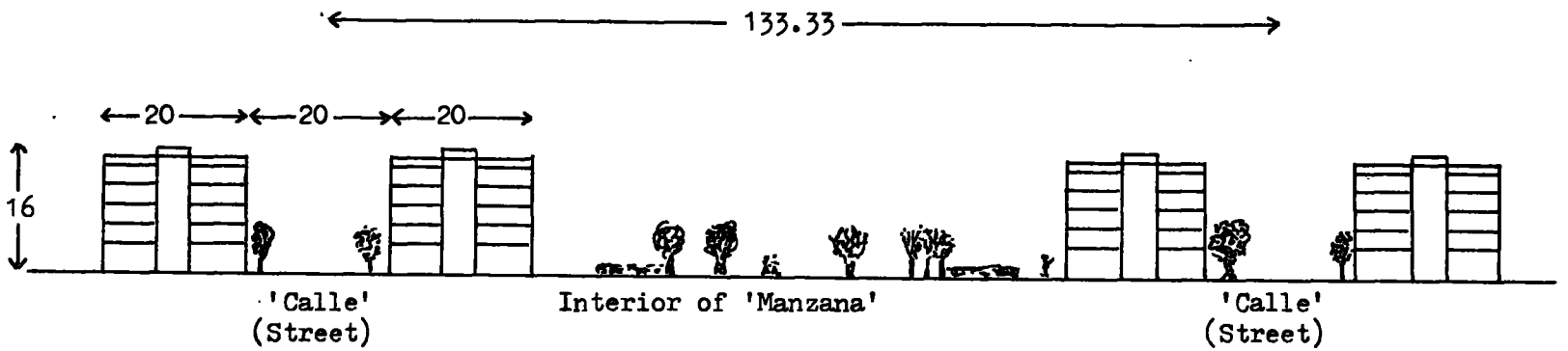


FIGURE 48 THE TWO-WAY RELATIONSHIP OF HOUSING, WITH THE STREET AND WITH THE INTERIOR OF THE 'MANZANA'

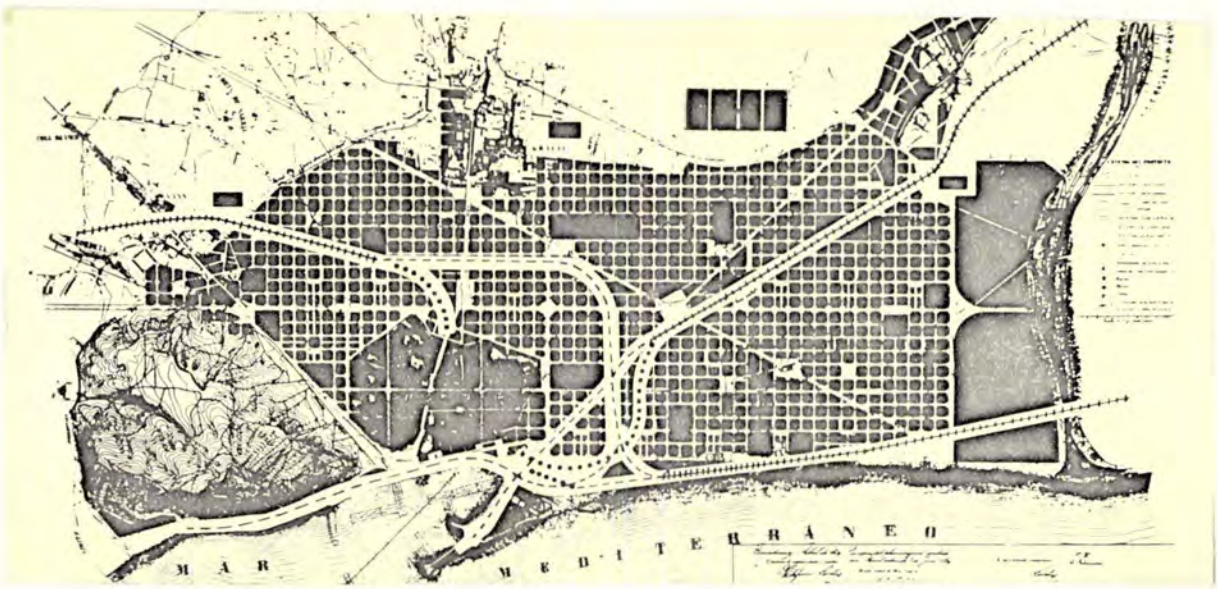
Based on diagram in Source (22) Measurements in metres.

The city was planned for a maximum capacity of 800,000, giving an average density of 250 inhabitants per hectare, 40 square metres per person, (compare with Tables 14 and 15).

Beyond the quadricle road pattern, Cerda included three hospitals and a cemetery to the top and a slaughter-house('matadero'), at the foot of Montjuich. To the right, a large wood lay between the city and the River Besos.

The streets of the 'warp' and the 'weft' were orientated so the bisectrices ran north-south and east-west, or to put it another way, the 'chaflanes' of each 'manzana' faced one of the four points of the compass, (the bottom left 'chaflanes' facing south). The routeways, 'Meridiana' and 'Paralelo' (otherwise 'Marques del Duero' on the street map,) were so called because of their orintations west-east and north-south respectively. The plan was modified to include existent and planned railways (Figure 50). The pre-existent rivers (see Figure 46) were diverted into the Besos or around Montjuich by drainage canals.

All the above refers to the 'new city'. As regards reform of the 'old city', three roads crossed it, each 20 metres wide, to be enlarged where they crossed each other and where they met the'new city'. They were, in fact, extensions of three of the new roads of 'ensanche' - Calle Campo Sagrado (otherwise called Buen Aventura and Pallars) in the 'warp' and Calle Muntaner and Calle de Claris (now via Layetana) in the'weft' .



1 ····· Pre-existing Railways MAINTAINED in the Plan Cerda.
2 - - - - - Railways proposed in the Plan Cerda.
3 ····· Pre-existing Railways NOT MAINTAINED in the Plan Cerda.

FIGURE 50 - RAILWAYS IN THE PLAN CERDA Source :- Domingo (76)



FIGURE 51 BARCELONA IN 1962 Source (89)

2. REALIZATION (OR BASTARDIZATION) OF THE PLAN CERDA

> "As one of its most illustrious and well-qualified critics, the famous architect Puig y Cadalfach has said the Plan Cerda was better than its realization, 'deveveloping and converting the free spaces and those to be used for public buildings into areas of housing.' The result of this corrosive process is something far different from what Cerda intended. Avarice has been superimposed on kindness and gaity. Only the cold quadricle remains. Let us be honest - not all is the fault of Ildefonso Cerda." Alberto de Castillo (46)

The 'Manzana'

A quick glance at today's street map (Figure 51) may give the impression that the city has been developed according to the Plan Cerda. A closer examination, however, reveals considerable differences.

As previously said, blocks of buildings were originally to occupy only 2 sides of the 'manzana' and to be built to a depth of 20 metres. One 'manzana' (excluding streets) occupies about 12,500 square metres, of which more than 8,200 square metres was open space in the Plan Cerda. With the increase in building depth to 24 metres, the open space was reduced to 7,500 square metres, with buildings occupying 5,000 square metres. So started a process by which the building volume increased as the 'manzana' was filled in on all four sides, the interior 'patio' often being used too. The building depth is now 28 metres in general. Of the 12,500 square metres, on average 9,200 square metres is built up, double the original quota, and only 3,300 square metres is 'free space' or rather 'enclosed space', largely deprived of sun and with poor air circulation. (from Source (89)). Figures for a part of 'ensanche' (Table 17) reveal the same tendency towards increase of the built-up area.

Bordoy, (54) writing in 1959, made similar calculations to include the increase in height, which was 16 metres in the Plan Cerda. Bordoy quotes 1959 heights as 24.4 metres in general, not including the 'aticos' and 'sobre-aticos' (upper attics). His diagram (Figure 52) illustrates the progressive increase in building volume from 67,200 square metres to 294,700 square metres, more than a four-fold increase. It is as well that the proposal of some proprietors, to build on to the 'chaflanes', has not been carried out. The nearest thing to Cerda's conception that remains today is the 'manzana' divided by a passageway, although there are only a few of these (e.g. Pasajes de Concecion, Mendez Vigo, Permanyer. see Photo numbers 6 to 9)

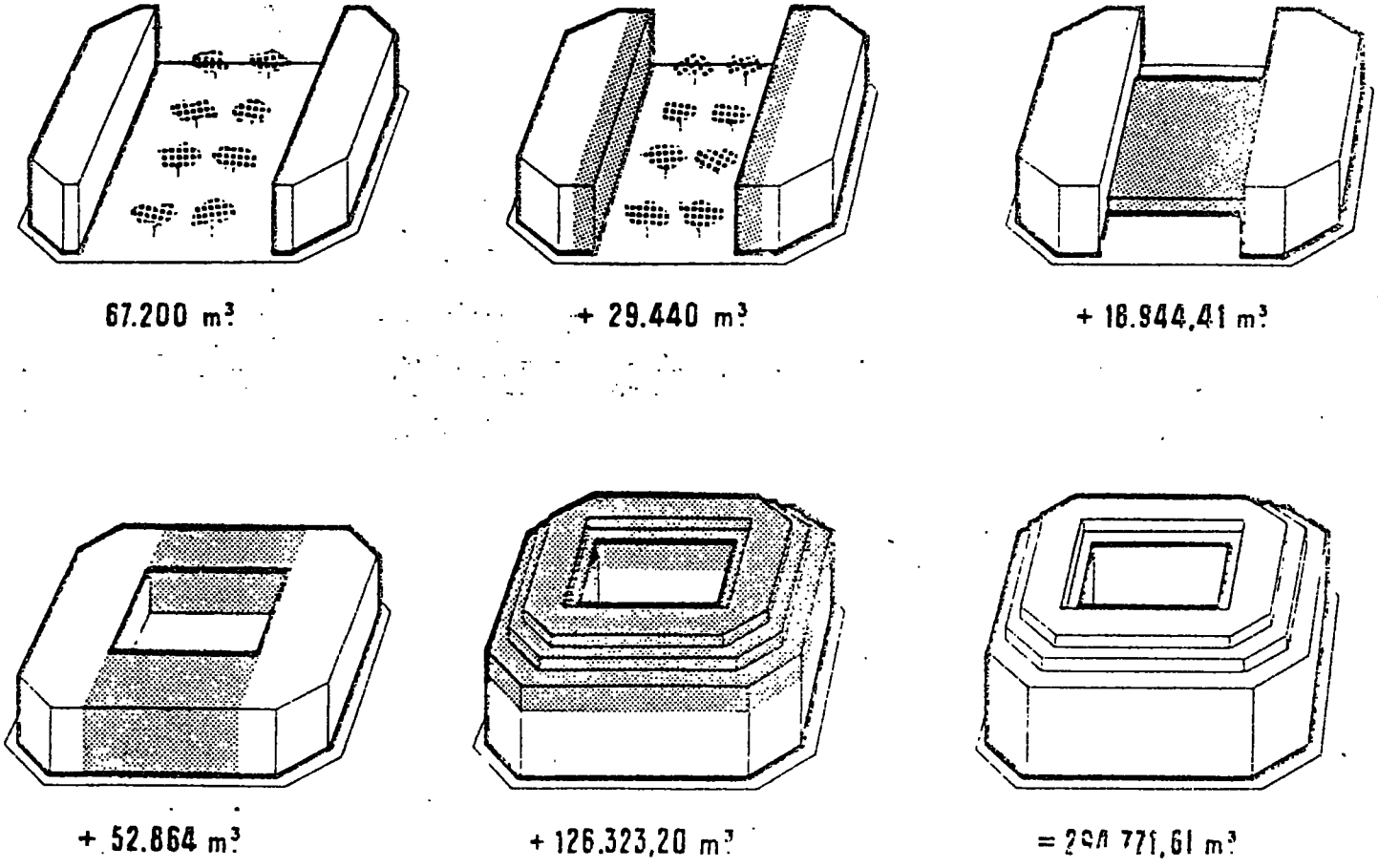
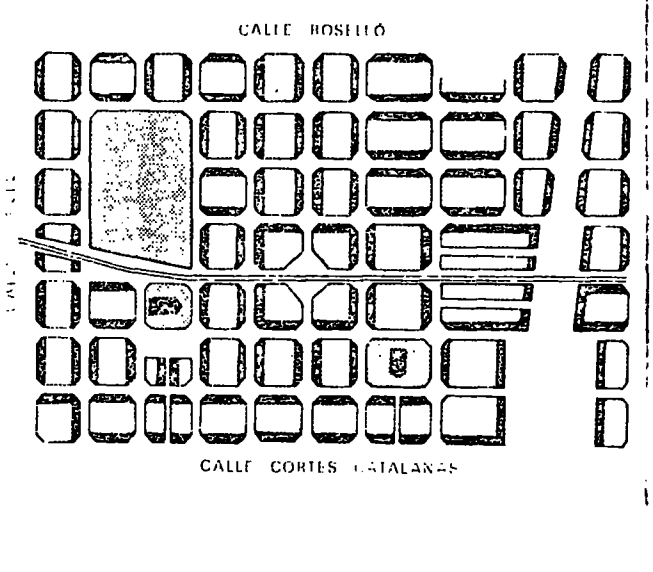
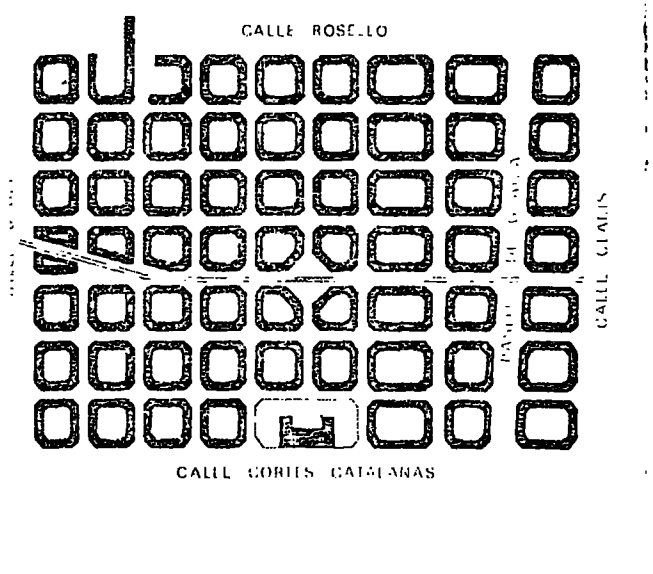


Gráfico 1:

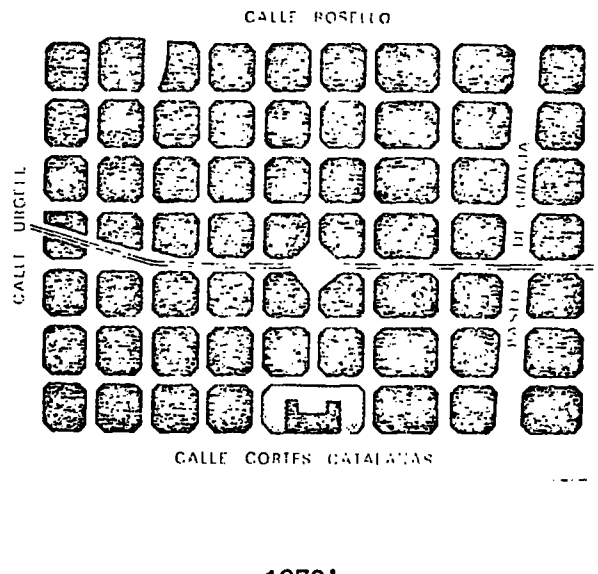
FIGURE 52 a PROGRESSIVE INCREASE IN VOLUME OF BUILDINGS Source Bordoy (52)



Plan Cerda 1859,
'manzanas' open.
Park to the left.



About 1900.
Perimeter of 'manzana' built-up. Park gone.



1970's
Construction on all the 'manzana'. Only remaining green spaces are the University grounds and Plaza Letamendi.

LAND USE			
Built-up Space	18	34	Residential 34 Commercial 17
Road Space	47	47	47
Public Free Space	7	2	2
Private Gardens	28	17	0
TOTAL	100	100	100

TABLE 17 (AND FIGURE 52b ABOVE) LAND USE IN A SECTION OF 'ENSANCHE'

The section studied is that between streets Rosellon, Urgel, Claris (now Layetana) and Cortes Catalanes (now Jose Antonio or 'Gran Via')

Source:- (149)

Services

Of the seven public parks and one hippodrome planned by Cerda, none exist today, nor does the wood on the banks of the Besos. These together were to cover 380 hectares (parks : 82 hectares, Besos wood: 298 hectares), of which only 2 hectares exist as planned. Fortunately, however, the cession of the lands of the Citadel and Esplanade by the State, to be used as a recreational area, more or less replaced one of Cerda's parks, which was situated a little above the Citadel grounds, and covered eight 'manzanas' (see Figure 46) (There also exist several other green spaces outside Cerda's 'trama' e.g. Montjuich, Parque Guell)

Of the markets, we have only two, the San Antonio market, (photo 16), situated at the bottom of Ronda San Antonio, and the Born Market(photo 17), situated in the 'plaza' of that name, that had been partly destroyed in the construction of the Citadel. Until a few years ago it was the principal wholesale market of Barcelona, but now it is not used, and doubts remain about its future. There are other markets in the city (e.g. in Calle Aragon - photo 15) but not where Cerda planned them and not as many as he intended.

Of the three hospitals planned by Cerda, we have one, 'Hospital de la Santa Cruz y San Pablo' (photo 19), more or less where he intended. Within the 'trama' there is also 'Hospital Clinico', formed by joining two 'manzanas' together, with a 'plaza'/garden opposite the main entrance (see photo 25). However, it lacks the necessary insulation from traffic, nor does it have an interior garden for convalesence. Other hospitals have been built in recent years (e.g. in Valle de Hebron to the north of the city, but have not coincided with Cerda's locations),

The cemetery to be built to the north of 'ensanche' does not exist. To the East Cemetery - by the sea near Icaria (Figure 46) - has been added the West Cemetery on Montjuich. The slaughter-house, planned to be built at the foot of Montjuich (Figure 46 - 'matadero') has instead been built near the bull-ring at Plaza Espana in a 'super-manzana' intended as a public park.

Of the 62 'manzanas' to be used as social centres (churches, schools, youth centres etc.) and 'state buildings and industrial establishments', we have but few examples, although it is difficult to know exactly what Cerda had

in mind, especially as regards the last mentioned category (this will be discussed later). We have the University (photo 26 and Figure 88), designed by Rogent, and the Palacio Albeniz with its fine and spectacularly lit 'plaza' (see photo number 23) and the Palacio de Justicia (Photo 21), although none existed in their present locations in the Plan Cerda. Similarly, the 'Templo de la Sagrada Familia', designed by Gaudi, which does occupy a whole 'manzana', was not planned to exist in its present location, (see Figure 53 and photo 18). In general, the provision of this type of building (Figure 54), like much of the Plan Cerda, has been changed beyond recognition.

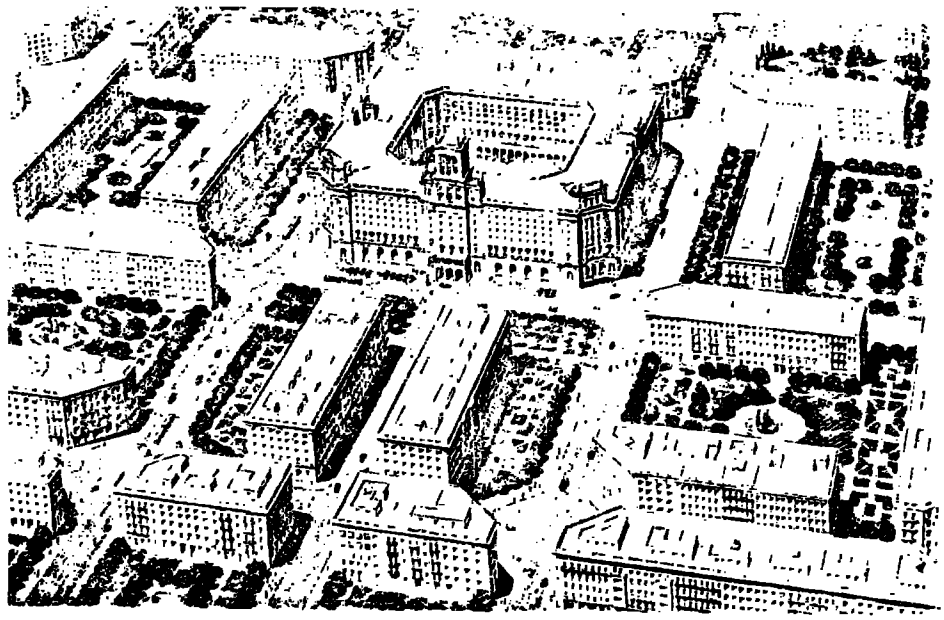


FIGURE 54 - ARRANGEMENT OF 'MANZANAS' AROUND A STATE OR PUBLIC BUILDING

Note the increase in the width of roads. Source:- (89)

Roads and 'Plazas'

Another betrayal of the Plan Cerda has been the reduction in the width of roads. Calle Aragon, 50 metres wide in the plan, has been reduced to 30 metres. Cerda established this greater width so that a projected cross-town railway could run down the middle of the road. The landowners, ignoring this likelihood, narrowed the road to 30 metres and when the railway was approved it was suggested it should run underground. This being too expensive, a compromise proposal was carried out. The railway was to be built in a cutting, that was to be covered over sometime in the future, when the width of the road



CHURCH OF THE 'SAGRADA FAMILIA'

This was not planned by Cerda, but this drawing by Francisco Vall shows how Cerda intended such buildings to be, surrounded by open 'manzanas', providing good viewpoints from as many sides as possible. Source:- (89)

would be restored to 30 metres. (This did not happen until the 1960's). Thus for many years Calle Aragon, which was originally planned as one of the main cross-town routes, consisted of two roadways of about 10 metres width each, (see Figure 55). (It is interesting to note that the church of La Concepcion, one of the first buildings constructed in Calle Aragon, has its frontage aligned to the original street width of 50 metres and so stands back from the present road, - see photo 14).

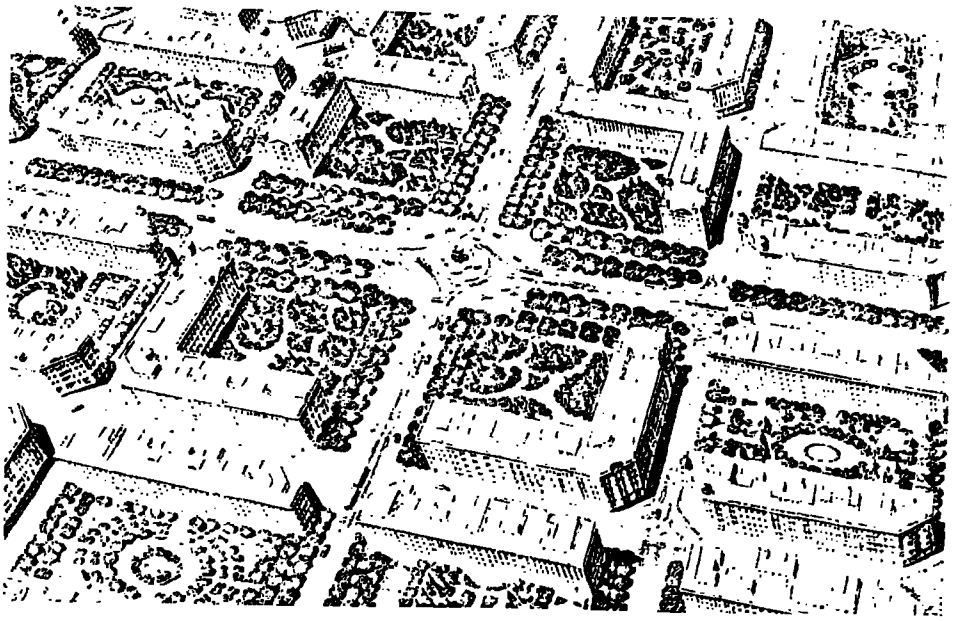


FIGURE 56 - THE INTERSECTION OF CALLE URGEL AND 'GRAN VIA'
(Artist's impression of how Cerda intended it to be. Note the increase in width of roads and the arrangement of the 'manzanas'). Source:- (89)

A further example of a road-widening that did not take effect can be seen at the intersection of 'Gran Via' and Calle Urgel. As previously stated, these roads were to have been widened from 50 to 80 metres and 30 to 70 metres respectively. Neither of these enlargements exist today, and with the 'filling-in' of the surrounding 'manzanas' a place that would have had a striking charm, has little interest today. Figure 56 shows how it should have been and Figures 57 and 58 represent diagramatically what was planned and what has happened in practice. Plaza Letamendi (on Calle Aragon) and Plaza Tetuan (on 'Gran Via') have lost much of their original spaciousness (Figure 59) because the surrounding 'manzanas' have been built up. Nevertheless,

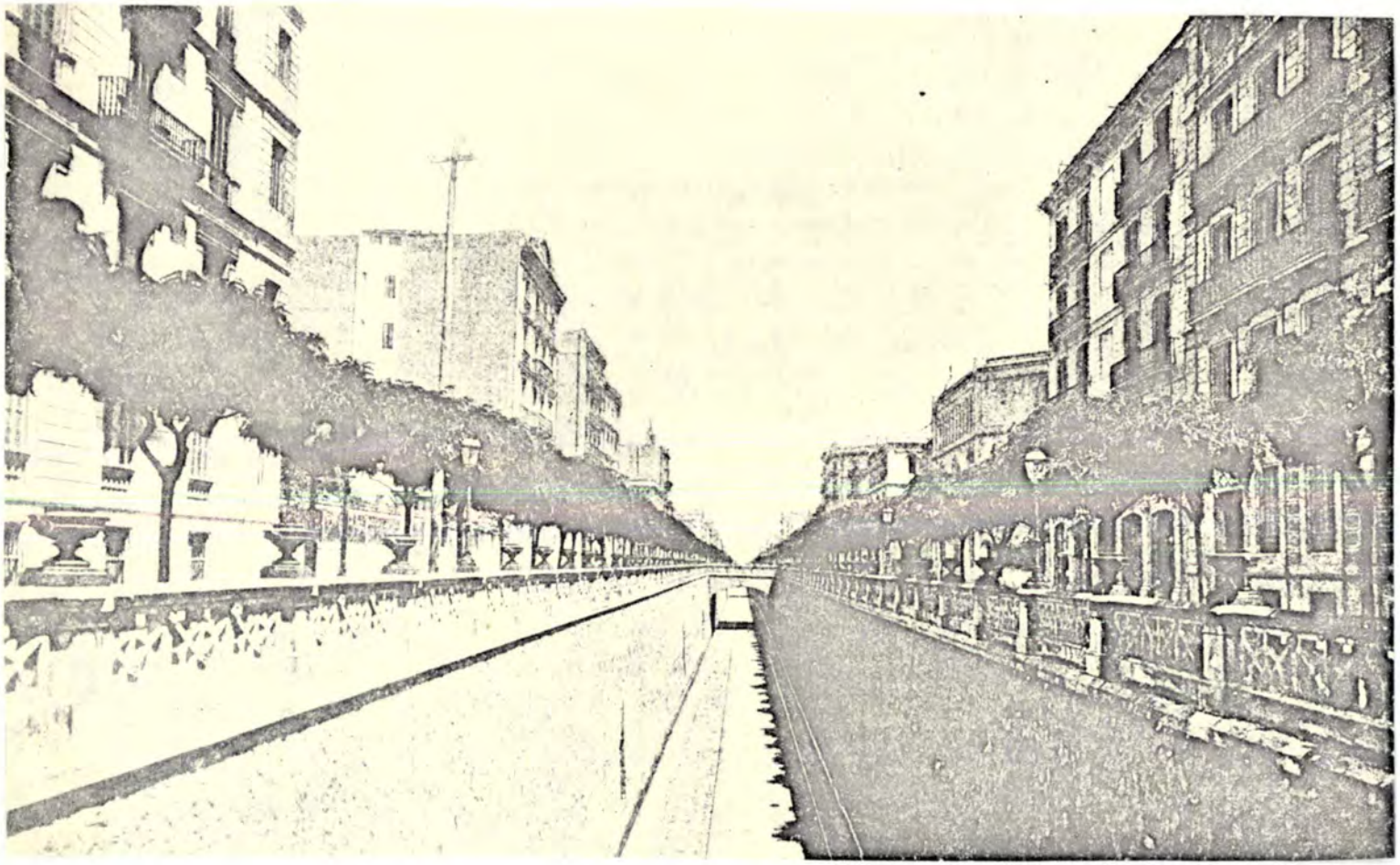


FIGURE 55 - THE RAILWAY CUTTING IN CALLE ARAGON

Source:- (100)

they remain at least, and the central island of Plaza Tetuan (photo 27) and the two smaller islands of Plaza Letamendi (photo 30) are used as small parks and children's playgrounds.

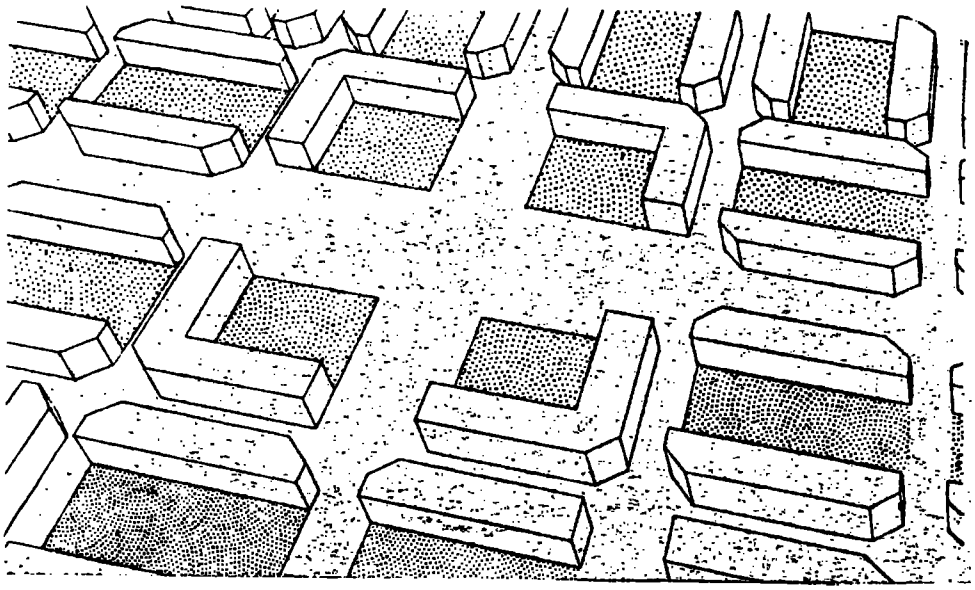


FIGURE 57 DIAGRAMMATIC REPRESENTATION OF HOW CERDA INTENDED THE CALLE URGEL/'GRAN VIA' INTERSECTION TO BE. Source (89)

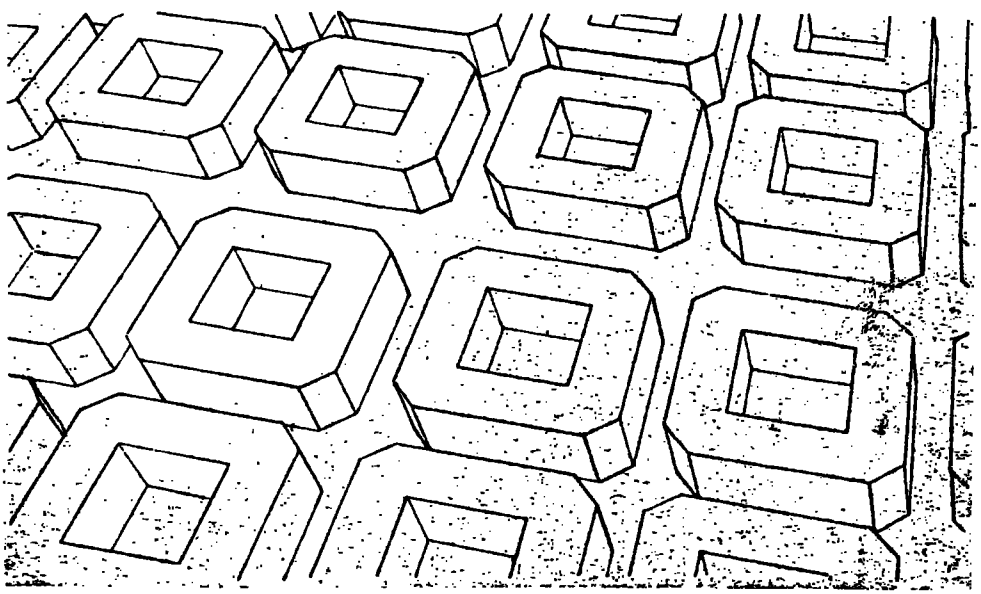


FIGURE 58 DIAGRAMMATIC REPRESENTATION OF TODAY'S TYPICAL 'MANZANAS'

Source (89)

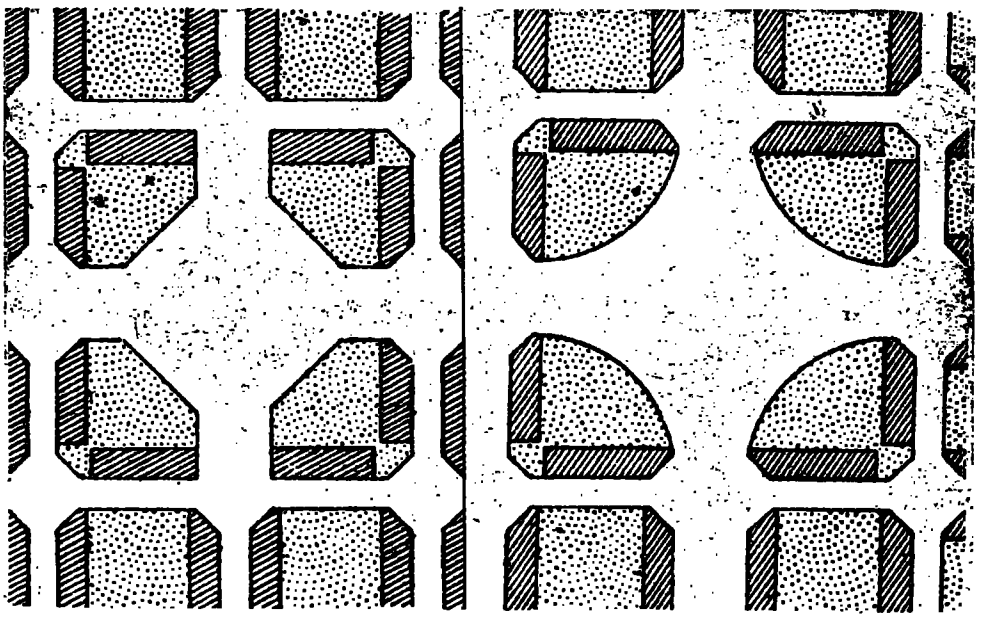


FIGURE 59 - PLAZA LETAMENDI (LEFT) AND PLAZA TETUAN (RIGHT)

(as Cerda planned them) - Buildings have diagonal line shading.

Today, the surrounding 'manzanas' have been filled in and thus these 'plazas' have lost much of their visual appeal. See photos 27 and 30. Source (89)

Opposite the University there is a long thin strip of land for public use, with seats and small flower gardens, which is known as Plaza Universidad, although it is much smaller than the large triangular open space planned by Cerda, which has been built on. Plaza de las Glorias, planned largely to funtion as the crossing point of routeways, remains as such and Plaza Calvo Sotelo (photo78) and Plaza de Espana (photo 28), added on the borders of 'ensanche', are of a similar nature. In Paseo San Juan, a magnificent flower garden faces the Palacio de Justicia (photo 21), which like the nearby Arco de Triumpho (photo 20) was constructed for the International Exposition of 1888 and was not included in the Plan Cerda.

Before leaving roads, it is worth noting a proposal that was not realized. Although Rovira i Trias's plan won the competition held by the Council in 1859, the judging body made the reservation that some of the buildings would be widened and enlarged because the roads were too wide. Later a member of the same judging body proposed, as a way of lessening the municipal debt, that the central section of the 'Gran Via' (Avenida de Jose Antonio, Primo de

Rivera), the main cross-town routeway, should be built on, leaving two small roads on either side, (see photo 3). Fortunately, the proposal was rejected.

Improvements

Some modifications of the Plan Cerda are generally viewed as advantageous. Plaza Cataluna(see photo 29) is located as planned in Rovira i Trias's project (see Figure 43), linking the Ramblas and the Paseo de Gracia. Cerda, like Molina in 1853 (see Figure 39), saw the joining of the two arteries in the prolongation of the Ramblas up to the Paseo de Gracia and the formation of a large 'plaza' there, the lower side of it adjacent to the 'Gran Via' (see Figure 46). In reality, the Paseo de Gracia was built with a width of 60 metres in its total length, as opposed to the two separate widths, suggested by Cerda, the upper section being narrower in Cerda's plan. The Ramblas was also extended to form a second road (see Figure 51), 'Rambla de Cataluna' (photos 1 and 2), 30 metres wide, running to the left of the 'paseo'. These modifications were approved by the R.O. (Real Orden) of 18th July, 1861, issued by the Ministerio de Gobernacion (Ministry of the Interior/Home Office), into whose hands matters of 'ensanche' had passed since the final approval of Cerda's plan in 1860.

Other roads, existent before 1860, have survived, forming small diagonals across the quadricle pattern, although Cerda omitted them from his plan. Examples of these are Avenida Mistral, which runs into Plaza de Espana, Calle de Pedro IV, which runs out northwards towards Mataro, and Avenida de Gaudi, which links the 'Sagrada Familia' church with the 'Hospital de Santa Cruz y San Pablo'.

Cerda's Reforms in the Old City

Cerda's Plan included the extension of three of the new roads of 'ensanche' to cross the old city, two in the 'weft', running from the mountains to the sea, the other in the 'warp', running from Montjuich to the Citadel, (Figure 60). Where they crossed the old city, they were known as Vias A,B and C.

All three were preserved in Baixeras's project of 1880 (Figure 85), but only one - Via A - was built (in 1916) and named 'Via Layetana'. Via B - the prolongation of Calle Muntaner to the sea - was started, but today only stretches from La Perta de la Paz at the sea end, up to Calle Conde de Asalto. Planned

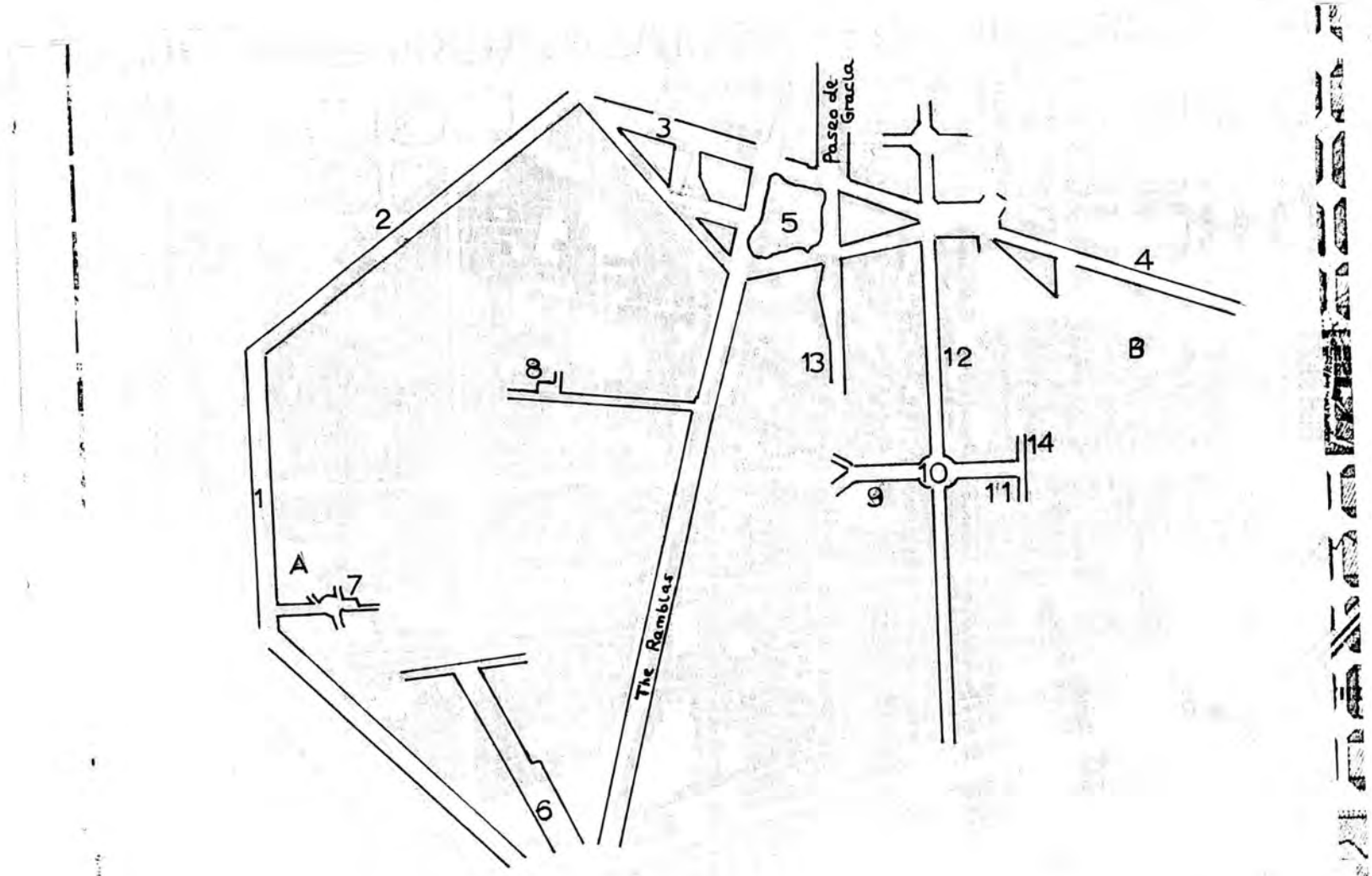


FIGURE 60 - CERDA'S PLANNED REFORMS IN THE OLD CITY (1) As he planned them. (2) As they exist today.

1. Ronda San Pablo
2. Ronda San Antonio
3. Ronda Universidad
4. Ronda San Pedro
5. Plaza Cataluna
6. Avenida Garcia Morato
7. Small widening of Calle San Pedro
8. Widened section of Calle del Carmen
9. Plaza Nueva and Avenida de Catedral
10. Plaza Antonio Maura
11. Avenida Francisco Cumbio
12. Via Layetana
13. Puerta del Angel
14. Calle de Alvarez Castro

A - Barrio of San Pablo
B - Barrio of San Pedro

Source of (1) - (89)



FIGURE 61a -GARRIGA Y ROCA'S PLAN TO WIDEN THE 'RONDAS' TO 60 METRES - 1861
SOURCE:- (89)

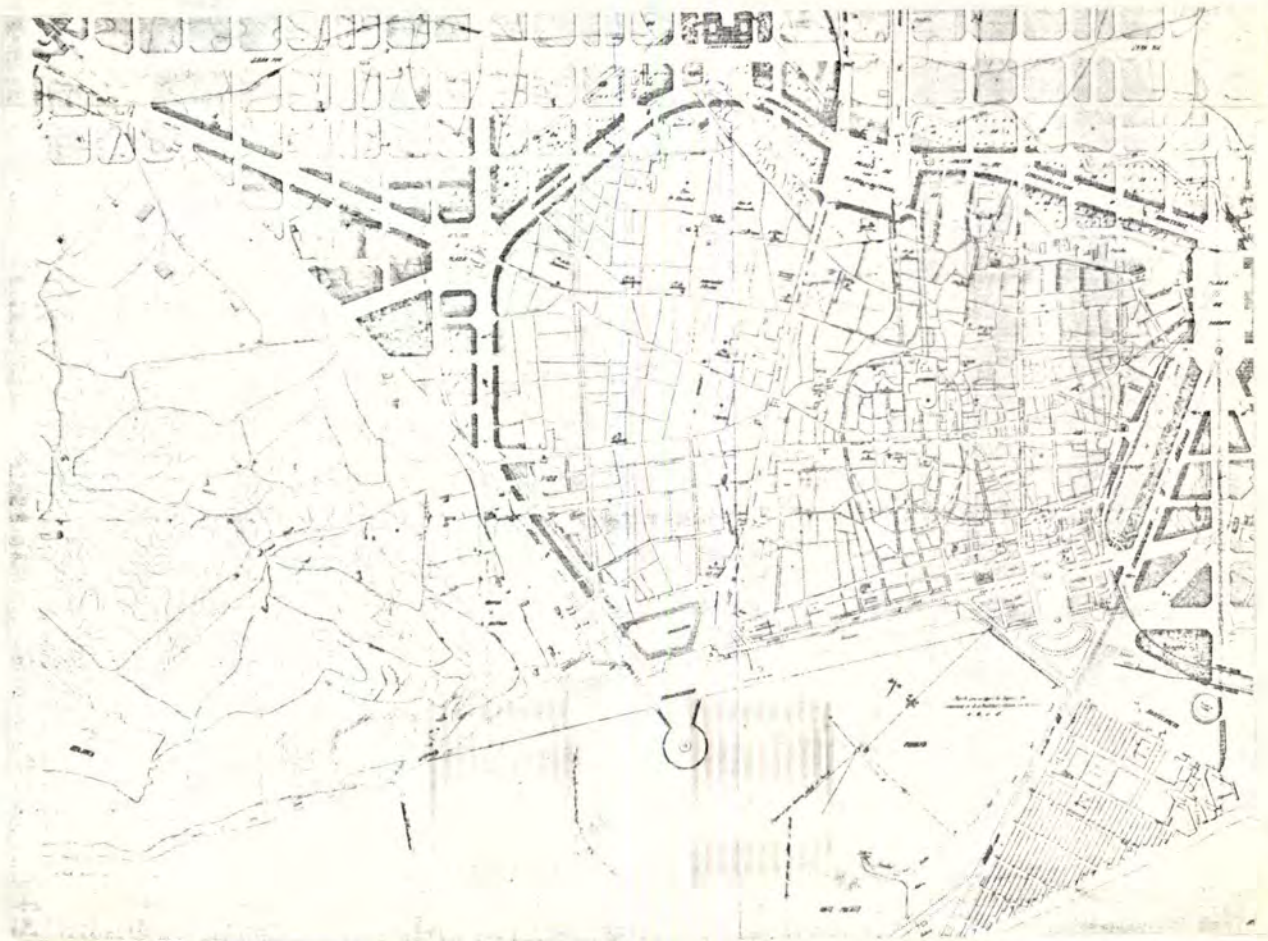


FIGURE 61b - SECOND PLAN TO WIDEN THE 'RONDAS' - 1862 Source:- (89)

by Joaquin Vilaseca in 1934, it is, in fact, a slight variation on what Cerda planned. It is called Avenida de Garcia Morato. The third, Via C, which was to run across the city, only exists in small isolated sections, the largest of which is where it crosses Via Layetana. Here the road stretches from outside the Cathedral across Via Layetana, through Plaza Antonio Maura to Calle Alvarez Castro. Other small sections exist at the end of Calle San Pablo and in the middle of Calle del Carmen, but these (Figure 60 and photos 10,11,12 and 13) are again modifications on the original location of the road.

Cerda also planned a ring road around the old quarter, composed of 'Rondas' of 30 metres width, in the main occupying the land previously occupied by the walls. In 1861, Garriga y Roca introduced a plan to widen the ring road to 60 metres (Figure 61), but the central government then overruled the plan, setting a maximum width of 45 metres, an enlargement of 15 metres on Cerda's original. The Mayor of Barcelona was to form a team consisting of Garriga y Roca, the municipal architect Fontsere (whose plan of 'ensanche' was third runner-up in 1859), Ildefonso Cerda, Rovira i Trias and two other architects, who along with the last-named, refused to play any part in the task of drawing up a new plan of the 'Rondas', because they would not, especially Rovira i Trias, collaborate with Cerda in any way. Things were thus left to Garriga y Roca and Fontsere, Cerda playing no further part either. They presented a modification of the 1861 plan in November 1862 (Figure 61b), but the central government never approved the plan, perhaps because they were interested in obtaining the maximum returns from the sale of lands previously occupied by the walls, and the 'Rondas' remain, as Cerda planned them, 30 metres wide.

CHAPTER 3

FROM CERDA TO JAUSSELY (1861-1930)

PART A: THE FIRST 'ENSANCHE' AND THE BEGINNING OF 'MODERNISM' (1860-1903)

1. THE ARCHITECTURE OF THE 'MASTERS OF WORKS'.[1]

Leaving aside discussion about Cerda's theory and models, (which are discussed in detail in Appendix 2), there are some questions to which we have more concrete answers. What would the buildings, as he intended, have looked like? What type of architectural style would have been used? This type of question can best be answered by looking at the constructions in the years 1859-91 and particularly in the years between the General Strike of 1855 and the First Republic (1872-74), when Cerda's urban plan was just one aspect of what has been called 'a new cultural hegemony', involving the association of workers and middle-class intellectuals in a popular movement that can arguably be said to have held power in the city. Undoubtedly, the development of the years 1859-91 best illustrates Cerda's intentions, characterized by the one-family houses of 2 or 3 floors and the common-walled (i.e. terraced) property of 5 or 6 floors, most of which were often rented out. This period has been called that of the 'architecture of the Mastersof Works', many of whom were friends and associates of Cerda and who, generally speaking, represented his way of thinking. This development of the city - the first 'ensanche' - is shown in Figure 62 and in more detail in Figures 63 and 64.

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[1] The 'Masters of Works' were employees of the Council, usually with an engineering background, in charge of construction of buildings. Cerda himself was one, and in general the Masters of Works as a whole identified with him. The case of Fontsere i Mestres, one of the most famous Masters of Works, is interesting. His constructions, in and around the citadel park, were a victory for him in his fight against the Mayor, Rius i Taulet, supported by the municipal architects (Garriga i Roca and Rovira i Trias), 'Asociacion de Arquitectos de Cataluna' and 'la Academia de Bellas Artes de San Fernando de Madrid.' Thus the professional fight between engineers and architects, that had seen a victory for the former in the adoption of Cerda's plan, was continued. After 1890, however, the modernist architects undoubtedly had the upperhand in transforming the Plan Cerda. Opposition to the plan reached its extreme in the early 1900's when Puig i Cadalfalch demanded the destruction of all remaining copies of 'Teoria General ...', fortunately not carried out.

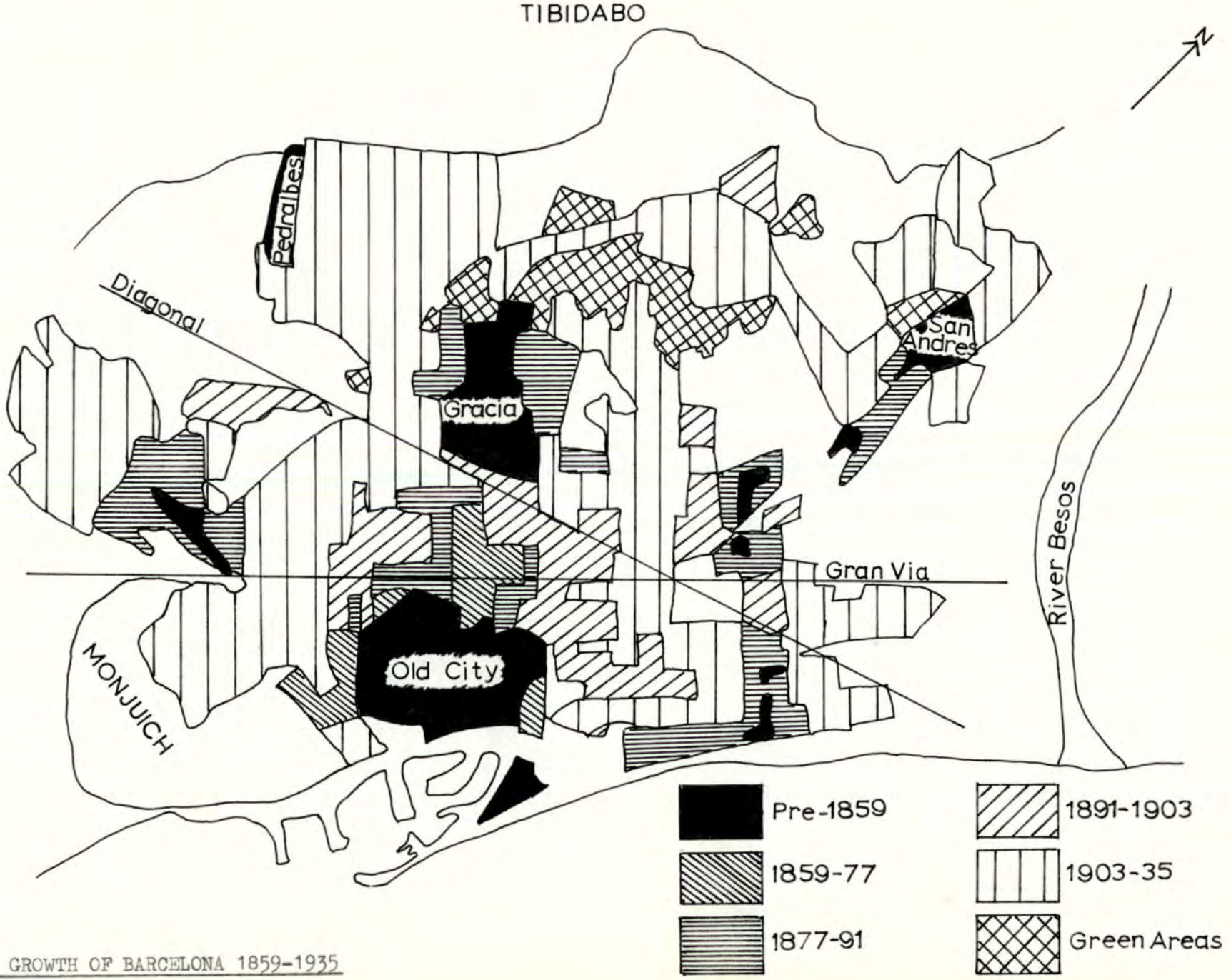


FIGURE 62 GROWTH OF BARCELONA 1859-1935

Source:- (24)

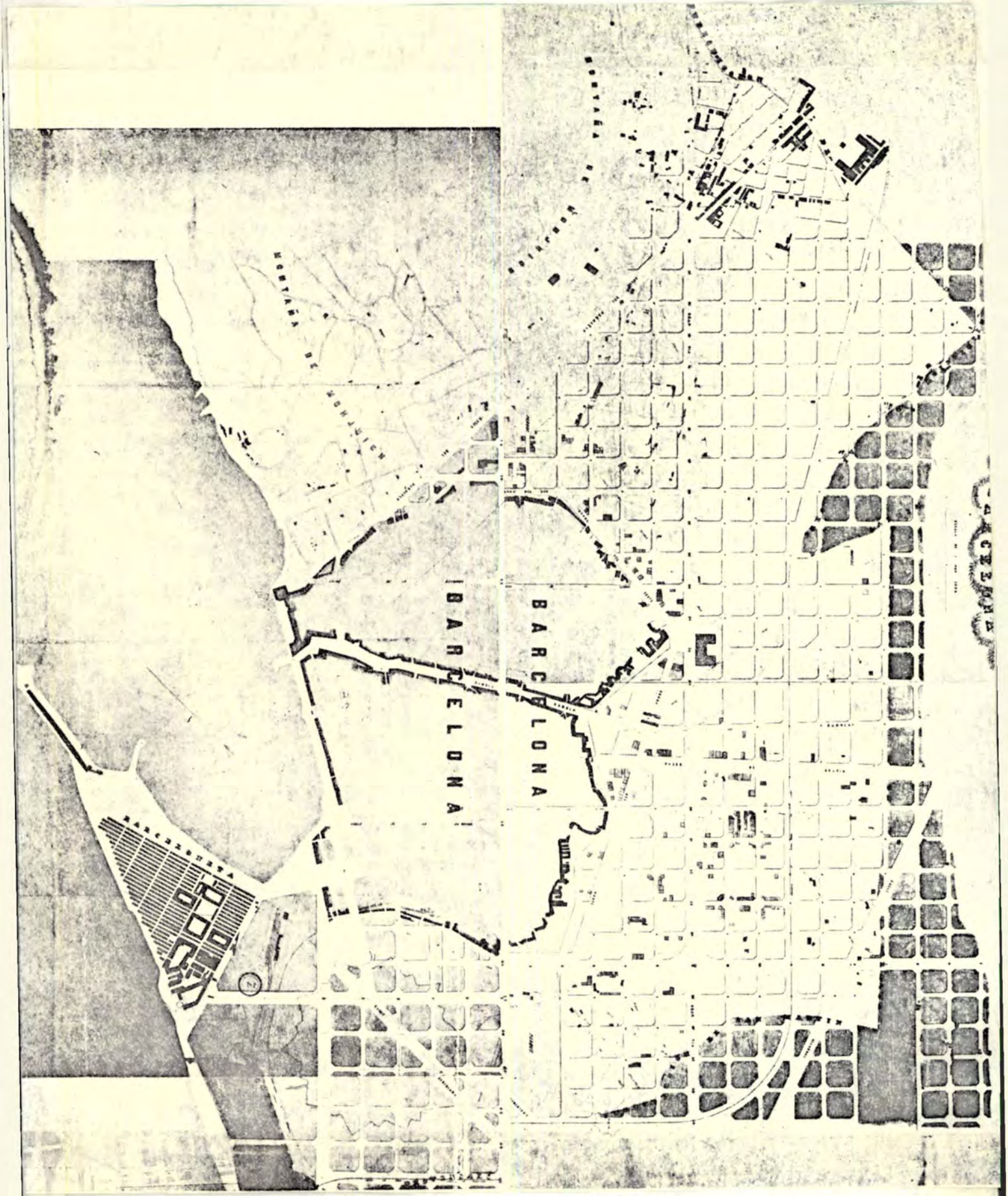


FIGURE 63 BARCELONA 1863-65

The very first constructions in the 'ensanche' - largely in the Rondas (including the University) and in the area within streets Aragon, Paseo de Gracia, Paseo de San Juan and the boundary of the old city. In the centre of this area, one 'manzana' even at this early date, had construction of some sort on all four sides. The dark area to the top of the plan is outside the new municipal boundary.

Source (92)

PLANO GENERAL de BARCELONA de SANCHE Y PUEBLOS CONTIGUOS EN 1877.

S^n GERVASIO

PEDRALVES

SARRIÁ

PUTXET

HORTA

S^t ANDRÉS DE PALOM

GRACIA

CORTS DE SARRIÁ

SANS

HOSTA FRANCHS

PUERTO

CLOT

LA LLACUNA

PUEBLO NUEVO

CAMP DEL ARPA

S. MARTIN DE PROVENSALS

MEDITERRÁNEO

FIGURE 64 - BARCELONA 1877 Source (92)

Construction around the Paseo de Gracia continued, with several 'manzanas' already built up on 3 or 4 sides. Cerda's green areas, Hippodrome to the right and park to the left of the Paseo de Gracia remain, but the Batllo factory, to the left and above the park has appeared in an area of 4 'manzanas' one of which had originally been planned by Cerda for use as a market. The factory, however, was constructed with Cerda's blessing and lends weight to the theory that he intended industry to exist within the city (see Appendix 2) Railways ('ferrocarriles') radiate out from the old city and a tram-way, built in 1872, links Gracia with the old city, (running down Paseo de Gracia). The projected hospitals (one in Sants, the other in Gracia) were not built. Icaria has become Pueblo Nuevo ('New Town') and construction has already begun on the area destined for use as a park. The Citadel has gone, replaced by Fontsere's park.

The 20 metres depth that Cerda gave (in 1859) to each block suggests buildings of considerable height, but there are also grounds for supposing he intended some one-family houses, particularly the evidence of Garcia Faria, a close friend of Cerda who, in his lecture 'Insalubridad de las Viviendas en Barcelona' (1888) and in his book (26), affirmed that Cerda had indeed been thinking in such terms. These one-family houses of 2 or 3 floors were to be both grandiose mansions, largely constructed in the Paseo de Gracia, (see Figures 65 and 66) and more modest houses for the middle-classes. The majority of both types have been destroyed within the past 25 years to make way for the construction of new 'high-rise' buildings and offices. A few examples remain, however, (e.g. in Pasaje Permanyer - see photo 6). Figure 67, a project to build 211 houses - carried out by Jose Serraclara in the land immediate to the new university - provided one of the best examples of this type of low density housing. It was intended for "the scientists, bureaucrats, artists and industrialists" - the middle-class. His objective was to "make available ... the entire and perpetual possession of a good and well-situated property without the necessity of previous payment in full," (quoted in (22)). Today, however, none of these remain.

The 5 or 6 floor, shared-wall blocks are those typically associated with Cerda, as illustrated in Rossi's reconstruction of the city (Figure 68). Despite the title of the drawing, the quality of this type of housing doubtless varied with the social and economic status of the inhabitants. In a similar way a vertical differentiation, typical of the period 1770-1800, prevailed to some extent, although in a new form. With the installation of lifts, the upper floors, not now constructed to smaller dimensions than the floors below, gradually became the most sought after because of their relative abundance of sunlight and fresh air.[1] Nevertheless, the change-over to lifts

---

[1] This process has been taken to extremes so that today, with less sun and clean air than ever, one pays more the higher up one lives, even in the small, often box-like 'aticos' and 'sobreaticos' (upper attics) some of which have what is now a rarity, sunlight from dawn to dusk. But gradually the 18th century situation, when the greater accessibility of the lower floors made them the most valuable property, was reversed.

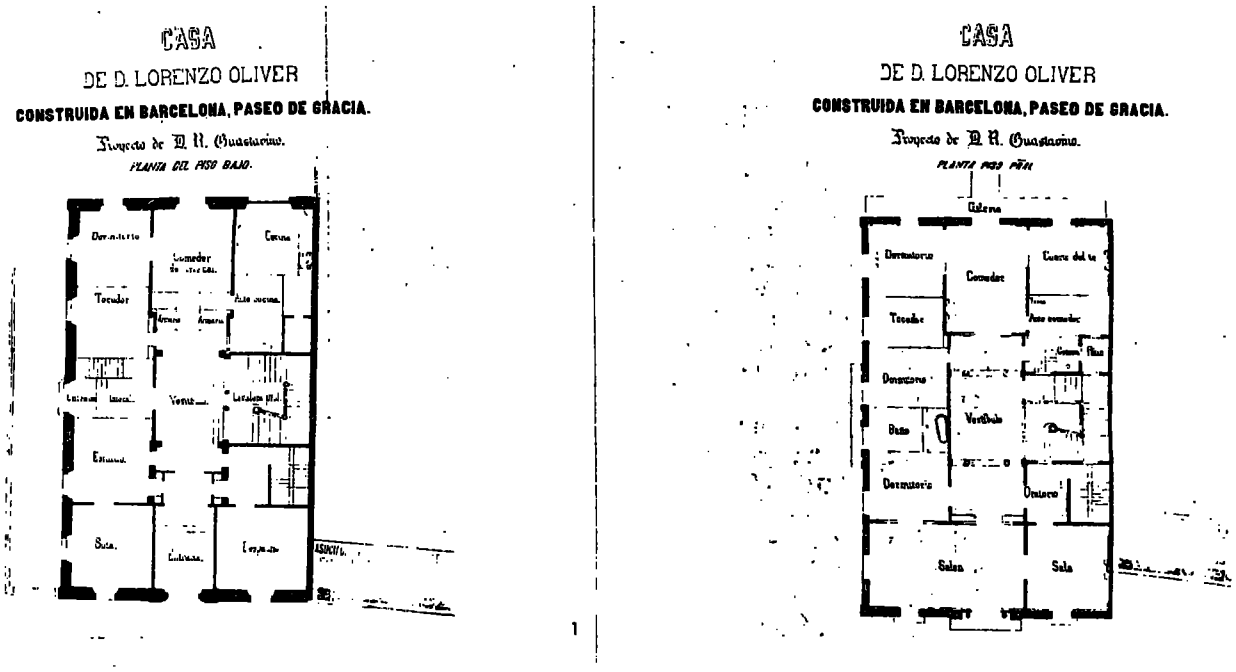


FIGURE 65 PLAN OF HOUSE OF LORENZO OLIVER

Constructed in the Paseo de Gracia, plan shows typical distribution of rooms in the two or three storey houses.
To the left - the ground floor - rooms read, from bottom left, clockwise around the hall (vestibulo) - living-room, study, side entrance, dressing room, bedroom, servant's dining room, kitchen, 'pre-kitchen', stairs, library.
To the right, the first floor, similarly - sitting room, bedroom, bathroom and lavatory, bedroom, dressing room, bedroom, dining room, tea room, pre-dining room, stairs complex, 'oratory', living room.

Source:- E. Rogent - 'Arquitectura Moderna de Barcelona'
Barcelona 1897.
Reproduced in (22)

---

did not come quickly and many of the houses of the first 'ensanche' contained stairways constructed of cast iron.

Figure 69 well illustrates the type of house design of the time. Unlike the 2-3 storey houses, many of these higher constructions remain (see photos 31-34). Photo 32 shows one of the houses constructed on the crossroads of Calle Lauria and Calle Consejo de Ciento - traditionally known as Plaza Cerda [1] although not officially named so. The square seems to have been named after the proprietor, Jose Cerda Soler, who, as far is known, was not related to Cerda.

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[1] Not to be confused with the Plaza Cerda situated to the extreme left, beyond Plaza Espana, and really outside Cerda's 'ensanche'.

LAMINA 10

DISPOSICION DE LAS CANALIZACIONES EN UNA CASA.

Seccion por A B

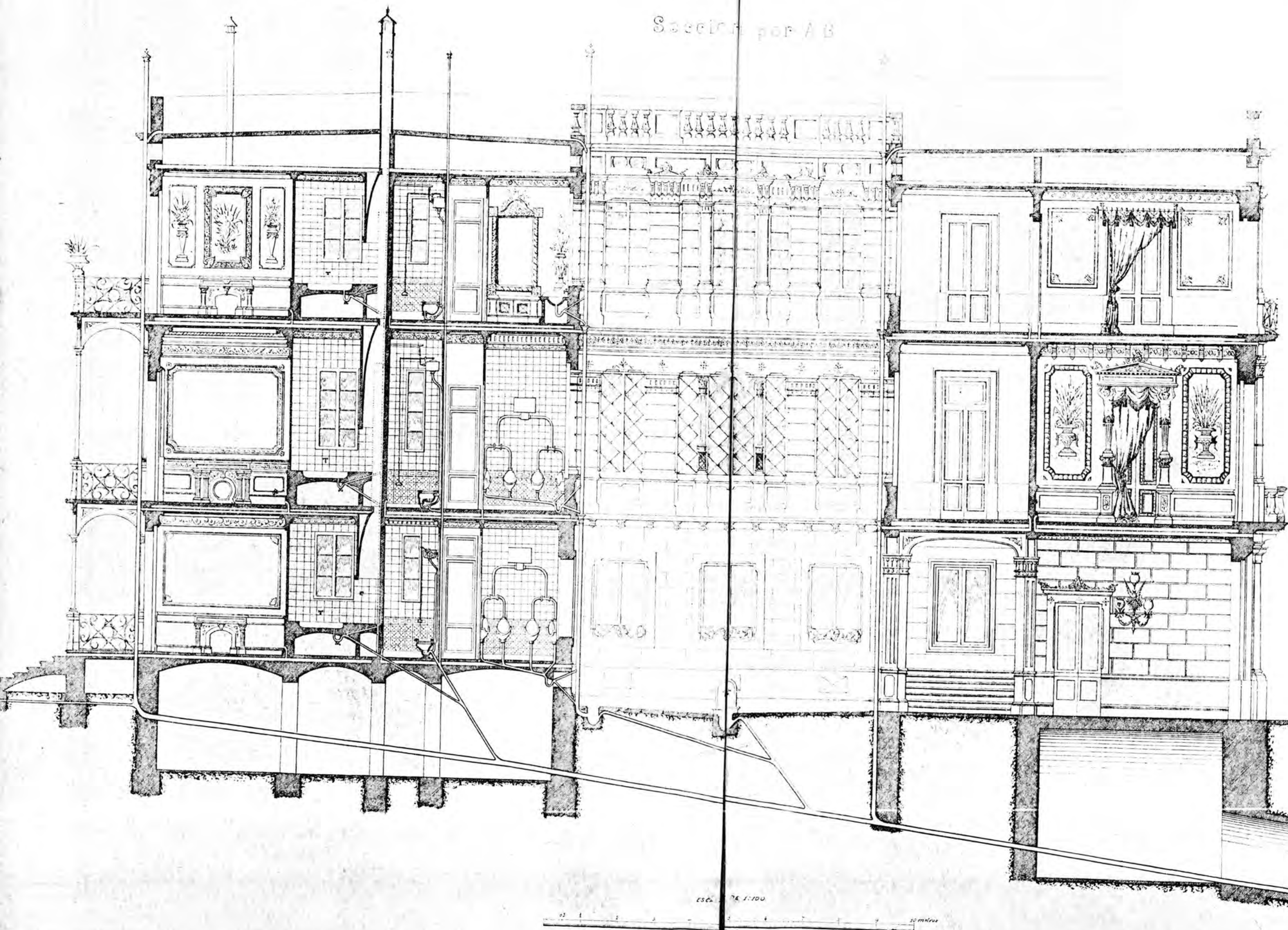
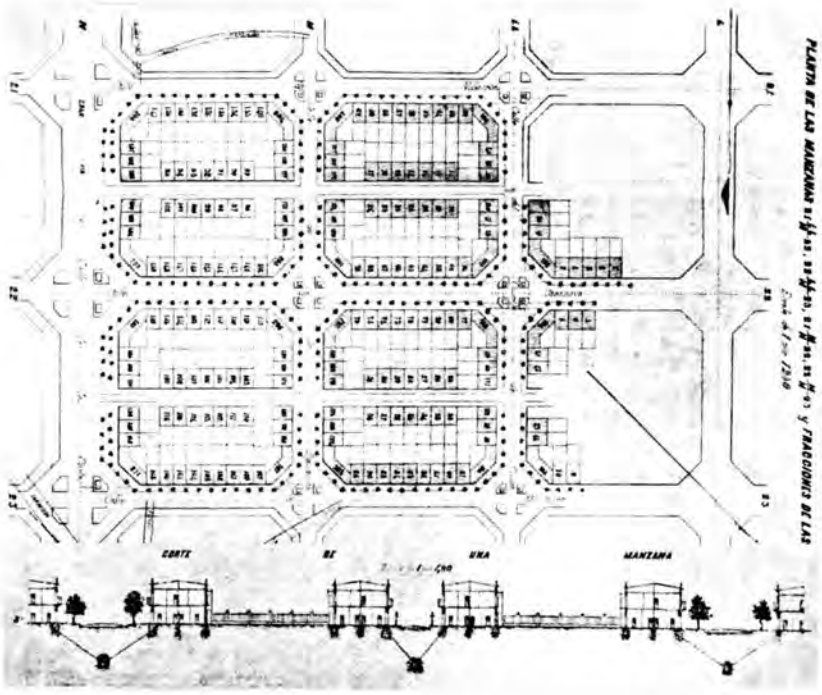


FIGURE 66 TYPICAL HOUSE OF THE 'ENSANCHE'

According to Garcia Faria (26); but it can only be considered typical of the area in and around the Paseo de Gracia. Away from this central area houses became less grandiose as a rule.

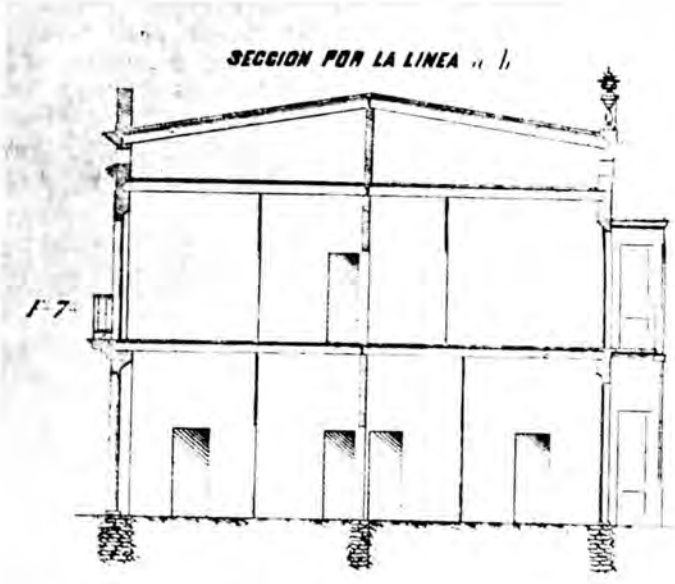


Street and house layout

FIGURE 67 SERRACLARA'S PROJECT

The project was to build 211 2-storey houses, largely within the 4 'manzanas' formed by the streets Muntaner/Gran Via/Villaroel/ Consejo de Ciento. Today, all that remains is the central passageway, dividing the two top 'manzanas' (above), known as Pasaje Merced.

Source (22)



Cross-section



Frontage

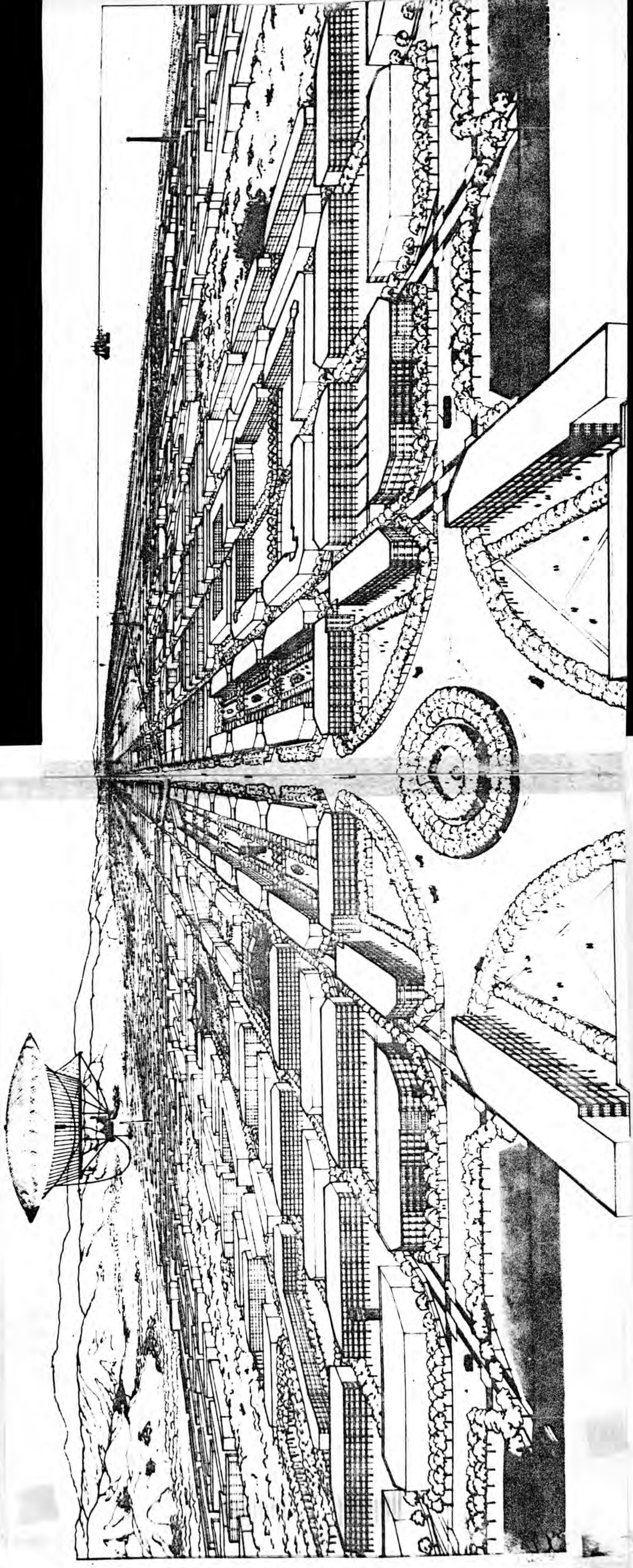


FIGURE 68 "THE EGALITARIAN CITY" - ROSSI'S RECONSTRUCTION OF CERDA'S MODEL CITY (See Appendix 2) Source (23)

Looking along the 'Gran Via' towards France, Plaza Tetuan is in the immediate foreground. The 'manzanas' remain open, built up on two sides only. To the left, the Hippodrome and to the right, the urban park that Cerda planned adjacent to the old city. In the middle left foreground (3 'manzanas' along Gran Via and one up to the left) one of the 'social centres' can be seen and beyond, on Diagonal, a market.

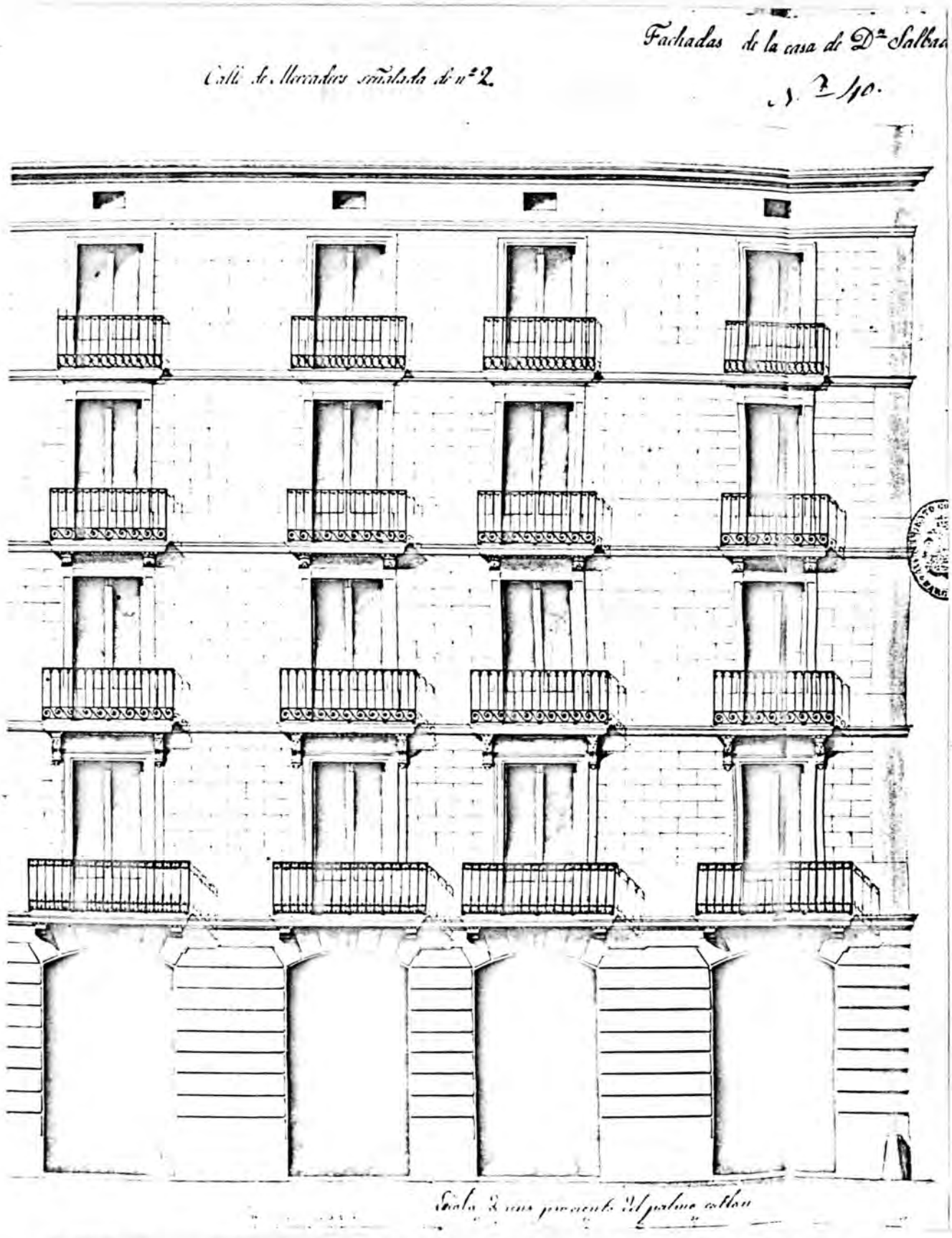


FIGURE 69 - HOUSE IN CALLE MERCADERS (NO.2) BUILT IN 1857 BELONGING TO SALVADOR AUGE

The introduction of cast iron railings on a large scale distinguishes the buildings of this era from those of the 'Ciudad Barroca'. The style here is simple, typifying the Masters of Works architecture. Later in the century the 'modernist' architects introduced far more flamboyant and decorative frontage designs.

Source:- A.H.B.

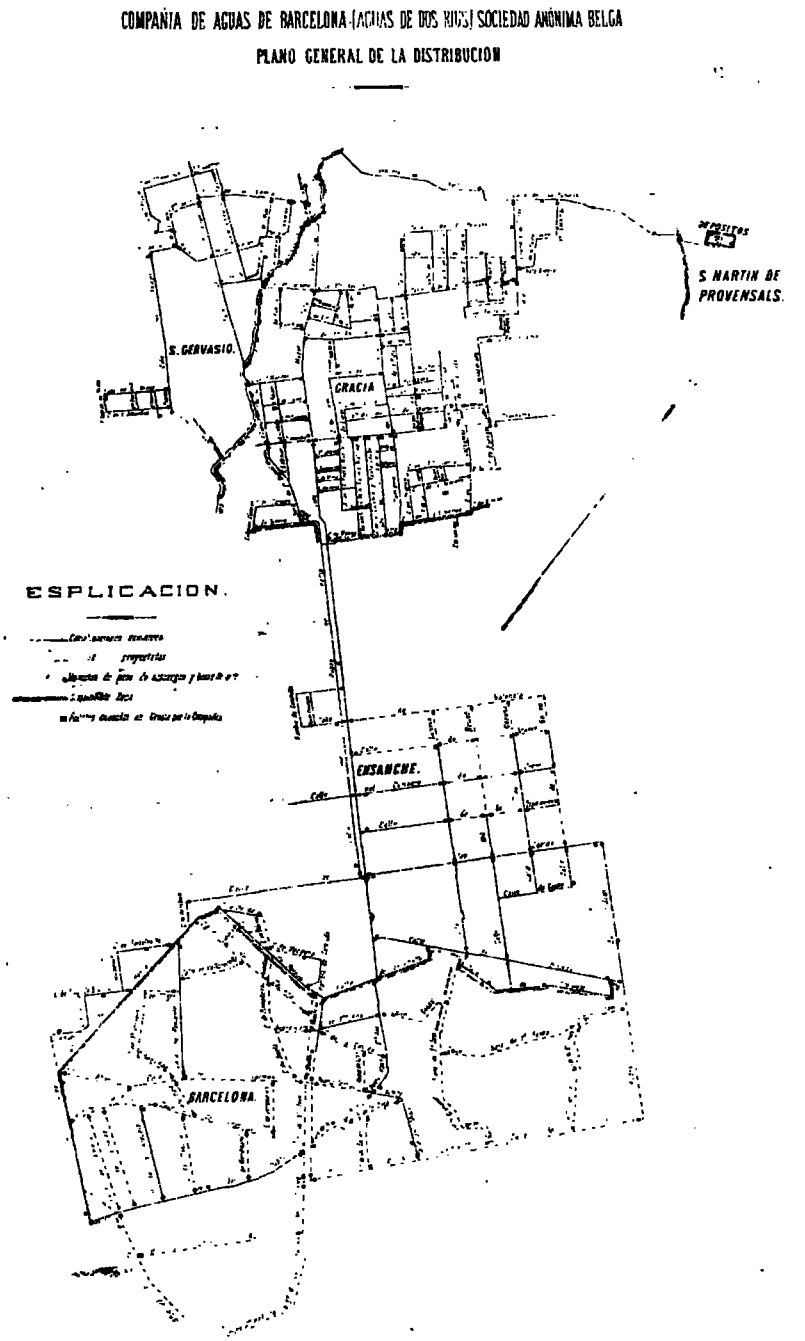


FIGURE 71 - WATER SUPPLY IN BARCELONA 1873

A Belgian company contracted by the 'Compania de Aguas de Barcelona' (Water Company of Barcelona) laid 51,734 metres of piping between 1868 and 1873, improving, extending, and connecting the supply of water in Gracia, the old city and the 'ensanche'.
The dotted lines, largely in the old city, represent planned extensions.
The continuous lines represent laid piping. Source:- (92)

concentrated in the old city, where the overcrowding was worsened by the continuing immigration. [1] The original objective of the Plan Cerda - to free

[1] 'Anuario Estadistico' of 1902 gives the results of several censuses taken in the years 1860 to 1900. All are much the same and give some idea of the number of immigrants in the city. In 1887, 39.18% of the total population of 397,111 were born outside the province of Barcelona.

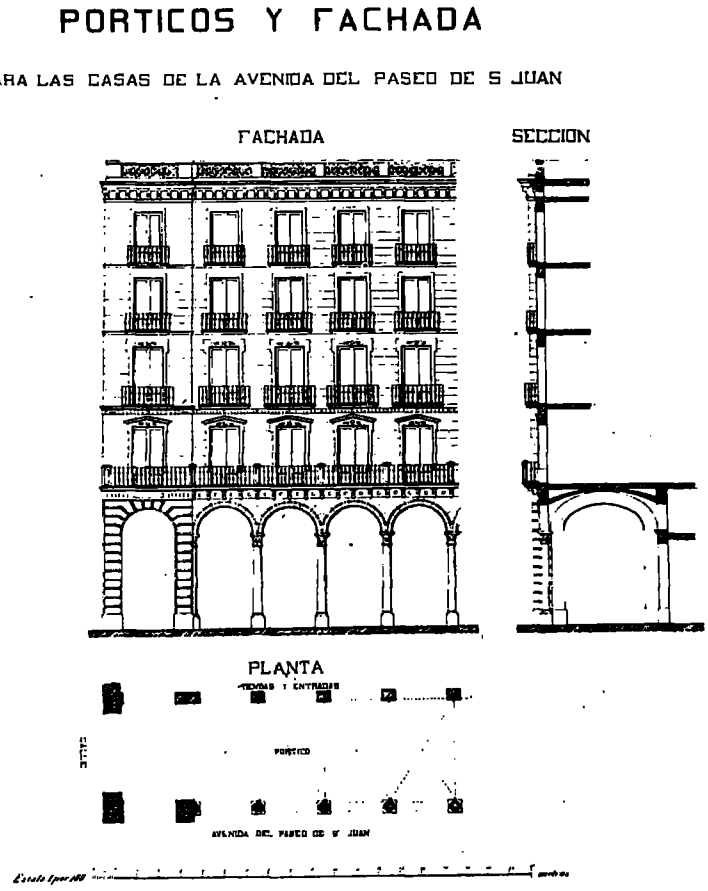


FIGURE 73 FRONTAGE ('fachada') DESIGN OF HOUSES BUILT BY FONTSERE AROUND THE CITADEL PARK

Source:- A.H.B.

The majority of the area was given over to a park in which great public works like the Born Market (photos 17,57), the 'Umbraculo' (shaded house for plants- photo 43) and the lake, were built. In the area not occupied by the park, Fontsere designed a series of blocks of houses (Figures 72 and 73 and photo 31) all with his characteristic frontage design. The design, inspired by Parisian examples in La Rue Rivoli (1811), was also used in Paseo de San Juan; and in the other streets, largely around the Born Market, adaptations of the design were used. Although more refined, the design is similar to that applied by Josep Mas i Vila in Calle Fernando in 1840 (see page 45). Both are typical of the forms of construction favoured by the Masters of Works and representative of Cerda's way of thinking, with repetitive frontage styles lining whole streets.

The Born Market was built during the years 1874-76 by Fontsere i Mestres in collaboration with the engineer J.M. Cornet i Mas, and along with the 'Umbraculo' constituted the two masterpieces of all the new urbanisation in the area. The Born borrowed much from Les Halles in Paris, from which it is in some ways a direct transposition, particularly in its frontage design (Figure 74),



FIGURE 77 BARCELONA 1840

Calle Fernando, that was eventually to link the Ramblas with the Citadel Park, has reached Calle Avino. The gradual integration into the city of Plaza Palacio, near the port, is noticeable during this period. Source:- (92)

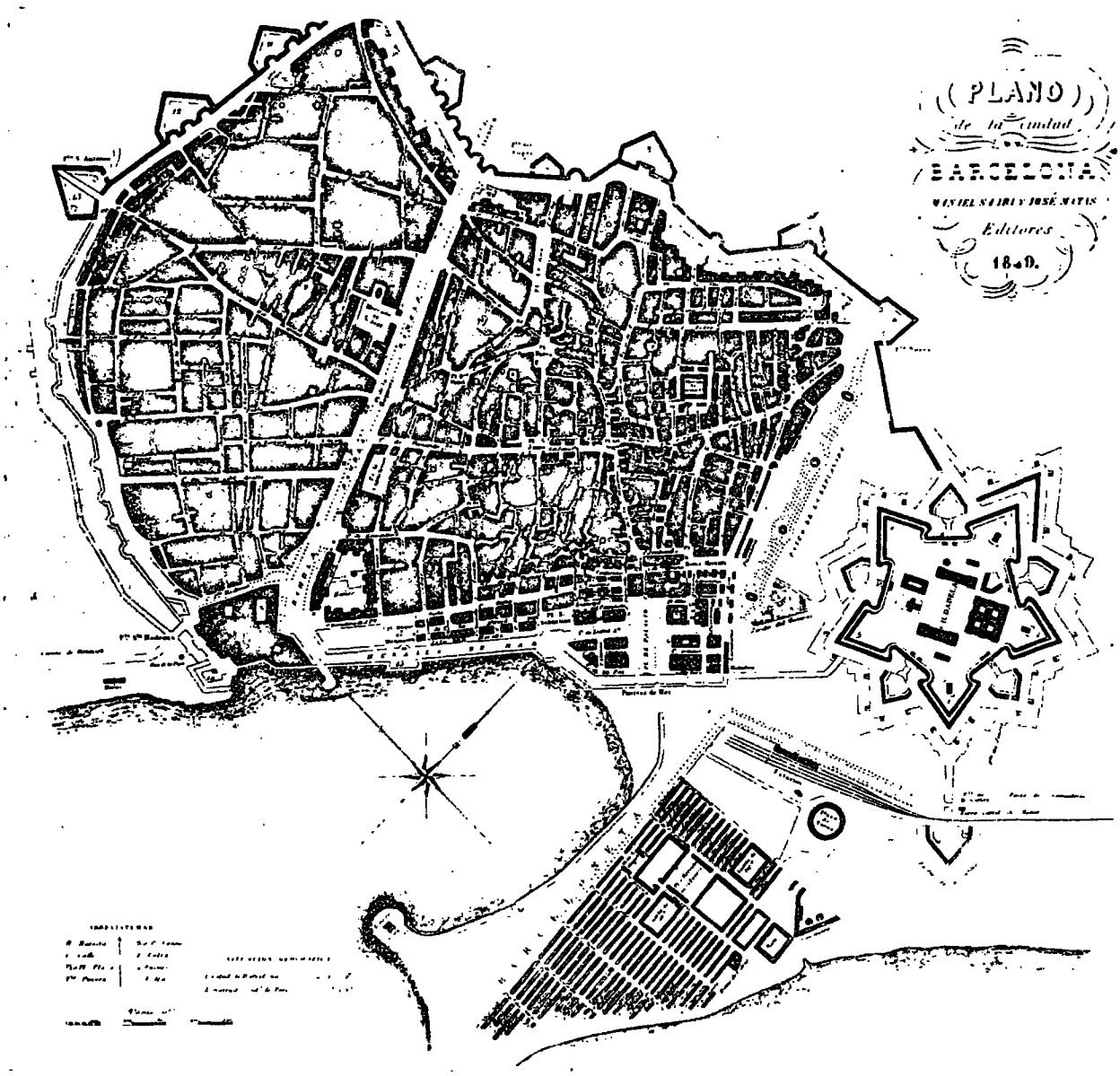


FIGURE 78 BARCELONA 1849

Calle Fernando reached Plaza San Jaime in 1848 and by 1849 its extension, Calle San Jaime, reached Plaza del Angel. Barcelona's first railway station appears between Barceloneta and the Citadel. Opened in 1848, the line ran from Barcelona to Mataro, up the coast, and was later extended to the French border.

Source:- (92)

Built in pure eclectic style, Pasaje Bacardi is regarded as an architectural masterpiece. "The spatial quality created by the crystal glass cover and metal bridge ... is enhanced by the heterogeneity of decorative elements and pictures that adorn it." (22) Today, however, it is difficult to appreciate the true quality of this construction because of its poor state of conservation (photo 40).

In 1879, following the destruction of an old convent, Pasaje de Credito (photo 41 and Figure 82) was built, linking Calle Fernando with Calle de San

Miguel. It was designed by architect Magi Rius, as were all the surrounding buildings between streets Fernando, Avino, Miguel and Ensananza (see Figure 86). The importance of Pasaje de Credito is that it represents

> "a fundamental theme of our mediterranean architecture - the 'patio' (interior yard)-and tries, on a new scale, to present the possibilities offered by such, doing so with the same architectural dignity usually found in the smaller, private open spaces." (22)

Thus, the years 1860-1900 saw a spate of new construction in the 'Arrabal', whilst to the right of the Ramblas the main feature in the years immediately before and after the Plan Cerda was the opening of Calles Fernando and Princesa and the rectilinear open spaces that were created with them. They were constructed in a composed and orderly architectural form, the perfect expression of neo-classical urbanization that was desperately but vainly defended in the last decades of the 19th century, as the scale of plans of reform changed and the move towards 'modernism' began.

The Port of Barcelona

The second half of the 19th century saw important improvements in the port. The main jetty (dique de Este on Figure 83) dates from 1477 and when, in 1772, a lighthouse was built on its seaward end, it occupied the section from the land out to the wharves of Rebaix and Pescadores (Figure 83), being about 800 metres long. In 1816 construction began to prolong the main jetty another 50 metres under the name 'New Wharf' (Muelle Nuevo). It was completed in 1844 but problems remained. The harbour was not deep enough and a sand bar - the 'tasca' - parallel to the coast, hindered navigation and entrance to the port. In the years around the middle of the 19th century, there were important works of dredging and deepening and various plans to construct new jetties (Figure 84) Not until 1868 however, when the 'Junta de Puerto' (a Council body) was formed to supervise construction, was anything concrete achieved. Then, under the direction of engineer Mauricio Garran, the wharves of Muralla, Atarazanas, San Beltran and Barcelona(partly) and two smaller jetties (Dique del Este and Dique del Oeste, projecting out from the foot of Montjuich) were built. In the 1880's Garran was replaced by Lagasca, who directed the construction of the wharf of Poniente and modernisation of those of Barcelona and Muralla, with the installation of railways and hydraulic cranes. In 1888, to mark the

PUERTO DE BARCELONA

Plano de las obras ejecutadas, en construcción, en proyecto y en demolición.

AÑO 1901

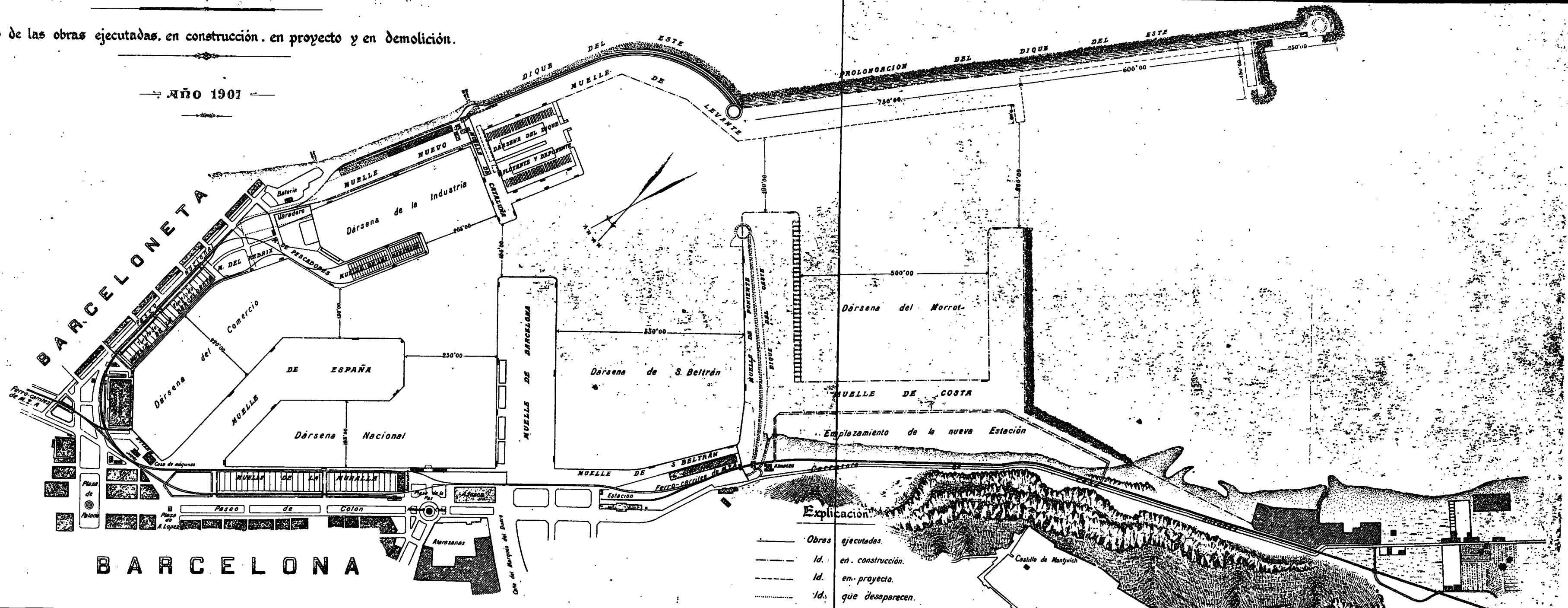


FIGURE 83 - THE PORT 1907

'Muelle' = Wharf
'Darsena' = Dock
'Dique' = Jetty

The 'Deposito Comercial' (General Storage Warehouse) is at the back of 'Darsena de Comercio', to the left of the plan.

Source:- (28) 1907

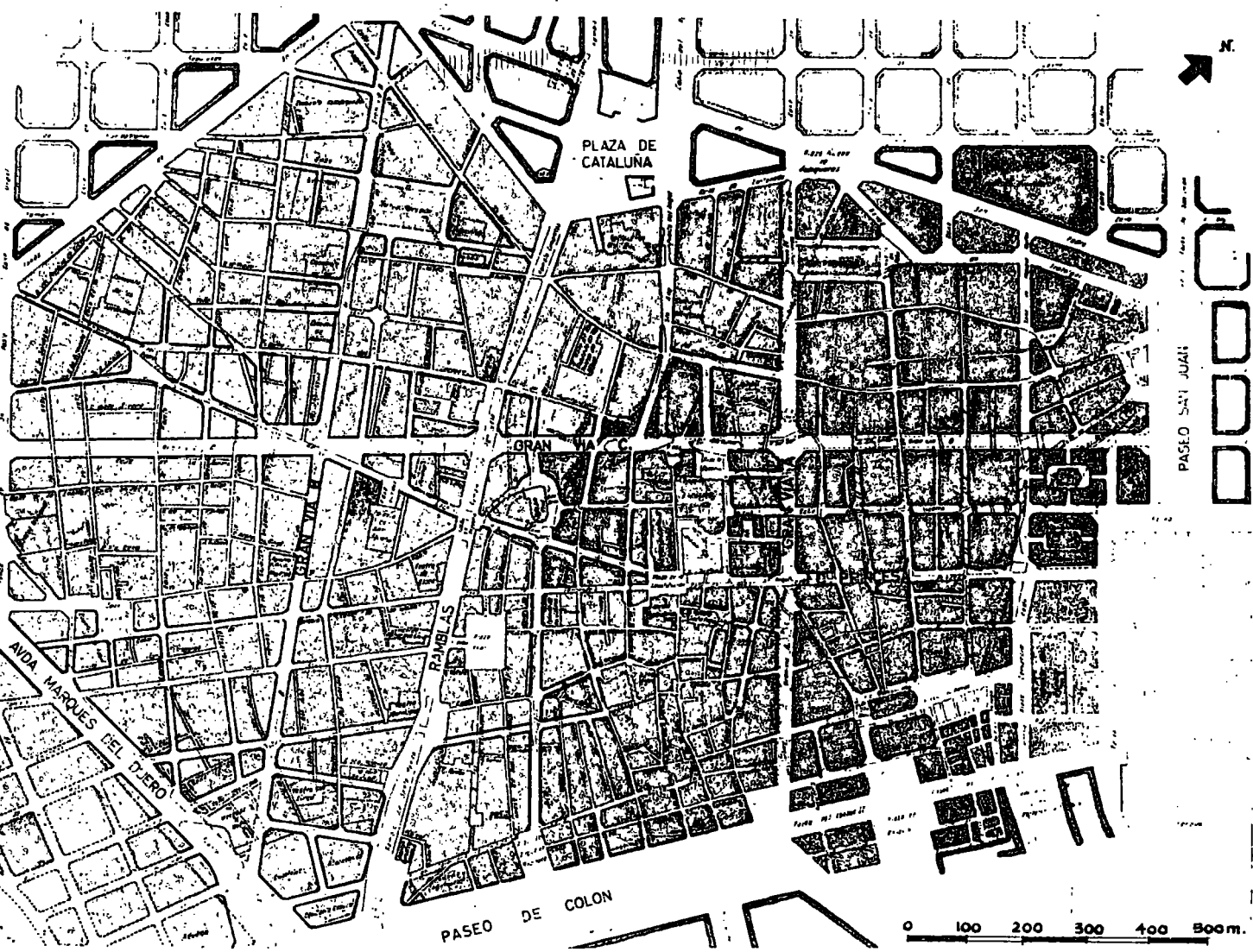


FIGURE 85 - THE PLAN BAIXERAS

Presented in 1880, it was approved by the Council in 1881 and again in 1889 following a public inquiry. Source:- (89)

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the destruction of the ancient 'Hospital de Santa Cruz' (in Calle del Carmen - photos 69 and 70) and the 'Artarazanas' (an ancient shipyard at the foot of the Ramblas). Today it may seem odd that Baixeras thought it preferable to destroy such buildings of historic value to save the houses of Calle Joaquin Costa (see photo 45). At the time, however, the hospital and 'Atarazanas' were in a sad state of repair after centuries of abandonment and were classified by him as 'factories, generally large , without any aesthetic appeal and badly situated.'

Plano de situacion de las secciones que constituyen el proyecto de apertura de las Grandes vias A. B. y C. de la Reforma.

LEYENDA.

1ª
2ª
3ª
4ª
5ª
6ª
7ª
8ª
9ª
10ª
11ª
12ª

This watered-down version was an attempt to construct the three main streets only. Baixeras's 'transformation' of the old city was dropped.

Source:-(28) 1908

		Calles/Pasajes/Paseos.
A.	Hospital de Santa Cruz	1. Poniente (Joaquin Costa)
B.	'Atarazanas' (the old shipyard)	2. Fernando
C.	Cathedral	3. San Jaime
D.	Church of Pino (and 'Plazas')	4. Princesa
E.	Church of Santa Maria del Mar (+plaza	5. Caputxes
F.	Diputacion	6. Moncada
G.	Council ('Ayuntamiento')	7. Bacardi
H.	Plaza Real	8. Avino
I.	Plaza San Jaime (de la Constitucion)	9. Tallers
J.	Plaza del Rey	10. Carmen
K.	Plaza de San Sebastian (Antonio Lopez	11. Baja de San Pedro
L.	Plaza de San Justo	12. Basea
M.	Mercado de Santa Catalina	13. Casador
N.	Plaza de los Angeles	14. Puetta Ferrisa
O.	Casa Provincial de Caridad	15. Carmen
P.	Mercado de San Jose	16. Antonio Abad
Q.	Teatro de Liceo	17. Paja
R.	Church and 'plaza' of San Pedro	18. Cardenal Casanas
S.	Plaza de San Miquel	19. San Pablo
		20. Rambla de San Jose
		21. San Miquel
		22. Ensenanza
		23. Cera
		24. Petons
		25. Cap de Mon
		26. Tripo
		27. Pon de l'Estang
		28. Pon de l'Estanc

Apart from the 3 main roads, Baixeras presented a detailed transformation of the area to the right of the Ramblas. Only the 'Arrabal',where housing was more modern and conditions more hygienic, did he leave alone. His planned 'transformation' of the old city is interesting in that is is representative of the 'monumentalist' view of the city that later found expression, on a larger scale, in the Plan Jaussely. For Baixeras, the monuments of Barcelona were the Cathedral, the Churches of Pino and Santa Maria del Mar and the Council and 'Diputacion' buildings, which he planned to surround with large open spaces, from which they could be viewed, necessitating the destruction of some of Barcelona's oldest buildings.[1] A great part of Mons Taber (the oldest part of the city at the heart of the Roman settlement) was to be destroyed, creating a great garden between the Cathedral, 'Diputacion' and Calle Jaime I (Figures 85 and 86), where the Roman columns would be resituated in full public view. To do justice to the Cathedral, Baixeras planned the opening of a road going from there, across Via A to Paseo San Juan, midway between Via C and Calle Princesa, which, however, would destroy the ancient 'Salon del Tinell'[2] as it passed by Plaza del Rey, (Figures 85 and 86). The church 'de Pino' was to be isolated in the middle of a large oval'plaza', whilst a new street running from near the bottom of Via A to the church of Santa Maria del Mar, would destroy Calle Caputxes and its picturesque surroundings (Figures 85,86 and photos 46 and 47).

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[1] This process was not only happening in Barcelona. In 1882 the central part of Florence, rich in history, was destroyed. In Cologne, the Gothic Cathedral was left surrounded by public squares after the destruction of the old parts of the city. It is easy to criticise with hindsight, but one of the most pressing needs of the time in Barcelona's old city, as in many European cities, was to create better hygienic conditions and the most efficient way was often to destroy the oldest, poorest and most unhygienic (but perhaps historically interesting) housing. In Barcelona, these attempts were largely thwarted, not because of respect for history, but because of the necessary expense and damage that would be caused to vested interests.

[2] Salon de Tinell is one of the buildings constituting the Plaza del Rey. It consists of a wide rectangular room (17x35 metres) structured around 6 enormous arcs dating from the 14th century.

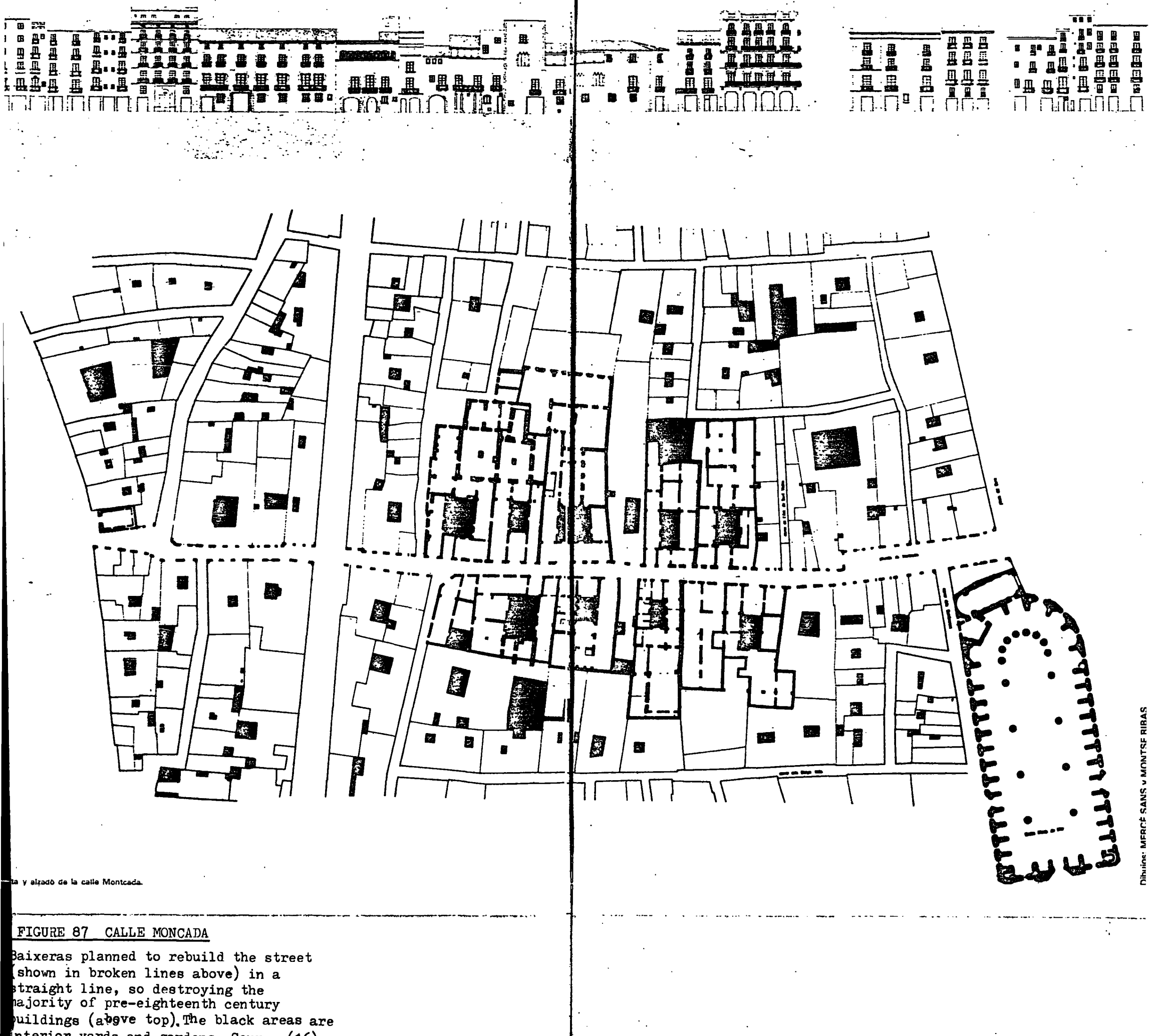


FIGURE 87 CALLE MONCADA

Baixeras planned to rebuild the street (shown in broken lines above) in a straight line, so destroying the majority of pre-eighteenth century buildings (above top). The black areas are interior yards and gardens. Source (16)

Although the major monuments were preserved, the rest - much of the housing and with it the character and atmosphere of the old city - was nothing more than a filthy and evil-smelling chaos that needed 'improving'. For example, in Calle Moncada (Figure 87 and photo 48) Baixeras planned to move the housing back 6 metres on one side and forward it, 1 to 1½ metres on the other, thus re-aligning the houses in a straight line, so that of the 10 old mansions, only one (number 12) was to be left standing. (Fortunately all 10 remain today).

All this is worth considering in view of the initial enthusiasm for the plan in the first moments of its presentation.

> "The 'anteproyecto' gave the impression of being like a revelation; the idea of a new city, built on the ruins of the old, of the disappearance of the very narrow streets, giving the elements of modern urbanization to everything, even to the multitude of tortuous little streets, that in their ugliness and decay did not permit the consecration of 'Art' or 'History'."[1]

The Plan was approved in 1881, but the Council were soon opposed by the landlords who fought bitterly and continuously against the plan and succeeded in post-poning final authorisation of the Plan until 1898 when the Council finally approved the realization of the 3 main roads, all to be 20 metres wide, although the other modifications were dropped (Figure 86). The constant battle between the Council and private interests was not over, however. In the early years of the 20th century the Plan was again challenged, modified, re-challenged and finally changed. Some of Baixeras' proposals were included in the Plan Darder and the Plan Vilaseca, which are studied later. Today, only one of Baixeras's (or Cerda's) roads exists - Via A - or Via Layetana, as it is now called.

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[1] From a report presented to the Council in 1907 signed by Alberto Bastardas and Raimundo de Abadal.

5. MODERNISM, MONUMENTALISM AND GROWTH 1890-1903

> "This surge of progressive urbanization was soon cut dead through the long, political winter of the Restoration of the Monarchy, that was characterised by 'convenient' transactions and a great amount of private construction in the 'Modernist' style, the Church of the 'Sagrada Familia' being the outstanding urban symbol of this epoch." (22)

It is perhaps worth discussing, in brief, the concepts of 'Modernism' and 'Monumentalism' [1]. Both have been mentioned before, but the period after 1888, particularly, saw their increasing dominance in the city. 'Modernism', as used here, means the election to operate on a limited scale, visually controllable, including consideration of the most immediate surrounds only. This attitude is certainly in the interests of private construction as it encourages piecemeal development, but it can also result in some architecturally fine creations. 'Modernism',then, is an approach to architecture and planning (or non-planning) with which the grandiose constructions of the 1890's onwards in Barcelona were associated (particularly those of Gaudi and Puig y Cadalfalch). It was not new,however, to the 1890's, but was evident in the 1860's with the construction of the University (designed by Rogent, see photo 26 and Figure 88) and more so in the 1880's with the construction of the Arco Triunfo and Palacio de Justicia and arguably even some of the constructions in the Citadel, despite Fontsere's efforts at urban integration. In planning literature, however, it is usually associated with the Catalan bourgeois land speculation and private construction of the 1890's onwards and seen in contrast to the purist, rationalist approach of the Masters of Works period of the years immediately after the approval of the Plan Cerda.

'Monumentalism', however, is an attempt to emphasise the visual quality of monuments (churches, cathedrals, public buildings, statues etc.) in the city, often by creating large open areas around them and often to the exclusion of other considerations. We have already seen an example of this in the Plan Baixeras. Some constructions, then, like the 'Sagrada Familia' church (photo 18 and Figure 53), which Gaudi originally planned to surround with a large

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[1] For a fuller discussion of 'Modernism' and 'Monumentalism' and their definitions according to different authors see C U A D. Number 113 March 1976

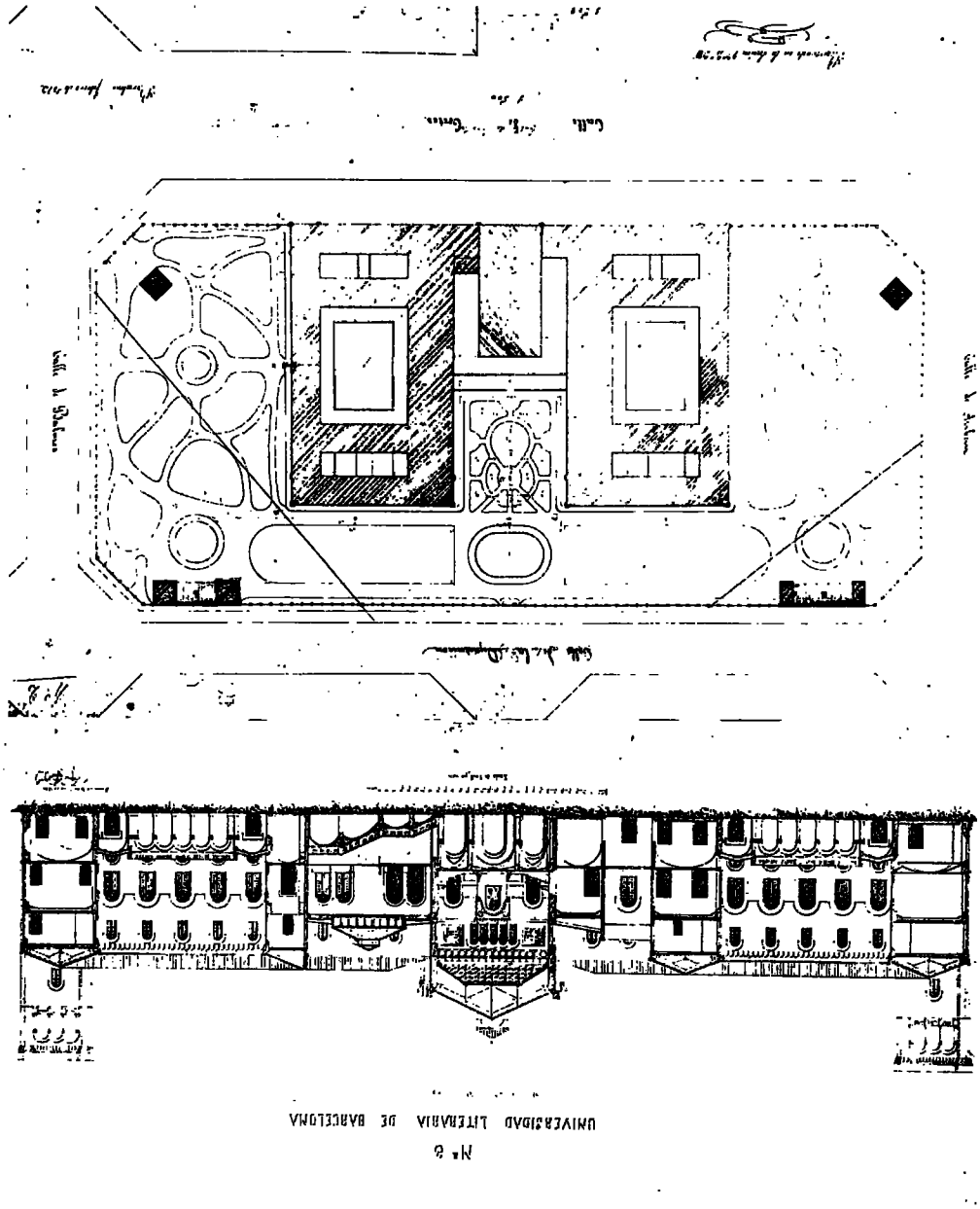


FIGURE 88 - THE LITERARY UNIVERSITY

Rogent's original design of 1860. See also photo 26 Source:- A.H.U.A.D. Reproduced in (22)

Regarded as Rogent's finest work, the interior of the University has a cloister-like appearance and Rogent was undoubtedly influenced by his admiration for the architectural style of the Monastery at Ripoll, in northern Cataluna, which creates a fine integration of open and closed spaces. This work was an example for the later 'modernist' architects, in its high level of professional competence.

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star-shaped 'plaza',[1] were both 'modernist' and 'monumentalist'. The Plan Baixeras as a whole, however, was not 'modernist' as it was an effort to plan and the same is true of the plan Jaussely, that will be studied later. It is

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[1] Gaudi's idea, in fact, was never carried through. Instead, the main 'plaza' occupying one 'manzana' was not planned opposite the main frontage, but below the building towards the sea-wards side, where a great stairway was projected, extending out over the road, with traffic passing beneath. There have been various other plans for surrounding the church with 'plazas' of different size and design. Today, the 'manzana' to the right of the building is a recreational area (see photo 18) - i.e facing the back of the church.

worth noting that the landowners generally favoured 'modernism' but not 'monumentalism' for, although the latter may have represented what could be termed the bourgeois view of the city 'par excellence', it also meant expense and the destruction of property an a large scale; destruction of property was generally only supported if it was piecemeal, plot by plot, renewal, involving the progressive increase in size of buildings i.e modernism.

So, in the period after 1890, plans tended to be 'monumentalist' and construction 'modernist'. Anil's project (Figure 89) was typical of the 'monumentalist' outlook and in many ways a forerunner of the Plan Jaussely, but it was never accepted by the Council. Construction in the city became increasingly 'modernist', with the appearance of large, architecturally fine buildings, visually outstanding in comparison with their surroundings (see photos 49 - 53). On a smaller scale, balconies, railings, doorways etc. became far more ornate and decorative in comparison with the simpler style of the Masters of Works (see photos 54-56).

Construction in the city in the last decade (1890-1900) was rapid. A quick glance at Figures 90, 91 and 62 reveal the most-important areas of construction in this period, when the municipal boundaries also widened to match the expansion of the city across the 'plain'. After the Plan Cerda, the redefined boundaries covered the area shown in Figure 92. Then in 1897 the municipalities of San Andres, San Martin, San Gervasio, Gracia, Las Corts and Sants were added, all constituting judicial municipalities within a far larger Barcelona (Figure 93), and in 1903 Horta, too, was added.

The increase in building over the 40 years 1860-1900 in various parts of the city is shown in Table 18. Of the 16,834 buildings constructed during the years 1860-1900, 9,049 were of 3 storeys or more. As regards density, 31,844 buildings were inhabited by 124,728 families, that is 3.91 families per building, in 1900.

> "But this hides great variations between the old quarter, the 'ensanche' and the outlying settlements. In the old city six families per building is the norm, whilst in San Andres de Palomar one family per house is usual and in San Gervasio and parts of Gracia and Las Corts, there are many buildings occupied only in the summer by families normally resident in the city." (28) 1902

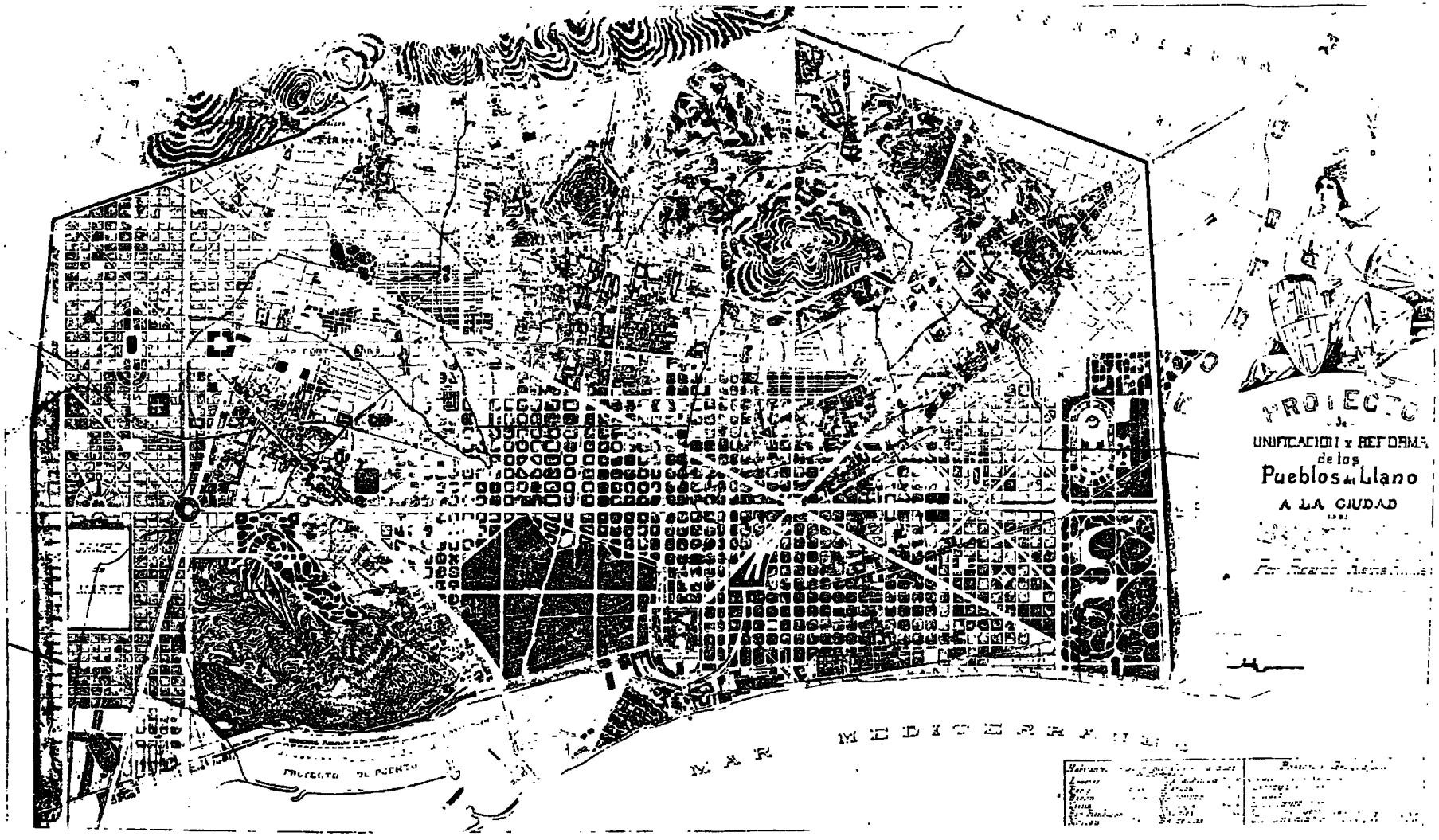


FIGURE 89 -'PROJECT OF UNIFICATION AND REFORM OF SETTLEMENTS ON THE PLAIN OF BARCELONA' 1899 (ANIL'S PROJECT)

By Ricard Alsina Anils . The plan included the creation of great routeways across the city, a redefinition of urban parks, the construction of a 'Paseo Marina' from the port to the Besos and the location of a large 'garden-city' area at the top of Diagonal. The city was defined by the 'Linea de Consumos' (the dark line surrounding the city).

	1860	1887	1897	1900	40 Year Increase
BARCELONA (see note on Fig. 93)	8665	11518	13119	14186	5521
LAS CORTS	166	451	502	555	389
GRACIA	2502	4493	3592	5184	2682
SAN ANDRES	2367	3670	3971	4070	1713
SAN GERVASIO	702	2022	2519	2774	2072
SAN MARTIN	1500	2416	3748	4241	2741
SANTS	1041	2212	2679	2767	1726
TOTAL	16943	26782	30138	33777	16834

TABLE 18 - BUILDINGS 1860-1900 Source:- (28) 1902

DISTRICT	AREA (m^2)	INHABITANTS	METRES ^{2} PER INHABITANT
1	1,876,609	34,761	53.9
2	1,673,935	56,881	29.4
3	672,829	43,433	15.4
4	2,197,639	55,611	39.5
5	2,433,287	59,468	40.7
6	2,713,707	90,991	29.8
7	15,140,553	80,456	188.1
8	6,977,265	49,409	141.2
9	17,119,137	28,955	591.2
10	9,709,084	29,508	329.0
TOTAL	60,514,045	529,473	114.2

TABLE 19 - SQUARE METRES PER INHABITANT PER DISTRICT 1902

Source:- (28) 1902

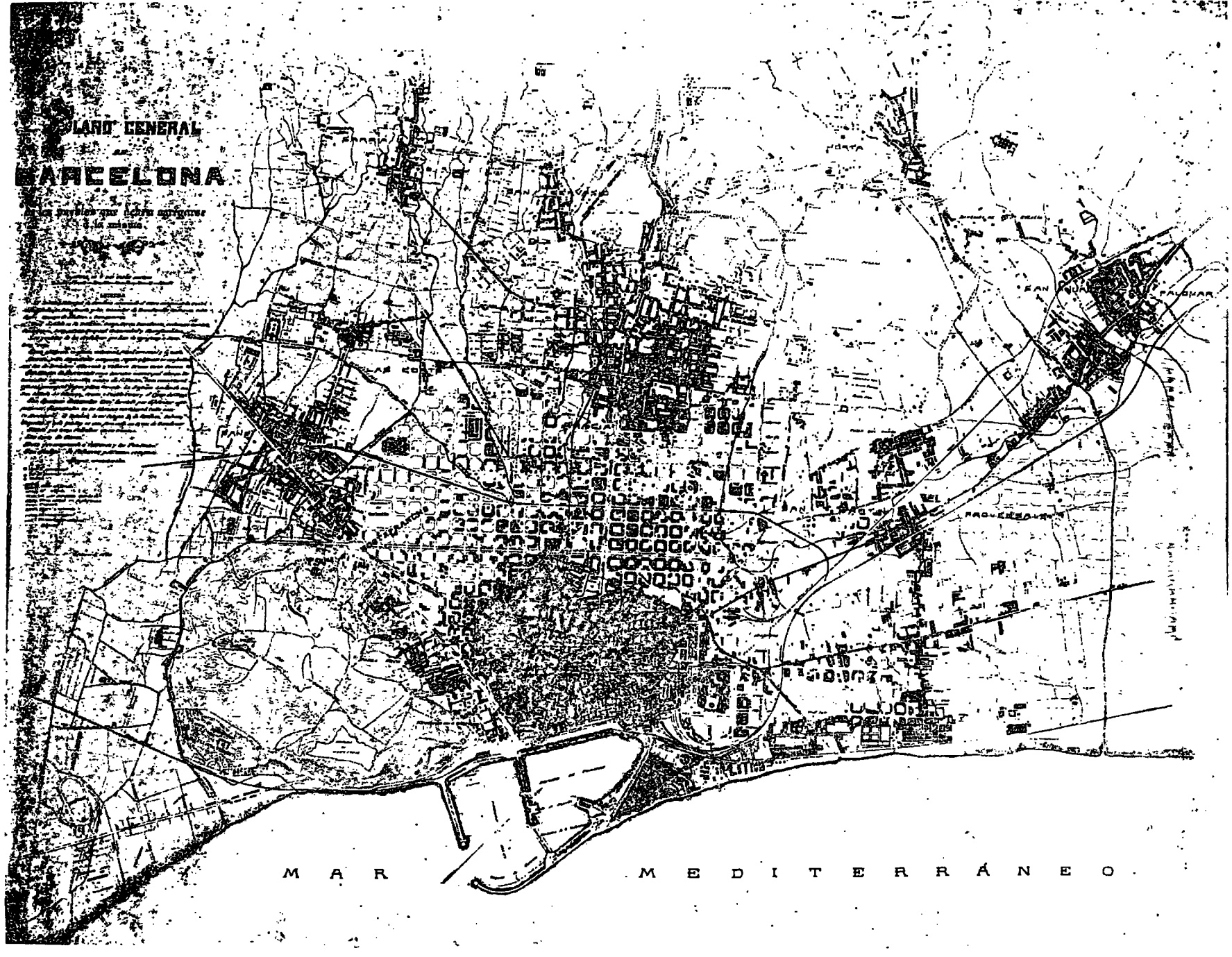


FIGURE 90 - BARCELONA 1890

Source (92)

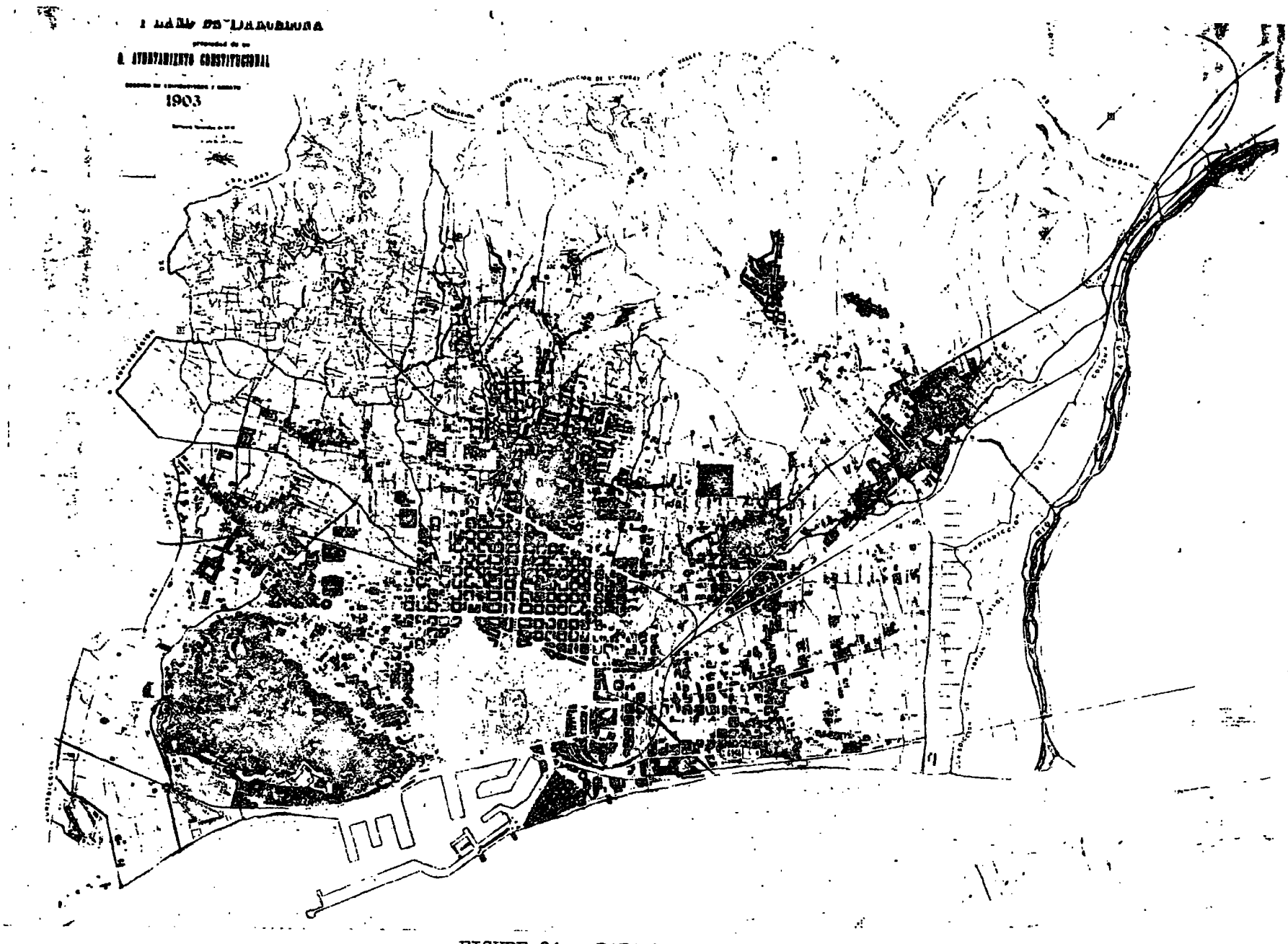


FIGURE 91 - BARCELONA 1903

Source:- (92)

Noticeable additions to the 1903 plan (compare with 1890 - Figure 90) include:-the bullring and construction within the slaughterhouse ('matadero') near Plaza Espana; General broadening of central area of 'ensanche' (see Figure 62); The extension of 'Gran Via' to meet 'Diagonal' in Plaza de las Glorias; General 'in-filling' in the municipalities of San Martin de Provencals; Hospital de San Pablo y de Santa Cruz - the big square to the right of Gracia; The completion of the mental hospital between Horta and San Andres de Palomar; Modification of the port including the 'Wharf de Espana.'

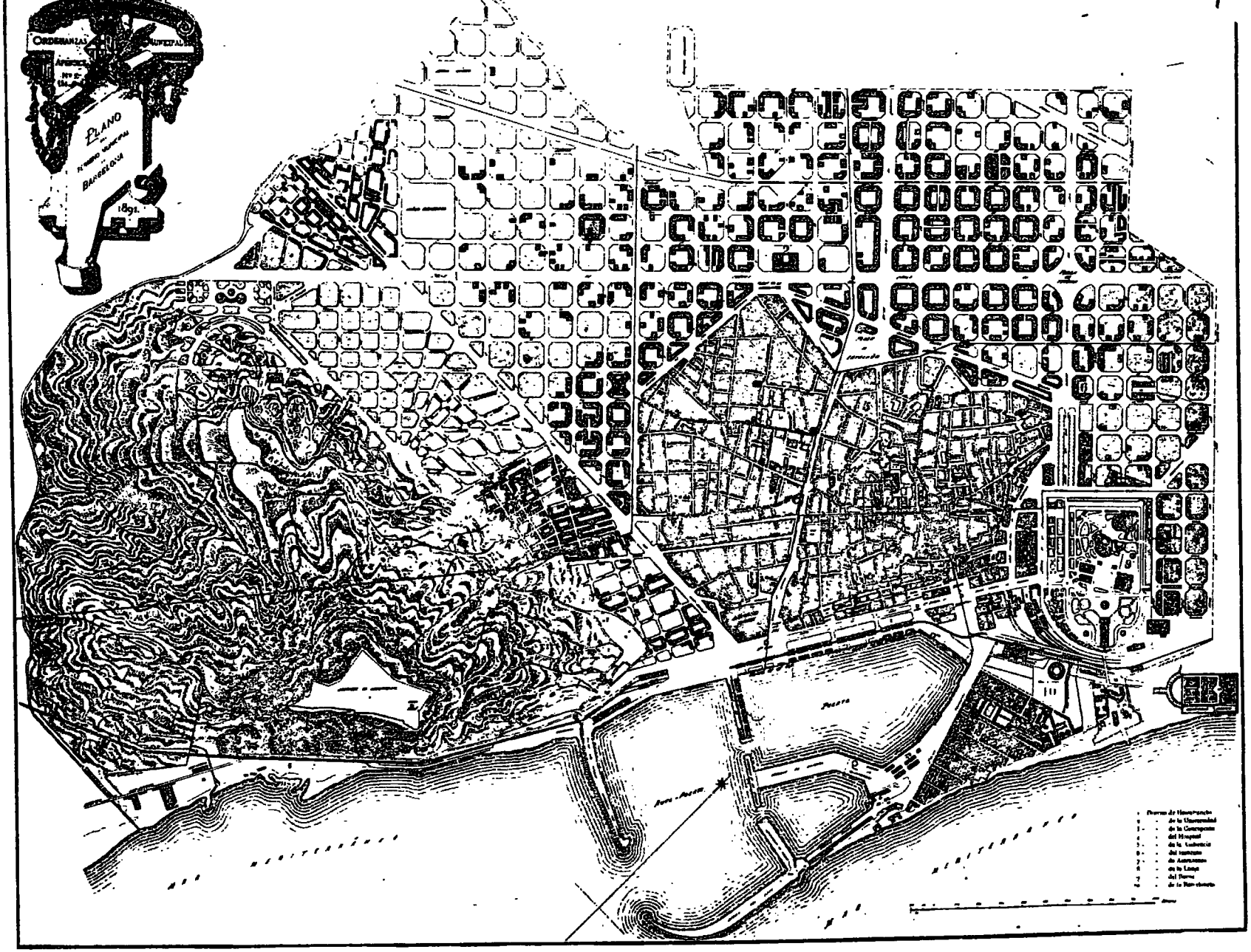


FIGURE 92 - BARCELONA 1891 Source:- (92)

The area shown was the municipality of Barcelona before the addition of outlying areas.in 1897. The majority of 'manzanas' with buildings have them on all four sides; yet a great number remained free of construction , only the road pattern defining the characteristic octagonal.

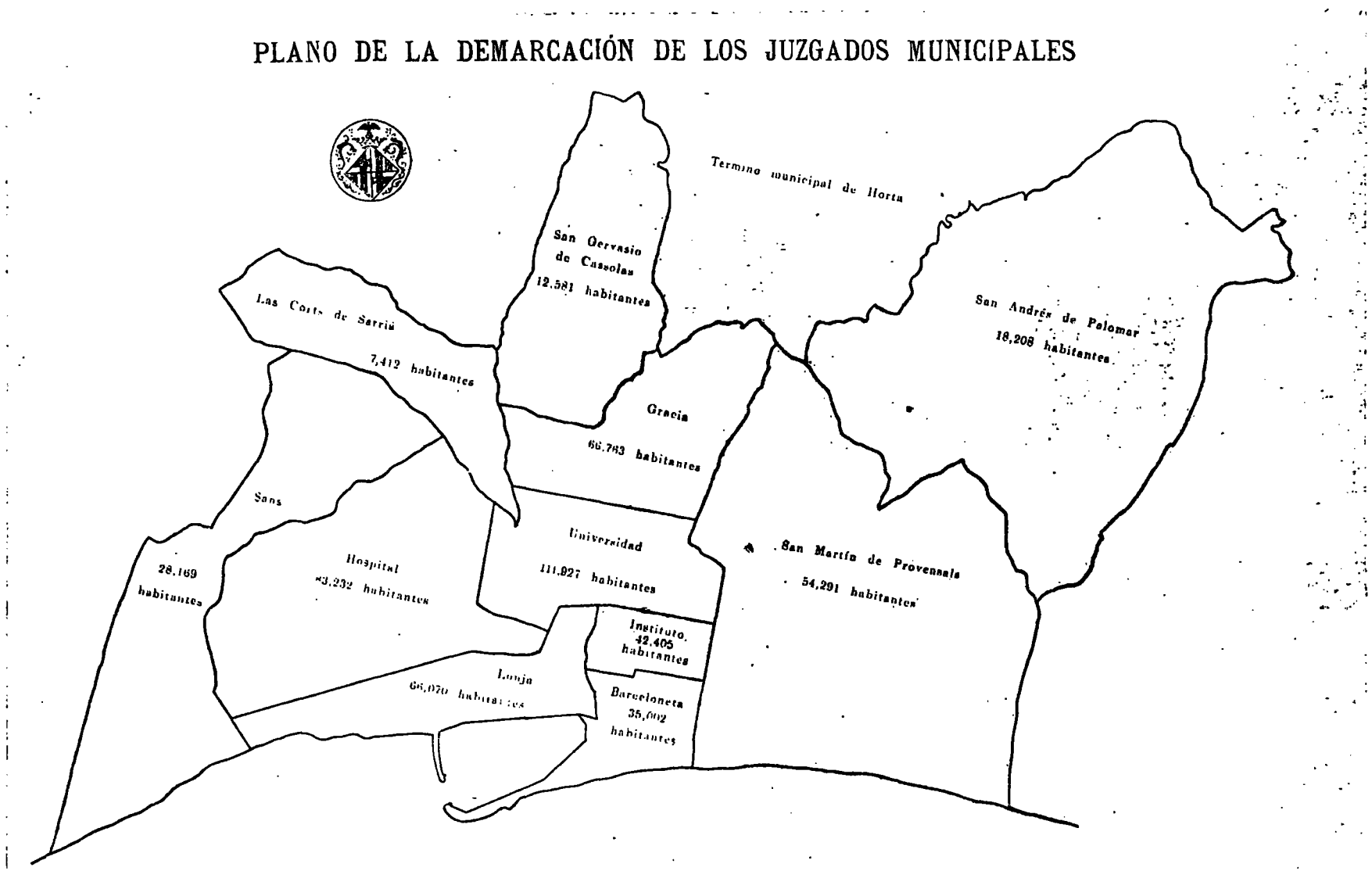
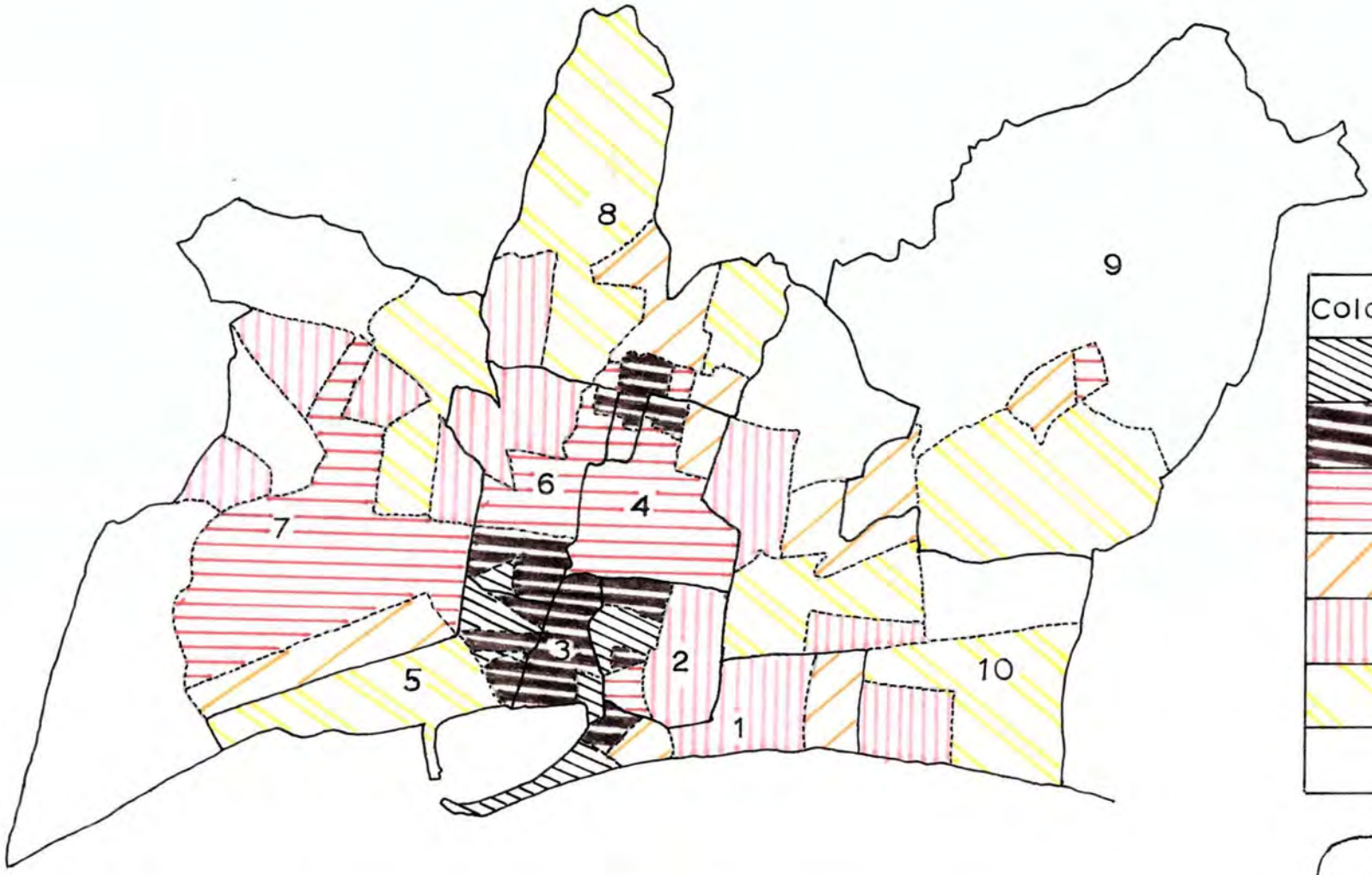


FIGURE 93 - THE 'JUDICIAL MUNICIPALITIES' WITHIN THE MUNICIPALITY OF BARCELONA IN 1902 Source (28) 1902

The figures represent the population of each municipality. The 'old Barcelona' was comprised of the five 'judicial municipalities' of Hospital, Lonja, Barceloneta, Instituto and Universidad and can be seen in Figure 92.



Colour	m^2 per person
	less than 12
	12-25
	26-50
	51-100
	101-250
	251-1000
	more than 1000

3 Division into Districts

FIGURE 94 POPULATION DENSITY (SQUARE METRES PER PERSON) 1902 Source (28) 1902

The old city (black and brown) and Gracia (brown) are clearly visible with the area inbetween - the central zone of 'ensanche'- also densely populated (red). The district by district figures (Table 19) conceal certain nuclei revealed in the 'barrio' by 'barrio' analysis, especially in Districts 9 and 10, which include the nuclei of San Andres (red/orange) and Clot/Campo del Arpa (orange). The same is also true of District 8, which has a relatively high figure (141.2 $M.^2$/person) but includes the greater part of Gracia.

Table 19 gives figures of square metres per person per district (somewhat different from the judicial municipalities in Figure 93) and the differences in population density are immediately apparent, being highest in the old city and lowest in the large outlying districts of San Andres and San Martin. A 'barrio' (= sub-division of district) by 'barrio' study (Figure 94) reveals areas with less than 12 square metres per person, largely in the old city, the lowest being in the 'barrio de Padro' (in District 6, See photo 72) where the figure was 7.0 square metres per person. Dot maps of cases of smallpox (viruela) (Figure 95) and typhoid fever (Figure 96) in the city in 1904 are indicative of the connection between population density and living conditions.

As the growth of the city progressed, so official modifications to the Plan Cerda, which was the official plan of 'ensanche' after 1860, were given official recognition. The major changes (e.g. the extension of the Ramblas as Rambla Cataluna; Plaza Cataluna) were officially approved in 1861 but a series of smaller changes, carried out over a period of 30 years, were officially recognised in the 'General Plan of 'Ensanche' of 1895; which did no more than recognise what existed - the filling-in of 'manzanas', construction on green areas, and the use of 'manzanas' originally meant for markets, churches, etc. for private construction.

In 1902 Barcelona, (as in Figures 93 and 94) had a population of 529,473, compared with 241,629 in 1860. The population of the city had more than doubled in just over 40 years. But the type of growth had been very different from Cerda's planned expansion. Instead of the simultaneous construction of all parts of 'ensanche' ('policentralism') the city was spreading in explosive form, radiating out from the central sections around the Paseo de Gracia and creeping out towards the settlements on the plain, which were themselves expanding in similar fashion. The point this process had reached by 1903 is shown in Figure 91 and the development of tramways and railways in the city, radiating out from the central zone (Figure 97), can be seen as a characteristic symptom of this radiocentric expansion, guided and nursed by the speculationist elements of the Catalan bourgeoisie who were later to use the road system , particularly Diagonal, Gran Via and Meridiana, in much the same way.

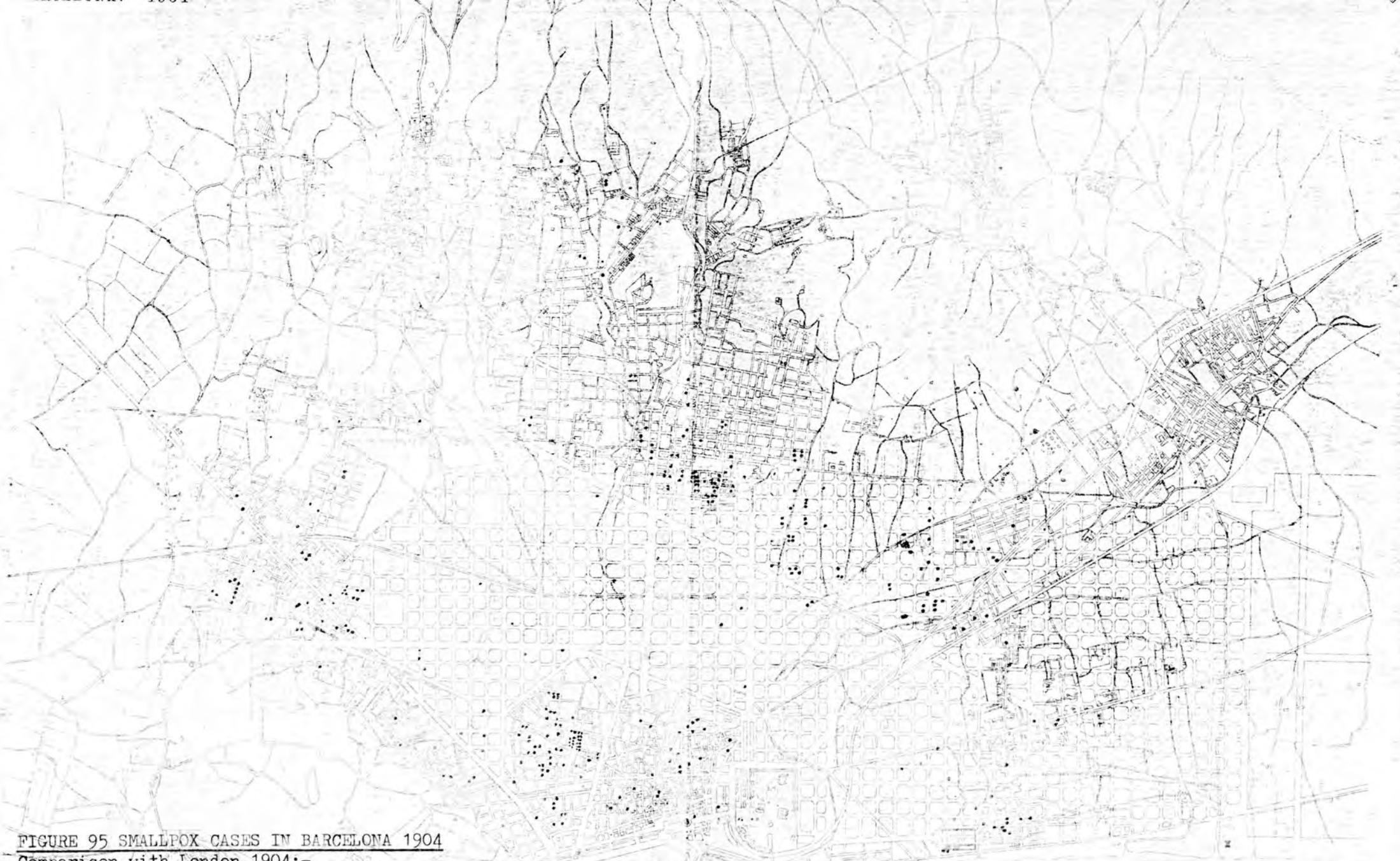


FIGURE 95 SMALLPOX CASES IN BARCELONA 1904

Comparison with London 1904:-

	Total cases 1904	Cases per 100,000 inhabs.
BARCELONA	413	76.8
LONDON	25	0.5

Source (28) 1904

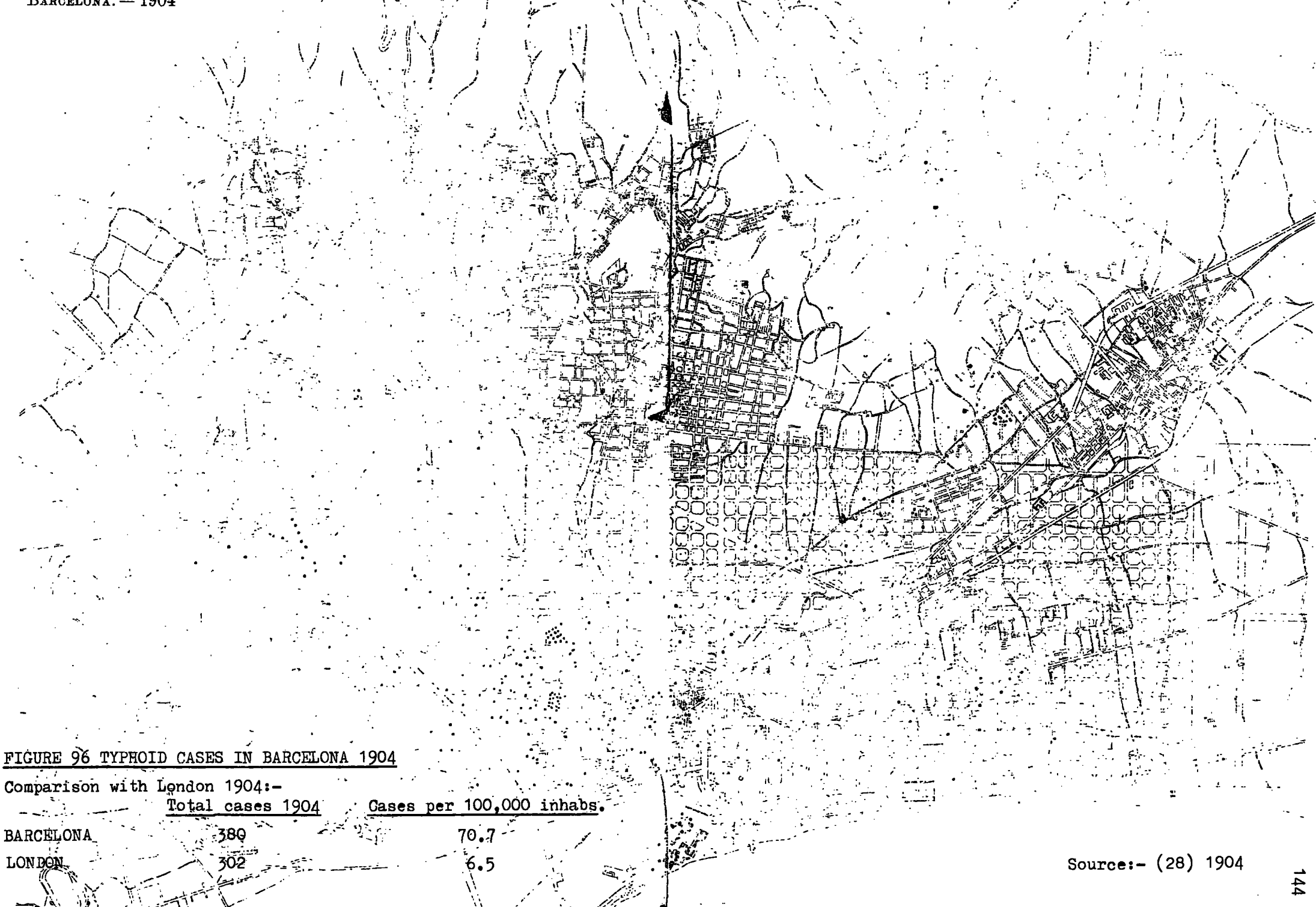


FIGURE 96 TYPHOID CASES IN BARCELONA 1904

Comparison with London 1904:-

	Total cases 1904	Cases per 100,000 inhabs.
BARCELONA	389	70.7
LONDON	302	6.5

Source:- (28) 1904

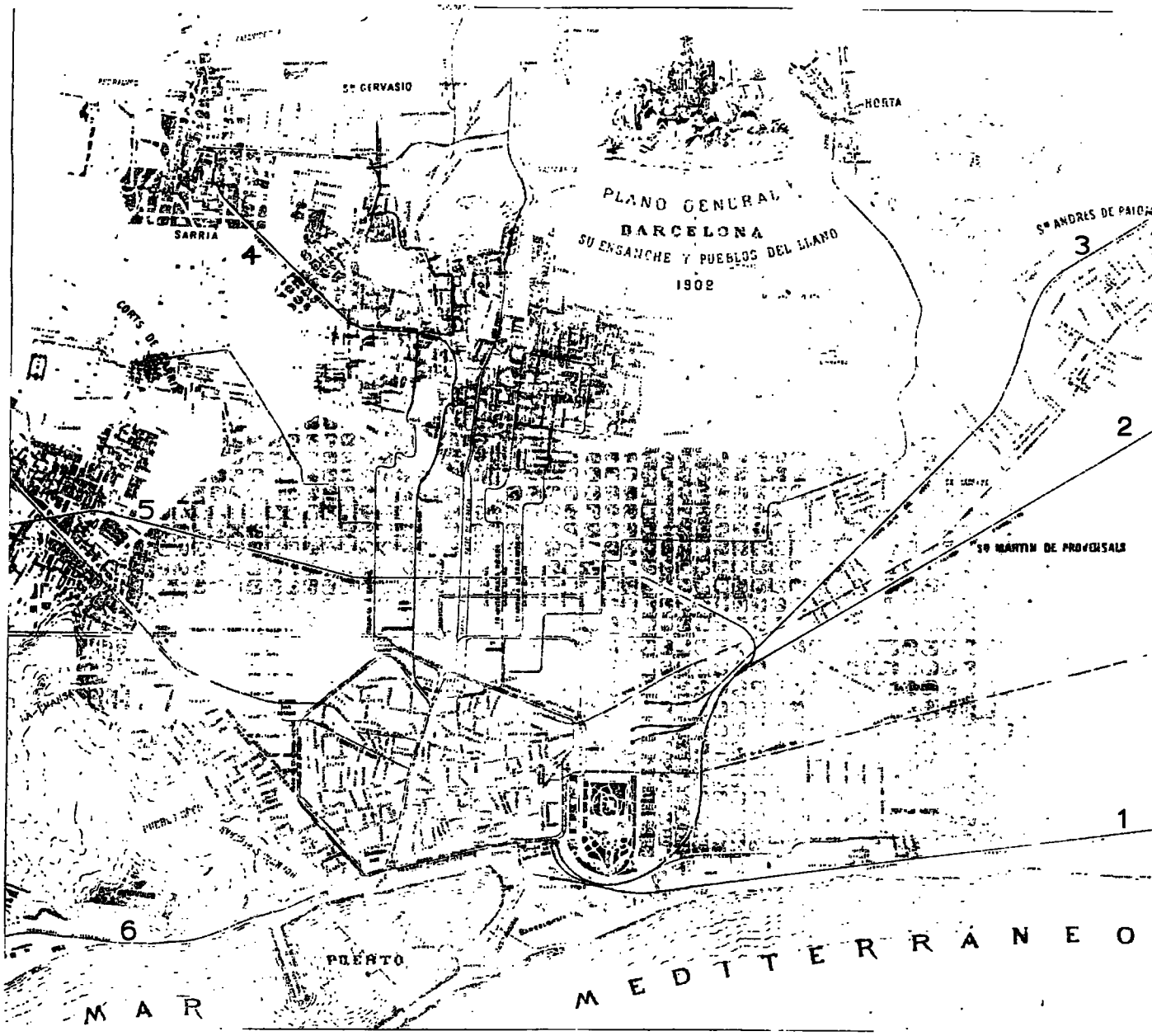


FIGURE 97 RAILWAYS AND TRAMWAYS 1902 Source (92)

Numbered lines are railways, the other, similar-looking lines are tramways.

Railways:-
1. To France via Mataro
2. To France via Granollers
3. To Bilbao and the north ('del Norte')
4. To Sarria and Gracia
5. To Madrid, Zaragoza and Alicante
6. To Vilanova, to the south

Finally, mention must be made of the career of Pedro García Faria, engineer and architect,[1] who is recognised as one of the true 'continuadores' of Cerda's work. In his'project of drainage and sewage disposal in Barcelona' (26),

[1] As an architect, Faria designed between 15 and 20 houses in Barcelona, amongst them the 'Aduana' (Customs Office), (with Sagnier) built 1896-1902, "undoubtedly his best work" (108), where the eclectic style of architecture that is evident in all his work assumes an almost 'monumentalist' appearance, partly because of its location and partly in the treatment of the building itself.

published in 1893, he advanced Cerda's demographic studies with house by house statistics on mortality. "In effect the extraordinary project of drainage drawn up by Faria was nothing less than the perfect continuation of Cerda's work." (108) This seems true, particularly now that certain unedited material of Cerda's has come to light (for example, Cerda designed a great central rubbish disposal area to be situated beneath the Rondas that encircled the old city). Faria planned a "perfect system for the evacuation of sewage from the city" (108), which he complemented with a system of automatic cleaners powered by the discharge of large quantities of water that periodically passed through the whole drainage system. He also designed a subterranean system of rubbish disposal, dustbins being emptied into trap-doors at the sides of houses and collected underground in small wagons. He also created an immense 'huerta' of 5,000 hectares in the Llobregat delta, converting the unhealthy areas of Gava and Castelldefels into irrigated, agricultural land, involving the manuring of the area with residue from Barcelona, carried by an aquaduct 10 kilometres in length, (Figure 98).

This ambitious programme, however, was never carried out. The project was sabotaged and Faria dismissed by the Council in 1896, because he refused to be bought out by fellow-members of the Council, whose interests would be damaged by the granting of such large sums of public money (half a million pesetas in 1896) for the project.[1] It was only in 1902 that the grip of this group was broken, when the 'Lliga Catalana' made gains in the Council elections of that year, after which followed the period of 'municipal socialism' of the 1900's. It was a pity Faria was not re-instated (as Chief Engineer of Drainage and as Engineer/Architect of the provincial 'Junta' of health). Perhaps it was partly because Faria was not notably 'pro-Catalan' and partly because Puig i Cadafalch, an influential council member and one of Barcelona's leading architects, publicly decried the continuance of the Plan Cerda in any form, typifying official attitudes at the turn of the century. Whilst the city had for long been developed in a manner contrary to Cerda's intentiohs, a renewed effort to actually 'unmake' the Plan Cerda and put something in its place - the Plan Jaussely - now became apparent.

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[1] Faria later opened proceedings against the Council which eventually resulted, after several years, in victory for Faria. In his book, 'Anarquia o Caciquismo?' (27), he gives full details of the political intrigues of the time.

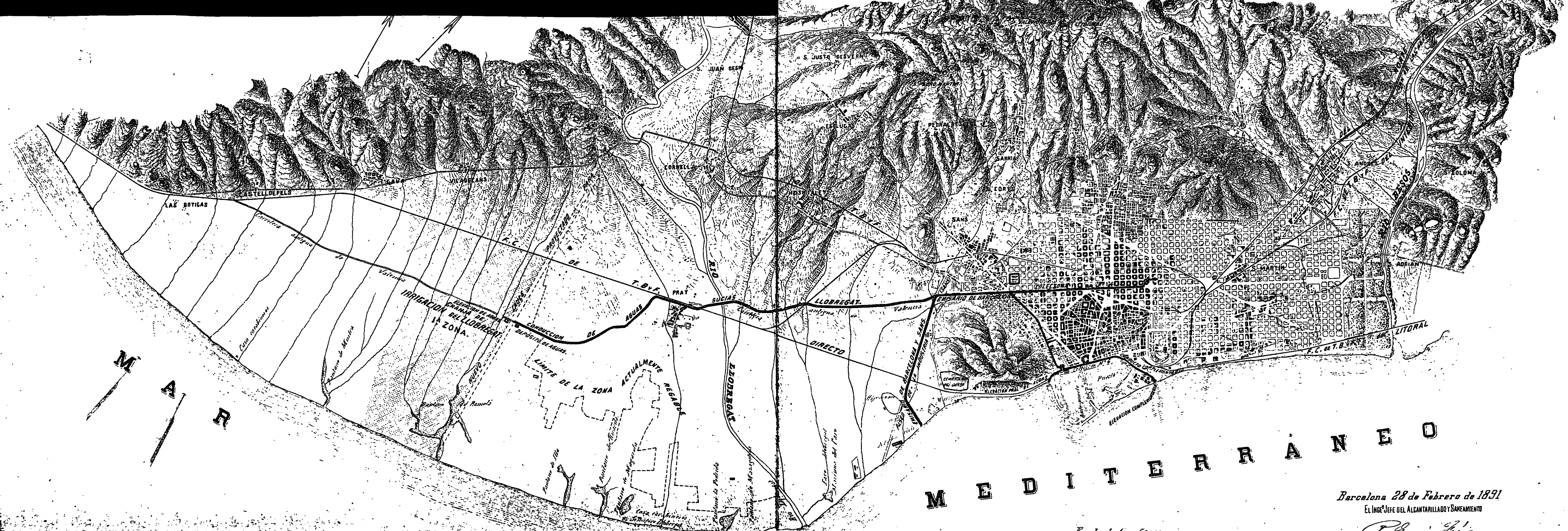

MAR
MEDITERRÁNEO
CASTELL DEFELS
LAS BOTIGAS
VILLAVECCHIA
CAVA
CORNELLÁ DEL RIO
S. JUAN DESP.
S. JUSTO DESVERN.
PEDRALBES
SARRIA
LES CORTS
SANS
HOSPITALET
PRAT
SUCIAS
LLOBREGAT
RIO
EMBARCADERO DE BARCELONA
EMBARCADERO DE BARCELONA Y SANS
S. ANDRES DE PALOMAR
S. ADRIAN
POBLENOU
PESOS
LITORAL
DIRECTO
CONDUCCION DE AGUAS
DEPÓSITO DE AGUAS.
IRRIGACION DEL LLOBREGAT
LA ZONA.
LIMITE DE LA ZONA ACTUALMENTE REGABLE
ELEVACION COMPLEMENTARIA
F.C. de T.B.A.R.
T.B.A.
Barcelona 28 de Febrero de 1891
EL INGE.º JEFE DEL ALCANTARILLADO Y SANEAMIENTO

FIGURE 98 FARIA'S PLAN TO RECLAIM, IRRIGATE, AND MANURE THE LLOBREGAT FLOOD PLAIN

This plan involved the conduction of sewage residue from Barcelona ('Conduccion de aguas sucias al Llobregat') and the canalization of the Llobregat in a new course ('Nuevo cauce proyectado para desvio del rio').

Source (26)

PART B JAUSSELY AND AFTER (1903-30)

1. THE PLAN JAUSSELY 1907

With the incorporation of the suburbs of Barcelona into the municipality in 1897 (new areas included:- Sants, Las Corts, San Gervasio, Gracia, San Andres, San Martin) support grew for a new plan linking the old city and built up areas of 'ensanche' with the suburbs - a plan of 'enlaces' (linkages). After 1900 the pro-Catalan activist element (see Chapter 6) became increasingly vociferous and the 'Lliga Regionaliste', its political arm, made important gains in the 1902 elections. In 1903 the new Council announced an "International Competition for 'anteproyectos' to join the 'ensanche' of Barcelona with the recently annexed areas and the municipalities of Sarria and Horta." (Horta, in fact, was officially annexed that year anyway; Sarria not until 1921) The plans were to include the "widenings, variations, creation of outskirts, ringroads and what is necessary for the rational and logical connection of the different urbanized and urbanizable zones."

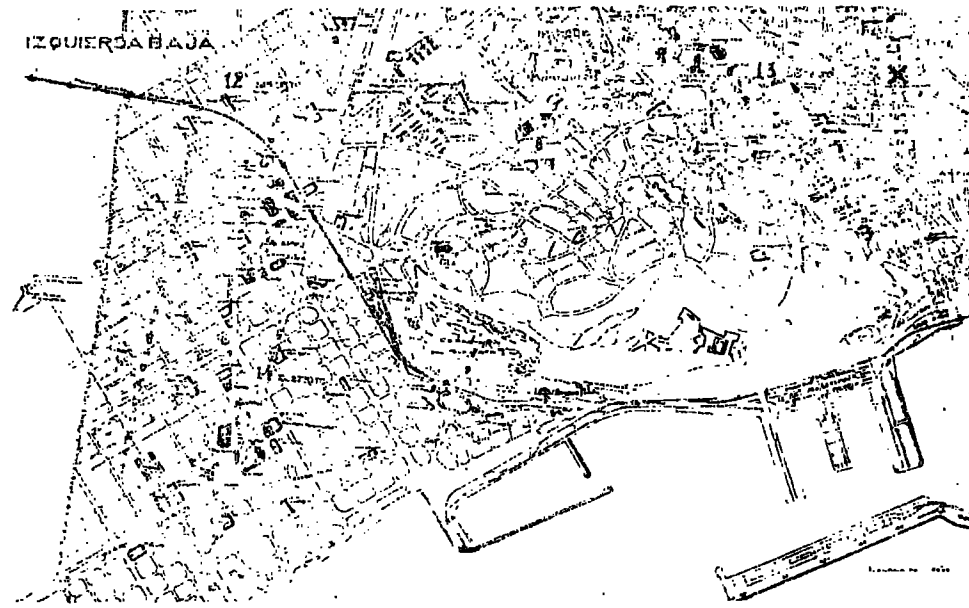
First prize was given to the 'Anteproyecto Romulus' (Figure 99), by French architect Leon Jaussely. The special committee of 3 (one of whom was Puig y Cadafalch) said,

> "Romulus has the immense advantage of imposing itself on the onlooker from the first moment, not only in the splendour and beauty of its presentation but also in the immense work and gallant boldness of its author. This fine impression does not cease on further inspection ... not only is the graphic representation so good, the descriptive essay is no less fine ... it would give a noble and monumental character to the city, overcoming the monotony of the Plan Cerda .. its budget could scare off some people, but these are only estimates." (quoted in (89))

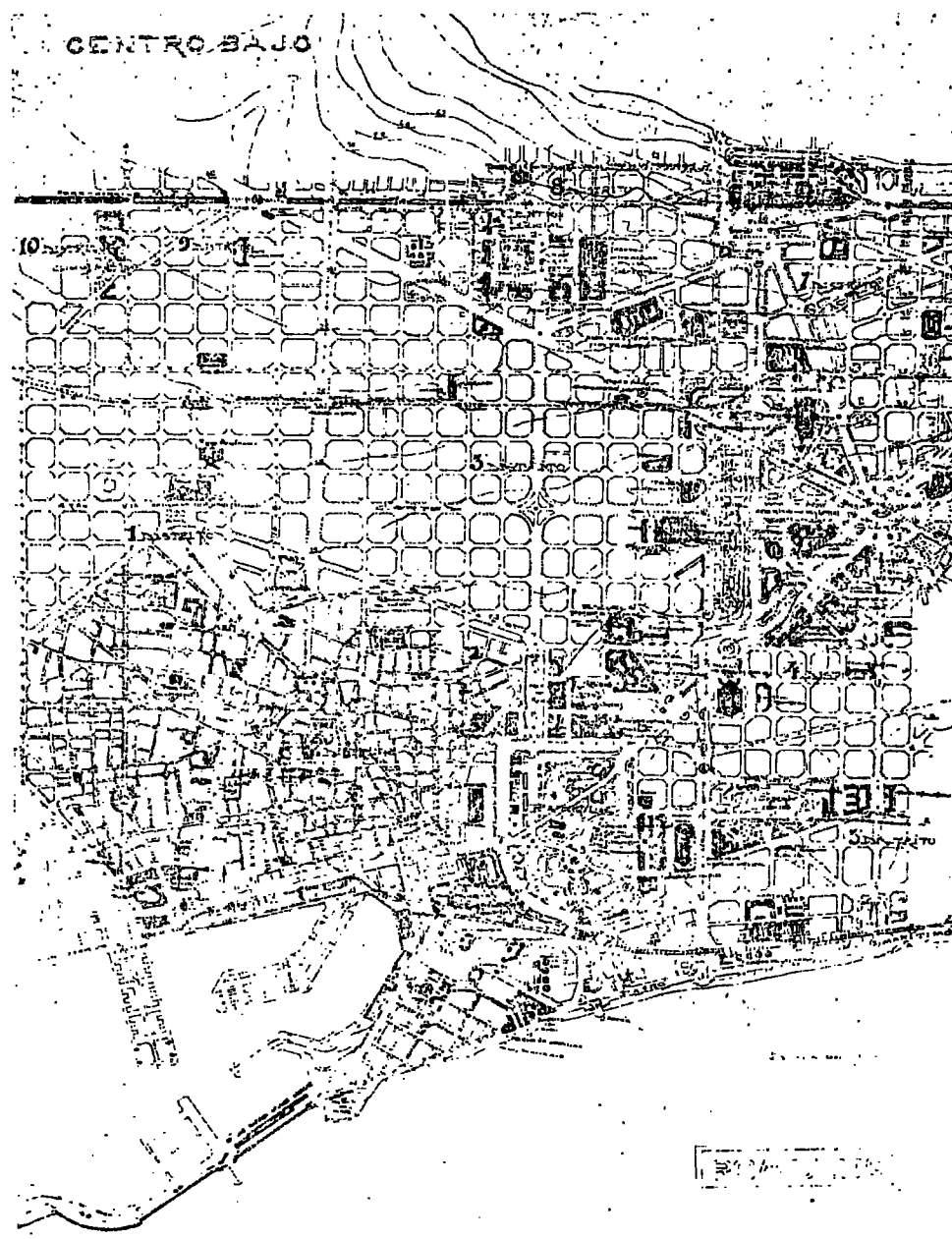
Jaussely, however, had drawn up 'Romulus' from Rome and the Council invited him to come to Barcelona to finalize details of the Plan with the help of runners-up in the competition, Romeu and Armenter. In 1906, the plans were presented and final acceptance given by the Council in 1907. These plans not only included general plans of the whole city (Figure 100), but also sketches and detailed plans of reforms and additions to the city (Appendix 4). The report that accompanied the plan was a treatise on urbanization; it included a chapter entitled 'Estudio Critico del Plano Cerda', which is perhaps worth considering briefly, as it represented the thinking of many at the time.

FIGURE 99 ROMULUS (ANTEPROYECTO OF THE PLAN JAUSSELY)

Source:- (A.H.B) Reproduced in (89) and others

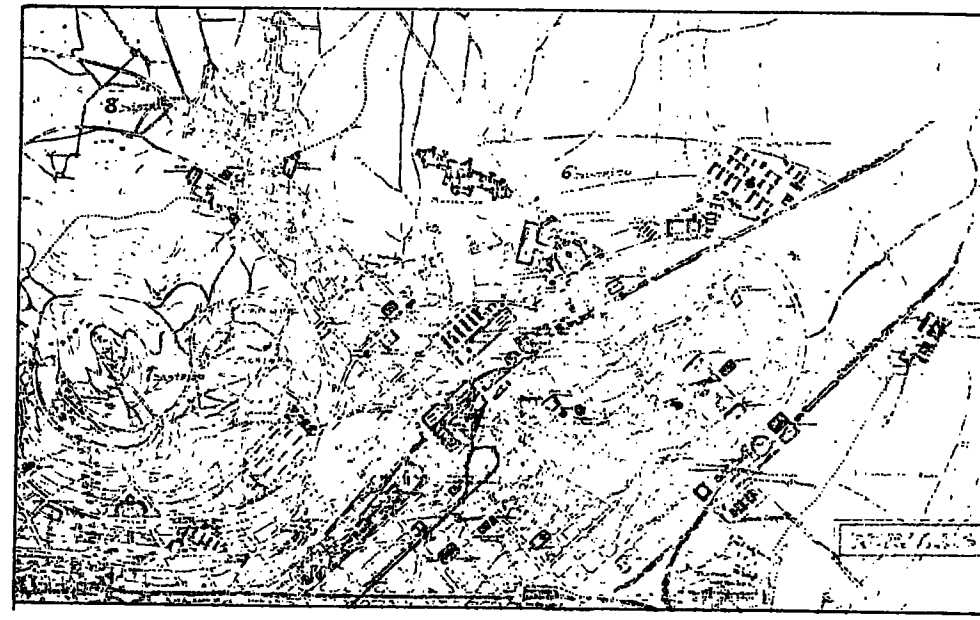


A. Lower left section

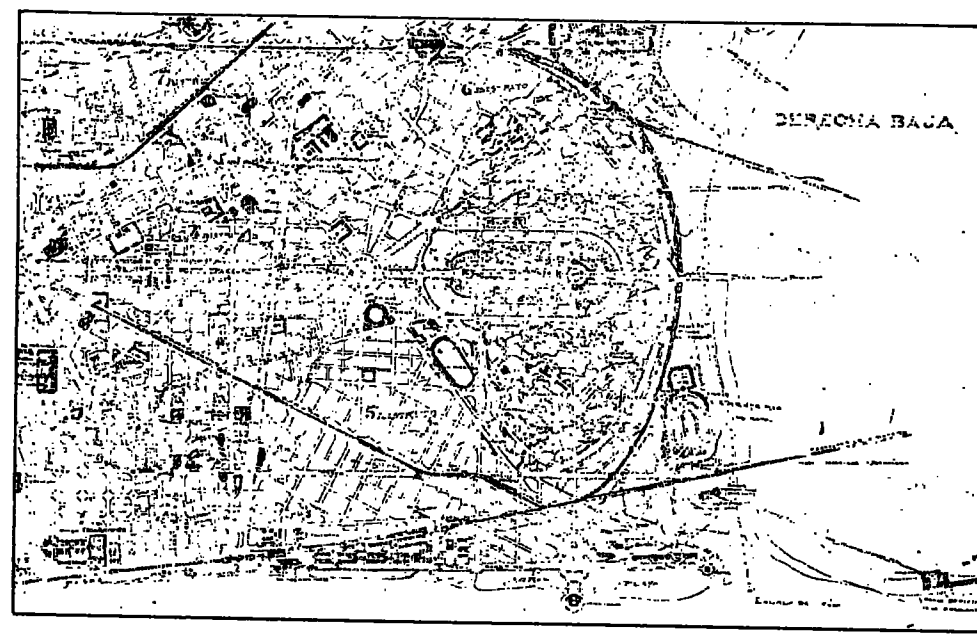


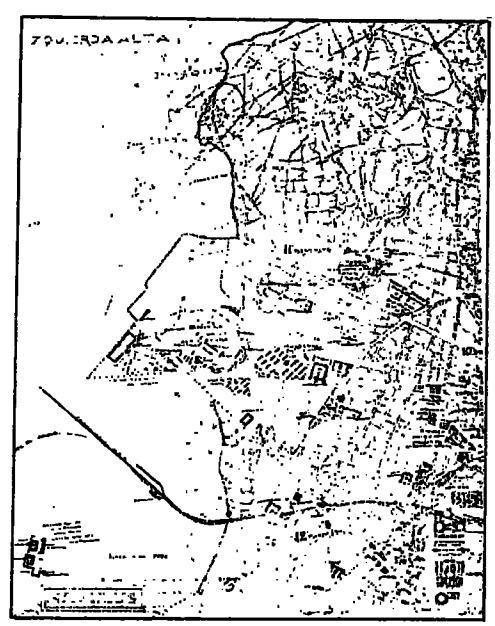
B. Central (lower) section

C. Upper right section

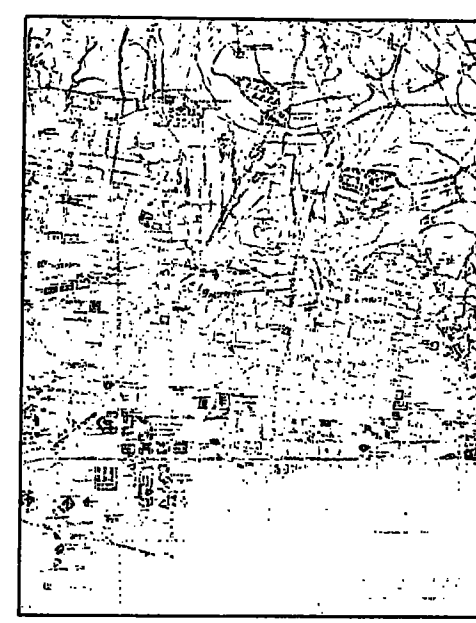


D. Lower right section





E. Upper left section



F. Central (upper) section

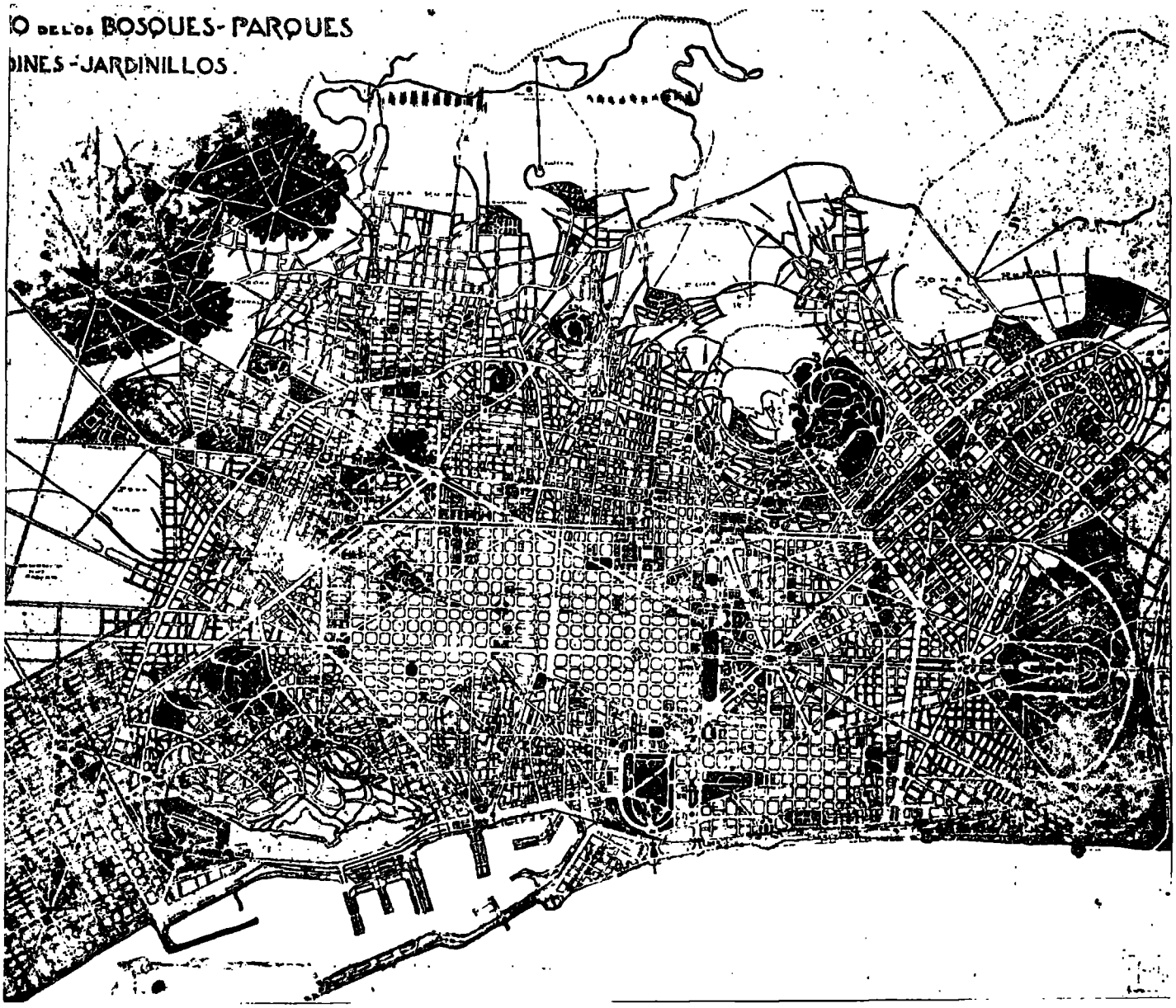


FIGURE 100 - PLAN JAUSSELY 1907 Source A.H.B. Reproduced (89)

Jaussely wrote:-

"In spite of the defects inherent in a quadricle lay-out, it had some advantages of capital importance:- First it was a completely hygienic lay-out because of its wide roads, large gardens in the interior of the 'manzanas' and high percentage of free space... second, it had a spirit of grandeur and a monumentalist feeling that made Barcelona a city giving the impression of vitality. Third, the Plan Cerda was truly a plan of expansion, giving the city an expansive impulse that a concentric plan would not have achieved... Despite all the advantages I find in the Plan Cerda, I am completely opposed to it, because even the most fundamental artistic considerations - of proportion, visual quality, form of 'plazas' and grouping of public buildings, arrangement of gardens etc. - were not considered. All has been sacrificed, voluntarily or involuntarily, so that in this rigid lay-out, cold and untiringly regular, it is impossible to introduce the least suggestion of delicacy. It is uniformity in all its boring aspects, the same type of life for all, the same function, identical moulds. Consequently, individuality disappears for ever. There is in it neither a framework nor 'plazas', nor interesting monuments, nor hierarchies of streets, nor collective services, nor perspective effects, nor visuality, proportion, variety, character, nor art, because all disappears in his immutable, rigorously geometric lay-out." (35)

Reading this today, one wonders if Jaussely gave anything but a passing glance at the Plan Cerda. Some of his observations are obviously incorrect e.g. the absence of collective services (see Appendix 2) and he seems to have been referring more to the urban situation of the time rather than the Plan Cerda of 1859. Nevertheless, the observations of Jaussely were exactly those of the 'Lliga de Catalunya'(and its political equivalent the 'Lliga Regionaliste') to whom Jaussely appeared as the grandiose creator of an urban plan for Barcelona. Jaussely was the founder of 'Imperial Barcelona' as thought of by the more dynamic elements of the Catalan bourgeoisie. Jaussely's plan, however, as we shall see, was never officially recognised as the basis of the development of Barcelona, the Plan Cerda remaining the official basis until 1953. [1] Figure 91 shows the city in 1903 and it is noticeable that although Jaussely proposed many changes and modifications in the city, he largely left the central zone of 'ensanche alone, (Figure 100). In general terms he established a profusion of diagonals crossing the largely quadricle lay-out of the Plan Cerda and created a series of large open spaces adorned by monuments and public buildings. (Greater detail is given in Appendix 4).

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[1] Perhaps because of this, resentment against Cerda grew. Puig i Alfonso gave a lecture in 1915 entitled 'Genesis of 'Ensanche' in Barcelona' (38) denouncing,in part, the Plan Cerda. This work is worth mentioning because it has been used by so many people - e.g. Jurgens (78) Duran (90) Lavedan (80) and Estape (33). Puig y Cadafalch, who decisively influenced European studies, based his work on the research of Puig i Alfonso, broadening and synthesising the 'Lliga's' criticism of Cerda (42). This criticism, however, became somewhat misplaced. It was largely about the realization and results of the plan and therefore better directed at the urban landowners and municipal authorities who listened to them. Perhaps more important criticism of Cerda himself was largely a denuciation of the centralism of the state. Puig and the 'Lliga de Catalunya' saw in Cerda the urban landowner and particularly the centralist spy, neither of which he was.

As with the Plan Baixeras, the initial enthusiasm with which the Plan Jaussely was greeted, turned sour. As Busquets has said, "the importance of those interests affected by the project, by the new railway lines, the expropriation and other expenses ... meant that it was not carried out, but stored in the archives". (110). Carreras Candi, writing in 1916, accounted for the failure of the plan thus :-

> "The council announced a competition to obtain a general plan of urbanisation. This was a fundamental mistake, when all they really wanted was individual projects ... the Judging body advised Jaussely to leave alone the north-west part of Barcelona - that is Sarria, Las Corts, San Gervasio - and he did not. Another lamentable error on Jaussely's behalf was to think that he could move the centre of Barcelona to Plaza de las Glorias, and in so doing, transform essentially working-class areas with artistically rich and elaborate buildings. To do this, he would have needed to change the archeological foundations, historical and social legacies that together form the essence of such a city." (21)

Candi added that the total budget could not be met by future Barcelonan Councils, nor even by the Spanish state.

The Plan Jaussely, however, was not totally lost. After the efforts of the 'Ilustracio Catalana' [1] a local newspaper, to bring the plan back into public view, a new council, under the influence of architects/aldermen Busquets and Vega y March reassessed the plan. It was entrusted to architects Romeu (a runner-up in the original contest) and Porcel to draw up a new, simplified version, Romeu concentrating on the right side of the city and Porcel on the left and the two halves to be pieced together and presented as one ! Again the Council did not accept the complete work,but approved the essential structure [2] - the 'link roads between settlements and definition of free spaces, largely to the north of Gracia in 1917 (Figure 101). As regards Jaussely's plan, almost none of his changes to Cerda's 'ensanche' survived, the lone diagonal to be constructed being Avenida de Gaudi, near the church of the 'Sagrada Familia'. Outside the 'ensanche' the majority of linkage roads contained in the 1917 plan have been constructed, notably the 'Paseo Rural' and 'Paseo de Ronda' (now the 1st and 2nd ring-roads)-see Appendix 4 for fuller list. Perhaps more important the 7 green spaces to the top of the city in the 1917 plan still remain, although largely in reduced form.

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1 In 1914 the 'Ilustracio Catalana' dedicated a whole edition to Jaussely and his project. They wrote:- "Jaussely explained his project at a public conference, receiving the acclaim, admiration and enthusiasm of all. Within a few years this precious plan lay in the dusty corners of the Archives. We want to get it out and again make it available to the eyes and hearts of good citizens."

2 These were the only provisions of Jaussely's plan to be added to Cerda's as the official plan of 'ensanche' for the city.

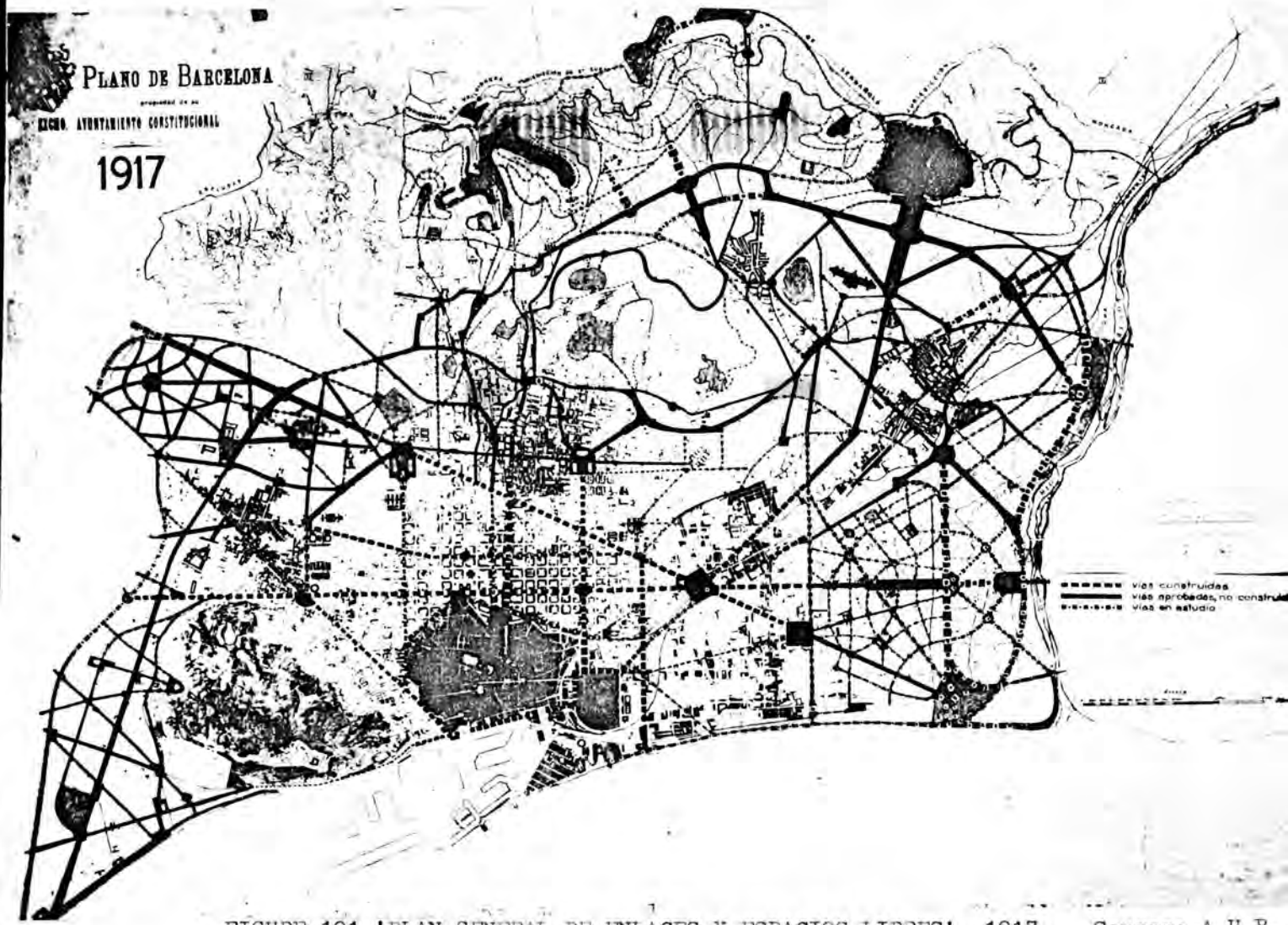


FIGURE 101 'PLAN GENERAL DE ENLACES Y ESPACIOS LIBRES' 1917 Source:-A.H.B.

2. THE OPENING OF VIA LAYETANA AND THE PLAN DARDER

In 1905 agreement was reached between the Council and the 'Banco Hispano Colonial' for the financing of the construction of Vias A, B, and C of the Plan Baixeras. The order in which construction (and destruction) was to take place is shown in Figure 86 - Via A to be first, built in 3 sections from the bottom upwards. This road - today Via Layetana - was, in fact, the only one of the three to be completed. After the fast and furious demolition necessitated by the construction of Layetana, many were convinced that such an operation should not be undertaken again (see Figures 102 and 103).

Begun in 1908, the clearing of land in the two lower sections (i.e. from Plaza San Sebastain (otherwise known as Plaza Antonio Lopez) to Calle Baja de San Pedro - see Figure 86) had been more or less completed by 1910. Here, however, problems arose. The Plan Baixeras had been a plan of reform for the whole city, involving change over wide areas. The Council, on the other hand,

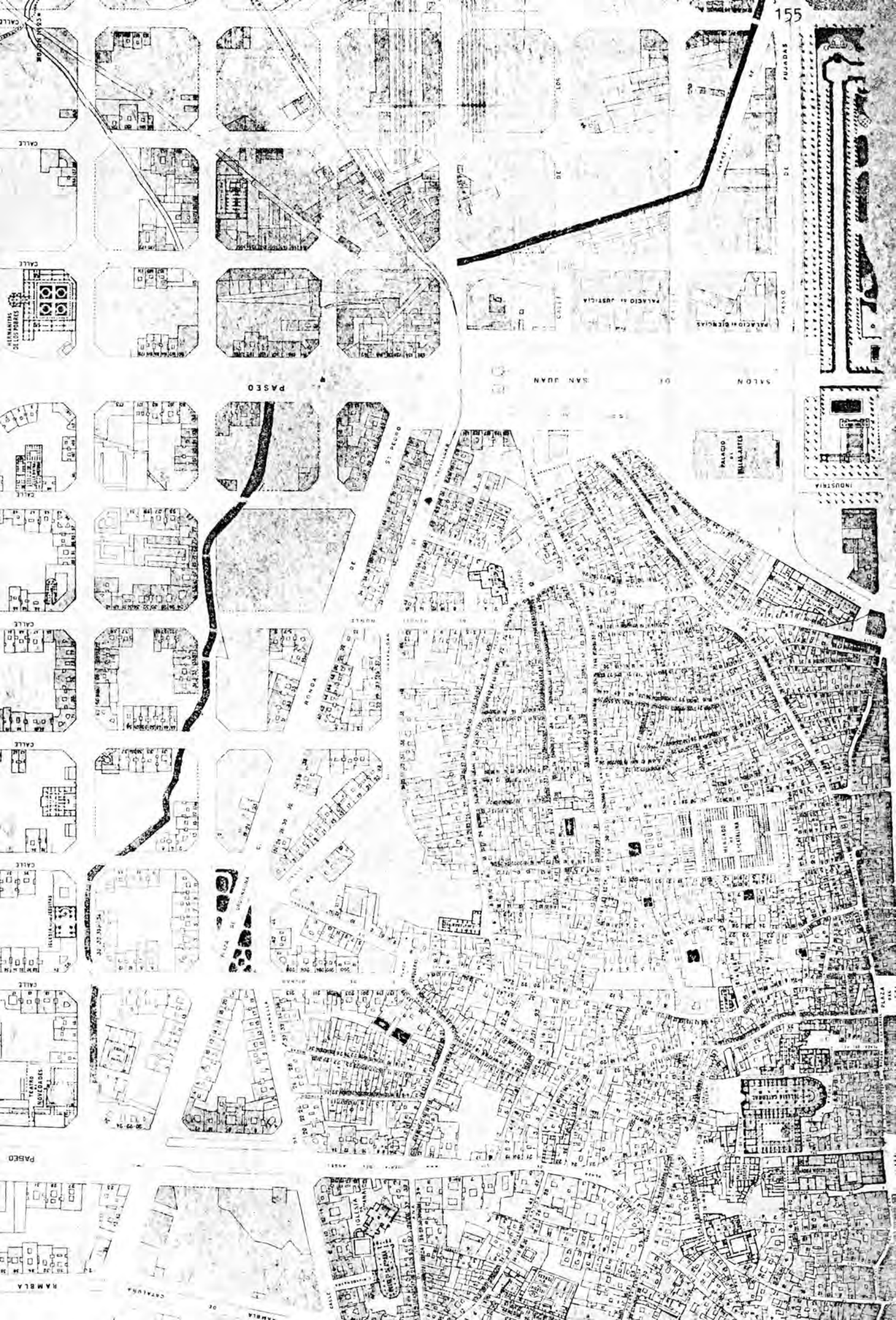

PASEO
SAN JUAN
PALACIO DE JUSTICIA
PALACIO DE BELLAS ARTES
INDUSTRIA
RONDA
RAMBLA
CATALUÑA
PLAZA

FIGURE 102 - THE OLD CITY AND AN AREA OF 'ENSANCHE' 1891 Source:- (26)

The destruction necessitated by theconstruction of Via Layetana (extension of Calle Bilbao) can be appreciated, it linking Plaza de Junqueras (top) wit Plaza del Angel (below).
Note also the 'Palacio de Bellas Artes' and the 'Palacio de Ciencias' by the Salon de San Juan, originally to be built as one building, at the centre of the Citadel Park.





FIGURE 103 THE OPENING OF VIA LAYETANA

These two drawings by Dionisio Baixeras - no relation to the author of the plan - give an idea of the destruction involved. To the left, the guild hall of the silversmiths (right, background), until then unknown, was uncovered by the destruction of surrounding buildings. It, too, however, was destroyed. To the right, another view, of what is today the corner of streets Layetana and Manresa. Source (89)

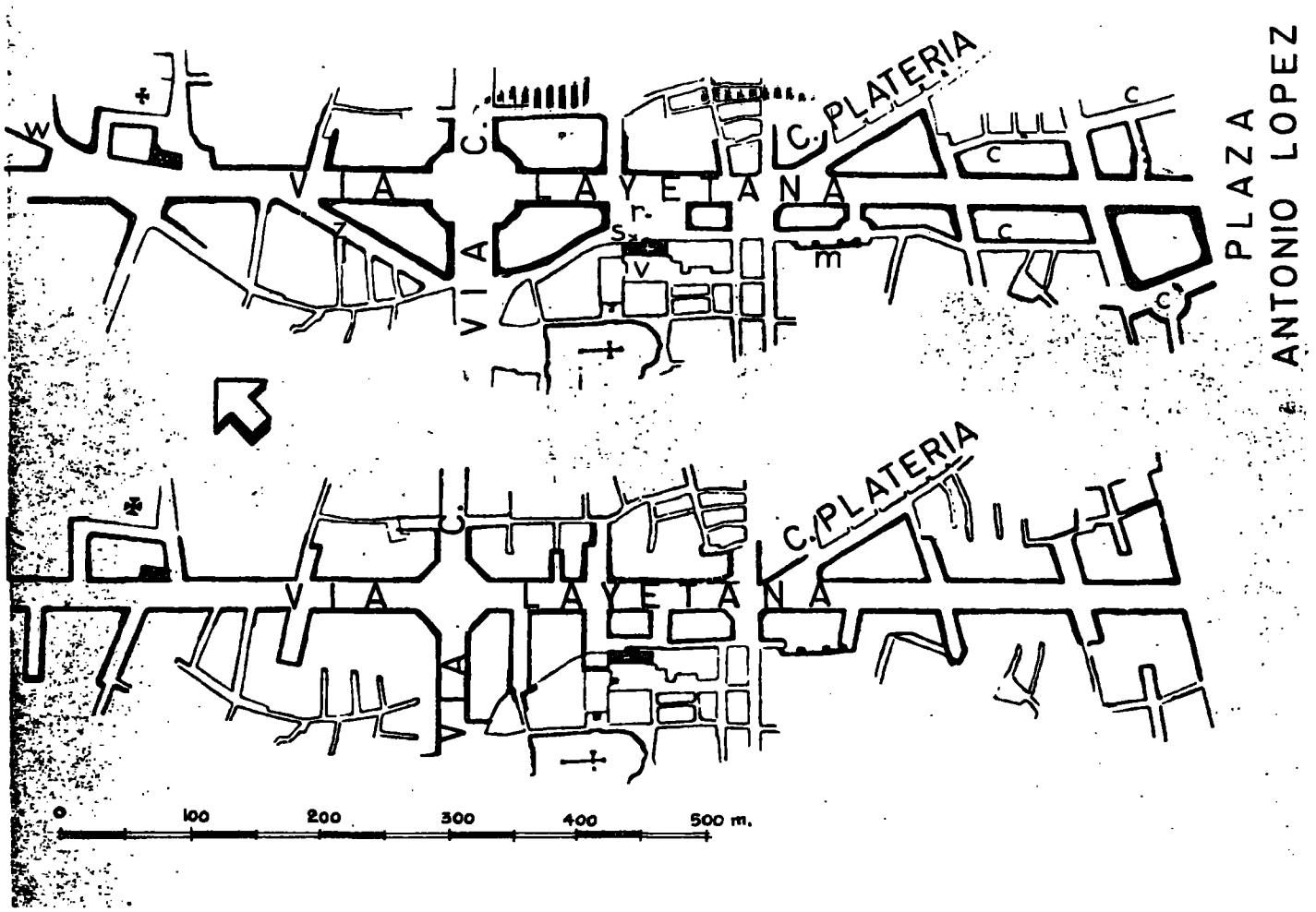


FIGURE 104 - PLAN BAIXERAS AS IT AFFECTED THE AREA IMMEDIATE TO LAYETANA AND (ABOVE) THE REVISED PLAN

W = Romeu's connection of Layetana with Junqueras.
Z = Calle de Dr Joaquin Pou
r.= Plaza Berenguer el Grande
C = New roads approximately parallel to Layetana.
i = Cathedral
V = Plaza del Rey
m = Plaza outside Roman Wall
s = Capilla de Santa Agueda

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intended to carry out his plan only within the areas of expropriated land - 20 metres for the road and approximately 20 metres on each side of it. So some of Baixeras's new roads, branching off Layetana, were to be built only in their first 20 metres, often connecting up with the old streets very poorly, and sometimes not at all, remaining as wide cul-de-sacs. To resolve this problem, the Council put 3 architects in charge of drawing up a revised plan to connect Layetana with the old road system, each architect responsible for one of the three sections of the road. Figure 104 shows the changes that were carried out. To the right, Domenech y Montaner's modifications included the creation of widened roads running parallel to Layetana and the building of a new street and plaza giving a view of the Roman wall in Calle Basea from Layetana. In the central section, Puig y Cadafalch designed a street, Dr. Joaquin Pou, running from

Layetana to Via C, which focused attention on the high dome of the Cathedral (see photo 58). We also owe to him the Plaza, later named Berenguer el Grande (photo 59), which was constructed between the Capilla de Santa Agueda and Via Layetana. To the left, Romeu's changes included the conservation of the sail-makers' guildhall and the joining of Via Layetana with Calle Junqueras.

The above changes were approved by the Council and carried out; there were other suggestions by the 3 architects (not shown on Figure 104) that were rejected; for example, Domenech y Montaner's proposals (Figure 105). But, in

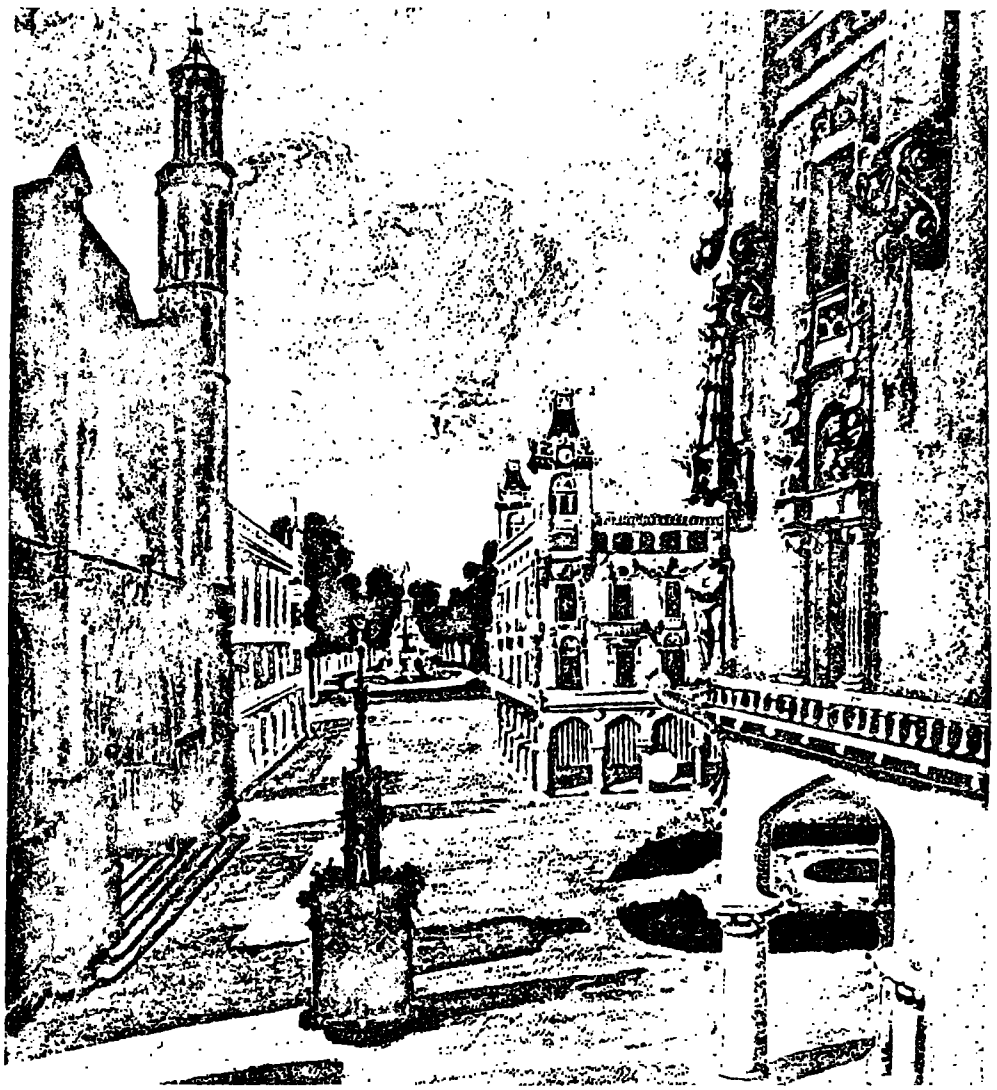


FIGURE 105a PLANNED MODIFICATIONS AROUND VIA LAYETANA Source:- (89)

Domenech y Montaner's sketch of his planned new road, running from the bottom of Via Layetana across to the church of Santa Maria del Mar, and destroying Calle Caputxes. Baixeras had also planned a similar opening, which, like Domenech y Montaner's, was rejected by the Council.

This view from the church, on the left, to Via Layetana, typifies the 'monumentalist' concept of the city.

general, the ideas proposed by the 3 architects, moderated by the judging body of the Council, undoubtedly improved Via Layetana. These modifications were approved in 1914 and Layetana itself was opened in 1916, although construction of new roads and buildings in and around the street continued for many years.

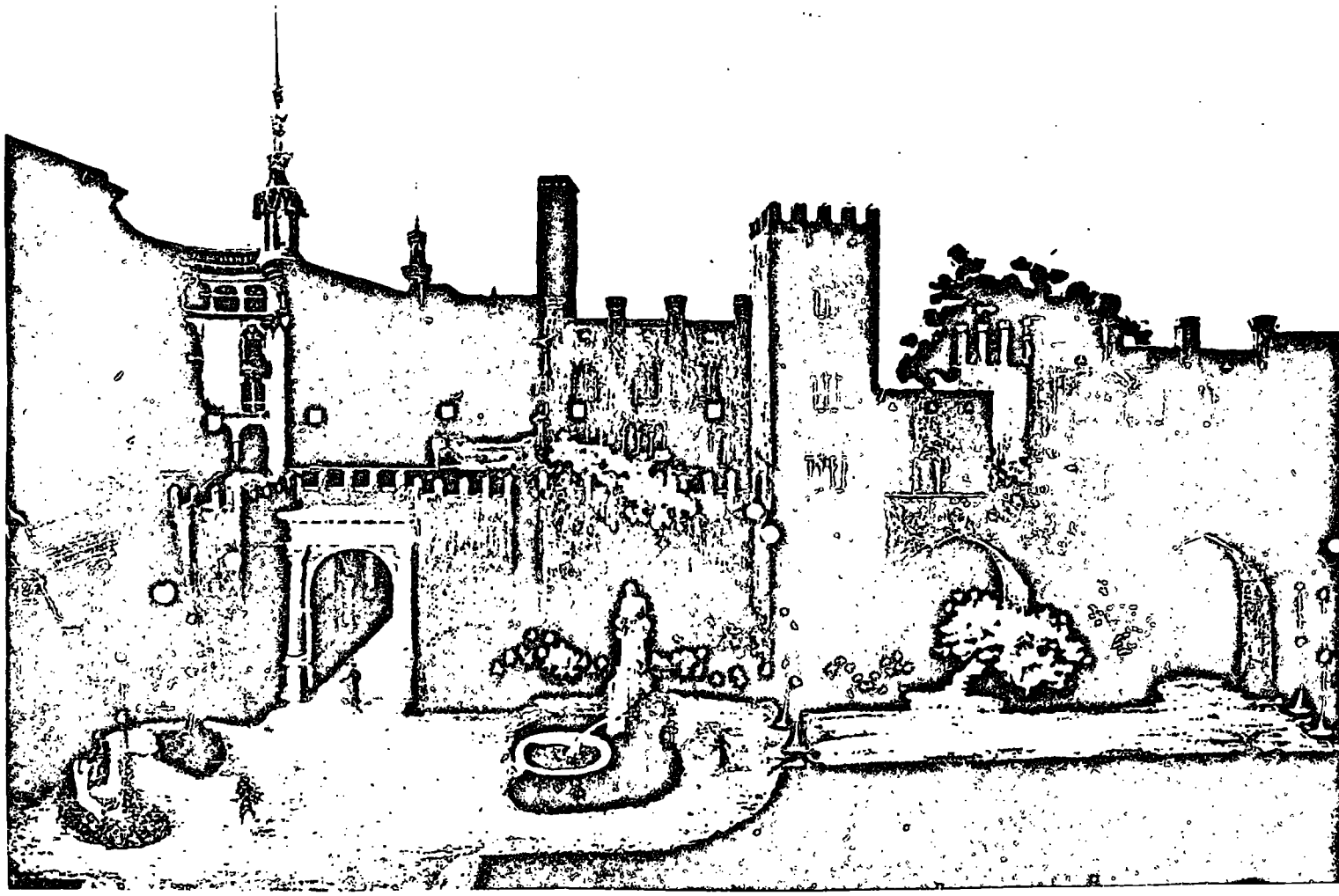


FIGURE 105b PLANNED MODIFICATIONS AROUND VIA LAYETANA Source:- (89)

Domenech y Montaner's impression of the plaza by the Roman walls. Although the plaza was constructed, the opening connecting the plaza with Plaza San Justo was rejected by the Council. This passageway (the white archway in the left of the sketch) would have destroyed the palaces of Requesens and Moxo, and the area around Calle Cosador. (All marked on Figure 86) Source (89)

Following the upheaval of Via Layetana, the Council put municipal architect Antonio Darder in charge of modifying the other two main roads - Vias B and C - of the Plan Baixeras, with an end to minimising destruction. The most immediate problem was to modify the course of Via C - next to be constructed - that ran across the city and necessitated the destruction of the ancient hospital of Santa Cruz, the San Jose Market and the Canonry and Archdeaconry near the

Cathedral. Via B also crossed the hospital as well as 'Atarazanas' - the ancient shipyard. Darder's plan (Figure 106) avoided the demolition of these buildings. He abandoned the straight-line course of Via C and plotted a new course, largely following the line of pre-existing roads, notably Calles Puerta Ferisa, Carmen and San Antonio Abad. (Marked on Figure 86) To the right end, near the Santa Catalina market, the road forked, the principal, top fork going up to the Arco Triunfo, the lower fork down to the Citadel park. In a certain manner, the road forked in the other direction too. Near Plaza Nueva, another road, wide, but not as wide as Via C itslef, followed the course of Calles Paja and Cardenal Casanas and continued beyond the Ramblas along the course of Calle San Pablo, which was to be widened where it joined Calle Marques del Duero.

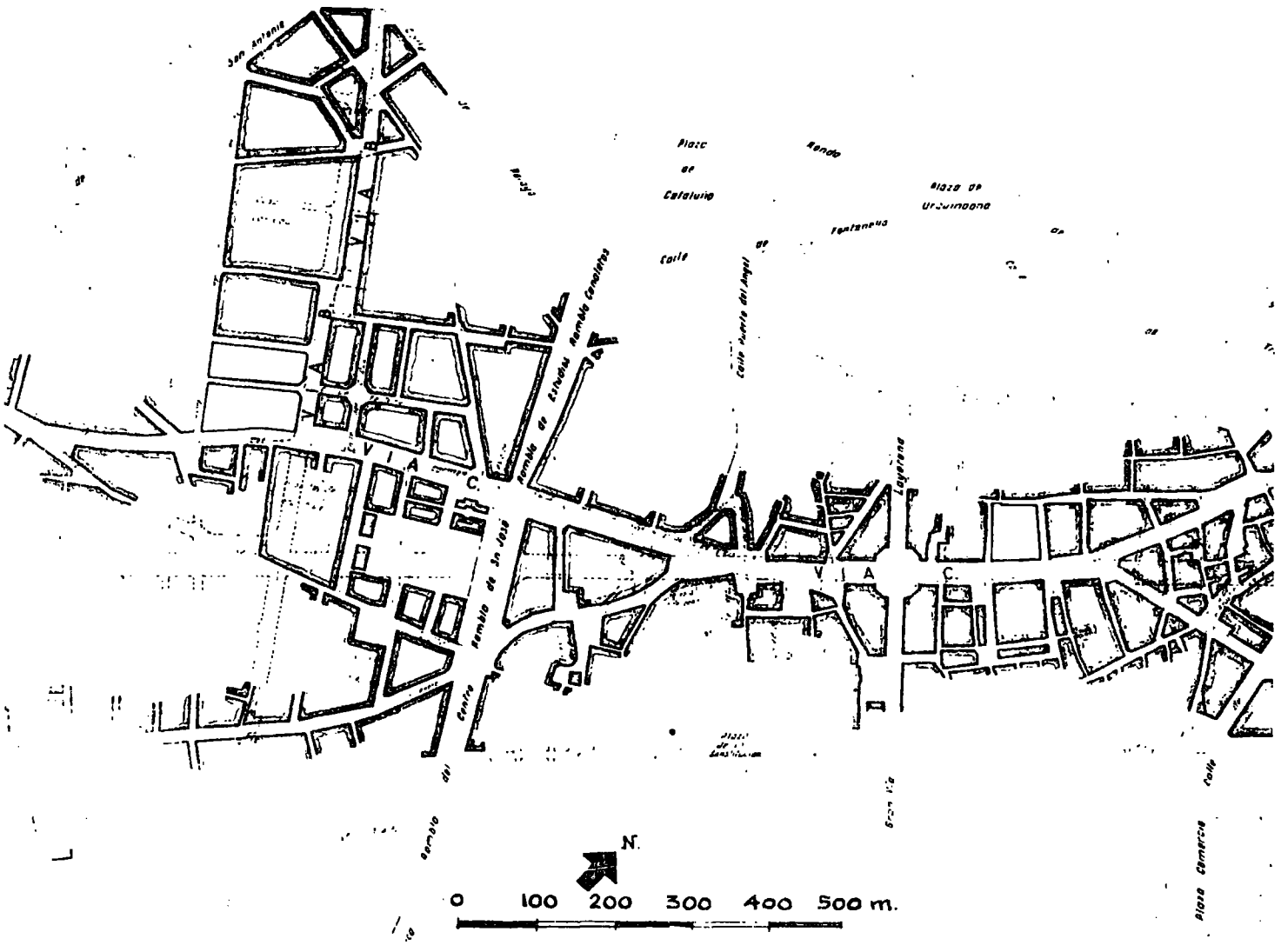


FIGURE 106 THE PLAN DARDER 1918

The broken lines are Vias B and C of the Plan Baixeras. Source A.H.B.

Whilst Darder paid considerable attention to Via C, he paid relatively little to Via B. From Plaza Universidad down to Plaza de los Angeles, it ran slightly to the right of Baixeras's Via B, thereby preserving the Provincial Charity House. At Plaza de los Angeles there was a kink in the road, and from there it followed the old Calle de los Angeles down to its crossing-point with Via C. There it ended - the conservation of the ancient hospital of Santa Cruz had become a talking point throughout Barcelona and the vast majority were in favour of its preservation. Other characteristics of the plan were the widening of the Rambla de San Jose (the central one of the 5 that collectively formed the Ramblas), converting it into a great central 'salon' of the old quarter, and its connection with the 'Plaza de Boqueria', where the San Jose market was held.

The Plan Darder was well received and approved by the Council in 1918. Very little of the plan, however, was ever carried out. The principal objection was that the new streets - in following the course of old ones of high commercial value, such as Carmen and Puerta Ferisa - made the necessary expropriation of land very expensive; further, many famed and high quality shops would be lost and with them their trade and reputation, perhaps for ever, after the interruption of several years in which the new roads and buildings were to be built. The same was true of the Rambla de San Jose, whilst all the houses in the triangle formed by the Rambla, Puertaferisa and Calles Paja and Cardenal Casanas, would disappear under the Darder plan. Darder had tried to avoid destruction, but his plan eventually came up against the inevitable reality of the situation - any plan of reform in the old city that tried to create better 'through roads' must involve the destruction of property, and that this destruction would be bitterly opposed by those whose interests were harmed by its execution. So, of Darder's Via C, only a small section, outside the Hospital de Santa Cruz, was built, made possible by the demolition of a convent and the construction, in its place, of a school in 1921 (see photo 10). The crossing of Vias A and C, in the form given it by Puig y Cadafalch (Figure 104), was constructed according to plan, but only after the bombing of the Civil War (1936-39) had destroyed the pre-existing buildings.

Darder's plan, then, was not much more than an adaptation of Baixeras's

Vias B and C, enabling the preservation of certain historic buildings, but necessitating destruction in some of the old city's most important thoroughfares. Following the failure of the plan, the struggle for reform in the old city took another turn, with the suggestion that the new through roads should pass through the largest blocks possible and therefore through the 'interior' land of less value. With this in mind, the Coucil of the Dictatorship (1923-29) arranged a competition, not for projects, but for ideas, that anyone could enter, qualified or not. The many ideas and suggestion submitted were put at the disposal of architect Joaqui Vilaseca, who used them as a base to draw up yet another plan of reform for the old city. This will be discussed later.

3. OTHER DEVELOPMENTS 1903-30

The Plan Jaussely and reform in the old city were the two main results of the municipal movement(that began with the elections of 1902 and finished with the dictatorship of Primo de Rivera in 1923) the main objective of which was urban and social reform. But these are not the sole contributions of this period to planning in Barcelona and other things are worthy of mention.

Not the least of these are the 'Anuarios Estadisticos', a yearly review published 1902-23, that for the first time gave full and extensive statistics about almost everything that happened in the city at the time,and also contained much useful information about the period after 1860. The publication of the budgets of the Council were an effort to bring about greater collaboration between the people and the administration, whilst at the same time, the period represents the time when the middle-classes saw the necessity of making the city, as a whole, fit for its continuance as the focal point of the industrial activity of Cataluna. The articles encourage municipal intervention:-

> "It is, therefore, undoubtedly the duty of the municipal authority to enforce the necessities for hygienic conditions and make sure there is no lack of water or light in the houses of the poor, raise salaries and lower rents and what is necessary, to avoid developments contrary to hygiene and morality." (28) 1902

The opening of Via Layetana can be seen in this light. It is interesting to note, however, that the old city had seemingly reached saturation point and that in the period 1900-1910 there was a net emmigration from this area of between 5 and 10% (Figure 107 and Table 20). Nor was the central zone of

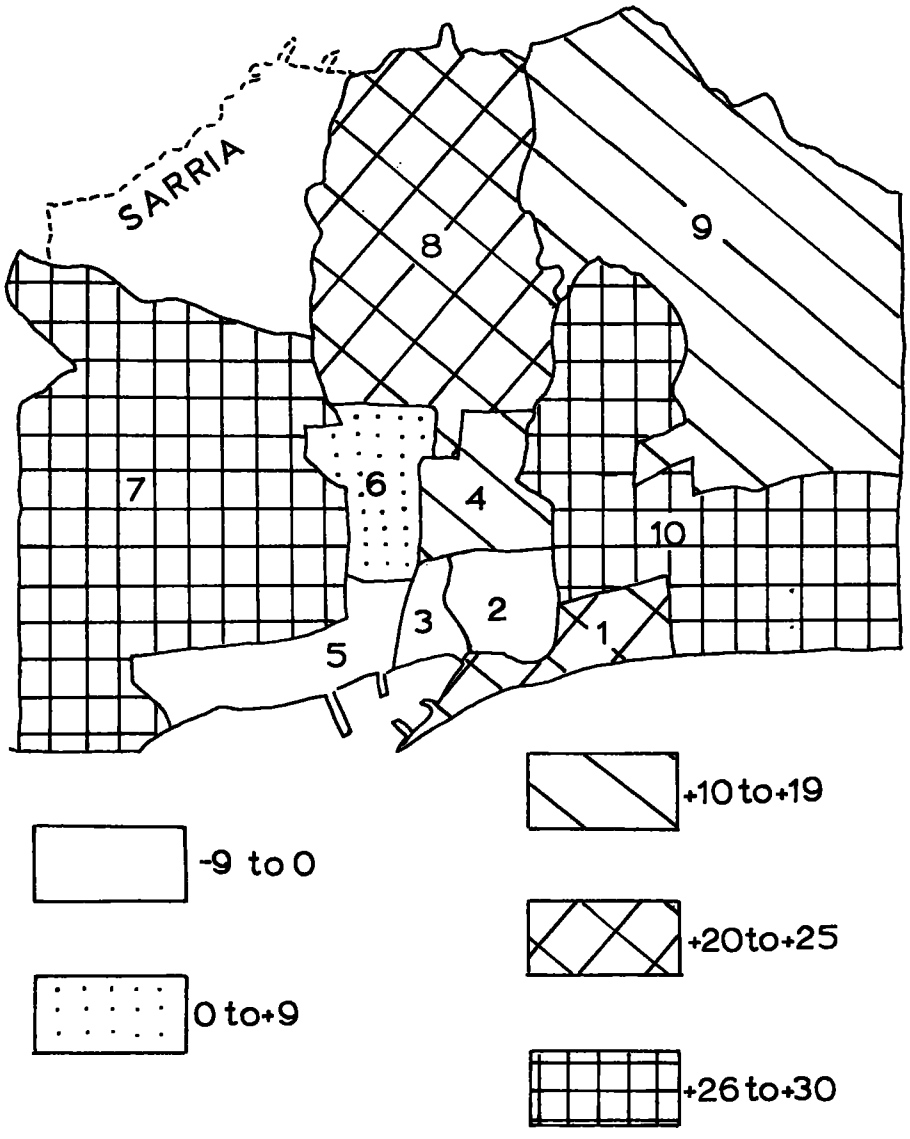


FIGURE 107 - % INCREASE IN POPULATION 1900-1910 Source (28) 1911

DISTRICT	POPULATION		GROWTH	
(DISTRITO)	1900	1910	ABSOLUTE	%
1	34,761	41,758	+ 6,997	+20.1
2	56,881	54,012	- 2,869	- 5.0
3	43,433	39,298	- 4,135	- 9.5
4	55.611	62,891	+ 7,280	+13.1
5	59,468	55,547	- 3,921	- 6.5
6	90,991	94,664	+ 3,673	+ 4.0
7	80,456	102,021	+21,565	+26.8
8	50,538	61,839	+11,301	+22.3
9	32,180	37,362	+ 5,182	+16.0
10	29,508	37,892	+ 8,384	+28.2
MILITARY	3,527	-	-	-
TOTAL	537,354	587,284	+49,930	+ 9.3

TABLE 20 - POPULATION GROWTH, BY DISTRICTS, 1900-1910 Source (28) 1911

'ensanche' the growth point it had been in the years before 1900. Rather the outer areas of 'ensanche' and the suburbs absorbed the increase in population in the early years of the 20th century (Figure 62).

The official recognition of different functional zones within the city is also a notable feature of this time. In 1909 came Armenter's plan to create a new industrial zone on the other side of Montjuich, next to an extended port area. Montjuich itself was to be the new city centre with a large park on the Llobregat counterbalancing the proposed park on the Besos (Figure 108). Nothing came of Armenter's plan, but the Council prepared an official zonification of the city (Figure 109) into residential, industrial and mixed zones, that also underlined the importance of the mountain ring in preventing expansion inland. This was taken a step further by F.S. Pearson's 'Electrification of Cataluna' in 1916, which foresaw a regional zoning of the province; the city of Barcelona was to become the commercial centre, whilst all industry was to be relocated beyond Tibidabo in the 'plain of Valles' where abundant energy (H.E.P.), space and manpower made it the ideal location if connected by rapid lines of communication. Thus, after 1916, Barcelona was linked with its immediate hinterland by electric train, the new construction including a mile long tunnel through Tibidabo (Figure 110).

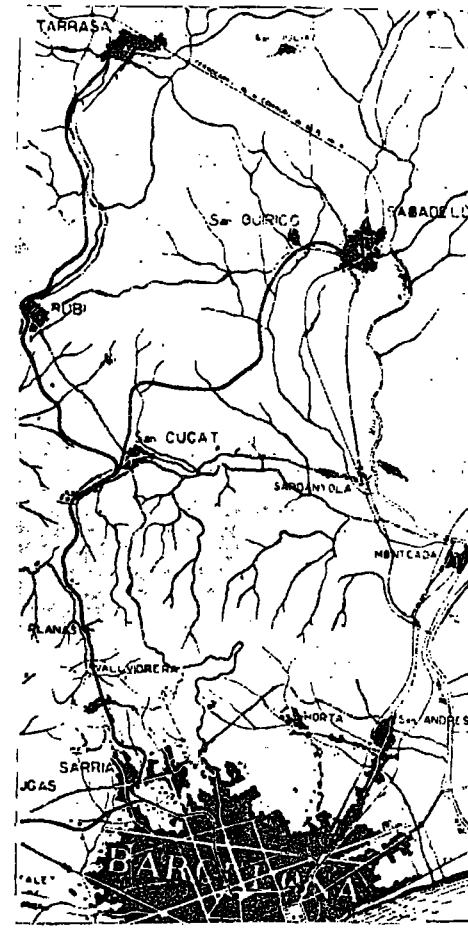


FIGURE 110 - ELECTRIFICATION OF CATALUNA 1916

Linked the city with the 'llano' (plain) of Valles and industrial towns of Tarrasa and Sabadell. Also formed the starting point for Pearson's division of the province into functional zones.

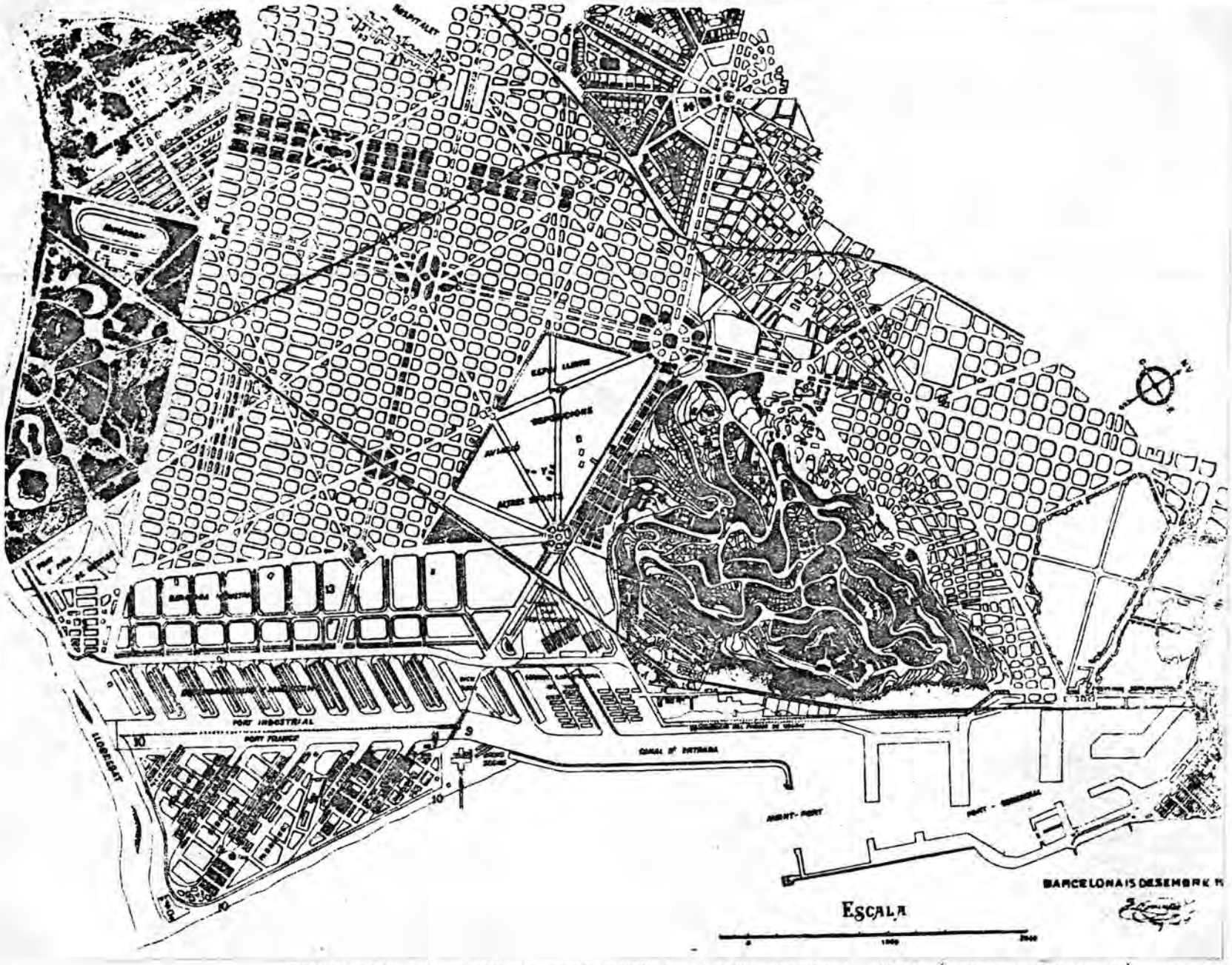


FIGURE 108 PLAN OF URBANISATION OF 'ZONA FRANCA' 1909 (ARMENTER'S PLAN) Source (92)

The area to the left of Montjuich is transformed into a new, residential, industrial and port area, with a free space area between the residential area and Montjuich and a wood to the left on the banks of the Llobregat.



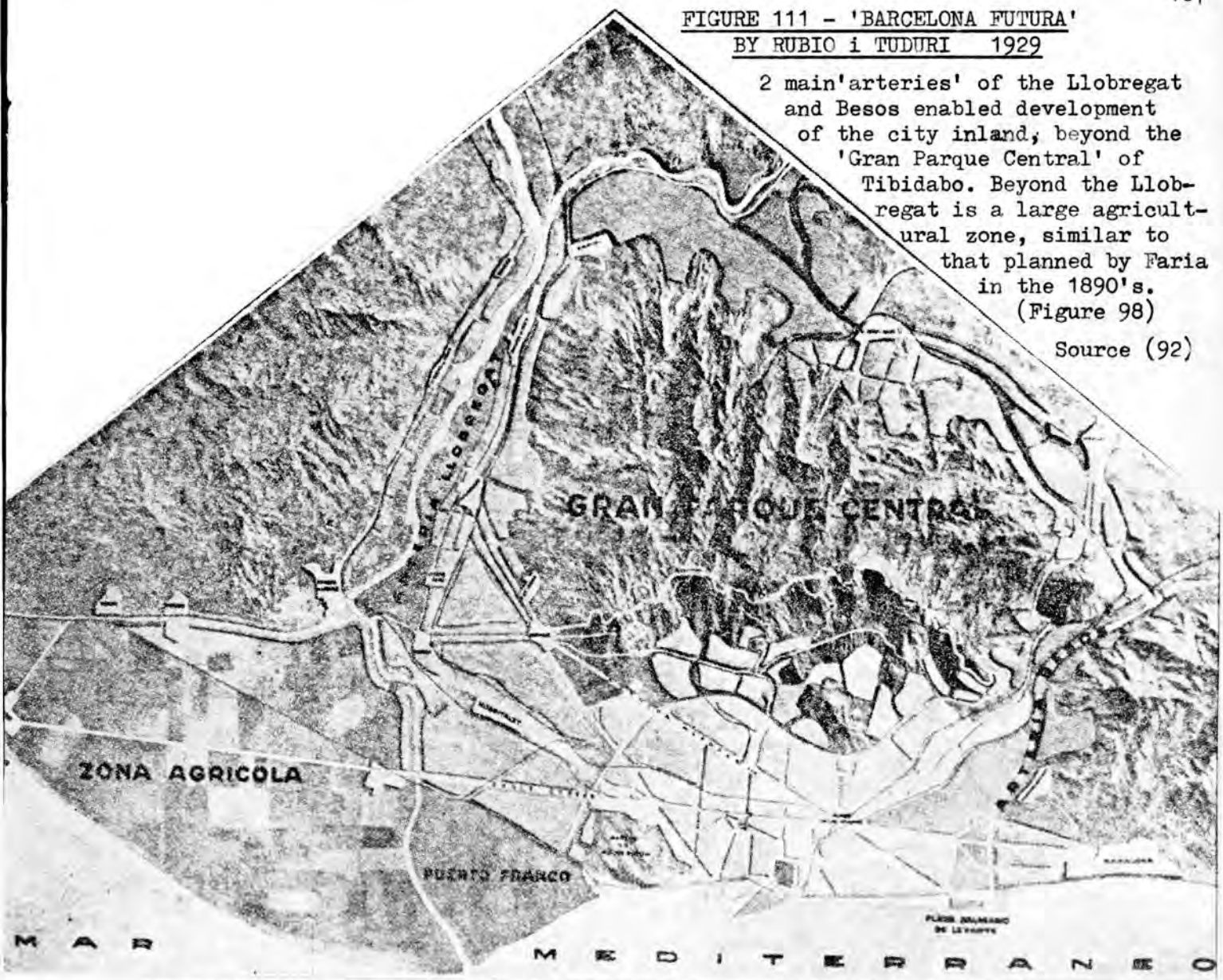
FIGURE 109 - 1924 PLAN OF 'ZONIFICACION' OF THE CITY Source:- (92)

Although approved in 1924, it was a product of the 1902-23 administration. Two 'mixed zones' - Hostafranchs/Sants and San Andres; 6 industrial zones; Mountain zone above the city.

FIGURE 111 - 'BARCELONA FUTURA'
BY RUBIO i TUDURI 1929

2 main 'arteries' of the Llobregat and Besos enabled development of the city inland, beyond the 'Gran Parque Central' of Tibidabo. Beyond the Llobregat is a large agricultural zone, similar to that planned by Faria in the 1890's. (Figure 98)

Source (92)



The idea of a Barcelona beyond Tibidabo reappeared in Rubio i Tuduri's plan of 1929 (Figure 111), which planned new lines of communication to facilitate the 'natural growth' brought about by the 'economic system' (i.e. urban sprawl), and reappeared again in the 'Barcelona 2,000' plan of 1970.

Transport within the city was improved by the introduction of 'buses in 1921 and in the same year the formation of an underground railway company ('metro') - 'S.A. Gran Metropolitano de Barcelona' - saw the approval of Rubio i Tuduri's project to open a line from the old city to Gracia in 1922. Despite opposition from the tram companies and the collapse of the 'Banco de Barcelona', the project's sponsor, the Plaza Cataluña - Plaza Ferdinand de Lesseps (Gracia) line was opened in 1924 and soon extended to Liceo (1925) and San Jaime I (1926) - both in the old city.

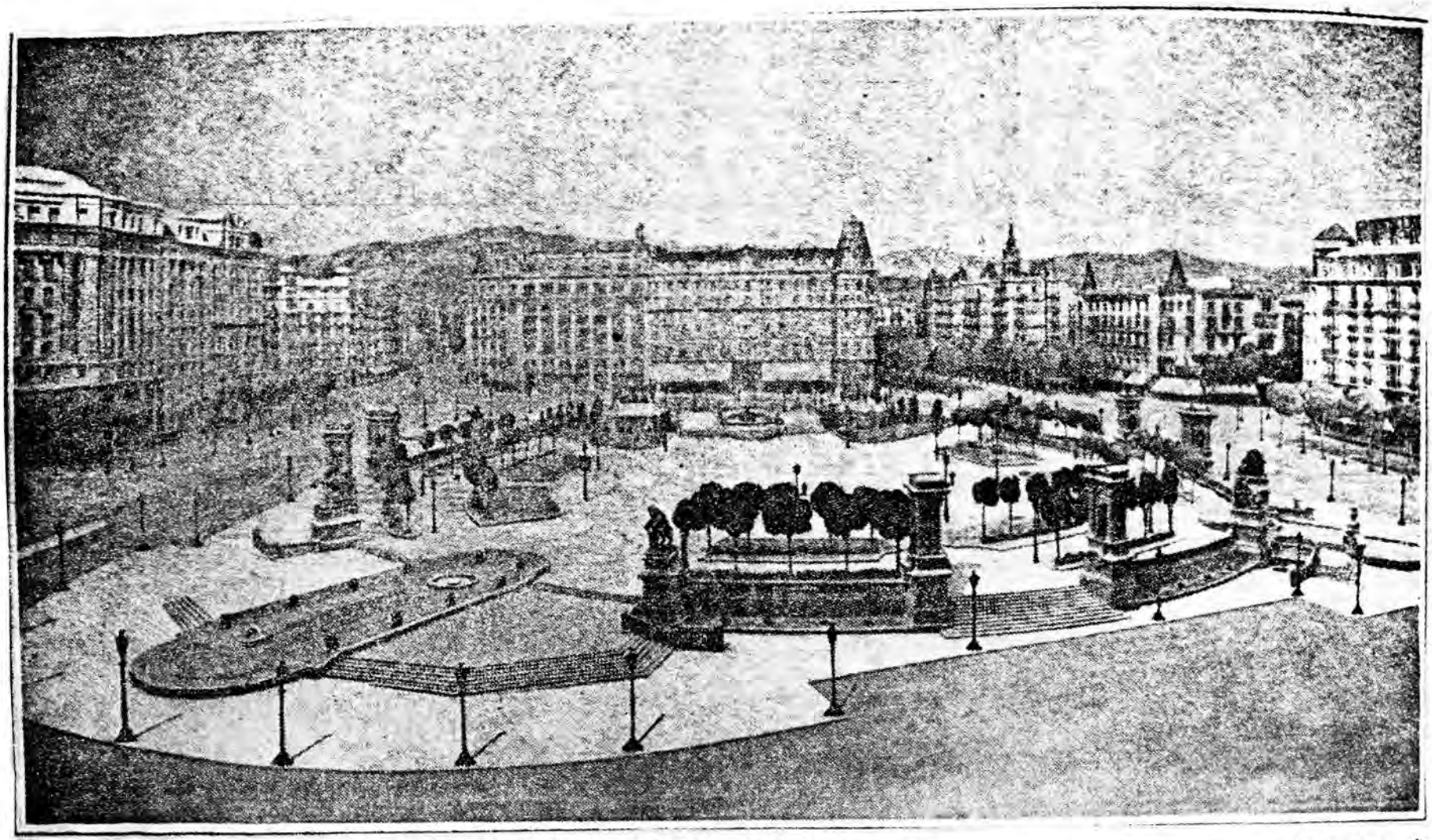


FIGURE 112 PLAZA CATALUÑA BY F. NEBOT 1929

Source:- (92)

Here the Plaza looks much as it does today.

The 'modernist' architects were still prominent in this period. Domenech y Montaner and Puig y Cadafalch helped to re-shape Via Layetana, but also designed some of the city's most famous buildings.'Hospital de San Pablo and Santa Cruz', (by the former - see photos 19 and 53) and 'La Casa de les Puntxes' (by the latter - see photo 52) were built at this time. Puig y Cadafalch also designed a reconstruction of Plaza Cataluna, rejected in favour of Nebot's version (Figure 112). Gaudi also played an important part in private construction with his two famous houses - the 'Casa Batllo' and 'La Pedrera' (see photos 49 and 50), both built in the first decade of the century and both situated in the Paseo de Gracia. Gaudi also turned one of the green areas north of Gracia into the 'Parque Guëll', decorating it with his fantastic architectural creations. This is one of several suburban parks acquired by the Council that officially appeared on the 1917 plan (Figure 101). The urbanisation of part of Montjuich for the Universal Exposition of Electrical Industries in 1929 also took much from the designs of Puig y Cadafalch and Domenech y Montaner (Figure 113).

Cebria de Montoliu (1873-1923) played an interesting, if not very important, role in the development of the city, although Roca has said that

> " as theoretician of organic analysis, as introducer of 'civic' science into Cataluna, he is surely the most important figure after Cerda. Montoliu's position is not a criticism of the root, nor does he advocate a change of economic system." (112)

He took much from the English reformists Ruskin and Morris and the municipal socialists, Howard, Unwin and Geddes.

> "Following Geddes and so breaking the line Figuerola - Cerda - Garcia Faria (74), (31-33), (26), (66), he emphasised qualitative rather than quantitative analysis embodying various scientific and political attitudes -biological hygiene, aesthetic 'modernist' considerations, neo-utopianism, integral cooperation." (112)

Montoliu himself said:-

> " philosophers, lawyers, economists, hygienists, engineers, architects, etc. have all made efforts, each according to his own concepts, to bring about reforms of a varied nature ... It is necessary to achieve a united effort, where the different aspects of the urban question and the various methods up till now employed, combine and support each other in a fruitful attempt to implant ... all the reforms that up to now have been only partially introduced." (79)

Montoliu started and supported many projects, including an attempt to show the organic continuity of Barcelona (1916) and a plan of 'ensanche' for Las Corts that resulted in 'parcellised' projects far different from his original intentions.

The Universal Exposition of 1929 also owes something to Montoliu. In a way Montoliu represented a temporary break with 'monumentalism' that itself was ended by his flight to America in 1920 and the influence of Rubio i Tuduri, Montoliu's successor as secretary of 'La Sociedad Civica', who helped bring about a clean break with the principles of the 'ciudad-jardin' and a return to the 'ciudad-monumental' in the 1920's.

PART C FROM CERDA TO JAUSSELY: GROWTH AND PLANNING 1860-1930

In 1860, after the final approval of the Plan Cerda, the city of Barcelona began to grow rapidly. From 241,000 in 1860, its population reached half a million just before the turn of the century, and a million in 1931. The number of buildings in the city increased 6-fold from under 9,000 in 1855 to 53,000 in 1930 (see Table 21).

DATE	NUMBER OF BUILDINGS
1827	7,896
1830	7,934
1840	8,190
1850	8,455
1855	8,738
1860	17,683
1882	26,426
1889	28,110
1897	32,460
1900	35,111
1910	37,512
1915	38,093
1920	40,274
1930	53,197

TABLE 21 - BUILDINGS IN BARCELONA Source:- GATCPAC (114)

The first growth came in the zones immediate to the old city, previously occupied by the walls and along the axis that joined the city with Gracia, at that time the most important settlement on the plain of Barcelona. This axis, the Paseo de Gracia, constituted the commercial and focal centre of 'ensanche'. In this way the homogeneity of the new city forseen by Cerda disappeared in the

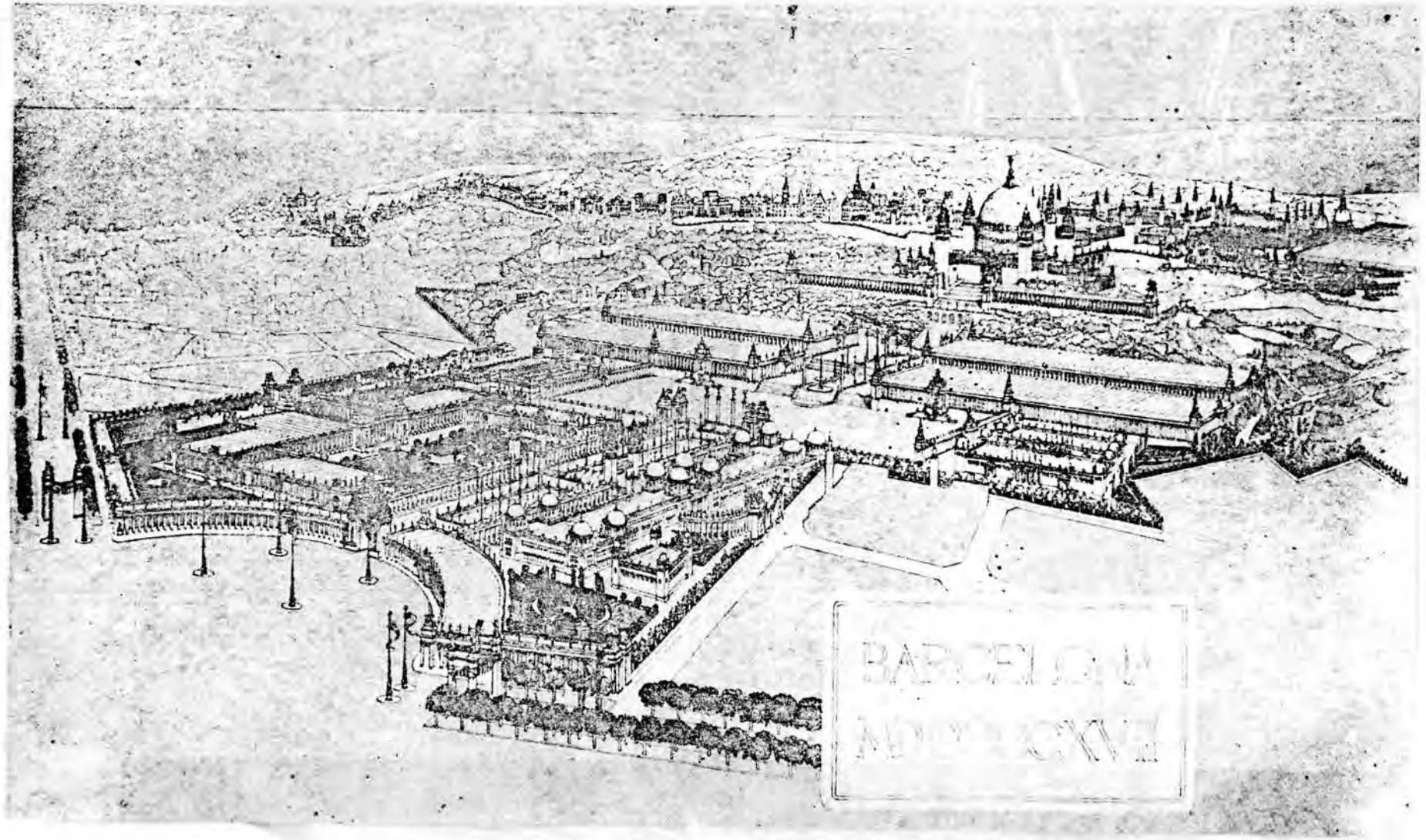


FIGURE 113 THE URBANIZATION OF MONTJUICH 1929

Figure 113 shows Puig y Cadafalch's idea of how Montjuich was to be urbanised for the Universal Exposition of Electrical Industries that took place in 1929. Puig y Cadafalch had originally suggested the location of the Exposition to be in Plaza de las Glorias, in 1905, but after the failure of the Plan Jaussely, Montjuich became more appropriate. Drawn up in 1917, it gives an idea of Puig's architecture. He usually mixed terraced housing with the one-family 'torre' (literally 'tower'), but his larger projects, such as this and his project for Plaza Cataluna lack the striking boldness of his individual creations. Nevertheless, the mixture of architectural styles and typologies make a great achievement - horizontal lines of pavillions, vertical lines of towers and pinnacles, domes and baroque frontages. The urbanization of Montjuich took much from Puig's design including the'Palacio Nacional'(Palacio ALbeniz) the main dome in the Figure, and the 'Pueblo Espanol', a model Spanish village including architectural creations from every region of Spain. Source (92)

first stages of construction. The main services (markets, schools etc.) were concentrated around this axis, whilst those that should have been regularly distributed throughout 'ensanche' were replaced by zones of housing and the land designated for use as public parks was frequently used for the location of 'macro-services' e.g. the church of the Sagrada Familia, the slaughter-house, 'Hospital Clinico', the'model'prison. In all this, the municipal administration did not function as the regulating power as Cerda thought it would.

It is important to note, however, that if Cerda's planned population density (maximum capacity 800,000) had been carried out, all the area of 'ensanche' would have been occupied by around 1920. In fact, the Plan was modified to include construction on all four sides of the 'manzana' to enable a higher density. This meant not only a quantitative but also a qualitative change in urban morphology and the abandonment of one of the basic concepts of the Plan Cerda: the open 'manzana' was replaced by the continuously walled street as the fundamental unit of urban space.

Cerda was to some extent a worshipper of the railway; he saw it as the ideal means of communication running throughout the city. In fact, it was the cause of the growth of mixed zones of industry and housing in the municipalities on the plain which it crossed (Pueblo Nuevo, San Andres, Sants). These zones were not officially accepted in the plan of 'ensanche' until 1897, after which they continued to grow in an anarchic fashion forming a barrier that later hindered the growth of the city. The simultaneous growth of 'ensanche' (around a central axis) and the municipal neighbourhoods (based on pre-existent villages and encouraged by the railway) was the typical characteristic of speculative growth in the city. The Plan of Rovira i Trias had intended a radial pattern of development that envisaged growth around the old city, suitable for the housing necessities and speculative energies of the bourgeoisie, leaving the rest of the plain to the uncontrolled expansion of the old villages. Cerda did not envisage 'ensanche' as catering only for the needs of the dominant class, but his plan was progressively bastardized as it best suited those interests. From the start, in the very process of its realization, so began is degradation.

With the Plan Jaussely, this situation obtained official recognition. In effect, in approving the Plan in 1907, the Council of Barcelona adopted for good the concept of the city that had been dominant since the Restoration of the Monarchy (in 1874) and that had found expression with the beginnings of 'modernism' in the city. The declarations of architect Puig y Cadafalch,[1] a member of the 'special Committee' [2] in the contest of 1903, openly stated a destructive opposition to Cerda's street plan, that constituted the core of Jaussely's project. In its academic and 'monumentalist' nature, its theory of grand scenic lay-outs and its formalist character, the Plan Jaussely perfectly represented the bourgeois model of the city 'par excellence', that had in its triangular patterns a somewhat peculiar morphological characteristic.

'Modernism' and 'monumentalism' have already been discussed (pages 132-4). It is perhaps worth adding that the election to operate on a limited scale has enabled the 'modernist' architect to convert, in certain parts, the area of 'ensanche' into the realization of the Plan Cerda. That is to say, 'modernism' in spite of being contrary to the ideological spirit of Cerda's plan, has nevertheless produced certain cultural and historic elements within Cerda's 'trama' that, individually, have something in common with the spirit and intentions of Cerda. One could quote as examples the markets in Calles Aragon and Vilaroel, the 'Hospital Clinico' and the creations around the Citadel park, none of which were planned by Cerda. However, outside Cerda's geometric layout, the 'modernist' urban conception with few exceptionsmanifests itself in an overwhelming tendency towards 'monumentalism' and perspective effects. It can thus be said, in an initial approximation, that the Plan Jaussely was fully in keeping with this aspect of 'modernism'.

The 1917 plan, a much watered-down and modified version of the Plan Jaussely, took effect in the construction of large avenues joining the municipalities on the old jurisdictional limits, and in impulsive urban developments, such as that caused by the Universal Exposition of 1929.

The results of planning in the city are analysed by G.A.T.C.P.A.C.[3] in 1932

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[1] Puig y Cadafalch's attacks reached a peak when he demanded the destruction of all remaining copies of 'Teoria General' (31,32) by Cerda.

[2] See Page 148.

[3] See Note 2 Page 108.



FIGURE 114 - PART OF VINCENT MARTORELL'S PLAN OF THE CITY 1931 (Source:- A.H.B.)

This section of Martorell's plan of the city shows the contrast between the old settlement of Sants to the left and the densely built 'ensanche' to the right. 'Gran Via' runs along the bottom and Diagonal is in the top right corner. Sants - an essentially working-class 'barrio' (suburb)-became one of the favourite areas for industrial location, particularly in the cheaper land alongside the railway. Note especially the large 'espana industrial' location.

and their findings will be discussed in more detail later. In brief, they drew attention to:-

(1) The degradation of large parts of the old city.

(2) Excessive densities of population in certain areas of the 'ensanche' that need remodellation.

(3) The existence of a wall of anarchically developed construction surrounding the 'ensanche', comparable with the military fortifications of the 19th century.

This situation (which is represented in Figure 114 and in photos 61-65) was confronted by G.A.T.C.P.A.C. and Le Corbusier, who proposed the Plan Macia in 1932, involving a change in scale in urban planning.

CHAPTER 4

GATCPAC, LE CORBUSIER AND THE PLAN MACIA (1931-39)

1. BACKGROUND

G.A.T.C.P.A.C. (Grup d'Arquitectes i Tecnics Catalans per al Progres de l'Arquitectura Contemporania) was one of the three regional branches of [1] G.A.T.E.P.A.C. (Grupo de Arquitectos y Tecnicos Espanoles para el Progreso de la Arquitectura Contemporanea), founded in Zaragoza in 1930. Despite the short life of GATCPAC - it was dissolved in 1937 - its members were responsible for a remarkable amount of activity in the urban field, and for the drawing up of the 'Plan Regulador del GATCPAC', commonly called the 'Plan Macia'.[2] In 1928, the French architect Le Corbusier visited the city and offered his services with the words:-

> "Barcelona est une des plus belles villes du monde, il faut en faire une ville admirable. Employez-moi, je serais très heureux d'être utile."

and throughout the thirties he and fellow French architect P. Jeanneret worked in collaboration with GATCPAC. This ultramontane interest in Barcelona was extended to the international congresses of C.I.A.M. (Congres Internationaux d'Architecture Moderne) and C.I.R.P.A.C. (Comite Internacional pour la realisation des problemes de l'Architecture Contemporaine) to which GATCPAC sent strong delegations. Indeed, the 1932 preliminary meeting of C.I.R.P.A.C. was held in Barcelona, where preparations were made for the C.I.A.M. conference (the main theme was 'the Functional City') held the same year in Moscow. Of the GATCPAC architects J. Torres Clave and J.Lluis Sert are among those to have made an impact in and outside Spain. Their work and all that GATCPAC is well-documented by GATCPAC's official publication, which appeared at three-monthly intervals between 1931 and 1937.

It is important to see the activities of GATCPAC in terms of an economic, social and political background that included the world depression of the thirties and the coming and going of the Second Republic (1931-39) in Spain. The economic crisis was in many ways a crisis of the large cities. Sert, speaking at the 1937 C.I.A.M. congress in Paris stated that:-

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[1] The other two regional branches of G.A.T.E.P.A.C. were the northern section centred on Bilbao and the central section centred on Madrid. Both, however, did very little in comparison with G.A.T.C.P.A.C. - the eastern section.

[2] Macia was president of the 'Generalitat de Catalunya', the autonomous body that governed Cataluna under the Second Republic (1931-9).

> "Les villes actuelles, surtout les grandes villes, sont arrivees, de nos jours, a un etat chaotique[1] qui s'accentue et devient a chaque moment plus critique."

In Cataluna the crisis took effect in a drop in both production and investment whilst the return of emmigrants from America swelled the numbers on the streets.[2]

Politically speaking, the chances of implementation of an urban plan like the Plan Macia, or more correctly, a political-urban strategy of which it was part, came and went with the rise and fall of the Republic. In the elections of 1931, the political parties put forward three main themes - the fight against unemployment, restructuring of the municipal administration and a series of urban reform programmes that included the provision of cheap housing and free education for all and the elimination of the unhygienic parts of the city. The Plan Macia, under study since 1932, but finally presented to the public in the exposition under Plaza Cataluna in 1934, was widely praised and demands for its immediate implementation followed. Obstacles and delays pointed to the need for political change - the 'socialization' or 'municipalization' of urban property and 'collectivization' of the construction industry being amongst the proposals included in the 'Nova Economia Urbana' [3] and passed by the Generalitat in 1936.

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[1] Sert was speaking on the theme 'Logis et Loisirs' (Housing and Leisure). He added:-

(1)" La Santé d'une grande partie des habitants est en danger.
(2) L'enfance ne peut recevoir les soins précis.
(3) L'individu est physiquement et moralement dégradé.
(4) Le gaspillage devient énorme, le temps et l'énergie perdus, par le fait d'une telle désorganisation,rendent la vie chère et difficile."

From the 5th Congres de Paris - 'Logis et Loisirs' 28th June to 2nd July 1937 Report no. 2 Page 3.

[2] In 1933, Joan Fabregas wrote "the armies of the hungry have already begun their march on the capitals," in 'La Crisis Mundial y sus répercusiones en España' - Barcelona 1933.
In reference to this topic see also 'El moviment obrera en Espanya de 1929 a 1930 en relacio amb la crisi economica' in 'Serra d'or', February 1961, article by J.Nadal, J. Vicens and C. Marti.

[3] The 'Nova Economia Urbana':-

a) A new division of Catalan territory aimed at overcoming the dominance of city over country.
b) 'Municipalization' of urban land and 'collectivization' of the construction industry.
c) 'Municipalization' of urban services.
d) Liberation of women and children from industrial exploitation.
e) Plan for teaching,including the improvement of the general level of education and new types of schools.

The project of drainage of the notoriously unhygienic District 5 [1] (Figure 94), part of the Plan Macia, was approved by the municipal technicians. On the eve of its implementation, Franco's forces were gaining victories in the South of Spain and planning activities slowed as energies were concentrated on the war effort - the Plan Macia was suspended and never readopted.

2. GATCPAC AND THE URBAN ISSUES OF THE DAY

It is, perhaps, worth considering, in brief, the view taken by GATCPAC as regards the two most important plans (until then) in the urban history of Barcelona - the plans of Cerda and Jaussely. Their view on Cerda changes considerably between 1934 and 1937. At the first date, Cerda's plan had "some good qualities" [2] but "had the capital defects of the epoch in that it did not forsee the enormous importance of industrial development." Its "grave mistakes" included the "absolute lack of classification by zones" and the "slight importance given to industry." In 1937, however, with revolutionary spirit at its height, GATCPAC published an interesting article (45) in which the Plan Cerda and the 'Teoria General ... ' are - for the first time ever - accepted and supported without reservation (To some biographers of Cerda,[3] the activities of GATCPAC amount to a rediscovery of their hero). As for the Plan Jaussely, it

"did not classify the city into zones according to different urban functions ... it is based on curved lines that give an attractive arabesque appearance, which looks alright on paper, but which is unrealistic and without justification in practice." (114)

They also criticised the 1917 'Plan de Enlaces' (the extremely watered-down version of the Plan Jaussely) in that it had "no logical base when the new zones (which the plan sought to link) have not yet been defined." (115)

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[1] District 5 here refers particularly to the lower part of the old city to the left of the Ramblas, comprising the 'Barrio Chino' - the 'red light' district of Barcelona-and also part of Montjuich.

[2] These 'good qualities' included:-
- a) Building on only two sides of the 'manzana'.
- b) Leaving of gardens in the middle of 'manzanas', to be exclusively for the use of pedestrians.
- c) Leaving space for buildings of a collective nature.
- d) The placing of a great axis parallel to the sea (Gran Via)
- e) The creation of public parks and stopping places in the plan.

They concluded:- "The Plan Cerda is preferable to the other more romantic projects of the same epoch." From A.C. No. 13 1934 Pages 14-19. (114)

[3] For example, F.Roca - 'Cerda despues de Cerda' in 'Cuadernos de Arquitectura y Urbanismo' no. 100 January/February 1974, (source 100), who sees the Plan Macia as a development of Cerda's model.

The works of reform in the old quarter undertaken between 1908 and 1916 (date of the opening of Via Layetana) were considered inadequate in that they "did not resolve the problem of sanitation, which is the most important." (114) Similarly, the Plan Darder and its successor, the Plan Vilaseca (Figure 115),



FIGURE 115 THE PLAN VILASECA Source:- (89)

Drawn up by Vilaseca under the Dictatorship (1923-29), it was principally an attempt to solve the problems of circulation in the old city, and at the same time to join the areas of historic interest. Via C, the cross-city road, differed very little from the Plan Darder, its predecessor, but to the right side of the city, a whole series of new roads was planned, necessitating the destruction of housing on a large scale, and this was one of the features criticised by GATCPAC.

Via B, to the left of the Ramblas, returned to its original course as in the Plan Cerda, with minor variations e.g. the road forks from a large 'plaza' planned below Calle San Pablo.
Vilaseca presented his Plan in 1932 and although harshly criticised by GATCPAC, it was fully approved by the Council in 1934, just as the Plan Macia, which included reform of the old city based on different priorities, was receiving public acclaim far and wide. Not surprisingly, as the revolution continued, GATCPAC's ideas were increasingly preferred by a reformed local administration, but after the war a modified Plan Vilaseca was approved by the new Francist Barcelonan Council in 1943. Nevertheless, it met with a fate similar to that of its predecessors - the upheaval involved in such a plan was too great and it was shelved, although a watered-down version appeared in 1956.

plans that aimed at linking the monuments in the old city and easing traffic circulation through it, were rejected by GATCPAC with some disgust.

> "The creation of wide roads linking the points of greatest historic interest in the old city constitutes a grave error... With the new transversal road (as in both the Plan Darder and the Plan Vilaseca) the tourist can visit the old city in 5 to 10 minutes (but) the realization of this project implies the destruction of historic Barcelona ..... Much more important than the creation of these roads (that resolve no important problem and, in fact, creat new conflicts, attracting more traffic to the old city rather than diverting it elsewhere) is the problem of sanitation in infected Barcelona. GATCPAC consider it much more important than the linking of monuments (i.e. the Plan Vilaseca) ... Intervention should be demanded. It is more a question of surgery than architecture ... The absurd parcellation of land and the desire (not controlled by the authorities) to obtain maximum returns, is the principal cause of the tragic state of housing in old Barcelona." (114)

In 1930, the Barcelonan Council set up the 'Consejo Superior de Urbanismo' putting Rubio i Tuduri, Adolf Florensa and Vincens Martorell in charge. It was these three who had drawn up the 'oil-slick' type of expansionist plan of the future Barcelona in 1929 (Figure 111). That plan and the activities of the above mentioned body were consistently criticised by GATCPAC, who insisted on the necessity of a general plan for the city, maintaining that the 1929 plan was nothing of the sort.

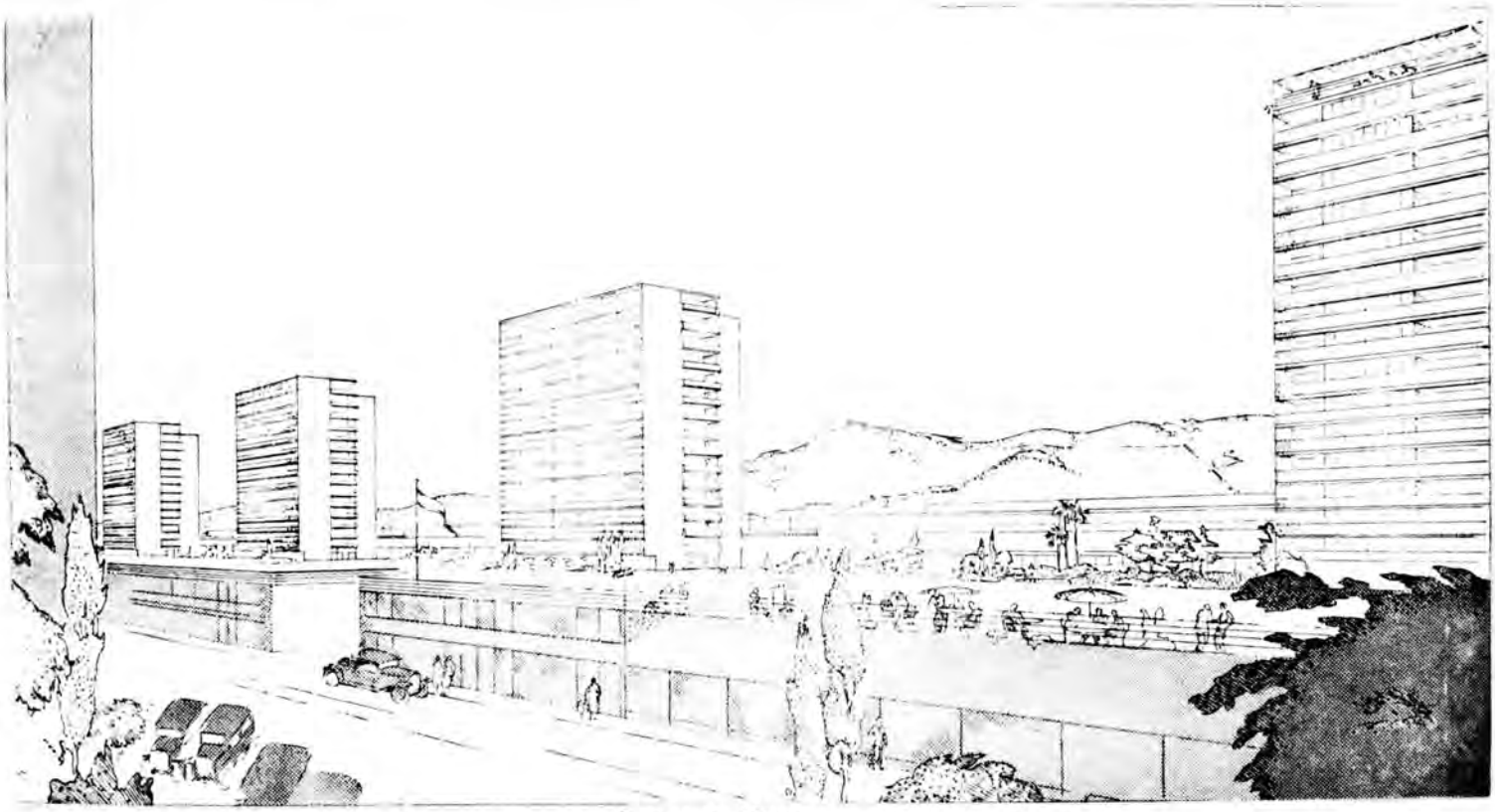
> "Because of the lack of such a plan, the Council of Barcelona has adopted a system of 'urbanizaciones parciales"[2] that:-
>
> (a) favour, in general, private interests,
> (b) do not take into account the necessity of zoning the Barcelona of the future,
> (c) make it impossible to unite these 'urbanisations' in any logical and rational manner." (115)

In spite of their criticism of 'urbanizacion parciales' as a form of growth, GATCPAC themselves proposed something similar with their 'Project of Urbanization of Diagonal' (Figure 116), that they declared to be "part of a preliminary study... that we are preparing for the 1932 (C.I.A.M.) conference in Moscow." However, unlike most of the suggestions made by GATCPAC at this conference, the above-mentioned project was not included in the final version of the Plan Macia.

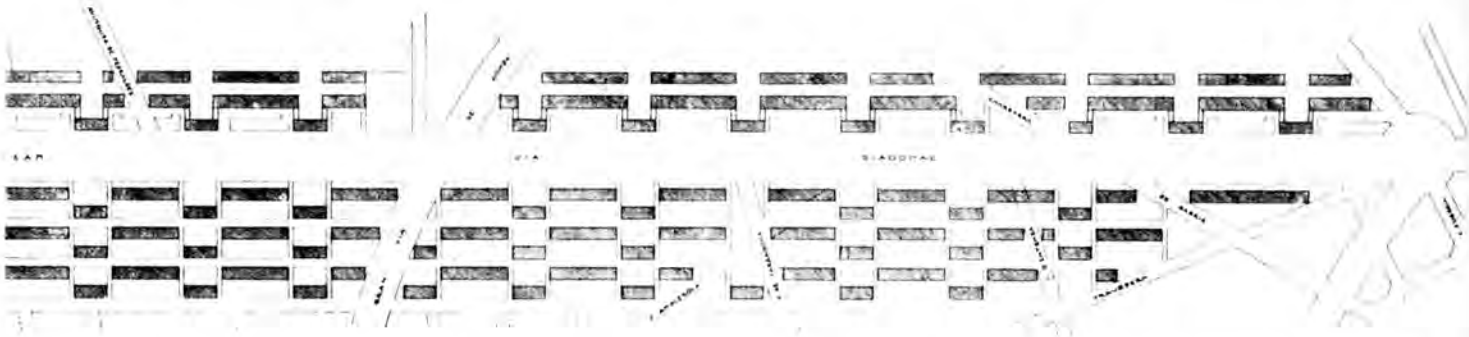
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1 By this GATCPAC meant that, although so-called 'historic monuments' were highlighted, much of historical interest, i.e. streets and houses, would be destroyed. Similar to the debate surrounding the Plan Baixeras and nearly all plans of reform in the old city since.

2 'Urbanizaciones parciales' - the first appearance of this term that continually appears (along with 'plan parcial') in the 1950's. It means partial urbanisation, i.e. development on a small scale within a limited context; it is in many ways an extension of the 'modernist' concept and seen in contrast to a 'general' (i.e. fully comprehensive) plan.



General View



Plan of Layout. The 'plaza' to the right is Calvo Sotelo

Distribution of Buildings and Land Use

1. Gardens
2. Space for Cultivation
3. Shops and Stores
4. Car Park
5. Housing Blocks

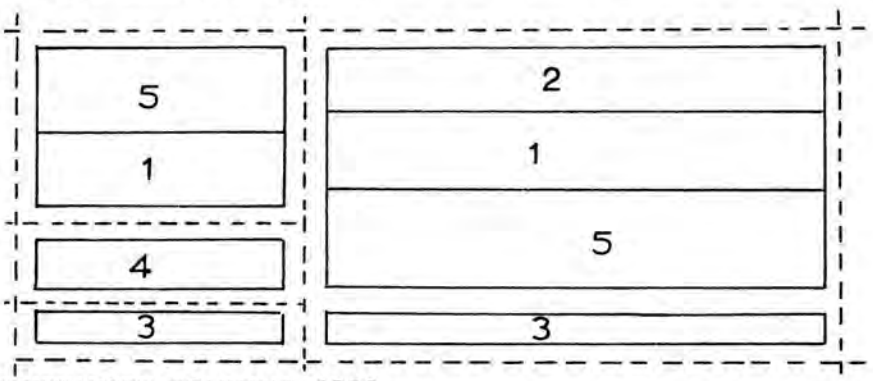


FIGURE 116 - PROJECT TO URBANIZE DIAGONAL 1932

Stretching from Plaza Calvo Sotelo to the former Royal Palace, the project consisted of housing blocks up to 16 storeys high, running along Diagonal. The project is particularly interesting because it shows how such development does not necessarily exclude free space and collective service areas. Although in the 1970's there are some not dissimilar housing areas e.g. 'Barcelona 2' along Diagonal, the vast majority of high-rise areas are lacking in these elements e.g. Bellvitge, San Ildefonso, South-west Besos etc.

As in all GATCPAC's housing schemes, these buildings did not have internal ventilation shafts ('patios'). Although the scheme was included in GATCPAC's proposals at the C.I.A.M. and C.I.R.P.A.C. conferences in 1932, the project was not included in the Plan Macia.

Source:- (117)

Similarly, the garden-city concept,[1] although generally criticised by GATCPAC and particularly Le Corbusier, had some influence on the former's activities. In the 'Casa Bloc' scheme (to build a new zone of housing - part of the Plan Macia) they planned the division of a large orchard, allotting one 'parcel' or plot per house. Again, in the 'City of Repose and Vacations' (also part of the Plan Macia) the same idea reappears, although in its different urban context (its location, unlike the 'Casa Bloc' was not in the city, but on the coast to the south in relatively open country) its justification is clearer.

Before moving on to examine the Plan Macia in detail, it is worth noting that GATCPAC were not alone as initiators of new urban policies. Rubio i Tuduri published his 'regional plan for Cataluna' (Figure 117) in 1932, something of an extension of his 'Barcelona Futura' plan of 1929 (Figure 111). But whilst this latter plan has been condemned by rationalist planners (including GATCPAC) as 'expansionist', encouraging short term, uncontrolled growth of the city, the former is regarded as ambitious, ahead of its time and generally far more in keeping with the aims and ideals of GATCPAC. Why, then, was there such a difference over a three-year period? In 1930, after the fall of Primo de Rivera's dictatorship, Rubi i Tuduri himself said, "We are free today from the subjection to political circumstances" ('Mirador' 13-3-30) and this over 18 months before the Generalitat of Cataluna gained autonomous control of the region. It seems that in the late twenties and early thirties one sees more clearly an aspect of planning important throughout the whole period discussed in this thesis; the political circumstances of the time have had considerable influence on the 'type' of plan proposed and supported by the Catalan bourgeoisie. This is discussed in greater detail in Chapter 6.

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[1] Known as 'ciudad-jardin' (Castilian) or 'La Caseta i l'hortet' (Catalan), it had been promoted by the 'modernist' school of thought, first on a large scale (Parque Guell and Tibidabo) and later as a suburban 'self-sufficient' concept, largely under the guidance of Cebria de Montoliu and his magazine 'Civitats' from 1914 onwards (see Page 169).
In the 1930's a great part of the Barcelonan suburbs were inundated by 'torretes' (literally little towers but meaning country cottages) demonstrating the extent of petit bourgeois property in these areas. More recently, Salvador Tarrago (118) has described this urban concept as "totally inapplicable to our culture, for, apart from the irrationality of this form of growth, it is the fruit of a culture and climate totally distinct from the Mediterranean."

FIGURE 117 ZONAL DIVISION OF REGION OF BARCELONA ('REGIONAL PLANNING') 1932

by Nicolau Rubio i Tuduri Source (92)

"It is not only Barcelona that interests us, but all Cataluna, of which Barcelona is no more than a large 'barrio'." He acknowledged the importance of GATCPAC'S ideas saying there was a "profound coincidence" with his, although, "they (GATCPAC) have other starting points different from ours." He suggested a beach-bathing centre in the Llobregat flood plain similar to the city of repose planned by GATCPAC. He defended



the garden city concept, seeing it as a means of limiting the population density in the city. "And I believe that limitation to be good for urbanism, for sociology, and for Catalanism." (116) The most radical proposal of the plan (above) was the creation of a 'mixed zone' in the triangular area between San Cugat, Rubi and Papiol to centralize the tertiary and industrial activities on the other side of Tibidabo.

1932

«Temptativa de distribució en zones de la regió de Barcelona.»

3. THE PLAN MACIA 1934

In 1932, GATCPAC, Le Corbusier and Jeanneret presented a 5-point plan for the reform of Barcelona. These points, which, they said, were in need of urgent implementation, formed the basis of the Plan Macia, which was publicly displayed in 1934. The five points were:-

1. Sanitation of the old city, beginning with District 5.
2. The immediate cessation of the project of 'ensanche' (i.e Cerda's 'manzanas') and the determination of a new lay-out more in accordance with the needs of the city.
3. Classification of the city into functional zones - housing, industry, etc. and therefore the immediate limitation of the so-called 'mixed zones' (largely the 'aggregated villages' on the edge of Cerda's 'ensanche').
4. The linking of the city, via an extension of the Gran Via, to the beach at Castelldefels, to be used as a large maritime zone for recreation and relaxation.
5. The modification of municipal ordinances in whatever way necessary to achieve the above.

Apart from the public exposition of the Plan Macia, parts of it were published in various editions of 'A.C.' (the official GATCPAC magazine) notably A.C. 13 of 1934 (source 114) and it is from these that the following information comes. The Plan consisted of six 'schematic regulating plans':-

Scheme 1 - Zoning

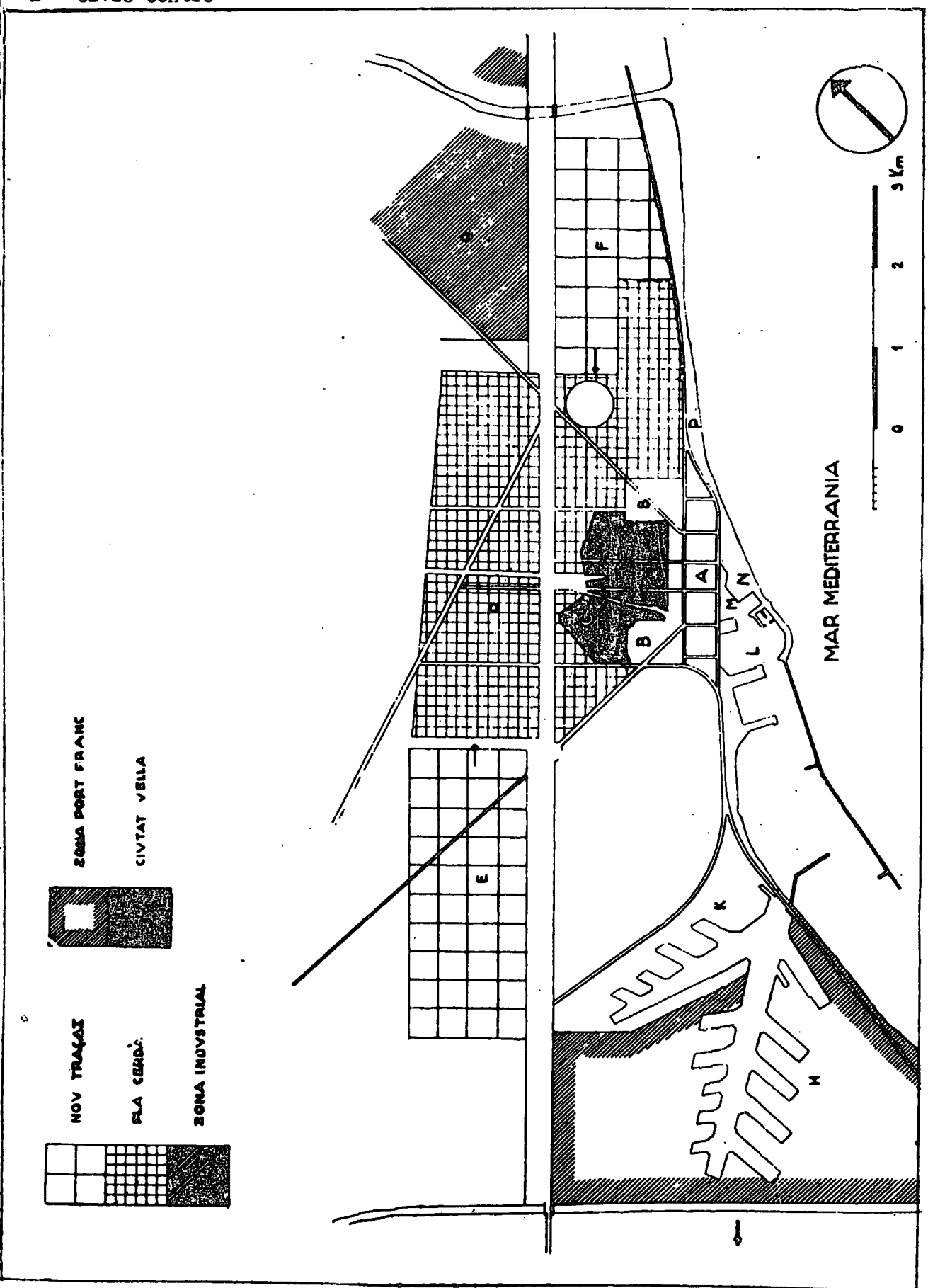
Figures 118 and 119 show how the city was divided into functional zones. On Figure 118 the 'Administrative and Bureaucratic Centre' (A) occupies a strip of land 400 x 2,000 metres, reclaimed in part from the port area. What remains of the former main port is used as a 'port of tourism' (L) and 'Zone for Nautical Recreation' (M). In zone A, buildings up to 150 metres high were planned (visible in Figure 119) to be used as offices and for administrative purposes; they were to occupy only 5% of the surface area in this zone and were served by a network of roads, raised above ground level, which itself was left for pedestrian use. Apart from existing communications, a new road running through the old city up to Plaza Cataluna, and a coastal motorway were planned.

The 'Civic Centres' (B) were to contain buildings of a collective character (secondary and technical schools, museums, libraries, a co-operative centre), and constitute the nucleus of the future city. Whilst the location of one

FIGURE 118 - THE PLAN MACIA - SCHEME 1

Source:- (92) originally in AC 13, 1934 (114)

The letters on the diagram represent:-
A - Administrative and Bureaucratic Centre
B - Civic Centre



C - The old city
D - The 'Ensanche'
E - New Housing Zone - 'Barrio del Puerto Franco
F - New Housing Zone - Barrio del Besos
G - Industrial Zone of San Andres
H - Industrial Zone of Puerto Franco
K - Commercial Port
L - Tourist Port
M - Zone for Nautical Recreation
N - 'Palacio' of Work (and the Syndicates

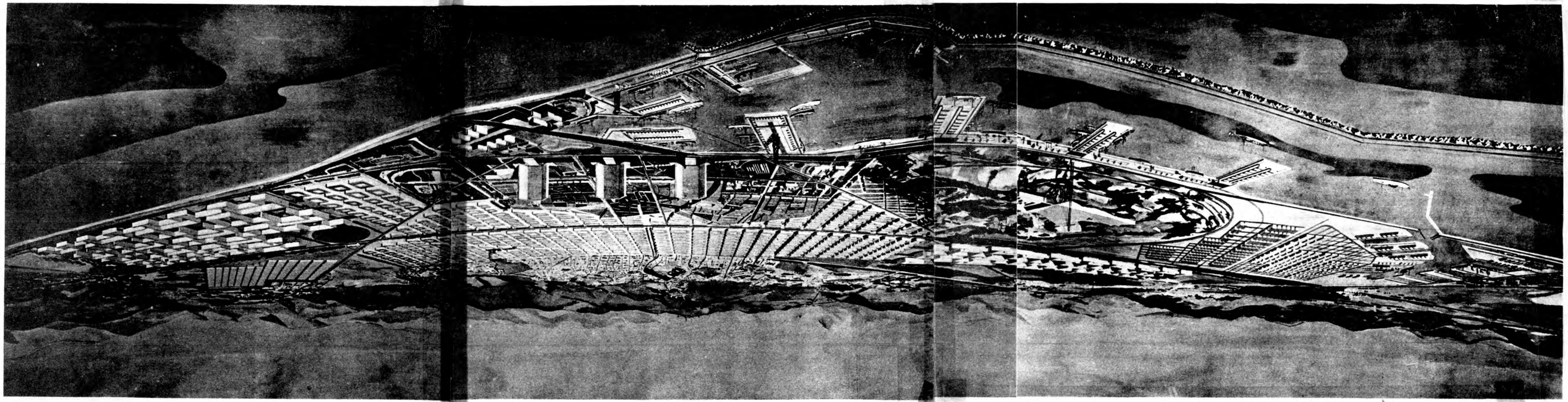


FIGURE 119 THE PLAN MACIA - AERIAL VIEW Source:- (92)

"It is necessary to root out the most dangerous centres of infection, to destroy, according to a planned programme, the groups of houses that have shown the highest mortality figures. In their place, large, free spaces will remain, where nature can mend the abuses and errors of civilization."
A.C. 13, 1934 (114)

The clearing of these areas was was to be in two stages, as marked on the plan. As can be seen, the majority of those areas to be cleared first, was to the lower left of the city in 'Distito V' (the 'Barrio Chino').

The black line running down the centre of the map, marks the line of the new road, running through the old city, which was also part of the Plan Macia.

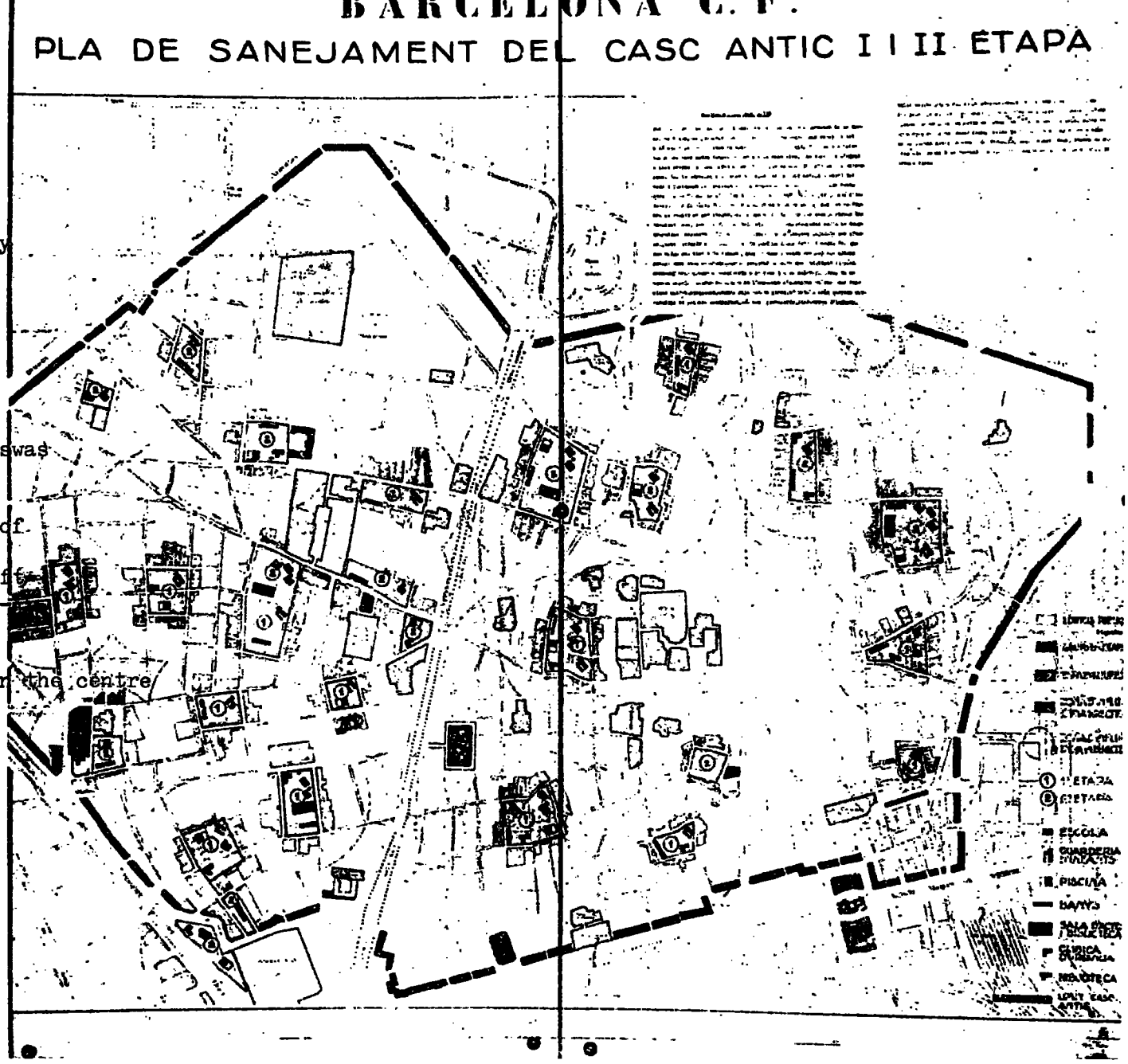


FIGURE 120 - PLAN OF SANITATION OF THE OLD CITY

Pla Macià: «Pla de sanejament del casc antic.»

Source:- (92)
Originally in A.C. 25, 1937

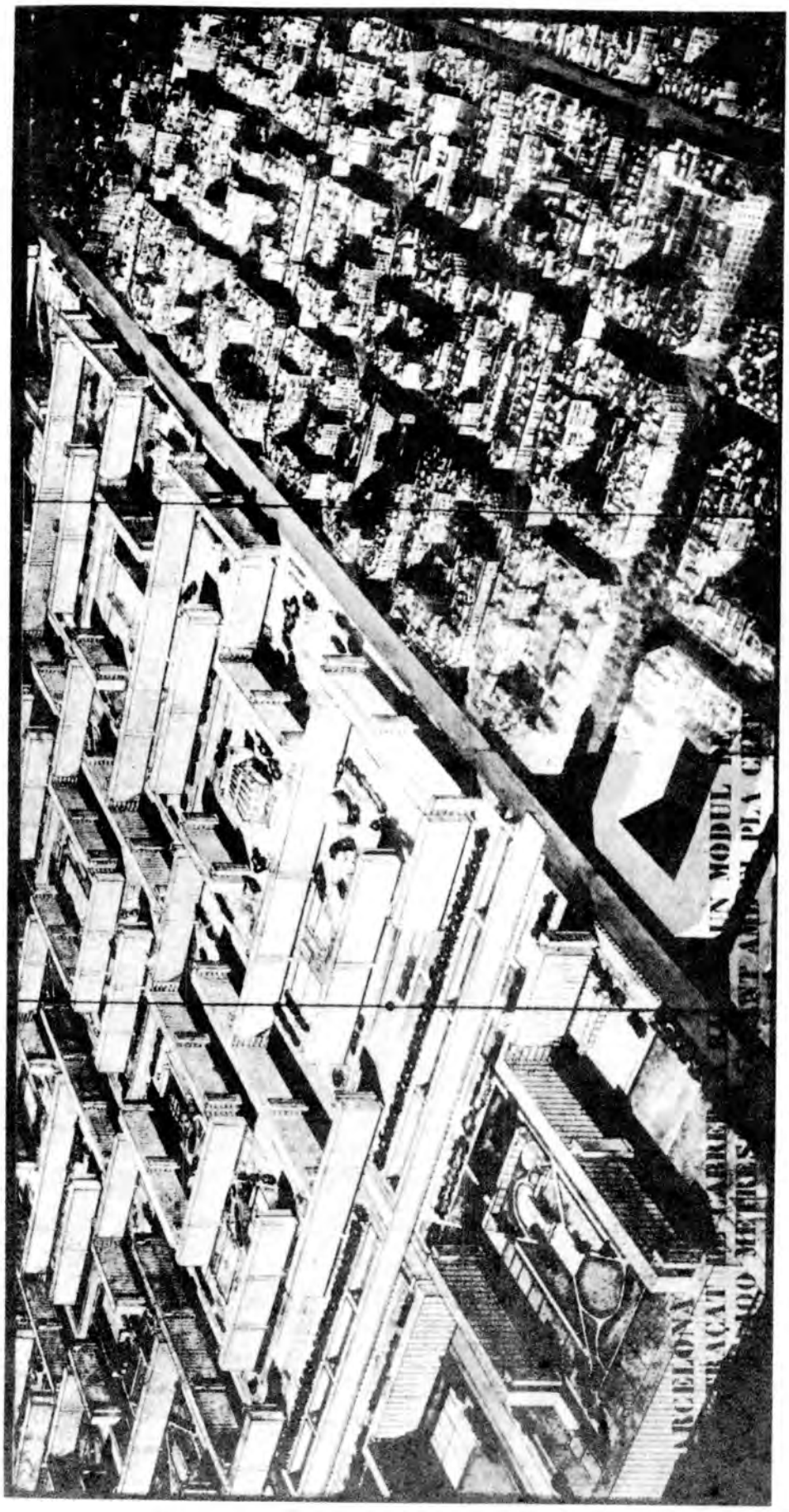
centre in the 'Barrio Chino' (District 5) fits in with the idea of reforming the old city, the centre in the Citadel park would seem to respond to the area of a symmetrical distribution of services, but it is still difficult to see why they chose this location, thus sacrificing one of Barcelona's few parks. The old city as a whole (C) was to be drained and improved by stages, starting with the most unhygienic parts of the city (Figure 120).

Outside the old city, the area of 'ensanche' (D) was restricted to its present limits and was gradually to be transformed into a 400 x 400 metre lay-out (c.f. Cerda's 133 x 133) which was to form the basis of two new housing areas - E and F - located near industrial zones H and G and the new commercial port (K). In the meantime, however, the two contrasting lay-outs were to remain side by side (Figures 119 and 121). The lay-out of housing in these new zones is the subject of Scheme II and will be discussed later. As for the new port, it is interesting to note that in 1928, the state authorities had convened a competition for the design of a new artificial port in the flood plain of the Llobregat. The winning design by engineer Sorribas (Figure 122) mixed the two functions of industry and commerce, projecting only one service canal. In the Plan Macia, on Le Corbusier's suggestion, the canal was divided into two (as in Figure 118), but GATCPAC later changed back to favour the Plan Sorribas.

Scheme 2 - The New Housing Zones and the new 400 x 400 metres model

Following GATCPAC's criticism of Cerda's 'manzana', they set out to find a street lay-out more suitable to the necessities of the time. Their suggestion was to adopt as the basic unit an area 400 metres square i.e covering an area equal to 9 of Cerda's 'manzanas' (Figure 123). Although it was eventually to be applied to the whole residential area, it would first be employed in the two new housing areas- the 'Barrio del Besos' (F on Figure 118) and the 'Barrio del Puerto Franco' (E on Figure 118), the first already densely populated and so difficult to realize, the second almost empty of construction.

In the 'Barrio del Puerto Franco', an attempt was made to cater for the needs of non-integrated immigrant workers, by creating an environment in some ways similar to their original homes (the majority of immigrants were from Andalucia). At the same time, the resultant housing density was not to be too



Pla Macià: «Nou traçat de carrers a base d'un modul de 400 per 400 metres, enllaçant amb el Pla Cerdà.»

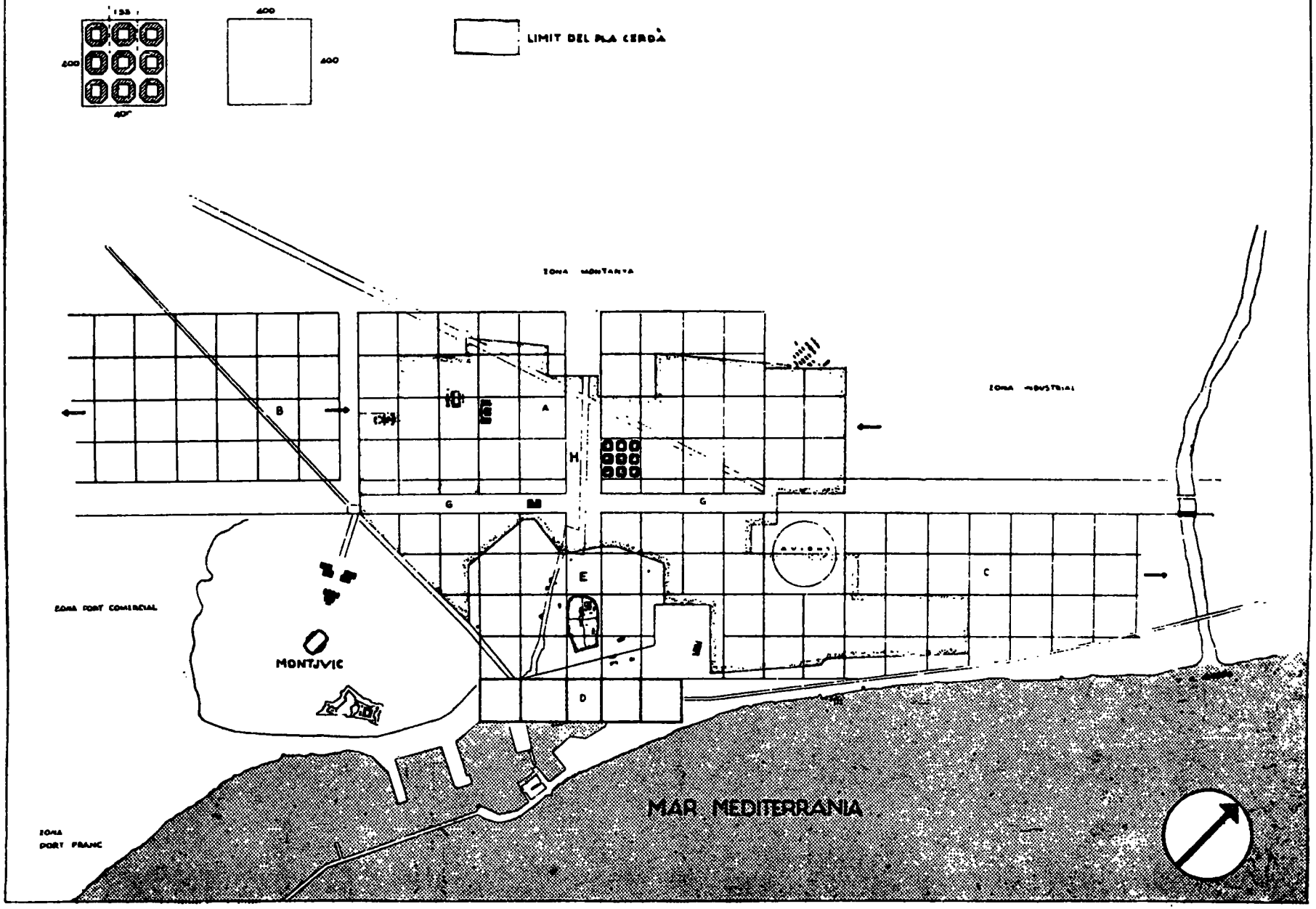
FIGURE 121 - NEW LAY-OUT C.F. CERDA'S

Source (92)

The new lay-out to the left is only representative, being like neither the 'Casa Bloc' nor the immigrant workers' houses of the 'Barrio del Puerto Franco'.



FIGURE 122 PLAN SORRIBAS 1930 Source (92)



Pla Macià: «Esquema II. Nuevo módulo de 400 x 400.»

FIGURE 123 - PLAN MACIA SCHEME 2 Source:- (92)

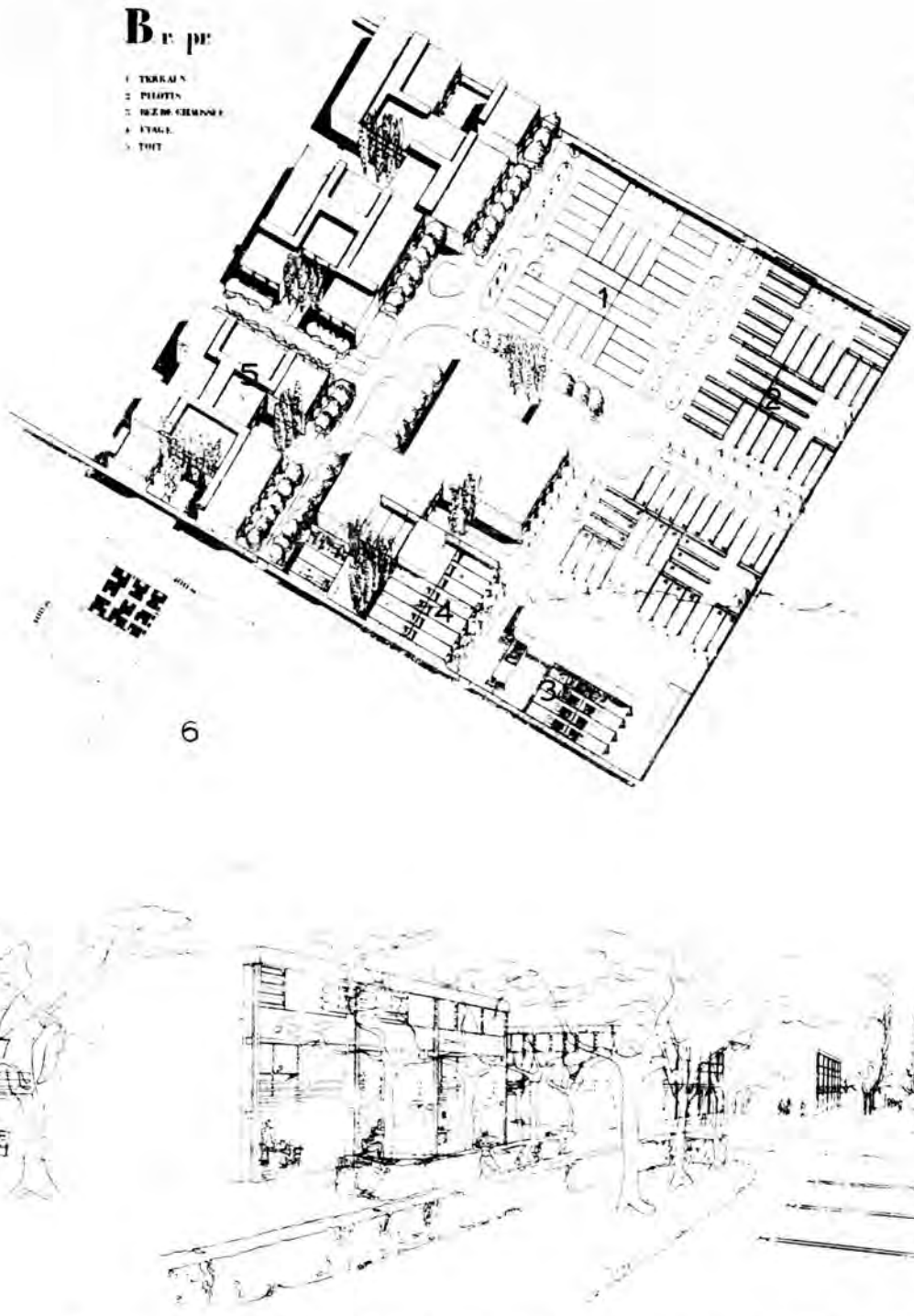
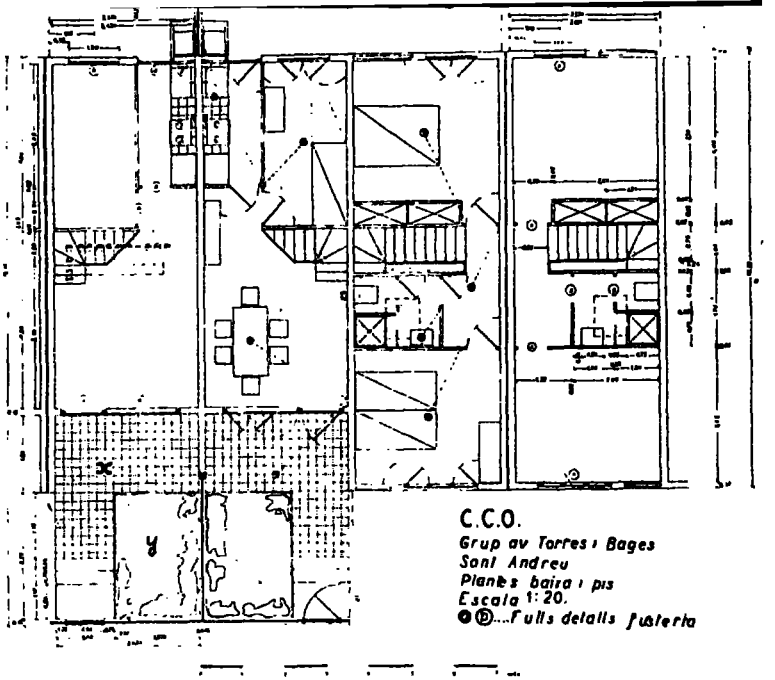


FIGURE 124 - HOUSE DESIGN IN THE 'BARRIO DEL PUERTO FRANCO'

(Design by Le Corbusier and Jeanneret) Source:- (114)

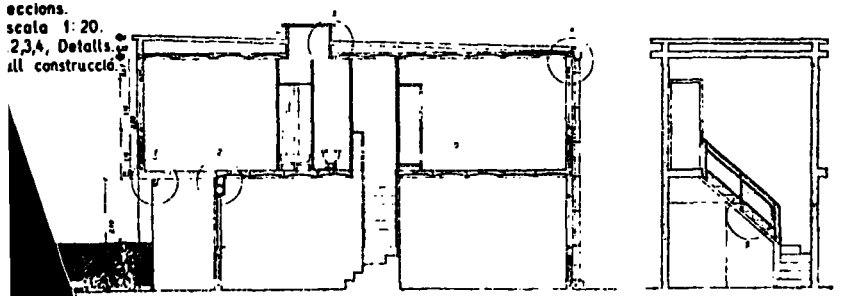
low. The houses, designed by Le Corbusier and Jeannerat were 3 storeys high, the ground floor being left free and open, to be used for relaxing in the open air. The first floor contained the kitchen and dining room and upstairs were 3 bedrooms and a lavatory. The impermeable roof was capped with an earth layer to protect it against variations in temperature. The frontage was almost entirely glass, with venetian blinds necessary. Several of these houses, together with free space areas, formed a basic 'complex', there being six of these per 400 metre square unit (See Figure 124), 'roads of circulation' dividing them. The



C.C.O.
Grup av Torres i Bages
Sant Andreu
Planta baixa i pis
Escala 1: 20.
Ⓐ Ⓑ ... Fulls detalls fusteria



eccions.
scala 1: 20.
2,3,4, Detalls.
all construcció.



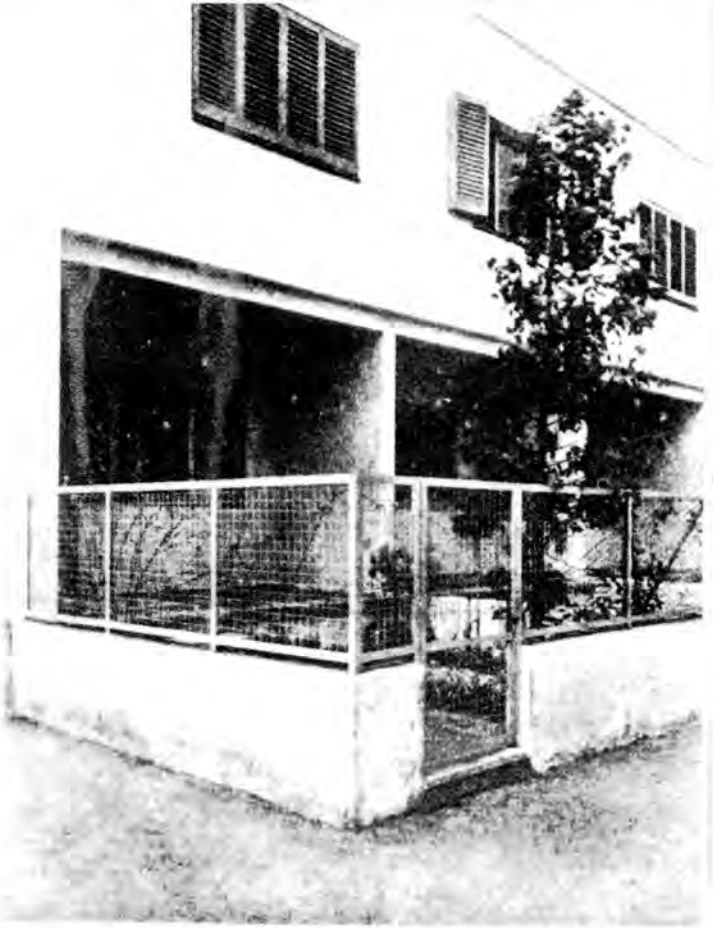
1. Plan View
To the left the ground floor, showing the small front yard (x) and even smaller cultivated area (y) within it. To the right, overhanging the front yard a little way is the upper floor.

Scale 1:20

2. Front View (left - 3 houses)

and Back View (right - 2 houses)

3. Side View (left) with front yard to the left and sloping roof going down to back of house, showing interior,
and Front View (right) looking through one house, showing interior.

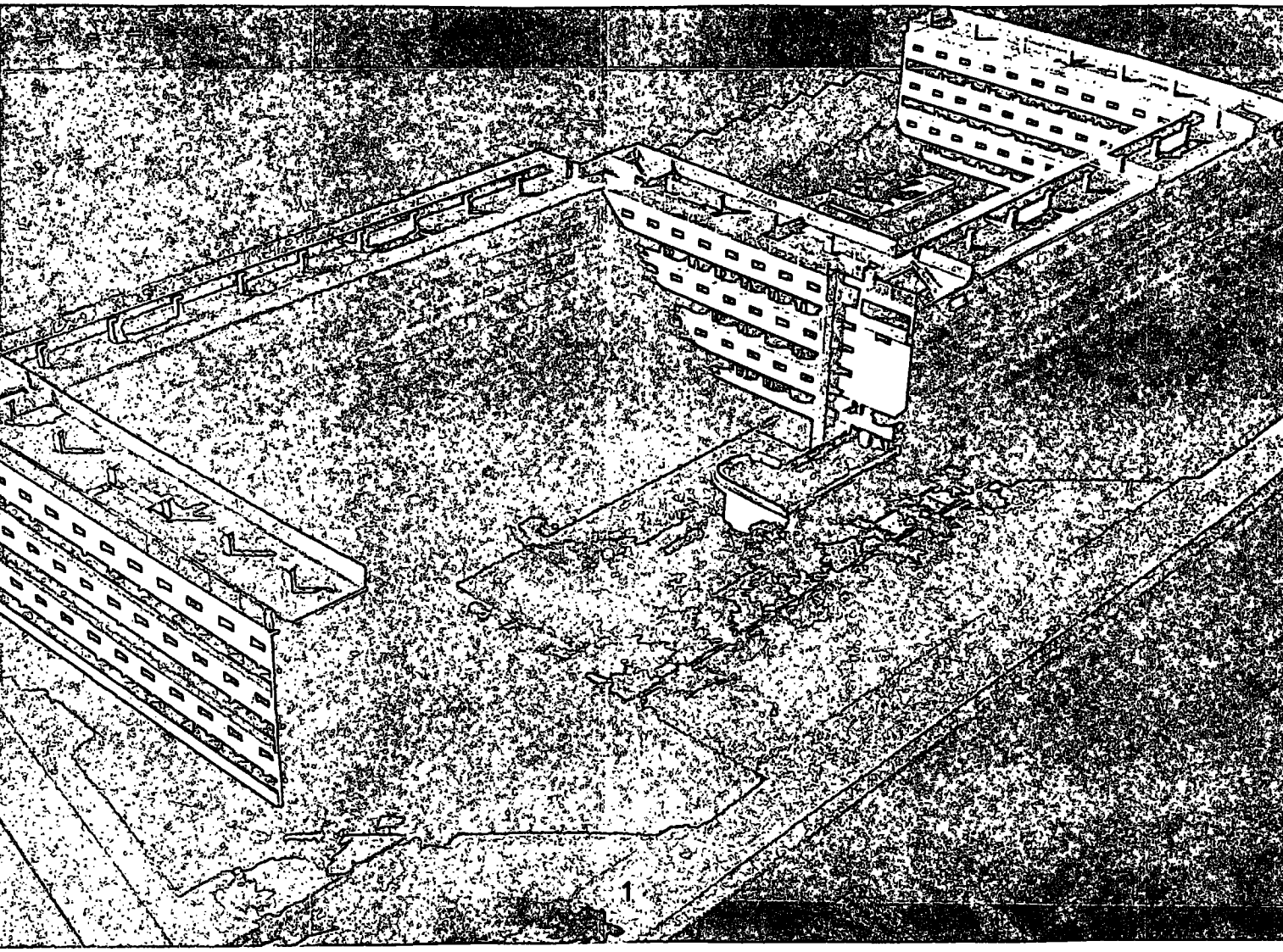


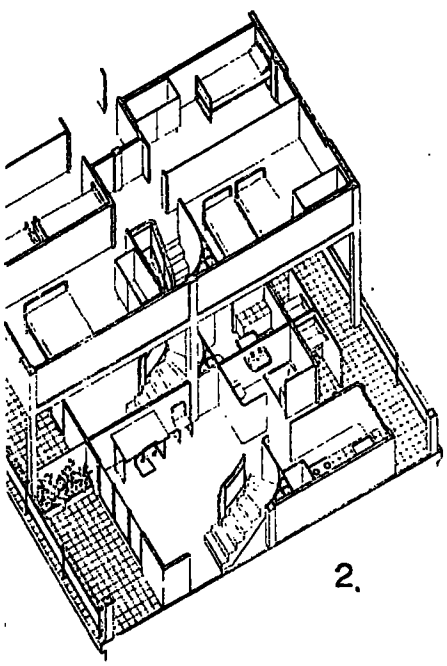
4. The Front yard of one of the houses built in the 1930's in Avenida de Torres y Bages in San Andres de Palomar. All have since been destroyed or mutilated beyond recognition.

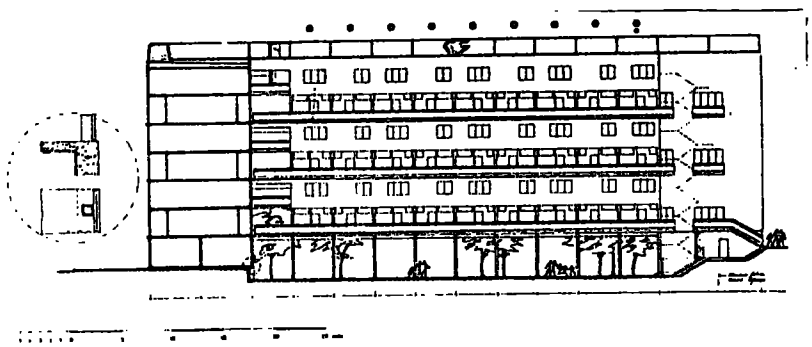
FIGURE 125 - 'VIVIENDAS OBRERAS' BUILT BY THE 'COMISARIADO DE LA CASA OBRERA', ORGAN OF THE 'GENERALITAT DE CATALUNYA'

(design by GATCPAC)

Source:- (120)







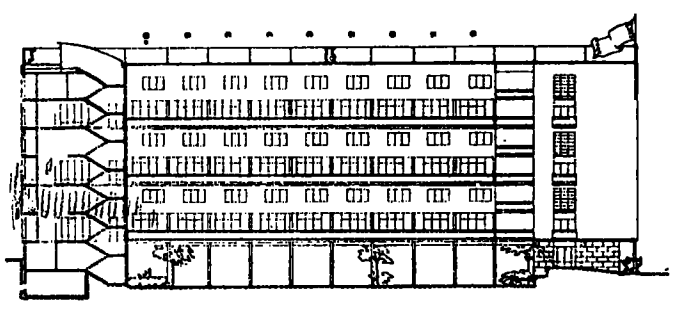


FIGURE 126 - THE 'CASA BLOC'- Built in Avenida de Torres y Bages 1934-36 as part of the new 'Barrio del Besos', but later mutilated, with construction on green spaces.

1. The model complex of 207 houses in a plot of 1 hectare including schools, libraries, nurseries, playgrounds, clubs etc.
2. The distribution of rooms.
3. The central section, joining the two 'L' shaped sections. The ground floor was open space, permitting pedestrian movement. Above, 3 floors of 2 storey houses.

Source:- (120)

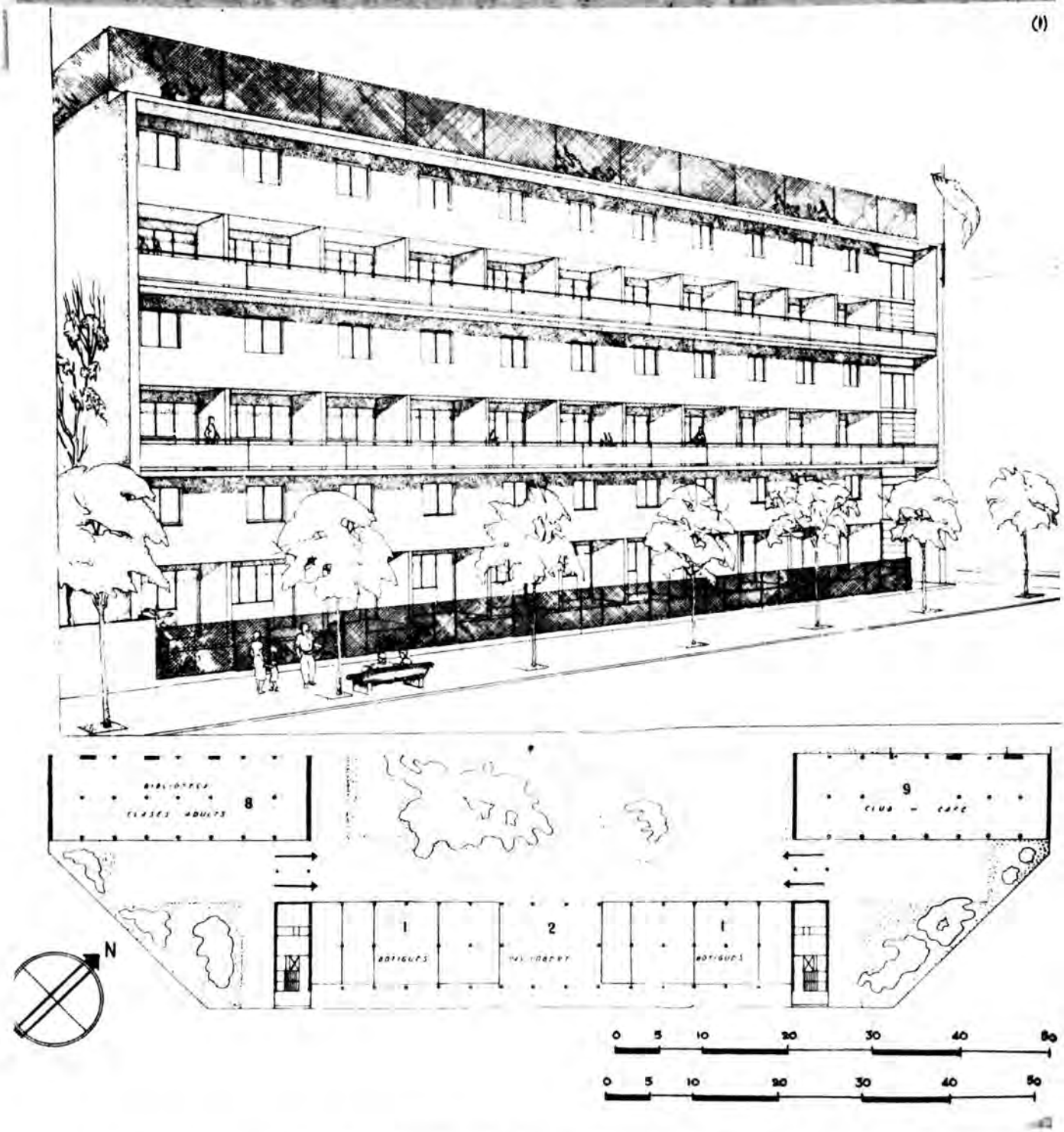


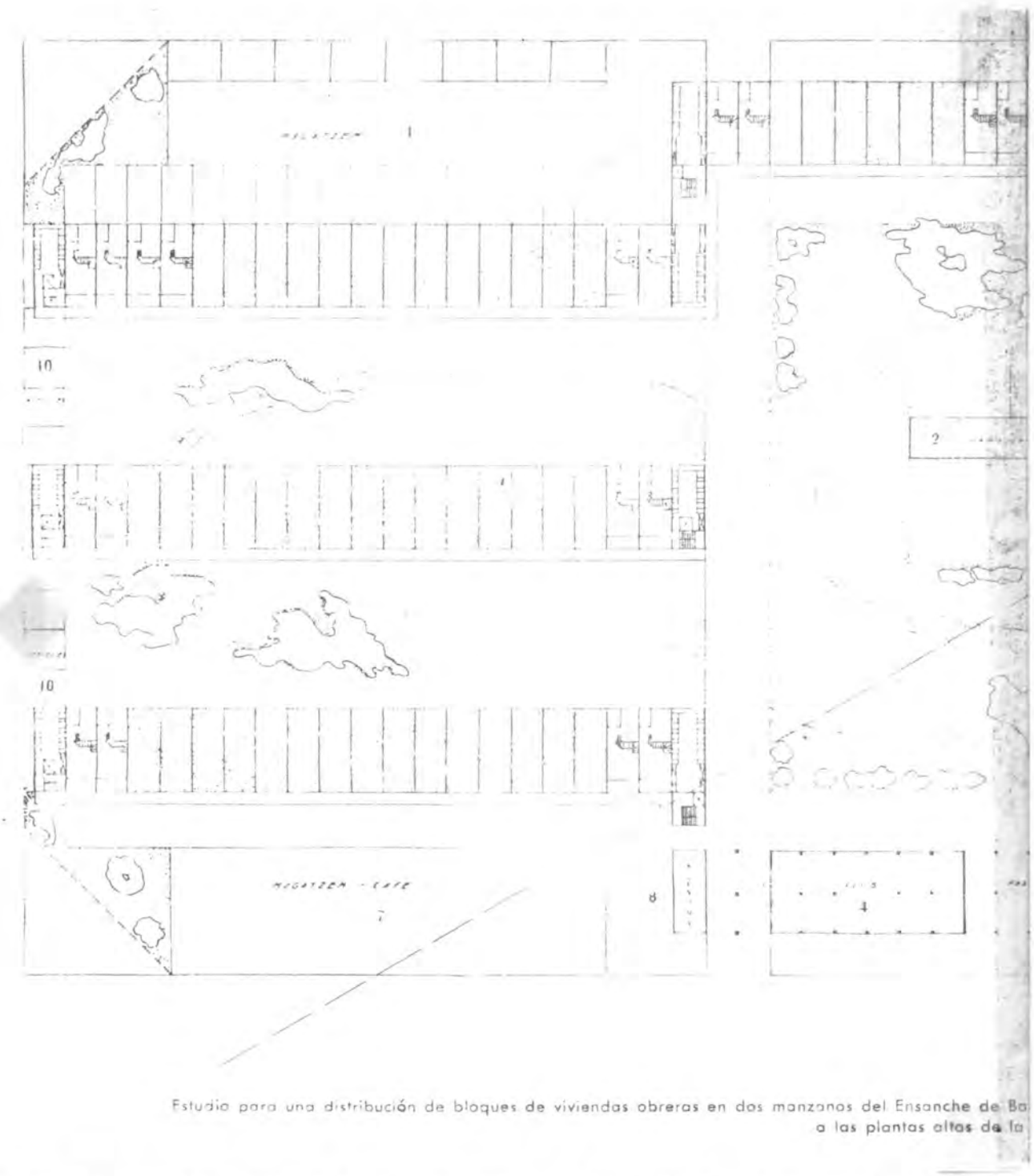
FIGURE 127 - NEW DISTRIBUTION OF HOUSING WITHIN THE 'MANZANA'

Again, 3 floors of 2-storey houses as in the 'Casa Bloc' (i). However, the ground floor (ii) was to be used for a variety of services:-

1. Shops 2. Covered Underpass 3. Department Stores 4. Gymnasium 5. Public Baths 6. Swimming pool 7. Nursery 8. Library and adult education facilities 9. Cafe- Club

These ground floor buildings covered a larger area than the housing blocks (iii); with the ground floor largely not used for housing, the large spaces in the interiorof the 'manzana' empty and the space given over to roads, the estimated population density of such 'manzana' development was relatively low - 216 inhabitants per hectare (c.f 'Casa Bloc' with 1,140 inhabitants per hectare and the actual population density in the 'ensanche' in 1932 being 300-400 inhabitants per hectare in the central section and 50-100 inhabitants per hectare in the outskirts of 'ensanche').

Source:- (120)



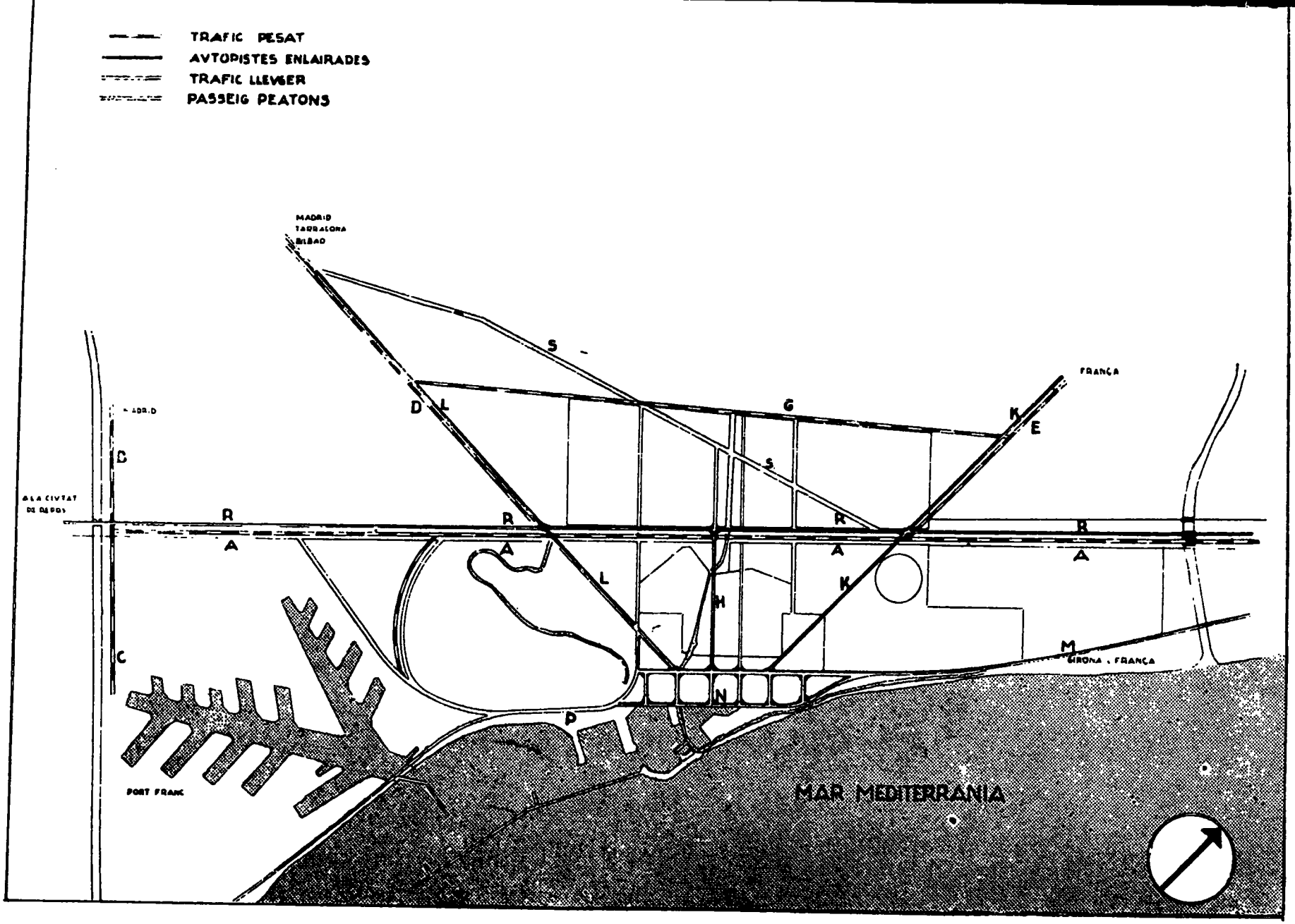
Estudio para una distribución de bloques de viviendas obreras en dos manzanos del Ensanche de Ba
a las plantas altas de la

FIGURE 128 - DISTRIBUTION OF HOUSING WITHIN 2 'MANZANAS' AS SUGGESTED BY GATCPAC IN 1934

Again services distributed throughout the area:-

1. Department Stores
2. Nursery
3. Swimming pool
4. Club
5. Library
6. Covered Pass
7. Cafe/Store
8. Caretaker's lodge
9. Covered Pass
10. Shops

Source:- (120)



Pla Macià: «Esquema III. Transportes, Automóviles, Camionaje.»

FIGURE 129 - PLAN MACIA SCHEME 3

Source:- (92)

resultant population density was 400 inhabitants per hectare.

In the 'Barrio del Besos' the Generalitat had already built some 'viviendas obreras' (workers' houses) in the early thirties. These houses (Figure 125), in Avenida de Torres y Bages, consisted of 2 floors and a small garden with a similar room distribution to the houses already described (kitchen, living-room, 3 bedrooms, lavatory and shower). In the Plan Macia, however, a far more ambitious project was planned. Three floors of two-storey houses, similar to those described (giving a block of 6 floors), were to be part of a 'complex' much larger than in the 'Barrio del Puerto Franco', which included co-operatives, libraries, nurseries, swimming pools, recreational areas, schools etc. The houses contained no central 'patio', all rooms being in contact with the outside walls. This settlement unit, known as the 'Casa Bloc', would house an estimated 1,140 inhabitants per hectare (Figure 126).

Apart from the new areas of housing, the 'ensanche' was also to be changed, bit by bit, to the new lay-out, although 'monuments representative of the 19th century' were to be preserved. The changeover was necessary because the incidence of crossroads was far too high - only one per three of Cerda's roads was to be preserved. Realizing, however, that this changeover would take time, GATCPAC also made provision for a new distribution of housing within the 'manzana' (similar in house design and service distribution to the 'Casa Bloc', although resulting in a far lower population density), and within two 'manzanas' joined together (Figures 127 and 128).

Scheme 3 - Car and Lorry Transport

The diagram (Figure 129) is self explanatory. The roadways are interesting in that a classification of roads was planned, there being a difference between light (llevger) and heavy (pesat) trafficways, apart from motorways and pedestrian passages (e.g. Montjuich, the Ramblas, and along Barceloneta). The Gran Via is recognised as the main through road, whilst Traversera de Gracia (G), the old Roman Road, is seen as the main roadway to the top of the city, leaving Diagonal as an internal road, rather than a main road into the city, which it was then and is today.

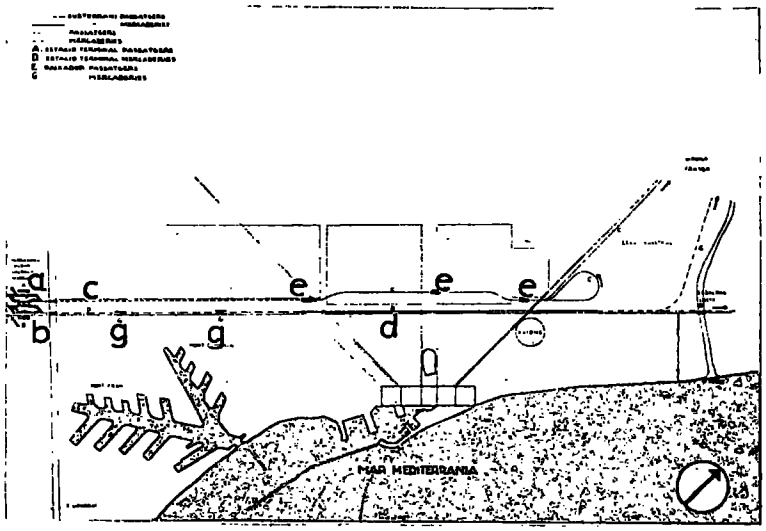


FIGURE 130a PLAN MACIA

SCHEME 4

RAILWAYS.

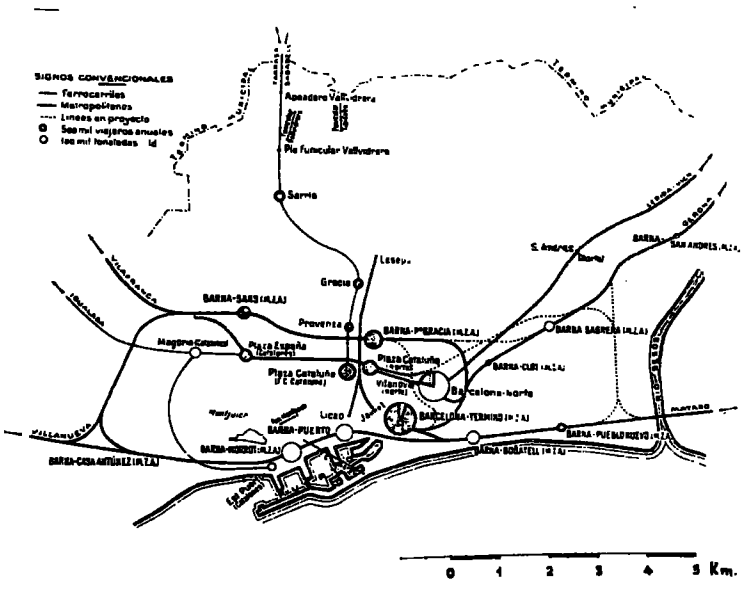


FIGURE 130b

ACTUAL RAILWAY LINES 1934

Estado actual de las lineas ferroviarias

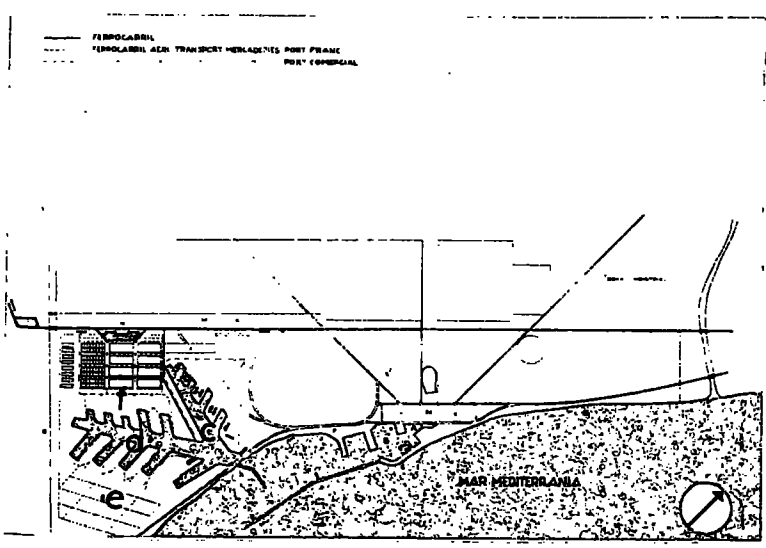
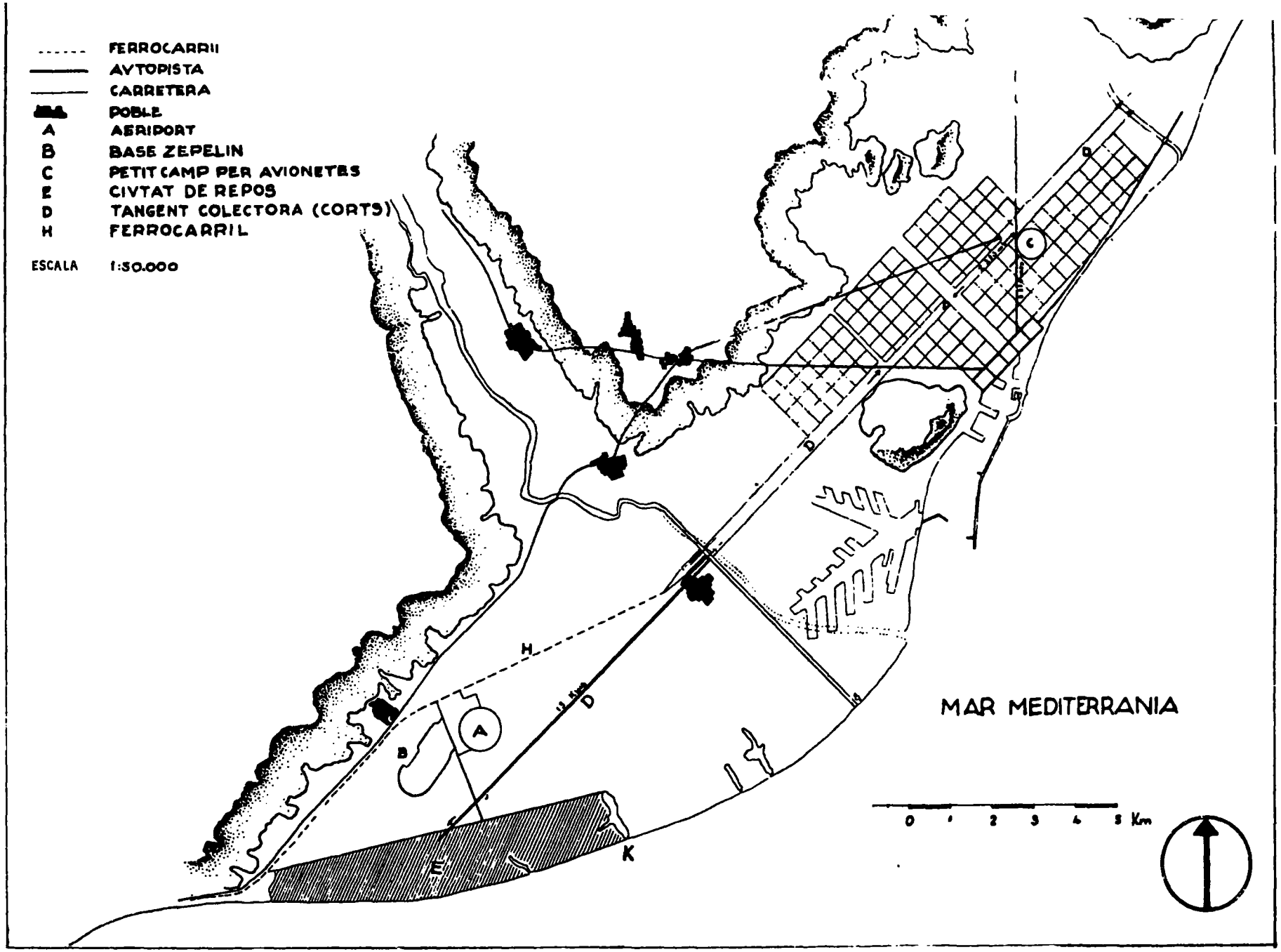


FIGURE 130c PLAN MACIA

SCHEME 5

'MARITIME TRANSPORT'

Source:- (114)



Pla Macià: «Esquema VI: Aviación y zona de reposo.»

FIGURE 131 - PLAN MACIA SCHEME 6 - AVIATION AND ZONE OF REPOSE Source:-(92)

Scheme 4 - Railways

Again a differentiation, this time between passengers and cargo. The main passenger station (a on Figure 130a) was located outside the city beyond the Llobregat, linked to the city by Line c, joining three 'server' stations (e). Similarly, the main cargo station (b) was next to the passenger station by the Llobregat with 'server' stations (g) joined by line d (see Figure 130a). Line c was planned to run along the cutting (dating from Cerda's time) in Calle Aragon, which was to be covered over.

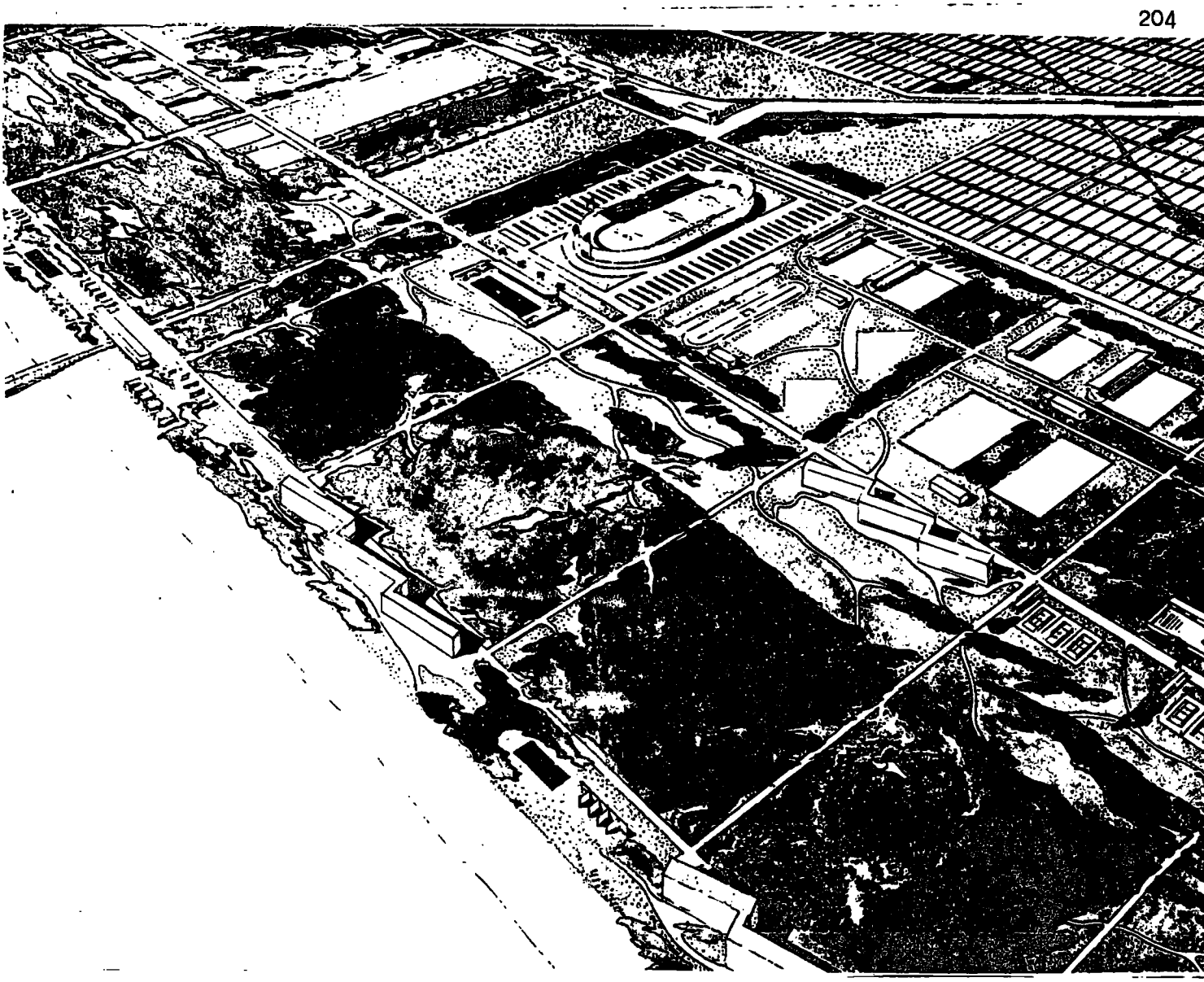
Scheme 5 - Maritime Transport

This really concerned the connection between sea and land transport, rather than sea transport itself. The focus of activity is around the Puerto Franco (d on Figure 130c) and the new commercial port (c), the former dividing the zone of heavy industry (e) from the manufacturing industry (f). The road and rail links are shown on Figures 129 and 130a (schemes 3 and 4 respectively) Transport of merchandise and products between boat and factory and between factory and railway line was to be by aerial cable car (the dotted and broken lines on Figure 130c).

Scheme 6 - Aviation and Zone of Repose

The map (Figure 131) is self explanatory, showing the relationship between the city, the zone of repose (E) and the Llobregat valley (note the canalisation of the Llobregat). Near the zone of repose and the extension of Gran Via (D) were located the airport (A) and Zeppelin Landing Ground (B), whilst a light-plane airfield (C) was situated in the city near Plaza de las Glorias.

In the zone of repose, a 'city of repose and vacations'was to be built. The idea was to create an area of relaxation for week-end visits and holidaying, by the working-classes, to be built and run on a co-operative basis and free from all speculative tendencies. The area was divided (Figure 132) into a bathing zone (A) , a week-end zone (B), a residential zone (C) and a zone of convalescence (D) and a cultivation zone was also projected. Although not realized as planned, Castelldefels has to some extent become a week-end resort for Barcelonans, although its development has certainly not been "free from speculative tendencies", as GATCPAC intended.



Ciudad de reposo de Barcelona. — Gráfico explicativo.

1. Sanatorios.
2. Clínica de urgencia.
3. Administración y habitaciones.
4. Carretera a F. C. Castelldefels.
5. Zona de aparcamiento.
6. Servicios de caseta de baño.
7. Restaurants.
8. Campos de deportes tenis, fútbol, hockey.
9. Parque de atracciones.
10. Garage autobuses.
11. Estación tranvía eléctrico.
12. Piscina pública.
13. Casas de reposo.
14. Servicios técnicos y administrativos.
15. Embarcadero.
16. Autopista calle Cortes Catalanas.
17. Estadio.
18. Piscina para campeonatos.
19. Hoteles con cabinas de motores.
20. Campos de atletismo.
21. Campos de deportes para profesionales.
22. Pelota vasca.
23. Hoteles de residencia.
24. Departamentos con servicios en comun.
25. Casas Standard para alquilar.
26. Huertos para alquilar.
27. Ferrocarril actual.
28. Carretera actual.
29. Carretera de trafico pesado.

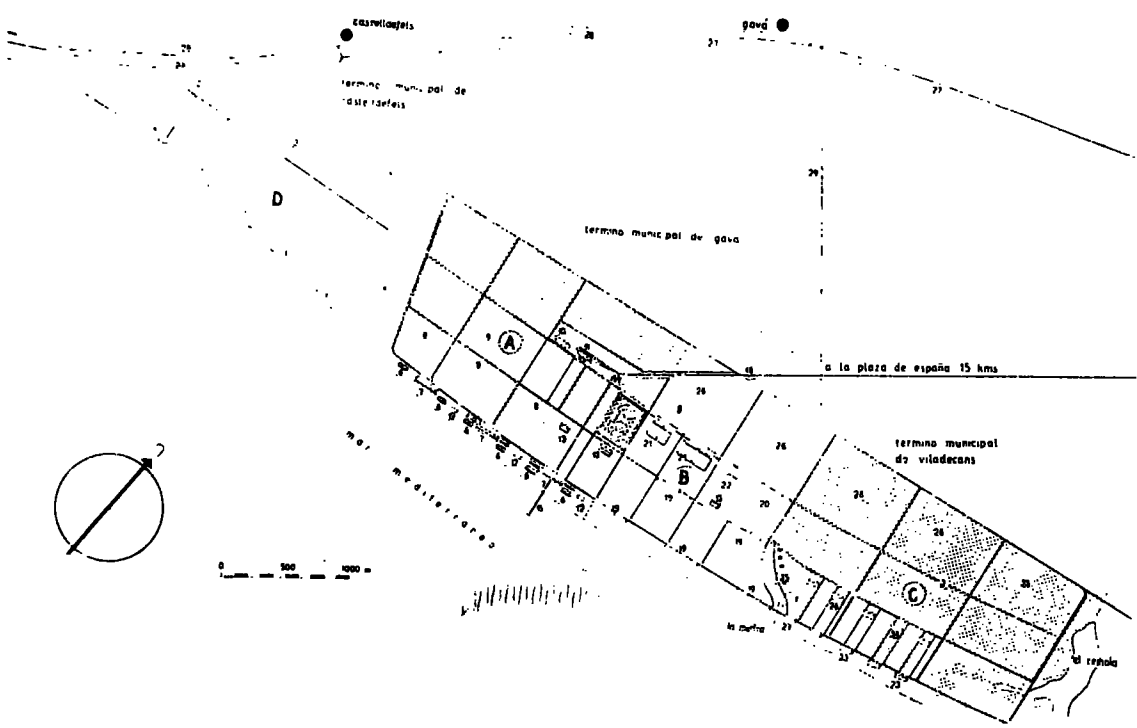


FIGURE 132 - THE CITY OF REPOSE AND VACATIONS (PLAN MACIA) Source (114)
"This urbanization does not mean the destruction of the countryside. It is a conservation of its natural advantages." Above - aerial view. Below - distribution of zones - A - Swimming zone. B - Weekend zone C - Residential zone D - Zone for Convalescence (those in need of peace and quiet and those suffering from mental strain).

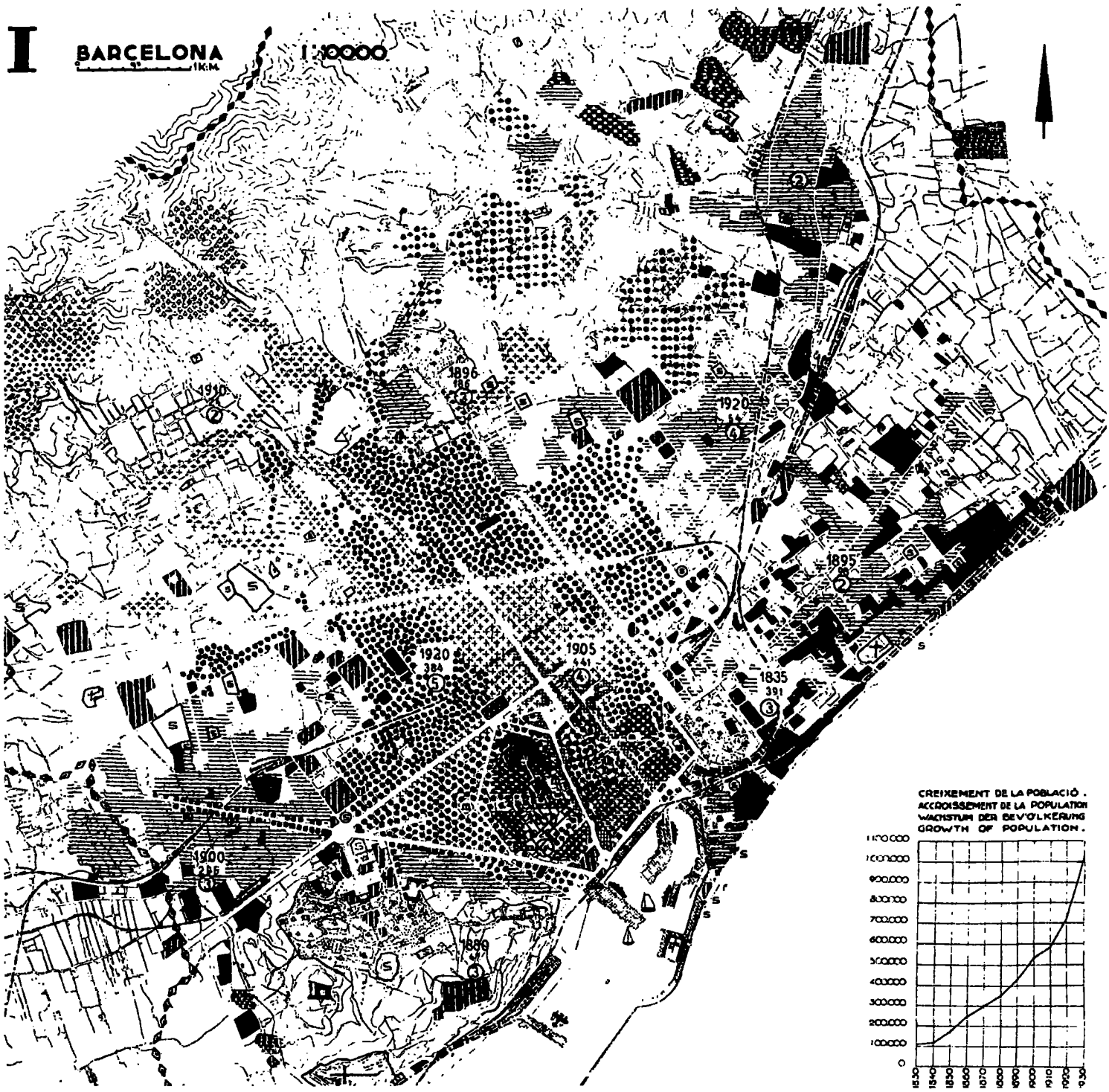


FIGURE 133 - CLASSIFICATION OF CITY INTO FUNCTIONAL ZONES 1932 Source:- (122)

(See Page 206)

Figure 133 not only shows a classification of housing but also gives an approximate average date of construction for some areas, average number of floors in the buildings (the circled number) and population density (which is clearer on Figure 135). The'viviendas antihigienicas' (unhygienic housing) are in either the old city or on the outskirts, where they were known as 'barracas' (slums or ghettos - better seen on Figure 134). Industry is almost entirely amongst the working-class housing areas ('viviendas obreras') forming the 'mixed zones' of Sants to the left and San Martin (Clot, Sagrera, Pueblo Nuevo) and San Andres to the right. To the top of the city, in the foothills of Tibidabo, the 'city-garden' luxury residences.

1 Unhygienic housing
2 Workers' housing
3 Working-class city garden
4 Middle-class housing
5 Middle-class city garden
6 Luxury residences
7 The 'city'
8 Industry
9 Public services
10 Markets
11 Port area and storage warehouses
12 Oil storage and refinery
13 Timber yard
14 Shipping lines
15 Wood
16 Park
17 Workers' allotments
18 Sports grounds
19 Open-air bathing facilities
20 Nautical sports
21 Yacht port
22 Zoological garden
23 Cemetery
24 Railway
25 Railway area
26 Year of construction
27 Number of houses per hectare
28 Number of floors
29 Municipal boundary
30 Luxury city garden
31 Wheat
32 Wine production

4. ..... AND WHAT HAPPENED: BARCELONA IN THE 1930'S

Very little of the Plan Macia was carried out. Some houses, designed by GATCPAC,were built in San Andres as planned (the 'Casa Bloc') and the 'city of repose and vacations' project was started. But as a whole, the Plan Macia had no lasting effect on the urban situation in Barcelona.

Looking at the aerial photographs taken in the late 1920's (photos 61-67), the city is seen as three different zones - the old city, the 'ensanche' and the peripheral villages. Similarly, GATCPAC's classification of the city into zones (Figure 133) reveals the same differences, the old city - some middle-class houses, but the houses are largely classified as unhygienic by GATCPAC - containing the 'centres of infection' they strove to get rid of (Figure 134). The average population density in the infamous 'Distrito 5' was 1,023 inhabitants per hectare (see Figure 135) in 1932, with a maximum density of 1,604 inhabitants per hectare, (c.f Paris maximum of 850 in 1932), whilst the mortality rate in some [1] of the streets was as high as 20% per year. Both population density

[1] "In the streets of Amalia, Arco de Teatro, Berenguer, Cadena, Carretas, Cera, Cid and Conde de Asalto, there exist dwellings with a 20% annual mortality rate." From a public lecture by Dr. Aguade, mayor of Barcelona.Quoted in AC 6 1932 (123)

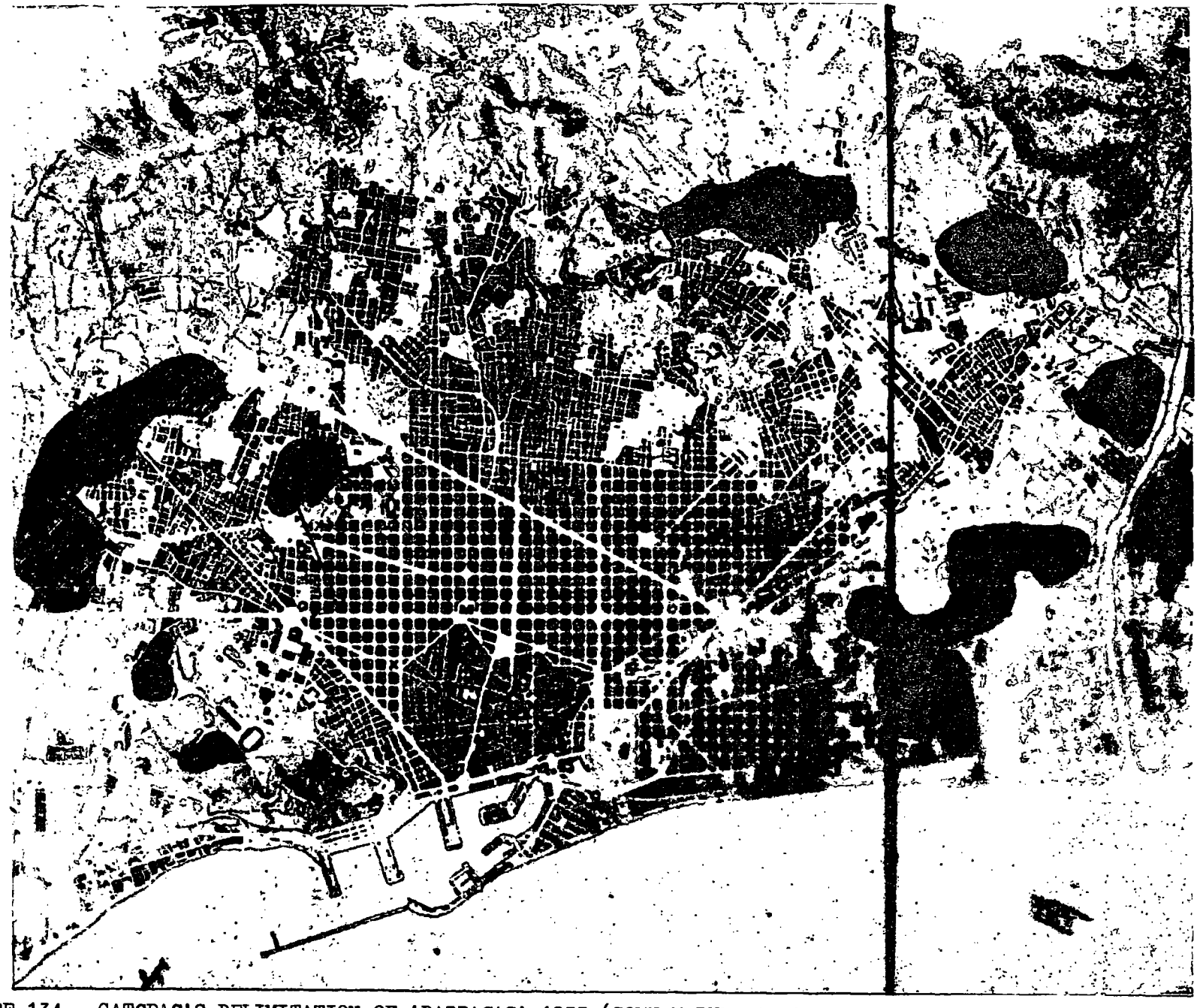


FIGURE 134 - GATCPAC'S DELIMITATION OF 'BARRACAS' 1933 (SOME MARKED AS 'VIVIENDAS ANTIHIGIENICAS' ON FIGURE 133)

Source:- (92)

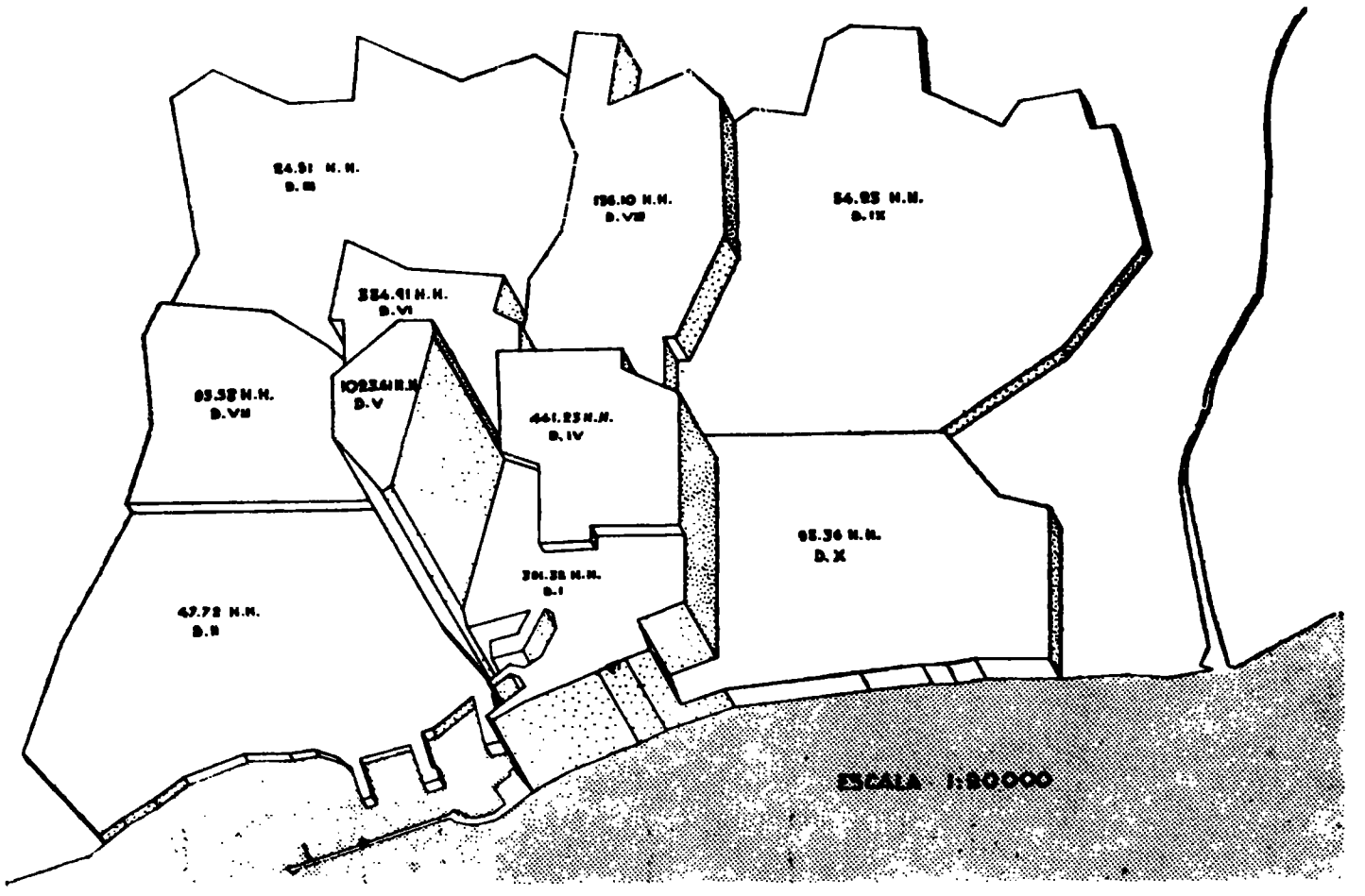


FIGURE 135 - POPULATION DENSITY 1932 Source (92)
(Habitants per Hectare)

and mortality figures were the highest among the 31 cities studied at the 1932 C.I.R.P.A.C. conference.

Above the old city, the central section of the 'ensanche' consisted almost entirely of luxury (lujo) or middle-class housing. GATCPAC wrote :-

> "All that was meant for the installation of services or for buildings of a collective character has been eliminated. If Cerda's project had been respected, the location of schools, today a problem, would be satisfactory. Public parks and gardens have also been eliminated ... the excessively near streets (result in) ... a dangerous crossing every 100 yards." (114)

This zone extended upwards beyond Diagonal, the 'upper Barcelona' where middle-class 'city-garden' residences continued to be built in the 1930's. (see note 1 on Page 184).

To the right and left of this central section of the 'ensanche' were the 'pueblos agregados', the ring of peripheral villages officially incorporated into the city between 1897 and 1904. It was in these areas that the so-called 'mixed zones' existed, a mixture of working-class housing and industry, which had grown without control in these areas since Cerda's time, and were more often

than not located near the railway lines (see Figure 133). It was these often poorly communicated 'barrios' that the Plan Jaussely and its successor, the 'Plan de Enlaces' of 1917, had sought to link, with each other and with the city.

In the twenties, however, a new term came to the fore in the outlying suburbs, a term that had been used two centuries before to describe the wooden huts built on the sands of Barceloneta following the destruction of the 'barrio de la Ribera' - the 'barracas' or self-constructed slums that have been the subject of much attention ever since, but nevertheless continue to plague certain parts of the city. The extent of these dwellings, often illegally constructed, is shown in Figure 134. They were the result of a housing shortage that became even worse in the fourties and fifties and that will be examined in more detail later. The flow of immigrants into the city averaged about 5,000 per year from 1925 to 1929, following an exceptional year in 1924, when the overall gain of migrants was 82,713. In the years 1930,1934, 1935 and 1937 the figure was higher than 10,000 and in 1938 it was 25,000,[1] taking the population of the city from 1 million in 1931 to 1.1 million in 1939. It was almost entirely these immigrant families who were housed in these poorly communicated, largely insanitary dwellings, that lacked even basic necessities, such as running water and lavatories.

Not only did the housing shortage affect the poor, Figure 136 shows the commuters, who for one reason or another chose to live outside the city, but work within it, coming from as far away as Manresa and Tarragona. The Figure also shows the sprawling growth of Barcelona on a regional scale, industry stretching out along the lines of communication, part of an anarchical situation that was ignored or encouraged by the politicians in power in the 1940's, but which brought the city to the verge of collapse.

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[1] It is interesting to note that in 1940, following the civil war, Barcelona experienced a net migratory loss of 9,500, the only year in which there has been a net loss this century.

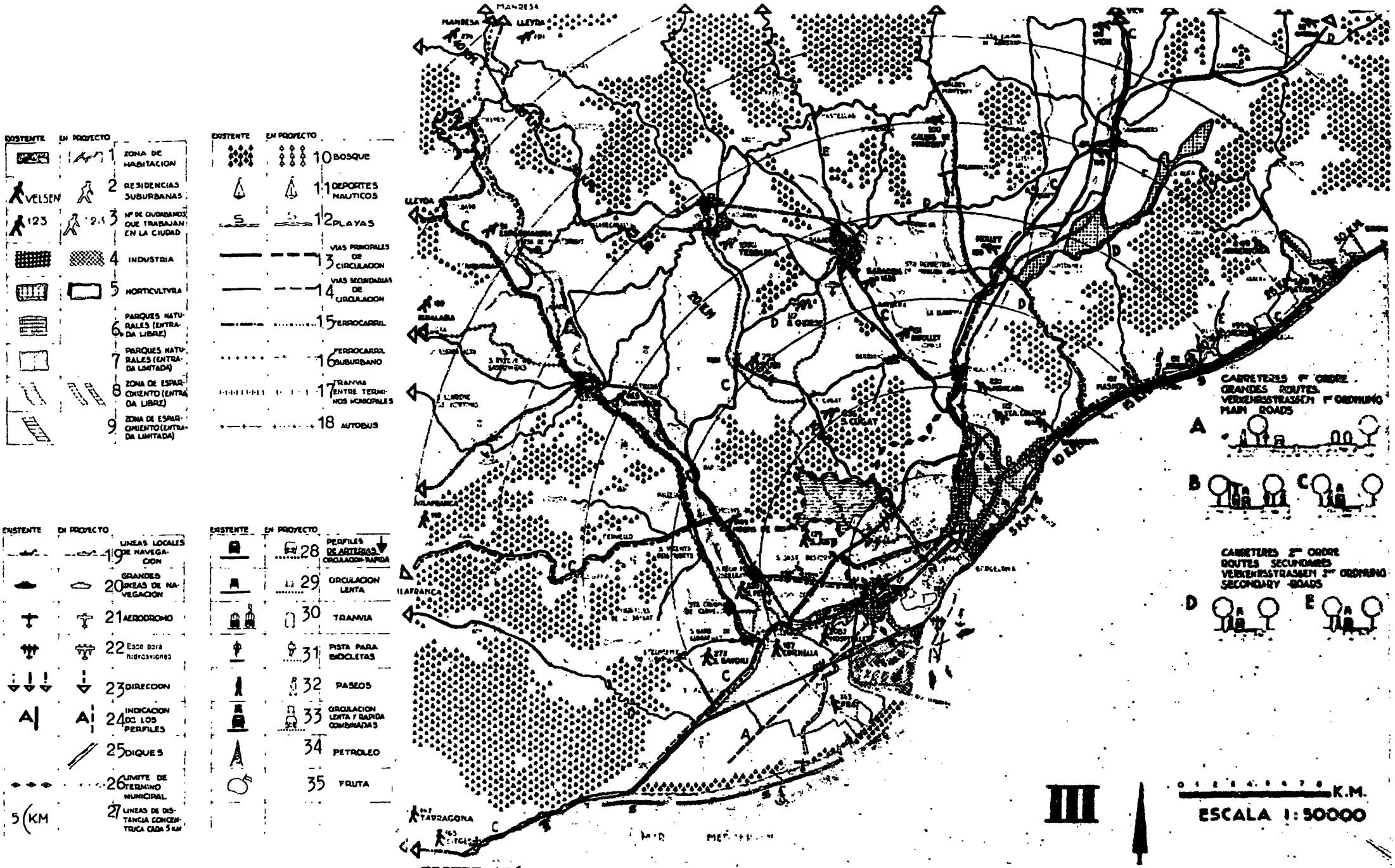


FIGURE 136 - BARCELONA - ZONE OF INFLUENCE 1933 Source (92) Originally in (122)

Note the commuters (No. de Ciudadanos que trabajan en la Ciudad) and spread of industry along lines of communication.

(see Page 211)

KEY TO FIGURE 136

1 Residential zone
2 Residential suburbs
3 Commuters
4 Industry
5 Horticulture
6 Natural parks (entrance free)
7 Natural parks (limited admittance)
8 Recreational areas (entrance free)
9 Recreational areas (limited admission)
10 Wood
11 Nautical sports
12 Beaches
13 Principal Roads
14 Secondary Roads
15 Railway
16 Suburban railway
17 Tramway between municipal termini.
18 Buses
19 Local shipping lines
20 Large shipping lines
21 Aerodrome
22 Base for hydroplanes
23 Direction
24 Indication of category of roads
25 Jetties
26 Boundary of Municipality
27 Concentric distance lines every 5 km.
28 Main Roads
29 Slow traffic
30 Tramway
31 Bicycle track
32 Pedestrians
33 Fast and slow traffic
34 Oil
35 Fruit

CHAPTER 5

THE POSTWAR (1940-76)

This section of the thesis, although covering only 36 years, is longer, in terms of words written, than any of the previous sections. This reflects three main factors that make this era distinct from any of those previously discussed.

(1) As the city has grown, so the sphere of urban planning has widened. Not only have there been plans for the municipalities of the area, but there have been 'Comarcal' (city region) plans, a plan for the Metropolitan Area and a Provincial Plan, as well as state development plans.

(2) This era has seen the emergence of a housing policy directed by both central and local authorities. Although, depending on one's own definition, this may not be planning (a point referred to in the concluding section), it has been a very real factor in the moulding of the urban morphology of the city since the war and is therefore discussed at some length here.

(3) Many of these plans and policies have been aimed at shaping, ordering or manipulating situations and processes that can be seen today in the city and so more detailed examples are available than, for example, there are in discussing the expansion of the city following the Plan Cerda over a century ago. Equally, this link with the present brings the future that much nearer to the discussion at hand.

PART A HOUSING (1)

BARCELONA IN THE IMMEDIATE POST-WAR: THE HOUSING SHORTAGE

The beginning of the post-war era in 1940 is an obvious boundary in the urban history of Barcelona, but it is more difficult to see any similar division in the years since then (although, with hindsight, 1975 may prove of equal importance). From the economist's viewpoint, the first post-war decade can be seen as a period of depression, when Spain was largely cut off from world trade and events, followed by a fragile reactivation and recommencement of international trading in the 50's, with production and consumption figures reaching pre-war levels by the end of the 50's. During this period there was very little effective urban planning in Cataluna; rather it is a period of housing - housing shortages, auto-constructed 'barracas' and housing policies, largely unproductive in the 40's, but with more direct results in the 50's and thereafter. It is this first decade - the 40's - known as the 'fase autarquia' that is discussed here.

1. BARCELONA AND THE 'POLITICA URBANA' OF THE TIME

The Civil War resulted in a cultural rupture between Madrid and Barcelona in some ways comparable with that of 1714. [1] The Barcelona of the 1940's was

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[1] 1714 - when the Bourbons won the Spanish War of Succession and Felipe V, from Madrid, began a period of repression when the will of the central government was imposed on Cataluna (see Chapter 1).

noticeably different from that of the 'Generalitat' in the early 30's (Figures 137 and 138). Many of the street and 'plaza' names were changed; GATCPAC had been dissolved and outlawed; the effervescent Barcelona of projects and urban transformations, popular participation and democratic citizen politics, was a thing of the past. Urbanisation left the public scene and little attention was given to the urban growth of the city.

With the end of the Civil War, the new State took certain rigid options [1] to guide the development of the country. Priority was given to the reconstruction of 'zonas devastadas' which, in the main, included only those areas that had supported Franco in the war - the 'nacionales', that is, Madrid and many of the rural southern areas - and excluded Cataluna. Yet Barcelona needed state aid as much as anywhere else. At the end of the war, there was an estimated [2] shortage of 20,000 houses, including 1,808 destroyed in the war. This situation, partly the result of migration to the city during the war, was made worse by the arrival of more than 100,000 immigrants in the 40's. Urgent action was needed, but in an age of public powerlessness, the response was inadequate. The housing problem was left to 'solve itslef', which it did, after a fashion, by creating large areas of 'barracas' in and around the city and only 2,000 houses were built in the 'years of hunger', 1940-45, and only 15,000 in the whole of the decade (see Table 22).

Centralist policy regarding Barcelona was largely concerned with its potential as a production centre and economic policy, in general, aimed at increasing, as best it could, short-term production by means of a maintenance and reinforcement of established industrial plants and a weak but steady growth in services. Public order and political control were seen as all important, to be achieved by whatever means necessary. An anti-urban ideology was preached by certain state or state-controlled institutions, e.g. the Church, the Press, schools etc, in which the city

---

[1] The certain rigid options taken by the Government after the war included:-
a. Reconstruction of 'zonas devastadas'.
b. Infrastructural development of production e.g. dams, railways, (RENFE)
c. Protection of industry; encouragement of investment. Investment by the state in non-viable sectors.
d. The strengthening of state machinery.
e. Agrarian reform and protection of agriculture (Servicio Nacional del Trigo (wheat), agricultural reform plans of Jaen and Badajoz)

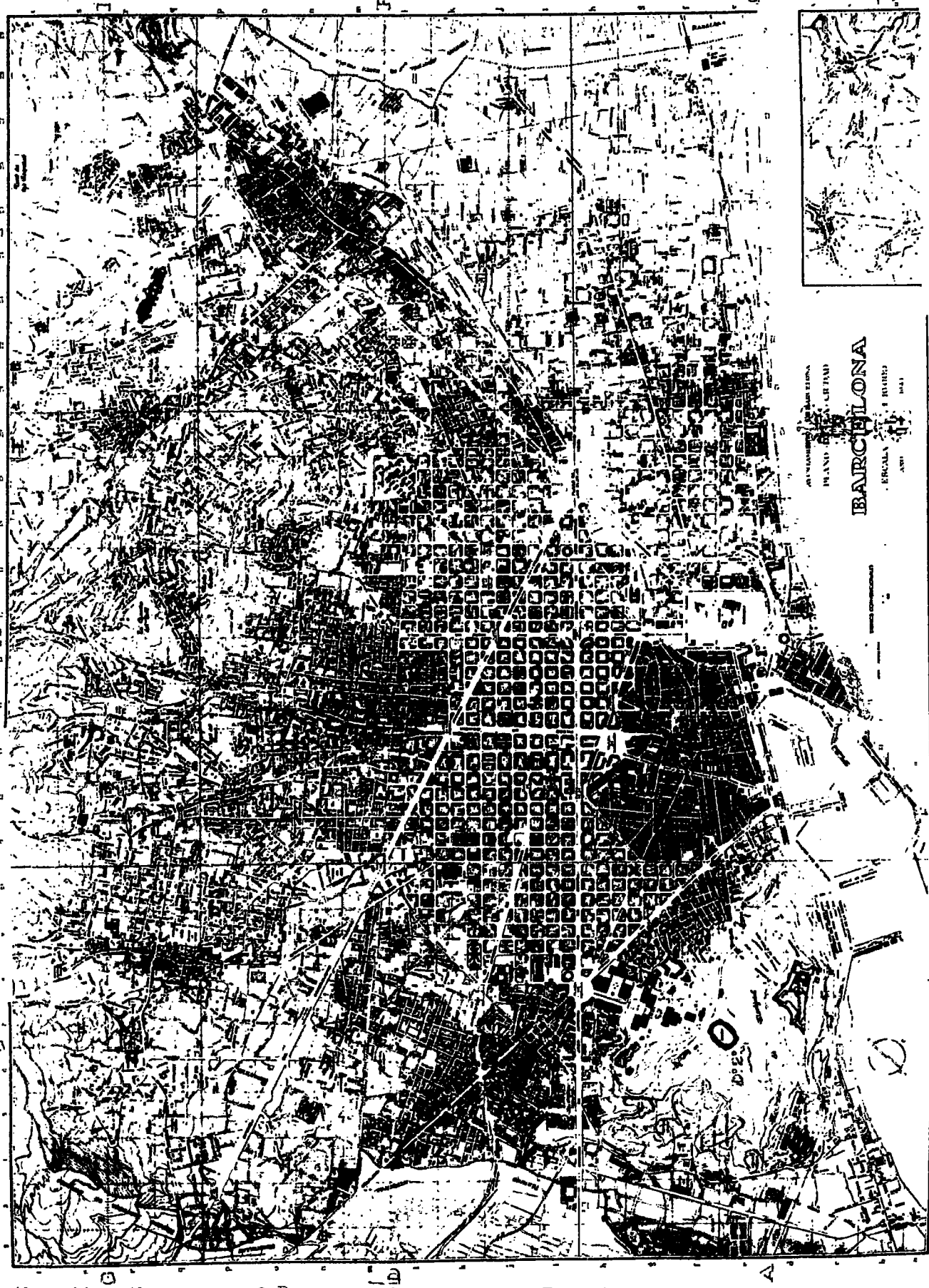
This period is known as the 'fase autarquia' (self-sufficient/isolationist period).

[2] This figure is an estimate quoted in the 'Plan de Urgencia Social' 1958.

FIGURE 137 - BARCELONA 1943

Scale 1:10,000

The municipality of Barcelona received over 100,000 immigrants in the period 1940-50. In 1943 some empty spaces remained, notably in Pueblo Nuevo, on the banks of the Besos, and to the left of Meridiana, near Horta. In the 40's, however, these areas were not the scene of any permanent constructions, but rather of 'barracas'. On the other hand, to the top of

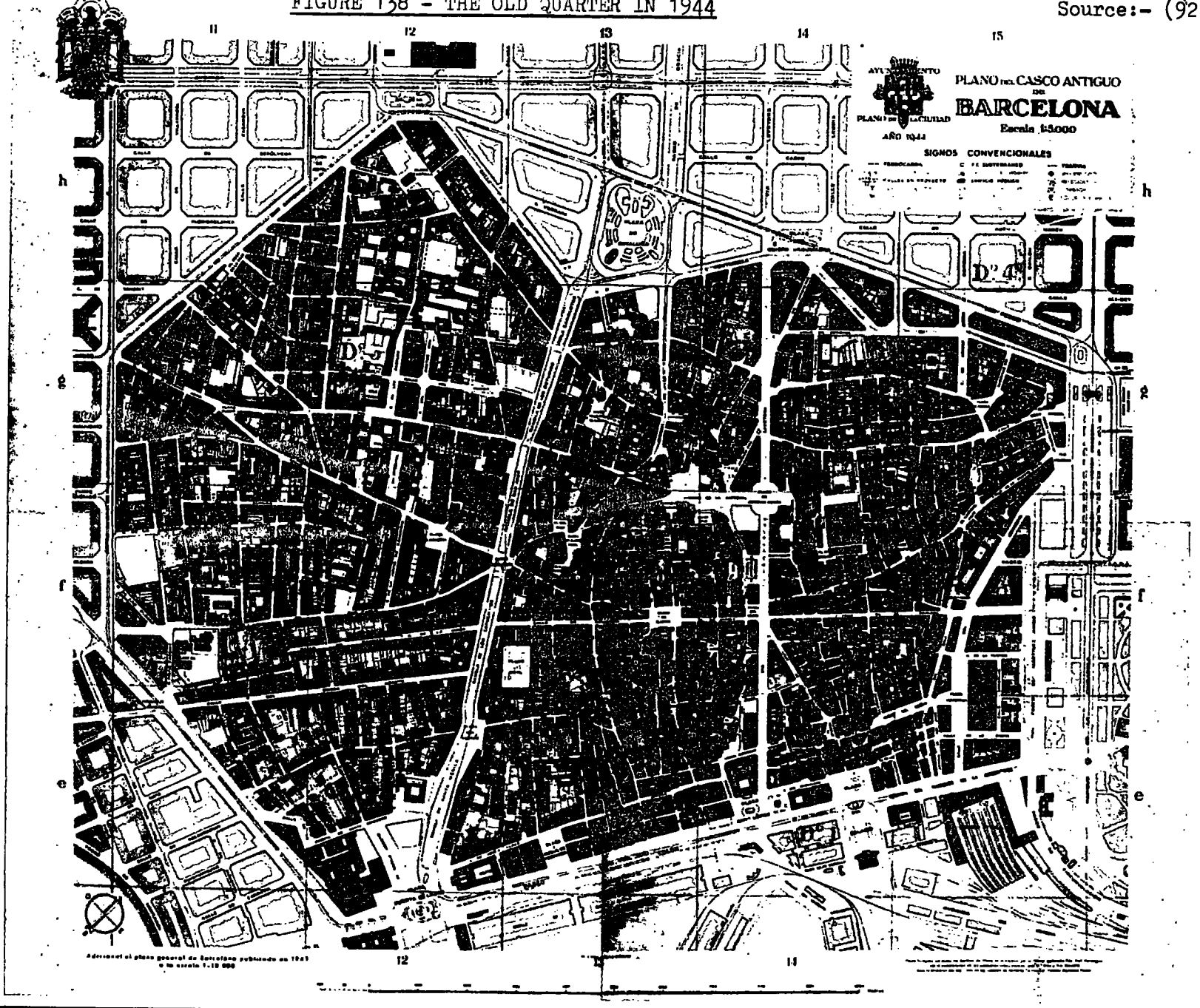


the city, the areas of Bonanova, Muntaner and Tres Torres saw some construction of luxury residences in the 40's. To the bottom right, Vallvidrera, part of the municipality of Barcelona, situated to the north-west, behind and to the left of Tibidabo, looking at the map.

Source:- (92)

FIGURE 138 - THE OLD QUARTER IN 1944

Source:- (92)



Showing the opening of a small section of Via C (of Cerda, Baixeras, Darder and Vilaseca) between Via Layetana and the Cathedral. It was not, however, to be extended further towards the Ramblas, although a section of similar length now exists on the other side of Layetana. Avenida de la Catedral, was, in fact, only constructed because destruction caused by the Civil War made it convenient to do so.

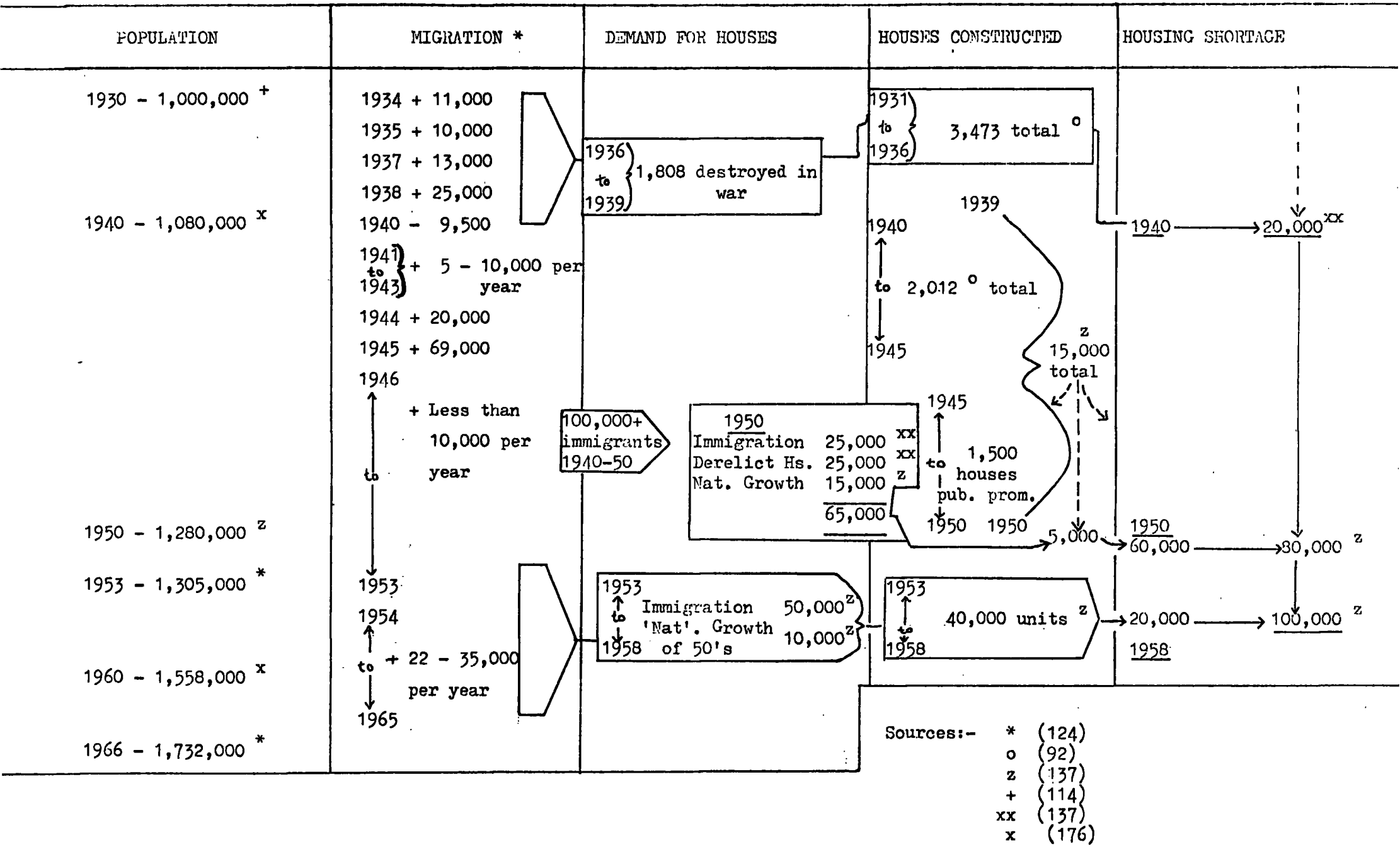
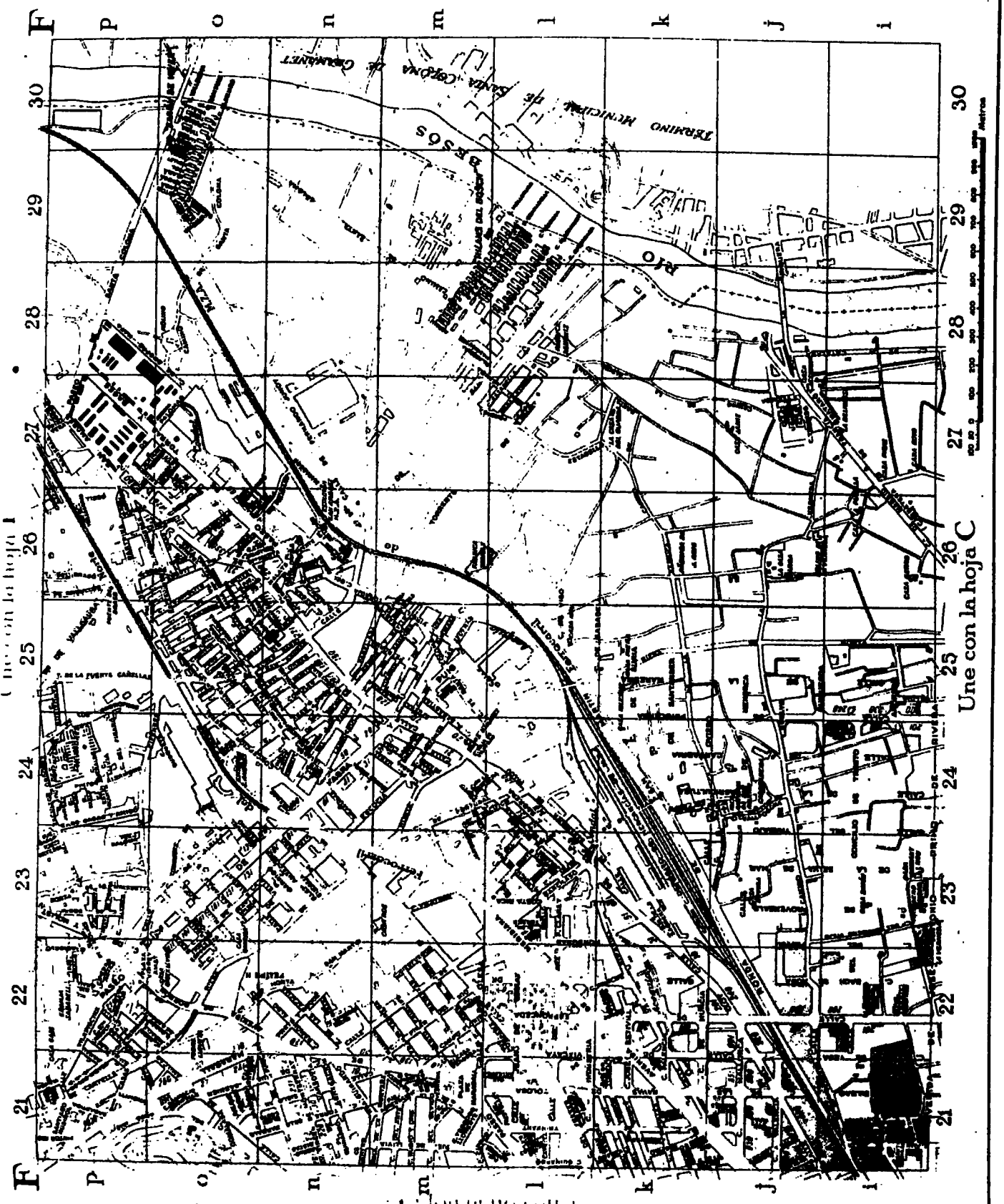


TABLE 22 HOUSING SHORTAGE IN MUNICIPALITY OF BARCELONA 1930-60

FIGURE 139 - 'Barracas' on the Banks of the Besos 1949 Source:-(92)

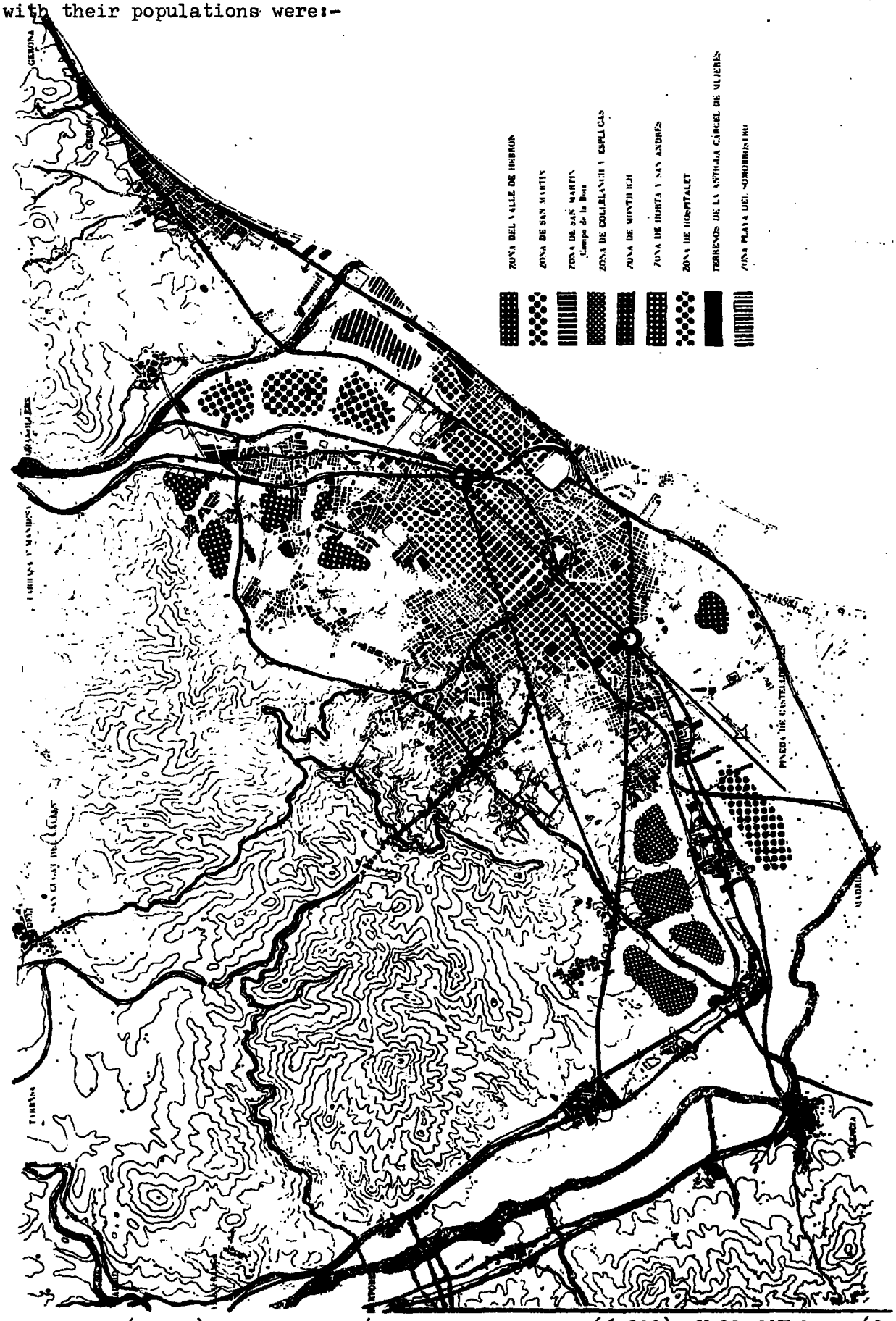
Shows the location of 'barracas' in the San Martin area, situated close to the railway line (as were many such 'settlements') and on the banks of the River Besos. They consist of two main 'settlements' - 'Baron de Viver', to the north, and 'Milans de Bosch' to the south. After 1957, when the C.U.B. started its construction of 'poligonos' (housing estates, 'social' housing) on a large scale, both of these were the site of such



construction, the former maintaining its name, the latter renamed 'Buen Pastor', although some 'barracas' and more 'coreas' - a sturdier form of 'barracas' - remain in these areas.

FIGURE 140 - 'BARRACAS' SURROUNDING THE CITY 1949

Shows the various groups of 'barracas' surrounding the city of which those of San Martin are but one. From material collected by the 'Colegio de Arquitectura de Cataluna y Baleares' in 1949, it was calculated that 26,000 people lived in 'barracas' at that date. The figure had doubled by 1954. In 1949, the most important zones, with their populations were:-



Zonas de barracas en el cinturón de Barcelona.

Montjuich (8,970) Somorrostro/Zone of San Martin (6,900) Vall d'Hebron (2,590) Collblanc - Esplugas (2,300)

It is worth noting that according to the same source, the problem of deteriorated 'cascos urbanos' within the city e.g. Barceloneta, Sants, Pueblo Nuevo, Santa Maria del Mar was even worse . In certain parts of District 5 and District 4 (which covered the old city), population density was more than 1,7000 inhabitants per hectare.

was portrayed as the centre of vice and evil (prostitution, separatism, communism) and the rural base of the country was exalted as being the essence of Spanish life. Castillian became the official language of the country and a man could be arrested for speaking in his native tongue. All this gave rise to periodic and ineffective attempts to limit urban migration, particularly to Barcelona, and above all served to legitimize the abandonment of the city to run its own course. Barcelona grew by 200,000 inhabitants in the first post-war decade, this growth taking place almost entirely within the municipal boundary, whilst the province of Barcelona (see Figure 141) remained more or less stationary demographically. Only a few important centres, like Sabadell and Tarrasa, experienced any significant increase in population.

The 'politica urbana' of the time, then, can be summarised as a policy of abandonment and tolerance. It meant the abandonment of an immigrant population that saturated the city when the need for them was greater than ever before and the tolerance of a chaotic urbanisation, that rapidly saturated the deteriorated old centres within the city - (the 'cascos urbanos' [1]) - and surrounded the city with 'barracas' (see Figures 139 and 140), that were difficult to equip later on. Indeed, a series of problems dating from this era were to provide a grim legacy for future planners - the saturation of 'ensanche', the deterioration of the 'cascos urbanos', the accumulation of a housing deficit and other shortages, the 'barracas' and their symbolic repression, - all led to a consciousness by all (the State, the capitalists, the population at large) that in the city the law of the jungle ruled, which itself generated further disorder and deficits. So, whilst other countries in Europe created new lay-outs and modern service systems (e.g. in Holland and Poland), Barcelona lost the post-war opportunity for reconstruction.

2. A CLOSER LOOK AT HOUSING IN THE 40'S

Housing really merits separate treatment, for it was the one aspect of urbanisation that affected everybody in the 40's, even if only visually. The

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[1] 'Cascos Urbanos' - the urban centres within the borders of 'ensanche' e.g. San Martin, San Andres, Hostafranchs, Gracia, Sants etc.



FIGURE 141 ADMINISTRATIVE DIVISIONS OF THE PROVINCE OF BARCELONA

The 'region' of Cataluna consists of 4 'provinces' - Lerida, Gerona, Tarragona, and Barcelona. The province of Barcelona is divided into 4 parts. The smallest, darkest area is the municipality of Barcelona; then the 'Comarca' as in the 53 plan (and 76 revision), then the Metropolitan Area of Barcelona - the A.M.B. - as in the Plan Director 1968. The rest of the Province, not included in the A.M.B. is left white. Source:- (156)

The respective areas of these administrative units are as follows, c.f. London.

	Km^2		Miles^2
Total A.M.B.	3,297	Total London Region	4,412
Total Comarca	499	Conurbation (G.L.C.)	620
Municipality of Barcelona	97.6	Old L.C.C.	117
Old quarter	2.3	City of London	10

(After Peter Hall in 'London 2000')

majority of people, however, were affected otherwise too. The housing shortage and construction of 'barracas' were typical of the age, but so too were the sub-standard sub-let flats, the indefinite postponement of marriage whilst awaiting suitalbe accomodation and the multiple conflicts stemming from the cohabitation of several generations in the 'family' residence.

Housing was also the only urban problem that provoked an active policy by the State, even if it was a negative policy. The principal measure was a rent freeze that, ironically, had the main aim of limiting investment in housing as part of a general policy aimed at channeling resources into the production sector. This law (the 'Ley de ordenamientos urbanos' 1946) had little effect on the house possibilities of the middle-classes, who largely lived in old but well-situated residences in the centre of the city, but put those who had not owned a house at the end of the Civil War and especially the new immigrants, at a considerable disadvantage. Although rents were frozen, construction of new houses, the pressing need, was discouraged and the likelihood of obtaining a normal residence became more remote still. In 1948 a very weak stimulus was given to construction by the introduction of state subsidy of housing improvements ('Ley de Viviendas Bonificables'), but this was as much to provide new employment as resolve the housing problem. Indeed, 'public' promotion (i.e. by state and para-state organisations, local administrative and associated bodies) of housing in Barcelona at this time was very limitied, despite the creation of the National Institute of Housing ('Instituto Nacional de la Vivienda' - I.N.V.) and the 'Obra Sindical del Hogar' (O.S.H.) [1] in 1939 and laws enabling state subsidy of house construction and land expropriation ('Ley de Viviendas Protegidas' 1939 and 'Ley de Solares' 1945). In 1945 the 'Patronato Municipal de la Vivienda' (P.M.V.)[2] built 100 houses and 600 more in 1950. The 'Patronato de Casas Militares' built 200 in 1950; the O.S.H. constructed two groups of houses in the 40's, both for the middle-classes, one occupying three 'manzanas' of 'ensanche' near Meridiana in 1945 (406 houses) and the other - 'La Merced' - in

---

[1] O.S.H.-State organisation created to build houses for working-classes in co-operation with the I.N.V. and the Syndicates, the government-controlled workers associations.

[2] P.M.V.-the local equivalent of the O.S.H. in many ways; dependent on the Local administration. c.f. Central Administration.

the foothills of the Collcerola in Upper Pedralbes in 1948 (130 houses - see Figure 170), giving a total of less than 1500 for 'public' promotion 1940-50 inclusive.

Taking the housing shortage as 20,000 in 1940, another 20-25,000 were considered derelict by 1950. Immigration in the decade 1940-50 created a need for at least 25,000 more. If we add the necessities of post-war 'natural' demographic growth(i.e. excluding immigrants) which Borja (134) puts at 15,000 more, we arrive at a total housing shortage of at least 80,000 in 1950 (see Table 22). It is interesting to note that of the 15,000 houses built in this decade, only a small number, probably considerably less than half, were inhabited by those included in the above calculations. We have seen how 'public' promotion produced less than 1500 houses and that the rent-freeze discouraged construction of rented accomodation. But luxury residences, to be sold to the upper middle and upper classes (' alta burguesia) provided other possibilities:-

> "The prestige zone, to which the rich looked for their luxury residences in the 40's was found in the upper part of (Calle) Muntaner, extending up to Bonanova and Sarria and stretching out to Esplugas [1] ... Consequently, the commercial and management centre of the city was modified somewhat to follow the known 'L' form, going up Paseo de Gracia and kinking around 'Diagonal' to run out westwards to Calvo Sotelo." (136)

Take away these houses and the immediate post-war reconstruction of houses damaged in the war (e.g. in Avenida de la Catedral - see Figure 138) and it is clear that the figure of 15,000 houses, low as it is, may be misleading. Of a population of

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[1] This section of the 'prestige' area of the city became known amongst certain circles, notably those writers for 'Destino' - a social/intellectual/political magazine with a wide circulation amongst middle and upper classes at the time -, as the 'anti-ensanche'. It was the triangular area to the west of Sarria, Tres Torres and Bonanova.

> "It is hoped that, in a few years, a new zone will be born in this triangle, that will not, for sure, be a repitition of the quadricle, but will reflect the real tendencies, less rigid and engineered, that forcefully represent the 'anti-ensanche' ... we don't wish to hide the fact that the Barcelonans used to talk very badly of our 'ensanche' ... that is hasn't produced greater ruin is because God, in his mercy, gave enough energy to the generation of 1900 to say 'enough right-angles'."

This is from Carlos Soldevila in the 'Guia de Barcelona' in 1951 (Pages 293 and 393 - Ediciones Destino). It is interesting to note that it shows the swing back against Cerda after the revival and recognition of his work by GATCPAC in the 1930's. Indeed, Soldevila sounds very like the scornful writers of the 1860's when he says "the spite felt towards the 'Gran Cuadricula' is only inflamed by the fact that it was not a Barcelonan idea, but an imposition by the Almighty." (i.e. the Central Government) (as above, Page 282).
In the late 50's and 60's and 70's came another swing back towards Cerda, culminating in the work of Tarrago and Soria y Puig, details of which are given in Appendix 2.

1,280,000 (1950 census), at least 400,000 were without a 'normal' home, of which an estimated 26,000 were living in 'barracas' in 1949 and more than double the figure five years later (see Figures 139 and 140 and accompanying notes).

PART B THE PLAN COMARCAL (1) THE APPEARANCE OF THE FIRST PLAN COMARCAL 1953

Urban planning was of little importance in Cataluna in the 1940's. Nevertheless, provincial planning bodies (there are 4 'provinces' in the'region'of Cataluna - Figure 141) were created throughout Spain in the 40's. The 'Comision Superior de Ordenacion Provincial de Barcelona' (C.S.O.P.B.) was created in 1945 and consisted of a planning board made up of representatives from Government Ministries, the Diputacion (the provincial authority with considerable power and influence throughout the area), the Barcelonan Council (i.e. that of the municipality of Barcelona, the most powerful by far of those within the Province) and certain other local public bodies (e.g. 'Amigos de la Ciudad'), all under the presidency of the 'Gobernador Civil,' himslef a representative of the Central Government. The principal aim of the C.S.O.P.B. was to draw up a 'Plan de Ordenacion' for the whole province, which was finally approved in 1962 and is discussed elsewhere (Pages 273-6). But the need for rapid action in the area immediate to Barcelona city led, in 1947, to the creation of an 'Oficina de Estudios' to work under the wing of the Barcelonan Council, but under overall control of the C.S.O.P.B., with the aim of formulating a 'Plan de Ordenacion' for a much smaller region - the city-region of Barcelona or to use the Spanish word the 'Comarca' of Barcelona. From their work came the 'Plan Comarcal' of 1953 (otherwise known as the 'Plan 53') which created a new administrative area - the 'Comarca' - consisting of the municipality of Barcelona and 26 others surrounding the city (Figure 142). In fact, the idea of a grouping together of municipalities was not totally new. In 1933, the 'mancomunidad' of Barcelona and other municipalities was constituted at the 'Congreso Municipalista' of that year, consisting of Barcelona and eight other municipalities, but because of political events of the decade, the idea was not taken further until after the war.

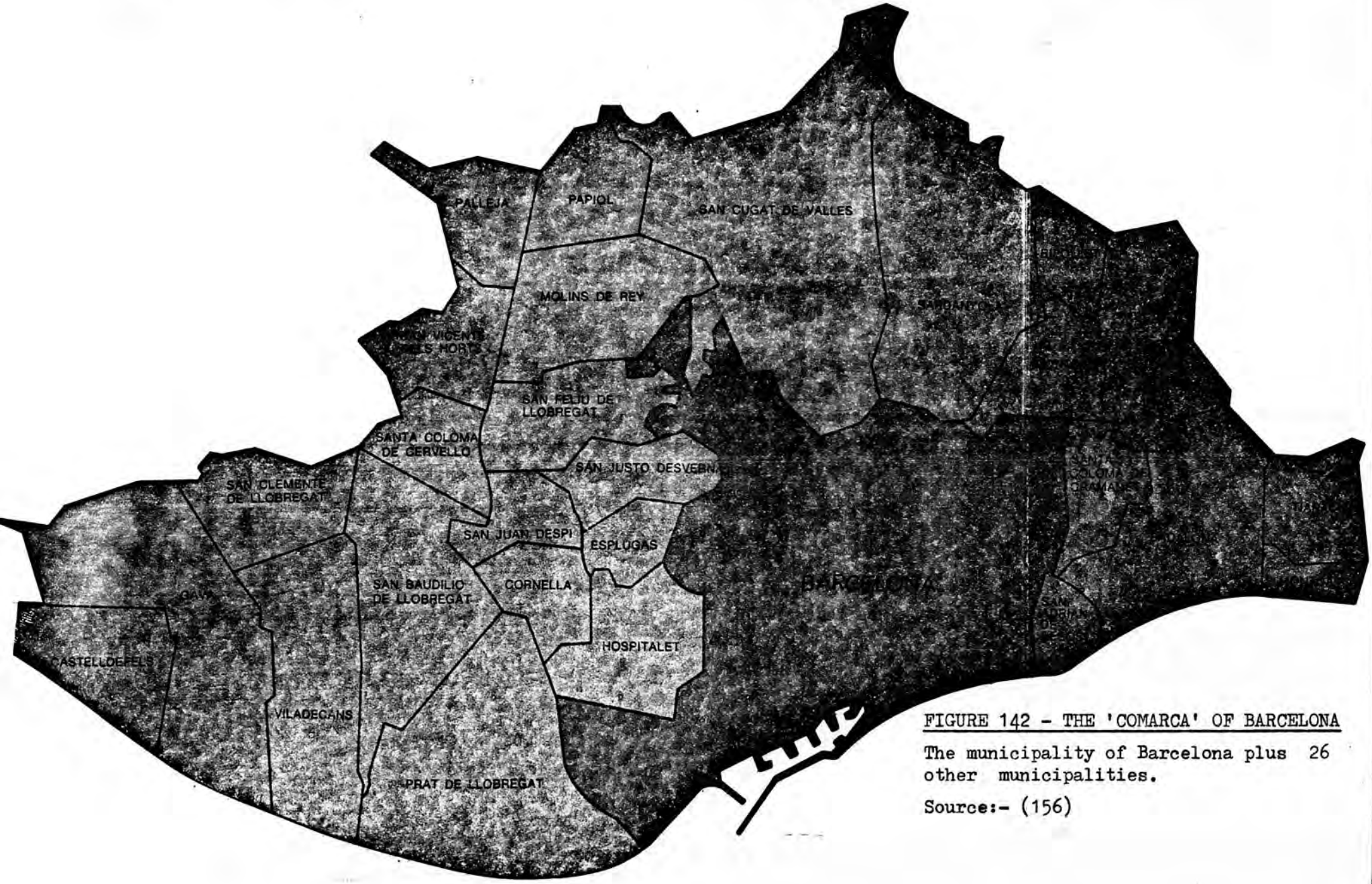


FIGURE 142 - THE 'COMARCA' OF BARCELONA

The municipality of Barcelona plus 26 other municipalities.

Source:- (156)

1. MOTIVATIONS AND OBJECTIVES

From the report of the 'Plan Comarcal', certain paragraphs stand out as expressing the motiviations and intentions of the Plan.

> "The present urban disorder ..., the necessity of establishing organic systems of communications within the city and its surrounding zone, the conservation of viable agricultrual zones and forested parks, the protection of ... landscapes of artistic, archeological or historic interest, and the forecasts of growth and development make necessary a study .... that encompasses Barcelona ... and the surrounding settlements that live and evolve with it. We envisage the future of the great city as a cluster of communities, organised on a social Christian basis, linked to the central directing nucleus and within the shelter of the splendid vegetation of the mountain mass of Tibidabo ..."

> "One of the principal concerns of the plan is not to form an immense city, a shimmering Mesopotamia, an amorphous mass... in which the inhabitants are only the slaves of its enormity. In summary, not to create a city, monstrous in its form and number of inhabitants, but to form a great city, consisting of a series of individual nuclei ..."

This great city then - 'La Gran Barcelona' - was to be within a new territorial definition - the 'Comarca', consisting of Barcelona and 26 other municipalities around it. Such a change of scale was necessary, for, as Table 23 and Figure 143 show, the municipality had become an inadequate definition of the city, as the classic configuration of an 'oil-slick' type urban morphology had sprawled into the surrounding municipalities. Between 1900 and 1950 the municipality of Barcelona had tripled its population. That of Cornella (to the south-west beyond Hospitalet) had increased five-fold, that of Hospitalet fifteen-fold, that of Santa Coloma de Gramenet (beyond the Besos river) ten-fold and that of San Adrian de Besos twenty-five-fold over the same period.

TABLE 23- THE 'COMARCA' WITHIN THE A.M.B.

1925	1.18
1930	1.26
1933	1.18
1941	1.28
1950	1.34
1960	1.17
1965	0.96
1970	0.80

$$\frac{\text{population of 'comarca' of Barcelona}}{\text{population of the rest of the A.M.B.}}$$

Source:- (149)

Considering the area of the 'Comarca' is but 15% of that of the A.M.B., the above figures suggest that the recognition of an administrative unit larger than the municipality was long overdue.

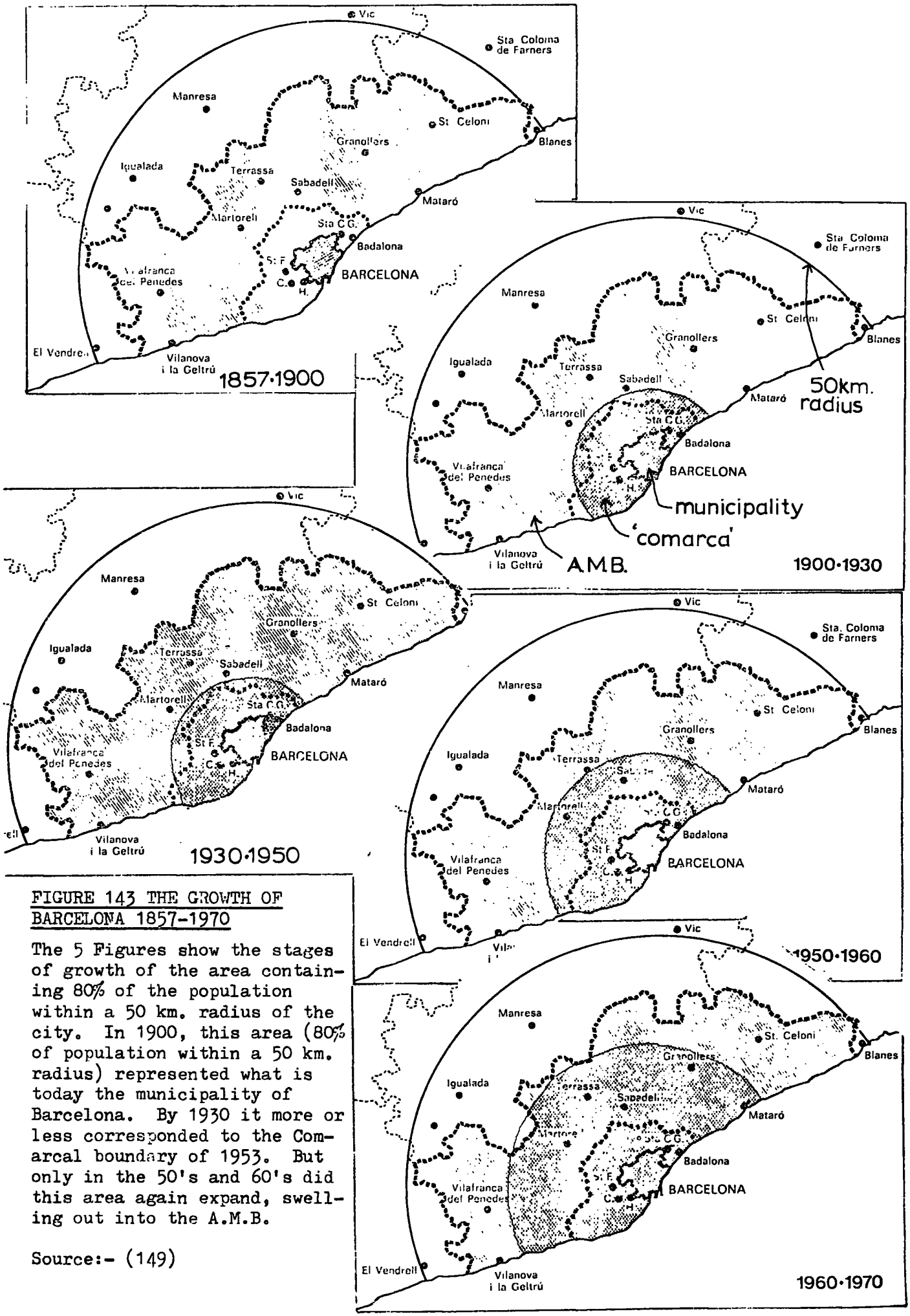


FIGURE 143 THE GROWTH OF BARCELONA 1857-1970

The 5 Figures show the stages of growth of the area containing 80% of the population within a 50 km. radius of the city. In 1900, this area (80% of population within a 50 km. radius) represented what is today the municipality of Barcelona. By 1930 it more or less corresponded to the Comarcal boundary of 1953. But only in the 50's and 60's did this area again expand, swelling out into the A.M.B.

Source:- (149)

Although, in absolute terms, the population of the municipality of Barcelona remained far higher than that of its surrounding 'comarca' (see Table 24),

> "a sprawling conurbation already existed; Barcelona was not only united with its suburbial ring, but the chaos of brick and cement extended far beyond." (89)

And yet the Plan Cerda, with the few peripheral road developments of the Plan 'Romeu - Porcel of 1917, remained the official plan of the city.

> "It was necessary to order this chaotic growth, legalize situations that existed and rationalize investment, that is to say, to put the house in order so that it may function better; it was essential to create a new model so that the Administration and Government could carry out the processes of production, consumption and exchange in the most effective manner." (139)

2. CONTENT OF PLAN

There were four principal characteristics. First, the'concepcion nuclear' was a marked feature, foreseeing the development of the city and its 'comarca' as a collection of individual nuclei (see Figure186), largely corresponding to pre-existing settlements but allowing for the creation of new ones. Second, and perhaps most important, the plan introduced a zoning of all land within the 'comarca', it allbeing classed as some variety of residential, industrial, commercial, service or free space area (see Figure 144), within which land use was controlled by strict regulations regarding building usage and volume (see Table 25) These building regulations were based on an estimated population of 4 million for the whole 'comarca' in the year 2000, 2.4 million being within the Barcelonan municipality and 1.6 million within the rest of the'Comarca'.

Third, great importance was attached to Cerda's road system as fundamental. They reintroduced the 'cinturones de ronda' (ring-roads) "omitted by Cerda, included by Jaussely and existent in the Plan Rovira" (89) and included a tunnel going through Tibidabo to San Cugat, but in general there were few changes in the road system, rather surprisingly given the importance attached to creating an 'organic' system in the accompanying report. The plan included extensions to the rail and 'metro' (underground) networks.

Fourth, considerable importance was given to the now notorious 'Planes Parciales' as a means of carrying out the directives of the General Plan. According to the accompanying report to the Plan, "The Plan General shows the way... the 'Plan Parcial' establishes a definite programme." They were meant to be used for

	A MUNICIPALITY OF BARCELONA	B REST OF COMARCA	C TOTAL COMARCA (A+B)	D REST OF A.M.B.	E TOTAL A.M.B. (C+D)	F CATALUNA	G SPAIN
POPULATION							
1940	1,081,175 o	217,518 o	1,298,693 o			2,890,974 o	25,877,971 o
1950	1,280,179 o	265,119 o	1,545,298 o	420,223 +	1,965,531	3,240,313 o	27,976,755 o
1960	1,557,863 o	449,085 o	2,006,948 o	559,814 +	2,563,192 8	3,925,779 o	30,430,698 o
1970	1,745,142 o	986,742 o	2,731,884 o	866,424 +	3,579,376 8	5,122,567 o	33,823,918 o
1975	1,825,320 +	1,151,540 +	3,003,860 +	1,004,423 +	4,008,288 o		
GROWTH							
1941-50 abs.	199,004 o	47,601 o	246,605 o			349,339 o	2,098,784 o
% increase	18.4	21.9	19.0			12.1	8.1
1951-60 abs.	277,684 o	183,966 o	461,650 o	139,591 +	601,241 +	685,466 o	2,453,943 o
% increase	21.7	69.4	29.9	33.2	30.6 +	21.1	8.8
1961-70 abs.	187,279 o	537,657 o	724,936 o	306,610 +	1,012,614 +	1,196,788 o	3,393,220 o
% increase	12.0	119.7	36.1	54.8	39.4	30.5	11.1
1971-75 abs.	107,178 o	164,798 o	271,976 o	137,999 +	428,912 +		

TABLE 24 DEMOGRAPHIC GROWTH 1940-75

Source:- o (176)
+ (165)
8 (149)

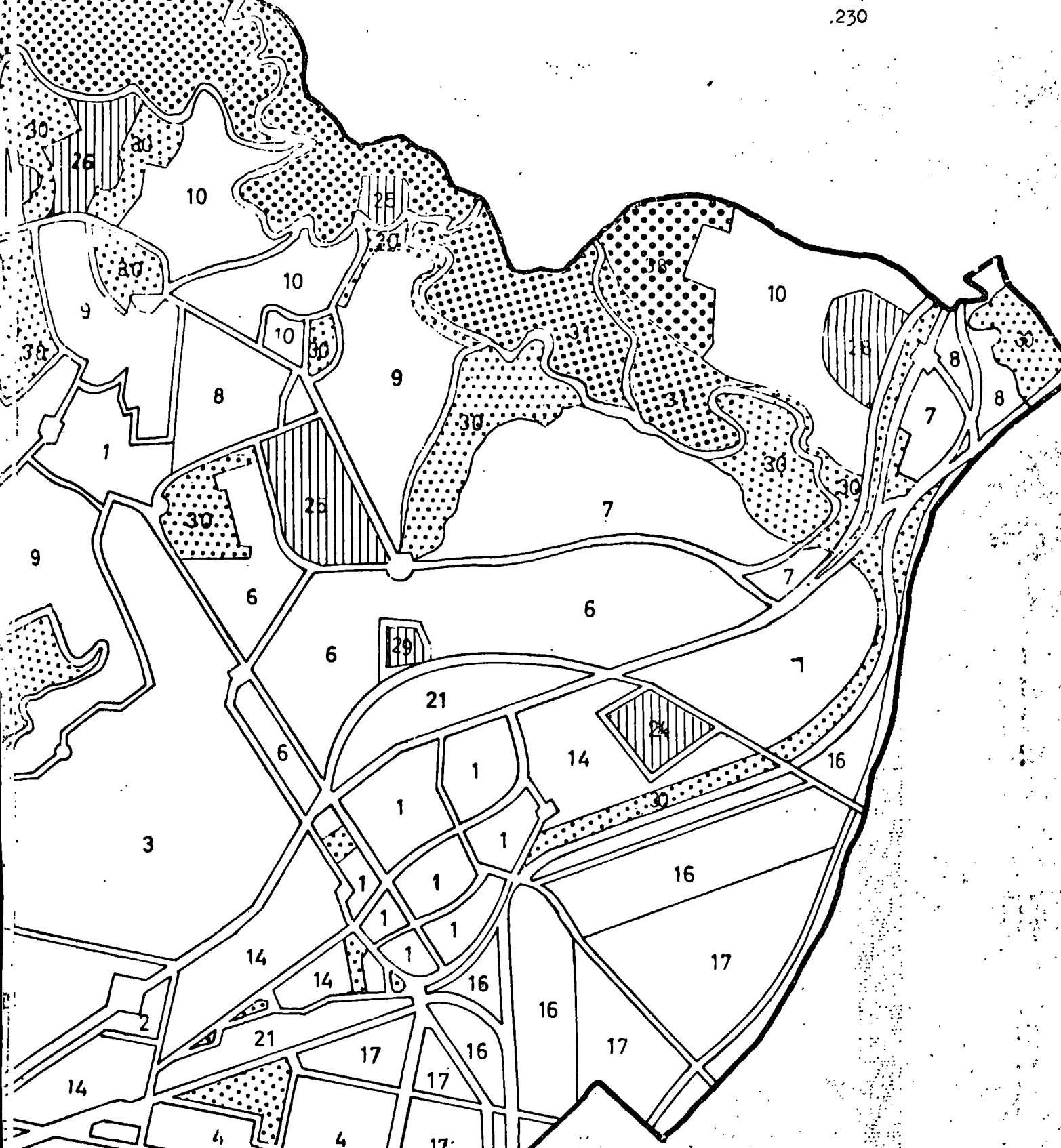
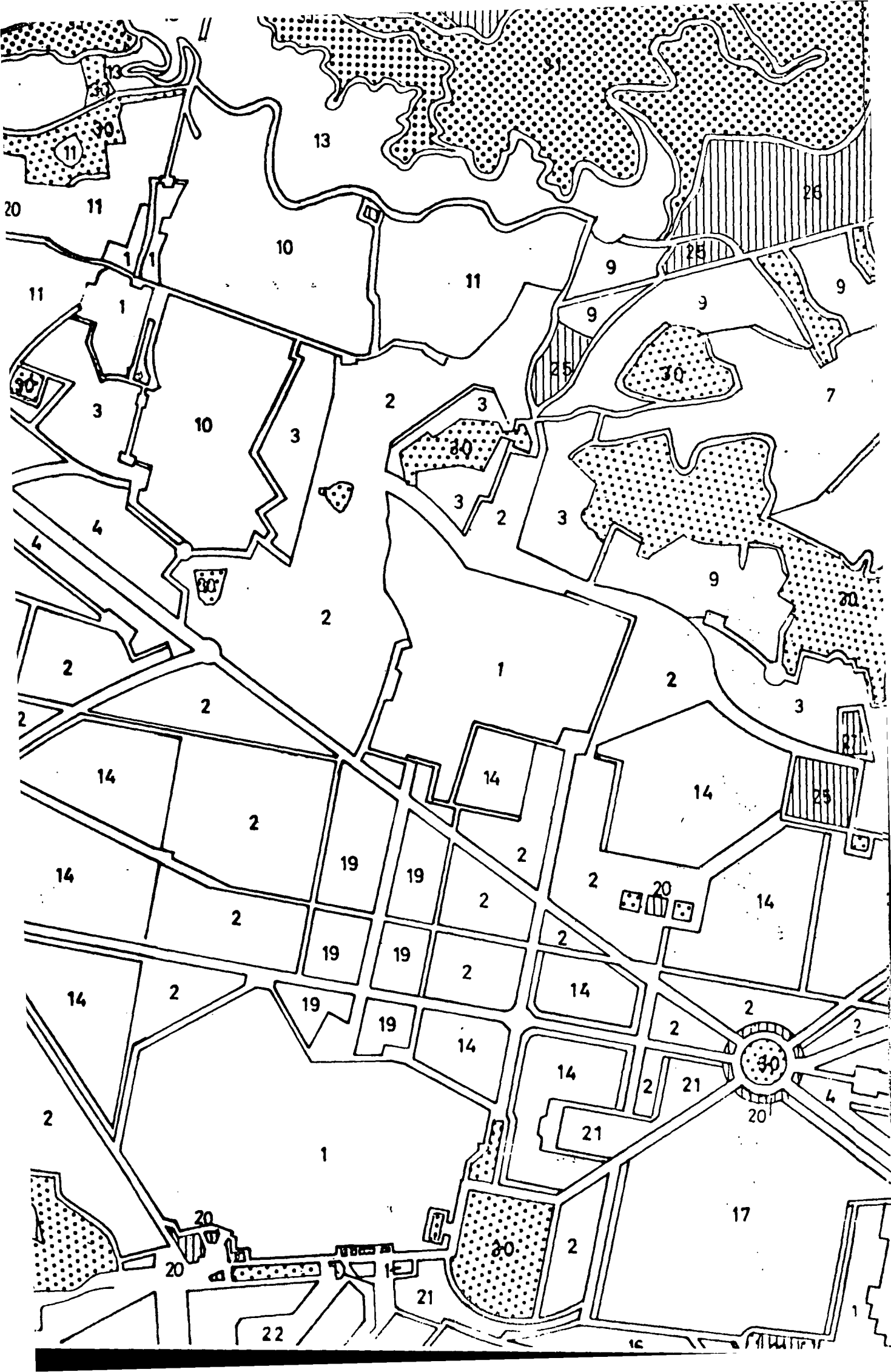
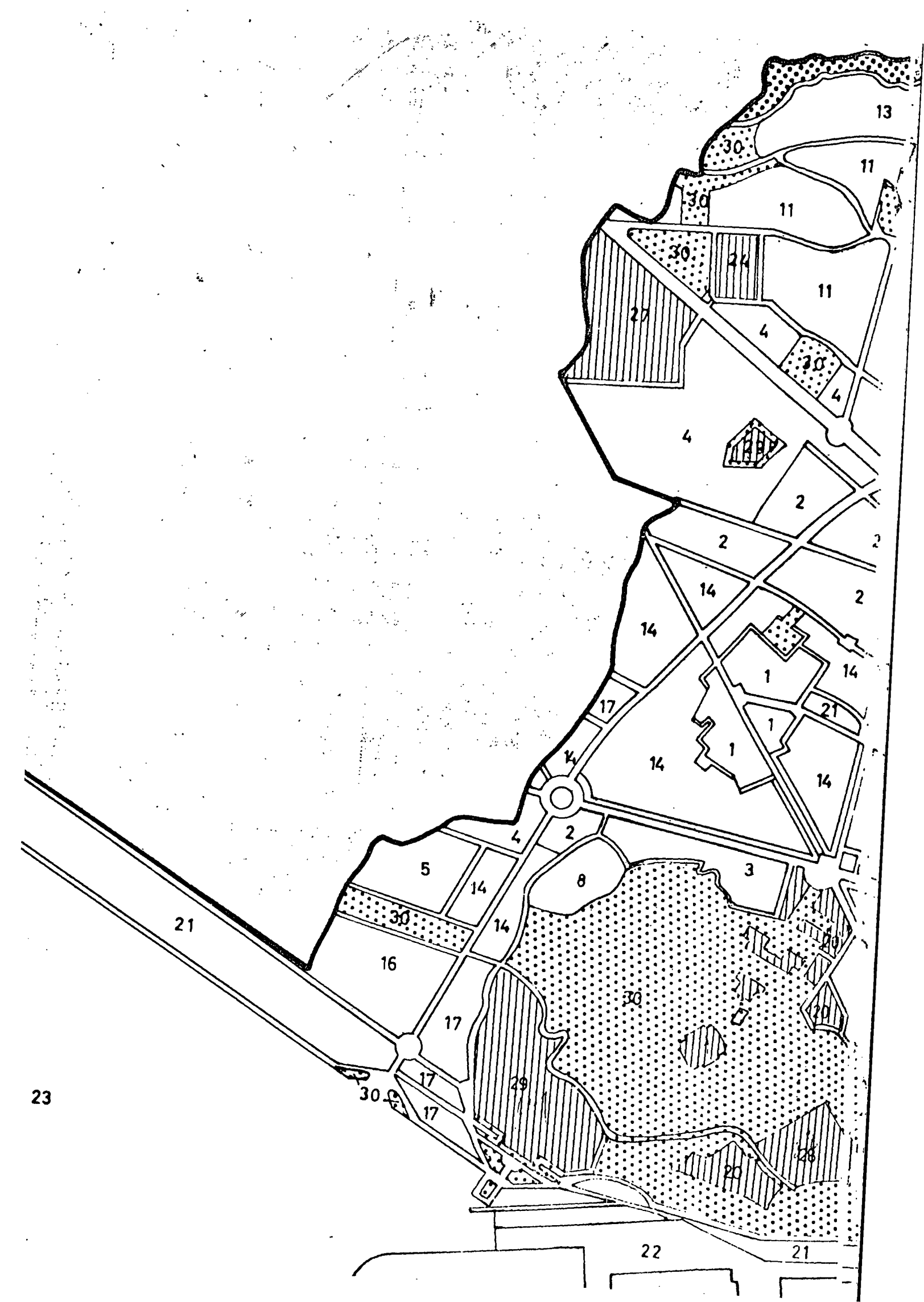


FIGURE 144 THE PLAN COMARCAL 1953

This shows the zoning for the municipality of Barcelona. Numbers refer to classifications given in Table 25 (page 231).

Source:- (148)


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NO.	ZONE	INHABS. PER HECTARE	MAX. HEIGHT OF BUIDLINGS (m.)	MIN. SIZE OF PARCEL OF LAND	MAX. OCCUPATION OF PARCEL OF LAND
1	Old Quarter	700	Analogous to that of neighbouring blds.		100 % on ground floor
2	Intensive Ensanche	900	27.45		100 % on ground floor
3	Semi-intensive 'Ensanche'	500	18.30		100 % on ground floor
4	Intensive urban residential	900	27.45		
5	Semi-intensive urban residential	500	18.30		
6	Semi-intensive Suburbs	400	18.30		100 % on ground floor
7	Extensively-settled Suburbs	200	10.50		
8	Isolated suburban Housing	200	10.50	150 m^2	30 %
9	Intensive City garden	200	11.00	250 m^2	40 %
10	Semi-intensive city garden	100	11.00	400 m^2	30 %
11	Extensive city garden	50	11.00	1,000 m^2	20 %
12	Urbanized Park	25	11.00	2,000 m^2	10 %
13	Urbanized Wood	15	11.00	4,000 m^2	5 %
14	Tolerance of housing and industry	400	27.45		100 % on ground floor
15	Isolated suburban with industry		10.50	150 m^2	50 %
16	Heavy Industry		General norms		Total
17	Light Industry - conditions equal to heavy industry except max. work force 500 and max, surface area 10,000 square metres.				
18	Dispersed and dangerous industry - no limitations except to maintain a distance of 500 metres from existing buildings in case of explosive or noxious ind.				
19	Commercial	400	27.45		Total on ground floor
20	Historical, artistic, monumental, aesthetic				
21	Railways - zones for the establishment of railway networks and installations				
22	Port activities - zones for the use of port traffic and warehouses.				
23	"Free Port"- industrial zone of light and heavy industry with docks and customs.				
24	Military				
25	Sanitary services			1,000 m^2	30 %
26	Sanitary with housing	Housing	12.5	600 m^2	40 %
27	Sports zone - for location of sports facilities, public and private , no other bld				
28	Recreation zone - for location of recreational facilities, no other bld. permitted				
29	Cemeteries				
30	Urban Park - construction prohibited except for cultural and recreational blds.				
31	Forest Park " " " " "				
32	Private green areas - construction prohibited- possible later use as a park.				
33	Protection of countryside - establishment of zones for protection of views etc.				
34	Protection of roads - no construction on borders of roads - variable width.				
35	Countryside with poss. of urbanization.				
36	Rural	5	9	20,000 m^2	
37	Perm. agricultural	5	9	30,000 m^2	
38	Wood	5	9	50,000 m^2	
39	Permanently open - all building prohibited				

TABLE 25 LAND CLASSIFICATIONS OF THE PLAN COMARCAL 1953 (these are a few examples only of conditions of building volume and use that corresponded to each classificat

the planning of 'interior reform' (renovation or remodellation of old quarter and other deteriorated zones) and for 'extension' of the urban area into empty spaces, but always to be in keeping with overall directives of the 'Plan General'.

3. CRITICISM OF THE PLAN COMARCAL

As with criticism of the Plan Cerda, there is a danger of confusing the content of the Plan with its subsequent realization. Let us first, then, consider the Plan itself without viewing it against what went before (this will be discussed in Chapter 6) or what has gone since (this will be examined shortly).

The delimitation of the 'Comarca' had 'no real geographic base' (92) i.e. the boundary was selected on no real scientific basis. It included the municipalities that were totally or partly within approximately 5 kilometres of the boundary of the Barcelonan municipality. Similarly, the population estimates were rather adventurous, being little more than guesswork (and have since been altered [1]). Then, the lack of any real programme of action (unless one counts the 'planes parciales' as such) made plan management hazardous from the start.

As for the zoning itself, there were an"excessive number of zonal classifications, enabling adaptation to existing situations and the different treatment of different parts of territory, but resulting in confusion and unnecessary difficulty in the management of the Plan." (148) Further, the zoning proposed in the Plan is somewhat contradictory to the aim of creating a series of individual nuclei, for the majority of Barcelona and adjacent municipalities (Hospitalet, Cornella, Esplugas, Santa Coloma de Gramanet, San Adrian de Besos, Badalona) are zoned as an urbanised continuum stretching from the Llobregat to beyond the Besos, whilst the rest of the 'comarca' appears as something apart from this central area, with "no clear proposals for decongestion centres." (148)

A certain idealism in the zoning conception is also apparent - forecasting that the population of a certain residential zone will find work in the adjacent industrial zone; but,

> "it does not seem to us such an error that somebody who was to work in San Andres (according to the Plan) may have to work in Zona Franca, as that 27 years after the approval of the Plan, the city has lost 28% of the free spaces - green or sports - originally zoned as such, or that, with the acquiescence of the organisms of control, the building regulations, that should be one of the few guarantees for the execution of the Plan, are broken." (133)

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[1] The 76 Plan Comarcal Revision has as population objectives 2.2 million for Barcelona and 2.5 million for the rest of the comarca.

This, then, brings us to another matter. "The success or failure of a Plan does not depend exclusively on methodological attributes or deficiencies but on its insertion within the administrative apparatus that should manage and control its implementation." (148) Before going on to look at the management aspects of the Plan in detail, it can be said, in conclusion, that the '53 Plan, essentially one of negative 'ordenacion' and control, nevertheless, "with undoubted limitations, made possible the direction of urban development in an ideological and political form that would avoid mere speculation." (9)

PART C THE PLAN COMARCAL (2): MANAGEMENT AND LEGAL ASPECTS

> "The land speculator destroys like a cannon the legal restraints that bind him."
> Jose Luis Arrese (9)

1. The Law of 3.12.53

> "Having arrived at this point, it is fitting to ask what measures the Plan contained to guarantee its own execution...." (133)

The management aspects of the Plan Comarcal were contained in the law approved with it in December 1953. Here are some of the articles contained in the law:-

Article No. 1

"For the execution of this law and the development of the Plan Comarcal, the 'Comision de Urbanismo de Barcelona' (C.U.B.) is created ... Its president will be the 'Gobernador Civil' of the province, with representatives from the corporations (i.e municipal councils) and Government departments involved in the Plan ... "

Article No. 3

"The Plan Comarcal is passed. With the development of the 'Planes Parciales' it will be modified in those aspects that are considered to be for the better realization of its objectives."

Article No.4

"The modifications of the Plan Comarcal will be approved by the Government, on proposal of the Home Office (which depends on reports by the C.U.B.) or on direct proposal by the C.U.B. itself..."

Article No. 9

"For the undertaking of the Plan Comarcal and necessary expropriations and acquisitions, the State grants the C.U.B. 25 million pesetas per year for the next 20 years."

(This grant had risen to 200 million pesetas by 1974, which at that time was equivalent to £1½ million).

Article No. 10

"The president of the C.U.B. will look out for infringements of the approved plans. To such effect, he will have the power to order the stoppage or destruction of works ... and to impose fines of up to 50,000pts."

The C.U.B. was finally constituted in 1955. It was this body, then, that was responsible for the management of the Plan Comarcal and the co-ordination of its development in the different municipalities of the'comarca'.

Although on the surface the Plan would seem to be the guiding lines for a policy of 'ordenacion' - that is the arrangement, organisation and control of activities and land use -- in reality planning policy of the C.U.B. has been nearer one of satisfying, as best it could, the minimum needs of collective consumption in the 'comarca' and doing whatever necessary to maintain the functioning of the urban system, the most important factor being housing.

Before looking at the C.U.B. in more detail, we can note briefly that the Plan Comarcal has been transformed from the original, notably in the conversion of land originally to be used for free spaces, collective services and infrastructure into land used primarily for housing. In this process of transformation the 'planes parciales' have played a leading part. This will be examined in more detail shortly.

2. A BRIEF HISTORY OF THE C.U.B. 1953-74

"The lack of resources, particularly in the weak financing of the C.U.B., did not allow the urban plans to be anything other than theoretical ... " (149)

Although the above bears relevance to the whole 21 year period of vigilance of the C.U.B. (it was abolished in 1974), we can nevertheless see two distinct phases, the first being 1953-63 when, although the C.U.B.'s budget was small, so were those of other local bodies, including the Barcelonan Council, and so the C.U.B. had a reasonably strong hand in directing operations, which gradually disappeared after the 'Carta Municipal' of 1960 that gave the Barcelonan Council vastly increased sums of money, the Council thereby coming to dominate the C.U.B. in the second phase 1964-74.

Between 1953 and 1963, the C.U.B. received 25 million pesetas a year from the state, an average of 0.6 million pesetas a year from the Barcelonan Council and between ¼ and 1½ million pesetas (total) from the other municipalities of the 'comarca'. In these years the C.U.B. actually invested relatively little in urban activities but directed operations and financed others through the revaluation of land that they first obtained by expropriation and then resold to semi-public entities (e.g. the O.S.H.) and private entities (the Savings

Banks, Large Companies, Co-operatives) who, with state aid and protection, built houses.

> "In this sense, it can be said that besides opening the doors to profitable investment for certain large companies, the C.U.B. has been the master in showing them the way to multiply their profits and showing public bodies, such as the P.M.V., how to finance their house construction programmes by means of controlling the 'plusvalias' (i.e. unearned increments) generated by the revaluation of land. As an example, we can cite the 'poligono' of 'La Guineueta'. The lands largely belonged to the Mental Institute of Santa Cruz, and were bought by the C.U.B. for 80 pesetas a square metre and sold at a rate of 346 pesetas a square metre once urbanized." (164)

The 'poligonos' (housing estates) of the C.U.B. cover 180 hectares and are 5 in number - Baron de Viver, Buen Pastor, La Guineueta, San Martin and Badalona, all built at the end of the 50's and in the early 60's (Figure 145).

In the 1960's the C.U.B. soon became an instrument of the Barcelonan Council.

> "The internal organisation of the C.U.B., favouring the dominant municipalities of the 'comarca' in the decision-making committees, the lack of resources restricting any attempt at control of urban growth (see Table 26) and the frequently 'political' decisions, unjustified in urban terms, orientated solely towards certain municipal interests, lacking any real 'comarcal' vision, have created a mass of political/economic/administrative incongruencies that frequently make the C.U.B. appear responsible for the lack of respect shown to the Plan Comarcal ... (But) the C.U.B. is ... in a certain way, a reflection and not the cause of the political/economic/ incongruencies within the 'comarca', the result of the contradictory municipal activities existent there." (147)

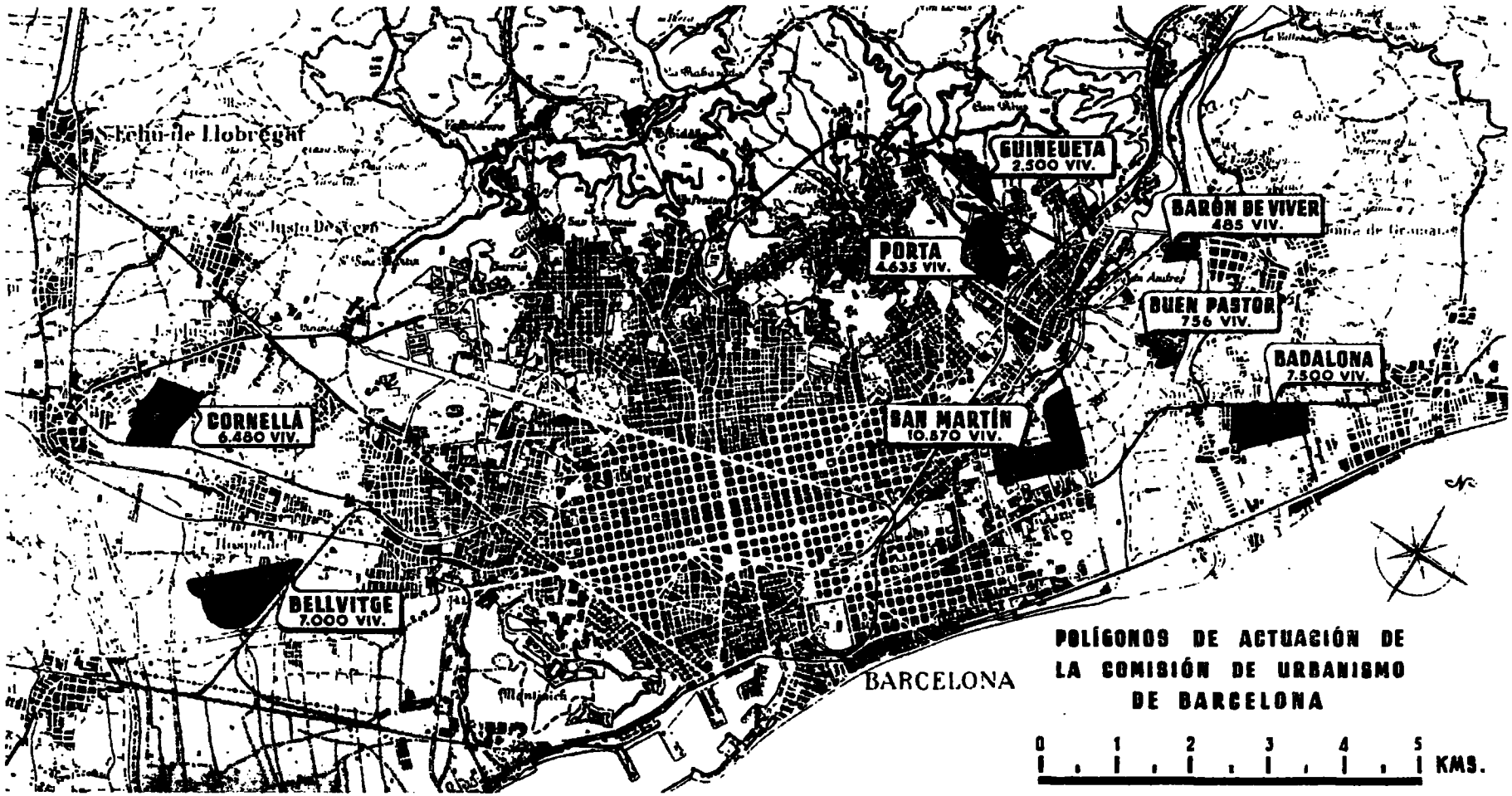
Nevertheless, the C.U.B. has undertaken a series of studies on the needs of the 'comarca' in the 60's and 70's, but,with an overall lack of programming, some worthwhile studies have been transformed into worthless documents to be filed away in the archives of the commission. These studies include topics such as cemeteries, slaughter-houses, coasts, the future of Tibidabo etc. All these studies have been undertaken in co-ordination with the the Revision of the Plan Comarcal by the 'Comision Tecnica' of the C.U.B., started in 1964 and completed in 1976.

3. THE LAND LAW 1956

The view of Martorell, Florensa and Martorell (89) that,

> "this masterly document in the evolution of urbanism in our country was, in the moment of its publication, definitely the most complete and advanced urban code of those existent in Western Europe,"

may or may not be true, but since its publication there is little doubt that the Land Law of 1956 has failed in its expressed objectives. One of the reasons for this failure has been the vagueness of the law on certain topics - there is no



Source:- (92)

FIGURE 145 - 'POLIGONOS' PLANNED BY THE C.U.B. AT THE END OF THE 50'S

Of those shown in the Diagram, only 5 - Guineueta, San Martin, Baron de Viver, Buen Pastor and Badalona were built according to plan. The other 3 were later ceded to private groups, the best-known being Bellvitge which, when complete, will house 60,000 people (at present 30,000):- "The rationalist type of urbanism that gives rise to blocks of houses sufficiently apart to allow the sun to reach them has been degraded here to the extent that the appearance is one of a row of dominoes, monstrously large, dehumanising ... " (164).

specific reference to the 'Plan Parcial'/Plan General relationship, although Article 40 states that "private individuals can form municipal, 'comarcal' and 'special plans'," a seemingly implicit reference to 'planes parciales', reflecting the acknowledged importance of private initiative in the process of urbanisation, which in Barcelona has led to "Catastrophic consequences for collective interests." (148).

This, then, brings us to the crux of the matter: it was an attempt to put collective interests before private interests, within a social-political-economic system in which attention was paid to collective interests only in order to guarantee, at minimum cost, the functioning of the urban system in which the private individual could invest i.e. the intention of the law was largely contradictory to the economic forces prevalent in the system in which it was introduced and therefore largely ineffective, [1] or, more specifically,

> "in a moment in which immigration could not be braked, in which there was a dangerous policy of tolerance and in which an anarchical growth and 'free-for-all' gain of profits was produced, the law ... tried to bring about a rational development and an ordered growth, expressed in the famous phrase, the 'social function of property'." (158)

The Law had three principal objectives. First and most important in the

	(percentages)		(percentages)
Council of Barcelona	6.7	Industry	27.6
The other Municipalities in the 'Comarca'	1.0	Rest of Private Sector	55.3
'Diputacion Provincial'	0.6		
C.U.B.	0.4		
Autonomous Municipal Bodies	0.3		
Total Local Administration	9.0		
Government Ministries	5.6		
Autonomous State Bodies	3.4		
Total Central Administration	8.0		
TOTAL PUBLIC SECTOR	17.0 %	TOTAL PRIVATE SECTOR	83 %

TABLE 26 INVESTMENT IN THE 'COMARCA' OF BARCELONA 1968 Source:- (149)

Not only does this illustrate the powerlessness, in financial terms, of the C.U.B., but also the relative weakness of the public sector as a whole.

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[1] This, or something similar, is true of the Plan Comarcal as a whole, as of several other plans in the history of Barcelona. See Chapter 6 for further discussion of this aspect.

light of what has happened in Barcelona in the past 20 years, it tried to eliminate land speculation. To achieve this end, several measures were introduced. It suggested the 'socialization' of land to be the ideal (but impractical) solution to the problem and so proposed a 'mini-socialization' by which the Councils of large cities were to set up Land Foundations ('patrimonios de suelo') using 5% of their annual budgets to buy urban land and gradually introduce it into the market and thereby control the price of land, and so rid the system of speculation. Not one Council, however, has attempted the control of the market in this fashion. Nevertheless, the same ideal was repeated in the third Development Plan 1972-75, that draws attention to the "great dynamism of the Barcelona Comarca (which) suggests the granting of absolute priority to a policy of land acquisition (as) the only way of assuring acceptable development." In Barcelona. the C.U.B.

> "has effected work of acquisition and preparation of urban land, which may be used for future expansion and could constitute an element in support of the fight against speculation ... However, the transformation that this important economic aid could mean in the future development of the C.U.B. as an organ of control and management is subject to important and necessary restructuring at the technical/political level." (147)

Another counter-speculationary measure set an 'objective evaluation' of land by which the 'Administration' could obtain land at their price, invariably below the free market price.

> "By means of this mechanism, a new speculator has appeared - the Administration State or Municipal, who, on occasions, (we remember particularly Calle Garcia Morato [1] and the first ring-road) buy at 'expropriation' price and sell at 'market' price, playing the opposite role to that attributed to it in the Land Law." (154)

Similarly, 'forced construction' was introduced as a measure to prevent the retention and speculation of land. A 'Register of Land Plots' ('Registro de Solares') was to be introduced where all plots of land, suitable for construction, within the urban area, were to be recorded. After a certain length of time, if not built on, special fines were imposed on the owner and land passed to public auction. In practice, it has not been enforced or has been twisted around to the landowner's advantage. Proprietors include semi-built-up land in the Register as

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[1] Calle Garcia Morato is the lower and only existing section of the often planned opening of a new road to run through the old quarter, west of the Ramblas, (Via B in Plan Cerda, Plan Baixeras, Plan Darder, Plan Vilaseca etc.). The Plan Comarcal Revision of 1976 includes its extension upwards to join with Calle Muntaner in the 'ensanche'.

a means of expelling tenants with less indemnity payment than otherwise required.

> "We see then,and our day to day experience confirms it, that the Land Law of 1956 has not been able in any way to contain one of the most serious illnesses of urban society - land speculation." (154)

The two other stated objectives of the law were to unify all existing urban legislation and to direct urban growth on a national scale. Twenty years on , it is clear that both have failed. The Law has not been the sole law relating to urban land use as it was planned to be. Many others, of a regional or local character, have since been passed (e.g. 'Actuaciones Urgentes 1970' - see Page304), often contradicting the '56 law. As for the channeling of urban growth, the first goal was to be the drawing up of a 'Plan Nacional de Urbanismo' which 20 years later has still not been done, whilst the failure of the 'growth points' policy of the first and second Development Plans in the 60's can be seen in the same light.

The Land Law was also meant to be the legal cornerstone by which urban plans such as the 'Plan Comarcal' could be enforced. But because of the lack of any Articles saying, for example, that 'Planes Parciales' shall be changed only to such and such a point, a totally lax interpretation has resulted. The law does say that any planning or construction other than the 'Plan General' "must show the state of all urban variables" but goes no further in specifying these 'urban variables'.There is, therefore, a lack of what should be a fundamental instrument in the enforcement of planning regulations and where the law is specific, it has often been ignored e.g. all 'planes generales' were to be revised every 15 years, but only in 1976 was the new 'Plan Comarcal' (which rates as a 'Plan General') passed, 25 years after the original.

In conclusion we could say that the Land Law of '56 (along with the law of 3.12.53) came nearest to providing the necessary 'teeth' for the enforcement of the 'Plan Comarcal'. But because of its vagueness and lack of specific reference to the 'Plan Parcial'/'Plan Comarcal' relationship on the one hand and the ineffectiveness and/or unwillingness of Administrative bodies to enforce it on the other, the Land Law of '56 has played little part in controlling the development of the city since 1956. [1]

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1 In 1975 certain modifications were introduced to the '56 law. These, however, have been met with widespread scepticism. For example, "the measures of the '75 law are similarly insufficient to avoid speculation. They are based on the erroneous concept that the fight against speculation will be resolved with a large supply of land... the law reflects the initial fault of not having analysed in depth the Spanish urban reality." (154)

4. TWO EXAMPLES OF ILLEGAL DEVELOPMENT - THE 'EXCEPTIONAL BUILDINGS' AND THE ENCROACHMENT ON TIBIDABO

'Exceptional Buildings' ('Edificios Singulares')

In the past 20 years there has been an increase in tertiary and quaternary activities in the central 'ensanche' and with land in increasingly short supply in the centre, promoters have turned to the construction of offices and commercial buildings of high building volumes in an effort to maximize profits. As already noted, however, building volumes were fixed in the '53 Plan Comarcal (and quoted in the 1958 Municipal Building Regulations). To get round these legal restraints, the Council have granted permits for the construction of 'exceptional buildings', that is, buildings to which existing laws and regulations do not apply.

In the introduction to the Land Law of '56, it states,

> "plans, once approval is announced, are public, executive and obligatory, not only for the administrated, but for the Administration itself too. They, (the Administration) cannot avoid the observance of these, nor effect a use or work in discordance with the regulations."

Unfortunately, this paragraph, perfectly clear in its meaning, found no concrete expression in any of the Law's articles. This has been used as one form of justification of the 'exceptional building' - i.e. they are not illegal, (even if not legal). The problem is really one of interpretation of the law by individuals and by the technical and administrative organs of the public. Article 39 states that

> "there must be greater provision of free space if, in modifying the norms, regulations or plans, the building volume is increased,"

but people have argued that with only one building this is not applicable.

The Municipal Building Regulations (i.e. those for the municipality of Barcelona- the other municipalities of the 'Comarca' had their own [1]) passed in 1958 and in force until 1968 stated that "the authorization of the construction of 'exceptional buildings' can only be for reasons of 'urban character'" and more specifically -

> "It is indispensable (for such construction) that the plot is located in one of the following places:-
> a) At the crossing point of two roads, each one at least 30 metres wide.
> b) At an outstanding vantage point on the outer wall of a 'manzana' or in a large 'plaza'.
>
> The interpretation of the above conditions will be restrictive, that is to say, that apart from the above stated conditions ... the constructions must be desirable from an urban point of view."

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[1] The accompanying pamphlet to the 76 Plan Comarcal lists, as one of the reasons for the 'erosion' of the original Plan Comarcal, "the reform of the Municipal Regulations, that in some cases has brought a considerable increase to the roof construction capacity in its (the Comarca's) municipalities, compared with the 53 plan." (165)

NO.	'EDIFICIO SINGULAR'	NUMBER OF FLOORS		1953 ZONING	1971 ZONING	USE
		BUILT	AUTHORIZED			
1	Banco de Sabadell (1969-72)	16	8	C	C	Bank and Offices
2	Banco Comercial Trans Atlantico 1957-60	18	8	C	C	Bank and Offices
3	Banco Atlantico 1967	23	8	C	C	Bank and Offices
4	Hotel Presidente 1959	19	8	E.I.	E.I.	Hotel
5	Banco de Madrid 1964-70	24	8	E.I.	E.I.	Bank and Offices
6	Windsor (Union Explosivos Rio Tinto)	12	8	C	C	Offices
7	Autopista 1963-67	20	8	E.I.	E.I.	Offices
8	Estrella Polar	20	8	R.U.I.	R.U.I.	Offices
9	Caja de Pensiones 1963	19	8	E.I.	E.I.	Housing
10	Caja de Ahorros Provincial	17	8	E.I.	R.U.I.B.A.	Housing
11	Urquinaona 1970-73	21	8	C	C	Offices
12	Atalaya de Barcelona 1969-71	23	8	R.U.I.	E.I.	Offices/Flats
13	Private 1964-70	24	8	E.I.	E.I.	Offices
14	Private 1963	15	8	E.I.	E.I.	
15	'Atarazanas' 1965-71	20	non-specified	C.A.	C.A.	offices
16	Ayuntamiento de Barcelona 1962-68	12	non-specified	C.A.	C.A.	Public Admin./ Offices
17	'Patronato Municipal de La Vivienda'	12	8	E.I.	E.I.	Offices/Public Admin.
18	Colegio de Arquitectura	8	non-specified	C.A.	C.A.	Professional College

KEY

C = Commercial (19 on Table 25) E.I. = Intensive 'Ensanche' (2)

C.A. = Old Quarter (1) R.U.I. = Intensive urban residential (4)

R.U.I.B.A. = Intensive urban residential - isolated blocks (4)

(see Figure 146 for location of these buildings) Source:- (148)

TABLE 27 'EXCEPTIONAL BUILDINGS' ('EDIFICIOS SINGULARES')

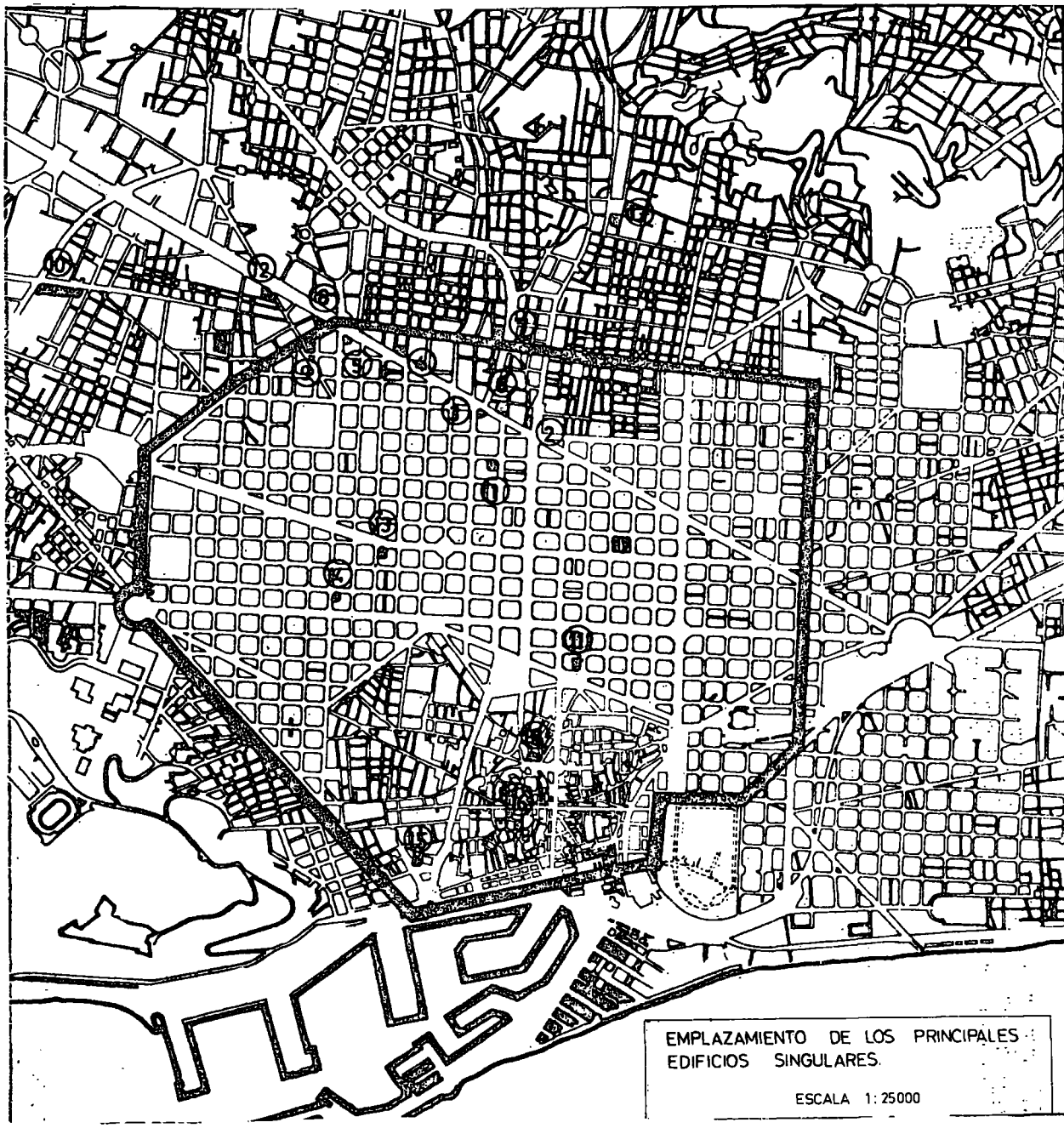


FIGURE 146 'EXCEPTIONAL BUILDINGS' ('EDIFICIOS SINGULARES') Source:- (148)
The 1968 building regulations prohibited the construction of such buildings within the thick black line. The numbers are referred to in Table 27.

The increase in building volume could be up to 36% in areas where the existing regulations restricted construction to 8 floors. This applied to all of Cerda's 'ensanche', where the majority of 'exceptional buildings' have been constructed, permitting an increase to 11 or 12 floors. Buildings were to be of 'materiales nobles' and provision was to be made for increase in parking spaces as necessary, according to usage and size of the building.

The majority of 'exceptional buildings' were built under the vigilance of the Law. Of those noted in Table 27, which is by no means exhaustive, numbers 2,3,4,9 and 16 contravene the 30 metres width rule stated above and the majority of them

have increased building volumes of more than 36%, being in the main between 100 and 200% increases.

In 1968 a circular issued by the 'Comision Provincial de Urbanismo' (C.S.O.P.B. in a new form) laid down new building regulations. Later the same year, the Municipal Building Regulations for Barcelona were changed. The 1968 circular states that "the total volume of 'exceptional buildings' ... will never be able to exceed the volume stated in vigilent regulations of the sector or zone where located," (Article 5) but permits a redistribution of volume i.e. a change of shape but not size. The new building regulations of later that year permit 10% increases in volume but only in the area outside the black line marked in Figure 146 i.e. outside the central 'ensanche'. This last mentioned measure seems to have had the desired effect. The majority of 'exceptional buildings' built in the 70's have been outside this central area, many of them on the western border in the roads Infanta Carlota and Tarragona. But height has increased with buildings of 30 or more storeys being constructed(e.g. the 30 storey building on the corner of streets Tarragona and Mallorca, the new 'Corte Ingles' (Department Store) in Diagonal, 'Torre Catalunya' and residential blocks around the new central station in Calle Infanta Carlota). It seems that there remain ways of circumventing the building regulations.

Here it is worth noting the role of municipal architects, in the pay of the local Council, in the design of these 'exceptional buildings' and indeed of many other of the urban characteristics arguably contravening existing laws (e.g. the 'Planes Parciales') within the municipality. We are talking about

> "public officials - architects, that is, architects that work in their private offices in the evenings and in the Council offices in the mornings ... In the exercise of these two functions within the same municipality (you cannot be judge and jury at the same time) great tensions have developed ... In 1967, out of the 64 architects with the greatest amount of contracts, 74% were public officials/architects." (164)

Such practices are clearly against the law. [1]

> "In the light of all this, it only remains to be said that while speculation continues to be the most accepted unwritten rule, our urban land continues to produce, perhaps in differing forms, the extraordinary and scandalous flora of the 'edificios singulares'." (9)

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[1] "The public official cannot exercise professional or private activities in the service of other entities or individuals concerning matters with which he deals in his employ as a public official." - From the 'Ley de Funcionarios Civiles de la Administracion del Estado' - Article 82-3.

Tibidabo

"Another phenomenon of this age (1953 +) was mobility, that gave rise to the establishment of 'urbanizations' for the location of secondary residences." (89)

"Tibidabo is probably the zone within the Province, perhaps within all Cataluna, where the approved legislation has been least respected." (167)

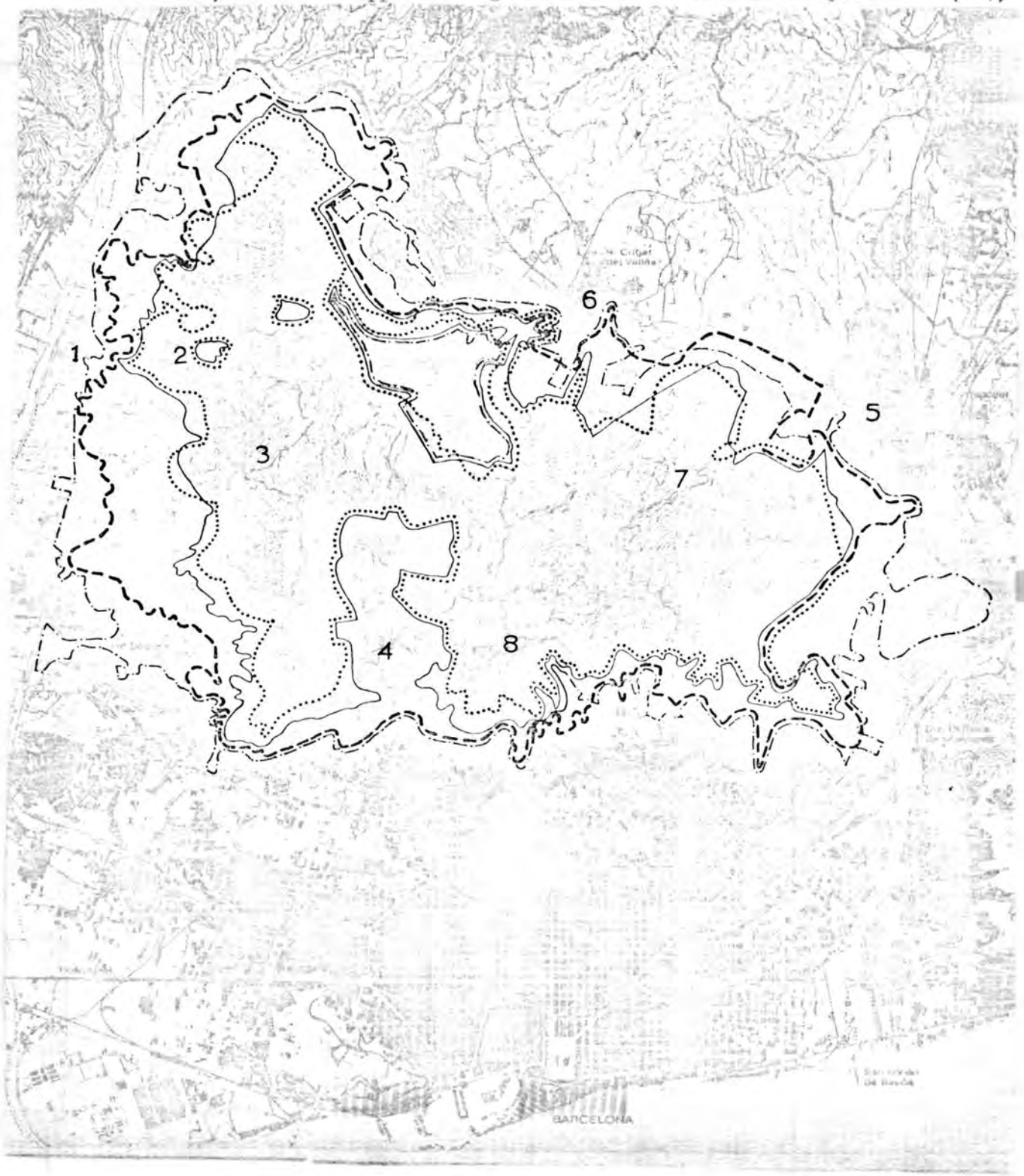


FIGURE 147 - TIBIDABO Source:- (167)

The plan shows the various delimitations of Tibidabo, the dotted line being that proposed in the Plan Comarcal 1953.

KEY

1. Molins de Rei
2. Santa Creu d'Olorde
3. Ciudad Jardin de San Bartolome.
4. Vallvidrera
5. Sardanyola
6. San Cugat
7. Can Nebot

In recent years Tibidabo or the 'Sierra de Collcerola', the mountain mass backing the city, (Figure 147) has been viewed by many as the panacea for all ills suffered within the Comarca and,indeed, the A.M.B. , particularly as Montjuich has rapidly been covered with installations of various nature (the Amusement Park, the Cemetery, the T.V. Centre, the Baseball ground) which have taken from the 'greenness' of the area. But "there is a very real danger, unless urgently needed remedies come, that within a few years the complete mountain area of Tibidabo will become an immense suburb." (167)

In the '53 Plan a total of 5000 hectares was classified as green zone of one sort or another, forming the 'Parque de Tibidabo.' This area spanned eight municipalities - Barcelona, San Cugat, Molins de Rei, Sardanyola, San Feliu de Llobregat, San Just Desvern, Papiol and Esplugas de Llobregat (Figure 142). The land was classified as either 'Parque Forestal' or 'Bosque' (wood). In the former, construction was forbidden except in special cases. The land could be used for residential (e.g. park keeper's lodge), cultural, sporting or recreational activities. The latter classification included the following restrictions:- isolated buildings, maximum height 9 metres, minimum 'parcel' size of 50,000 m^2, maximum building occupation of 0.5% of 'parcel', unifamily houses only. Possible land uses were religious, cultural, charitable, sanitary. The future of Tibidabo seemed safeguarded.

In 1972 there were eight 'clandestine urbanizations' [1] in the Sierra de Collcerola, all within the 'Parque de Tibidabo' and all but one growing in an alarming fashion, (this excludes those settlements like La Floresta, Las Planas and Vallvidrera that appeared in earlier times before 'planes parciales' or the 'Plan Comarcal' existed). All of them have been"constructed with great rapidity, disregarding even the basic urban criteria and have no architectural quality at all," (167) and besides this they are illegal in that they contravene the '53 Plan Comarcal. Their illegality is indirectly responsible for their popularity, providing the "cheapest land within 50 kilometres of Barcelona" in

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[1] These urbanizations are - San Medin, Solaire, Zona Norte, Tres Torres, Can Nebot, Santa Creu d'Olorde, Ciudad Jardin de San Bartolome and La Rierada.

an area of "dry climate, recommended by the doctors" according to the advertisements posted along the roads crossing Tibidabo. The low price is clearly not due to the generosity of proprietors, but rather because of the illegality of the settlements - new proprietors would not risk buying lands where volume of construction is, according to the law, practically zero, unless offered favourable financial compensation. Given this illegality, the whole process of urbanization and construction is reduced to a 'cheap as possible' basis, often directed by the builder himself, without the theoretically necessary signature of an architect.

San Medin typifies the worst aspects of these 'urbanizations'. It is in the municipality of San Cugat (the majority are in either this municipality or Molins de Rei). In 1968 the C.U.B. returned the 'plan parcial' of San Medin to the San Cugat Council without approval on the grounds that it was not'adjusted' to the '53 plan then in force. Despite this clear stand by the C.U.B., construction in San Medin has continued and, more alarming still, it is the Council of San Cugat itself that have promoted it. Estimates of houses in San Medin in 1971 varied between 34 and 250. It is one of the most popular areas because of the possible revaluation of land should the Tibidabo Tunnels, linking San Cugat with Barcelona, be built. In an article in the magazine 'Cuadernos de Arquitectura y Urbanismo' No. 86 (167), the secretary of the San Medin 'urbanization' was quoted as saying the following when giving advice to what he thought were prospective clients:-

> "Don't try to get building permission because it will be refused. Don't bother with an architect because he will charge a lot. It is better to deal directly with the builder ... and don't worry about the fact that it is green zone, because nobody does anything about it. All Tibidabo is in the same situation; it is similar to what happened in the Valle de Hebron (the area immediately below Tibidabo in the north-east of the city and the site of rapid 'poligono' development in the past 20 years). There, a lot was said but nothing happened. What you must do is get the water supply in and covered and then they can't touch you.[1] There hasn't been a case of a house being pulled down yet."

But is it the same all over Tibidabo? On the road from Horta to Sardanyola, there is a small settlement - Can Nebot - like the other 7 on Tibidabo, except that it is not growing. Why not? Because the Council of Sardanyola, apart from not granting building permits for those houses illegally constructed have also withheld 'habitability permits' and so, in taking a firm line, exercised

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[1] This, it seems, is the key step in establishing an 'urbanization'.

their authority and discouraged landowners and builders from attempting to make money from illegal construction.

As a rule, however, private speculators, banking on the passivity of public bodies, have respected neither the spirit nor the letter of the law, which itself is somewhat ambiguous. Nowhere has the 'public utilization' of the 'Parque de Tibidabo' (mentioned in the '53 Plan) been adequately defined. Further problems have arisen with the reclassification in 1970 of the area as 'Zona de Interes Turistico', a classification introduced in the 1956 Land Law (Article 197) with a view to developing existing areas and creating new ones where the "special circumstances are sufficiently attractive for tourist exploitation and in which the forces of private initiative and the Administration can combine to enable a satisfactory profitability of investment ..." (Land Law 1956, Article 197). This reclassification has been imposed by the C.U.B. and casts serious shadows over the future of the area with 'planes parciales' involving hotel construction on a large scale awaiting approval or rejection. Given the reclassification, however, it seems unlikely that the 'Parque de Tibidabo' will escape without some such development.

> "A worsening of the present situation could lead to a virtual disappearance of the 'Parque de Tibidabo! What remains of the green is beginning to look very black indeed." (167)

PART D THE PLAN COMARCAL (3) - 'REALIZATION'

> "The anarchical development of today's city is nothing other than the result of private enterprise taking every advantage offered it by an idealistic plan such as this. (The Plan Comarcal) For there is nothing more remote from that ideal of a collection of individual nuclei than this macro-city that extends out 'absorbing the settlements in its surrounds, transforming them into one zone of interminable expansion' to use the exact words that the Plan Comarcal used to describe the city that was to be avoided." (133)

1. THE INSTRUMENT OF REALIZATION - THE 'PLANES PARCIALES'

> "Eighteen years after the approval of the Plan Comarcal, an analysis of the situation can be made by means of a study of the implementing instrument, the 'planes parciales,' their use and abuse." (147)

A Classification of 'planes parciales' (p.p.'s)

The majority of the approved p.p.'s are located in either the municipality of Barcelona or those adjoining municipalities that collectively form an unbroken urban area - Cornella, Hospitalet, Esplugas de Llobregat, Santa Coloma de Gramanet, Badalona. In Barcelona alone, there were,in 1974, 41 approved p.p.'s

NAME OF PLAN	1. PLANS OF EXTENSION	2. REFORM		3 PLANS OF LEGALIZATION
		a. Remodel-lation	b. Change of Classification	
1. Sector Final Diagonal			X	
2. Reina Victoria			X	
3. Levante Norte	X			
4. Santa Coloma	X			
5. San Genis des Agudells			X	
6. La Guineueta	X			
7. Turo del Putxet			O	
8. Bonanova			X	
9. Les Roquetes				O
10. Montbau	X		X	
11. Paseo Maragall/Dante			X	
12. Barriada de Porta			O	
13. Sant Andreu (Casco)				X
14. Prosperidad y Verdun				X
15. Casco Antiguo				X
16. Nueva Trinidad			X	
17. Zona Norte Diagonal y Las Corts			O	
18. Sol de Baix			X	
19. Turo de la Peira			O	
20. Levante-Sur	X			
21. Sudoeste del Besos	X		X	
22. Pedralbes			O	
23. Barceloneta				X
24. Gran Via Sur			X	
25. Torre Baro				X
26. Font Magues	O		O	
27. Can Figuerola y Patronato Ribas			O	
28. Viviendas del Congreso	X			
29. Collcerola y Vall Par			O	
30. Sector Este del Pueblo Nuevo				X
31. Poligono Canellas			X	
32. Casa Ensena (first phase)			O	
33. Casa Ensena (second phase)			O	
34. Meridiana (first section)		X		
35. Paseo Zona Franca/C. Energia			O	
36. Viviendas Milans de Bosch				X
37. R.E.N.F.E.			O	
38. Tres Turons			X	X
39. Travesia Industrial de Barc.				X
40. Poligono de Zona Franca	X			
41. Trinquete			X	

TABLE 28 - A CLASSIFICATION OF 'PLANES PARCIALES' Source:- (148)

KEY X = Public Promotion O = Private Promotion

and 10 in study (Table 28). In planning literature (139,148,9,) these are classified as follows:-

(a) Plans of Extension

P.p.'s that have the principal aim of urbanizing large areas that at the time are more or less empty. This is the one type of p.p. in line with the original intentions of the Plan Comarcal, to be carried out in the 'urban reserves' to provide housing along with the necessary services ('equipamiento') and infrastructure. The original 'p.p.Levante' was a good example of how such a plan should have been drawn up, but has since been modified so that the 'equipamiento' has been sacrificed to the creation of more houses and greater profits for the promoters. To this end these plans have involved changes in land classification but on the whole they have been relatively minor adjustments, as many of these areas were intended for 'extension' of the urban area in the '53 classification anyway, even if the form of extension has differed somewhat from that foreseen in the plan.

(b) Plans of Legalization

Although these plans have involved a change of classification from the '53 plan, this has been aimed more at legalizing situations existent in 1953 rather than at facilitating new construction; for example, an area in the centre of Tres Turons (Figure 149), that in 1953 contained a variety of residences (isolated, long-established houses and more recent 'barracas') was classified as 'parque urbano' where such residences should not exist. A p.p. was later introduced (p.p. 38) to legalise their existence by introducing residential classifications.

(c) Plans of Reform

All these involve a change of classification from the '53 plan. Only one of them, however, - p.p. 34 'Meridiana' that remodelled parts of the old mixed zones around newly created road infrastructure, (Avenida de la Meridiana) - can be classed as a genuine plan of remodellation. The rest, which include nearly all the plans promoted by private initiative, had the main objective of converting areas originally intended for public use (green areas, collective services) into high-density residential zones with corresponding revaluation of land, creating vast profits ('plusvalias') for the promoters of these plans. (Figure 148 shows the changes of classification involved). Such is the case with, for example, p.p. 'Can

FIGURE 148 'PLANES PARCIALES' IN THE MUNICIPALITY OF BARCELONA 1953-71

AND CHANGES IN LAND CLASSIFICATION INTRODUCED

The circled number indicates the p.p. number as in Table 28 and the dash-dot-dash line the boundary of the area affected by the plan. Within these areas, the dotted parts are those where the p.p. involved a change of classification, and the boxed numbers show the classification (the second number) and the original '53 classification (the first number) as in Table 25.

Certain p.p.'s have introduced new land classifications not shown in Table 25. These are abbreviated as follows:-

Univ = University; U.R. = Religious Use; E.E. = Bonanova Special
S.A.E. = Isolated Suburban 'Special'; I.F. = Industry dominant
E.P.M. = 'Especial Paseo Marítimo'; B.A. = Isolated Blocks
E.B.N.T.A. = Barceloneta 'Special'

The use and building regulations are laid down in the p.p.'s themselves for these 'new' classifications.

The plan also shows 2 p.p.'s not included in Table 28

A = p.p. 'Monte Pelada'
B = p.p. 'Espana Industrial'

Source:- (148)

Figuerola y Patronato Ribas' and p.p.'s 32 and 33 'Casa Ensena' that have converted 'sanitary' zones into urban residential zones. This type of p.p. is generally accompanied by voluminous reports, attempting to justify the reclassification in terms of the 'social housing' that is thereby created. In this manner, 'public' spaces have been destroyed to serve, in the main, private interests. This type of plan also includes many originally promoted by the Local Administration (Council/ C.U.B.), modified for the worse in the legal procedure following appeals ('impugnaciones') by private individuals affected by the suggested p.p.'s. The 'reform' section of p.p. 38 -'Tres Turons', which resulted in a redefinition of the 'parque urbano', making it smaller, and the construction of large blocks of housing, is an example of such procedure. This type of private intervention in public proposals well illustrates the difficulty of transforming allocated land use of the '53 Plan into reality, and the ineffectiveness of the '56 Land law in aiding the process.

'Planes Parciales' in the Municipality of Barcelona - Some Detailed Examples

Over half the municipality of Barcelona has been affected by p.p.s changing the population potential from 2.4 million (in the '53 Plan) to 4.3 million [1] (1972), should the city be developed according to the classifications in force in 1972.[2] Similarly, in the 'comarca' as a whole the change has been from 4 million to 7.7.[3]

(a) 'Plan Parcial' Levante (now in three parts Nos. 3,20,21 in Table 28)

The original p.p. Levante was drawn up in 1953 along with the Plan Comarcal, a sort of model example of how a p.p. should be. It covered 774 acres, very large in comparison with later p.p.s, occupying an area on the city side of the River Besos, above and below the 'Gran Via,' in an area largely devoid of housing but with

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1 This figure is from source (148) and was worked out as follows:- Taking building regulations of the '53 Plan (embodied in the 1958 municipal building regulations) and applying them to all land in the municipality as it is now classified (1972), there is a potential 14,387 hectares of floor space in the municipality of Barcelona. Taking off a quarter for services and industry, we are left with 10,791 hectares of residential floor space. Working on the standard of 25 square metres per inhabitant, we arrive at the figure of a potential population of 4,312,000. Another source (139) gives the figure as "double that foreseen in the 1953 plan."

2. These figures compare with those of the '76 Revision of the Plan Comarcal (which reclassifies the whole 'comarca') of 2.2 million for the municipality of Barcelona and 4.7 million for the 'comarca' as a whole. This is made possible, theoretically at least, by the areas classified in the '76 Plan as 'Urban Renovation - transformation of existing use', which largely involves the conversion of industrial/residential areas to areas of 'free space', 'services'etc., so lessening the population potential of the 'comarca'.

3 Taken from source (149) without explanation of how arrived at.

isolated areas of old long-established industry. The original p.p. included areas of infrastructure and collective services and a segregation of residential and industrial functions with only small changes from the proposals of the 53 plan.

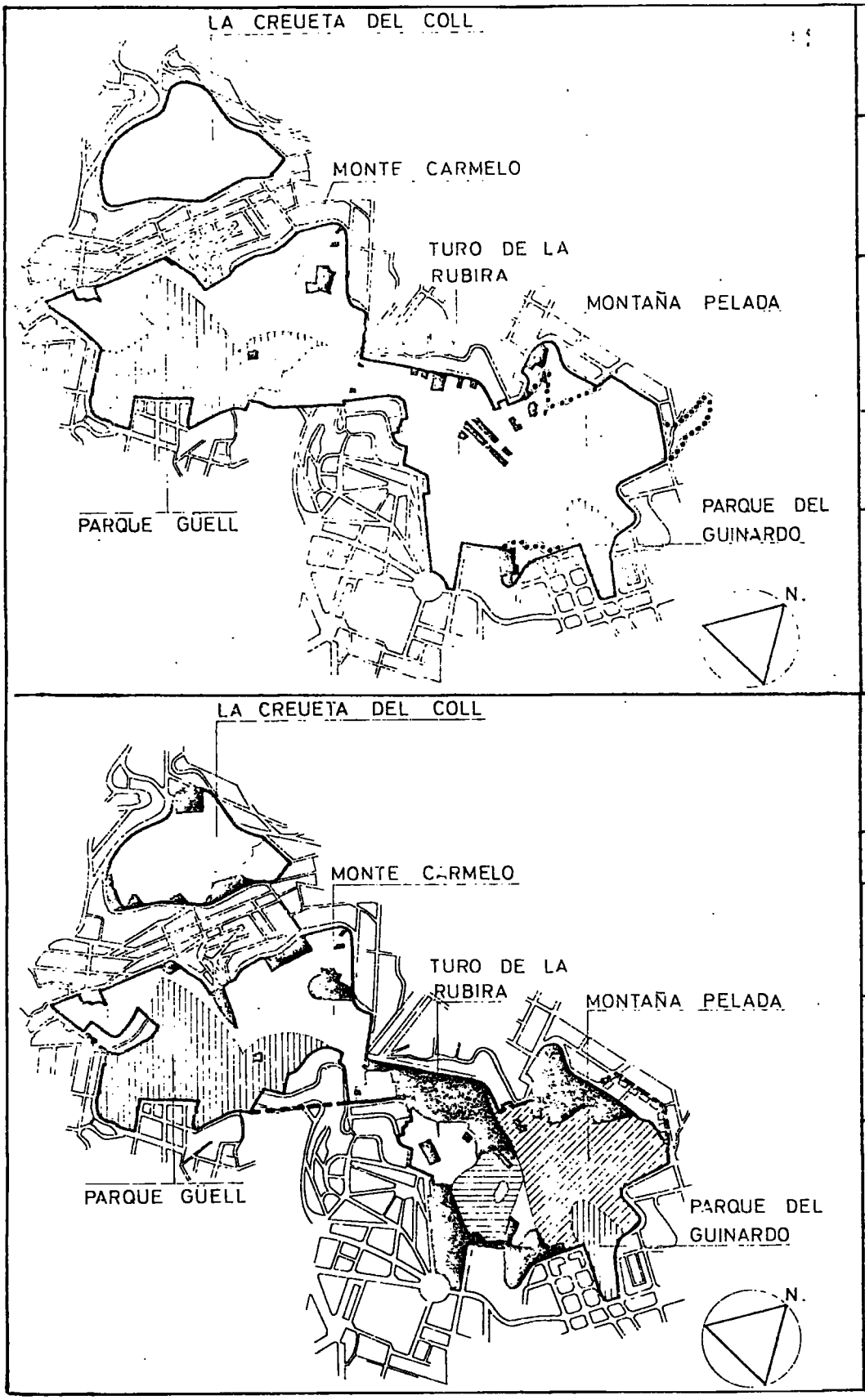
By 1971, the p.p.'Levante' had been divided into three sections, 'Levante Norte' (p.p.3), 'Levante Sur' (p.p. 20) and 'Sudoeste Besos' (p.p.21). This is difficult to justify as the whole area was originally to function as one unit, with a careful balance between housing, industry, communications and services. In practice, there has been an "anarchical and vertiginous occupation of the land" (148) reflected in the mixed residential/industrial classifications shown in Figure 148.

> "The zone 'Levante' of Barcelona that originally had a combined industrial/agricultural land use has been transformed in recent years into a 'mixed zone' with an industrial/residential land use ... Two factors have great influence on the condition of life in this zone. First, the abundance of industries incompatible with housing (iron foundries, chemical works, power stations) making it one of the most polluted areas of Barcelona. Second, its proximity to the Besos, frequently producing a 'smog' effect." (159)

But the juxtapositioning of industrial and residential zones is not the only way in which the original plan has been changed. Where a population of 150,000 people were foreseen within 50 years, new 'barrios' of great housing blocks ('poligonos') have appeared, already housing more than this figure. The three main 'poligonos' are 'La Paz' (in p.p.20), San Martin (in p.p.3) and South West Besos (p.p.21), all the result of public promotion, the O.S.H.,the C.U.B. and the P.M.V. respectively. "The main criticism that must be made of this p.p. is the total absence of space for collective services" (148, in reference to p.p. 3 Levante Norte) ,which is equally true of the majority of p.p.s involving massive house construction undertaken whilst the '53 plan was in force.

(b) 'Plan Parcial' No. 38 - Tres Turons

The Tres Turons (three hills) lie in the upper part of the city (Figure 148) and consist of three hills, Coll, Carmelo, and Pelada. Historically, they form an area of low level, low density building, added to in the 50's by anarchical auto-construction as a result of the mass immigration of the age. In 1953 the three hills were classified as 'Parque Urbano' (Figure 149). At the time there existed two 'equipped' parks - Güell and Guinardo, the rest of the area being largely open ground but with some buildings, mainly in the lower lying areas. All this land was to be acquired through expropriation and the inhabitants rehoused elsewhere



KEY

- Corrected 1953 Delimitation of Urban Park
- Situación 1953 — Delimitation of Urban Park 1953
- Area equipped as a Park
- Area Illegally Occupied
- Situación 1971 — Present Delimitation of Urban Park (1971)
- Delimitation in 1953
- Area equipped as a Park
- Area acquired by the Council for a Park
- Group of 'barracas' with municipal licence
- Area illegally occupie

FIGURE 149 'TRES TURONS'

By referring to Figure 148 and Table 25 the various changes introduced by p.p.38 Tres Turons can be traced. These reveal that more or less the same amount of land has officially been added to the 'parque urbano' as has been taken away. But the 1971 situation (above) shows many of these small areas are largely built-up anyway. "Are these investments (i.e. the acquisition of such land) in line with the real necessities? Aren't they the other side of the policy that authorizes construction, totally against the law, in the already existent parks?" (168) In fact, the boundary of the area of 'parque urbano', originally shown in the above Figure, is wrong. The correct boundary is overmarked in black dots (and orange).

Source:- (168)

with the aim of uniting the two existent parks.

In 1967 the p.p. Tres Turons legalised three built up areas that had been largely developed in the years since 1953, resulting in three large cuts in the area originally classified as 'parque urbano', the area to the left of Güell becoming 'urbanized wood', permitting limited building (Table 25), the others becoming a variety of residential classifications (semi-intensive, urban residential, intensive city-garden). But, apart from this legalization of an existing situation, the p.p. also resulted in new construction in the park. This followed the Council's acquisition of part of the 'parque urbano', by means of the 'voluntary cession by individuals.' This strange legal process involves the Council striking a bargain with the landowners whereby the latter are permitted to build on 6% of their property and the former gain ownership of the rest. The result is residential blocks of 7 to 11 storeys within what is still technically 'parque urbano' around the streets of Francesc Alegre, Plaza de la Fuente Castellana and Tenerife, at the bottom side of the park, facing south.

In 1971, of the 90 hectares classified as 'parque urbano' only 25 could really be counted as such, with a theoretical reserve of 65 hectares. But to convert this reserve would involve the rehousing of 15,000 people illegally settled there. This seems hardly likely; rather, occupation of the 'urban park' will probably increase. In the 70's a further p.p. ('Nuestra Senora del Coll')has re-classified parts of Coll,which is now the site of construction of five floor blocks of flats. In the light of what has happened since 1953, it is hard to envisage the directives of the 1976 Plan Comarcal,(which provide for a 'transformation' of much of this area back to urban park) being carried through, although they may well be used as a pretext for evicting the 'barraquistas', who have settled in the area,as part of the Council's present policy of 'cleaning-up' the city.

'Planes Parciales' in the rest of the 'Comarca'

Of the p.p.s passed in the 'comarca' outside the municipality of Barcelona (Figure 150), the majority have been located in the area nearest the city - Hospitalet, Esplugas, Santa Coloma, Badalona, Cornella, reflecting the monopolous structure within the 'comarca'.

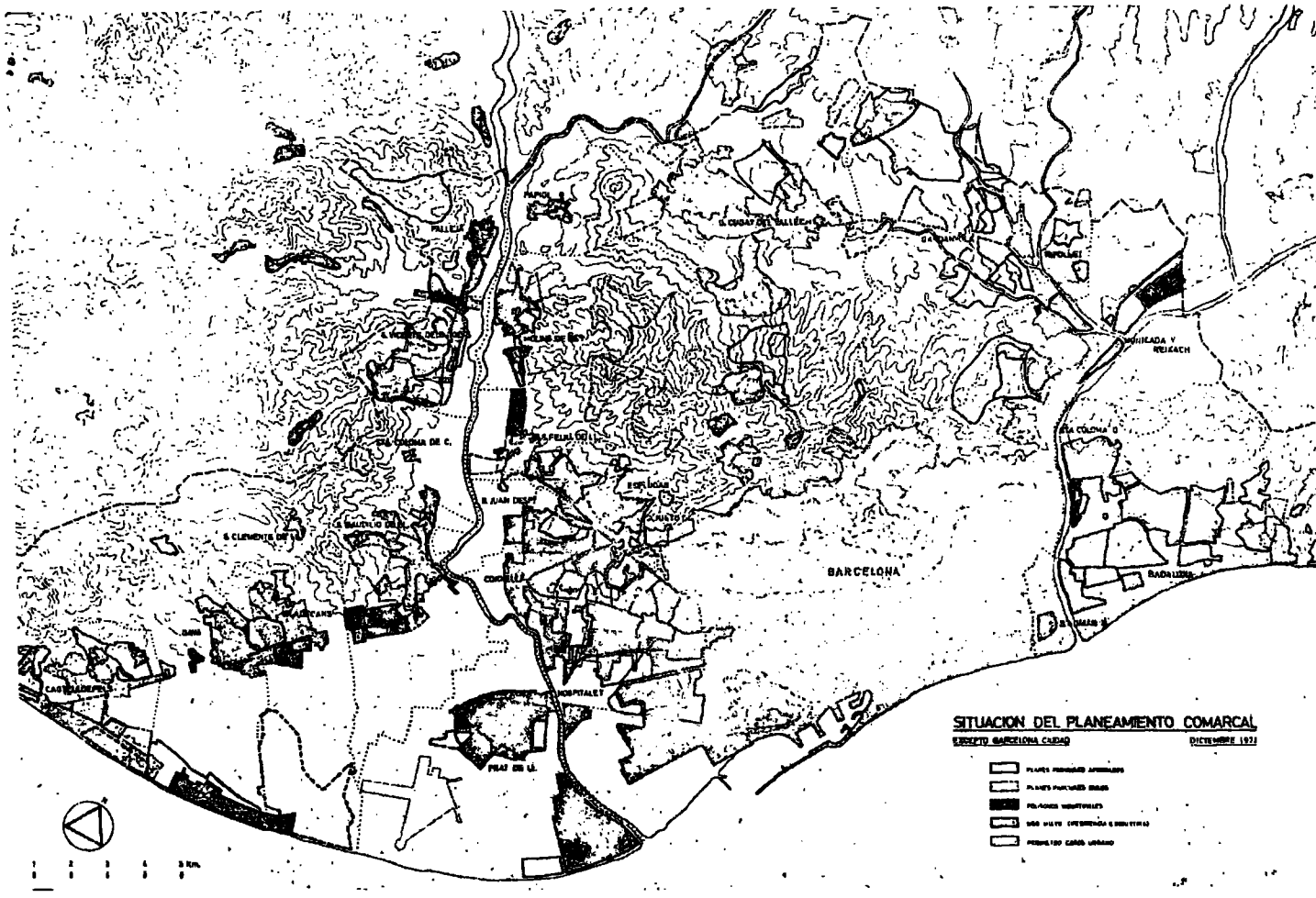


FIGURE 150 'PLANES PARCIALES' IN THE COMARCA OUTSIDE THE MUNICIPALITY OF BARCELONA (1971) Source:- (147)

The key at the bottom right reads as follows (top to bottom):-

Passed 'planes parciales'
'Planes parciales' not passed (by C.U.B./M.V.)
Industrial 'poligonos' (estates)
Mixed use (industrial and residential)
Built-up area

Note particularly the concentration of p.p.s to the immediate left of Barcelona in the municipalities of Hospitalet, Cornella, Esplugas and to the right in Santa Coloma and Badalona.

> "The Plan Comarcal ... proposed the creation of self-sufficient nuclei, situated in the periphery of the great metropolis; today, these 'self-sufficient nuclei' appear as dormitory cities, of which San Ildefonso (in the municipality of Cornella) is a good example ... Just as the 'poligono' of Bellvitge (in Hospitalet), this area has been affected by plans that have progressively increased the building volume and so the profitability of landowning." (164)

A study of p.p.s passed in the decade 1960-70 shows other quantitative changes, e.g. increase in industrial areas, decrease in 'free zones,' showing an overall qualitative decline (Figure 151). But a further qualitative change is hidden by these figures. Many of the residential zones of the '53 Plan have been changed to residential zones of higher building volume (e.g. 20% of areas

classified as city-garden in 1953 have been reclassified to permit higher building volumes). 60% of the losses to 'equipamientos' (collective services) have been reclassified as industrial areas.

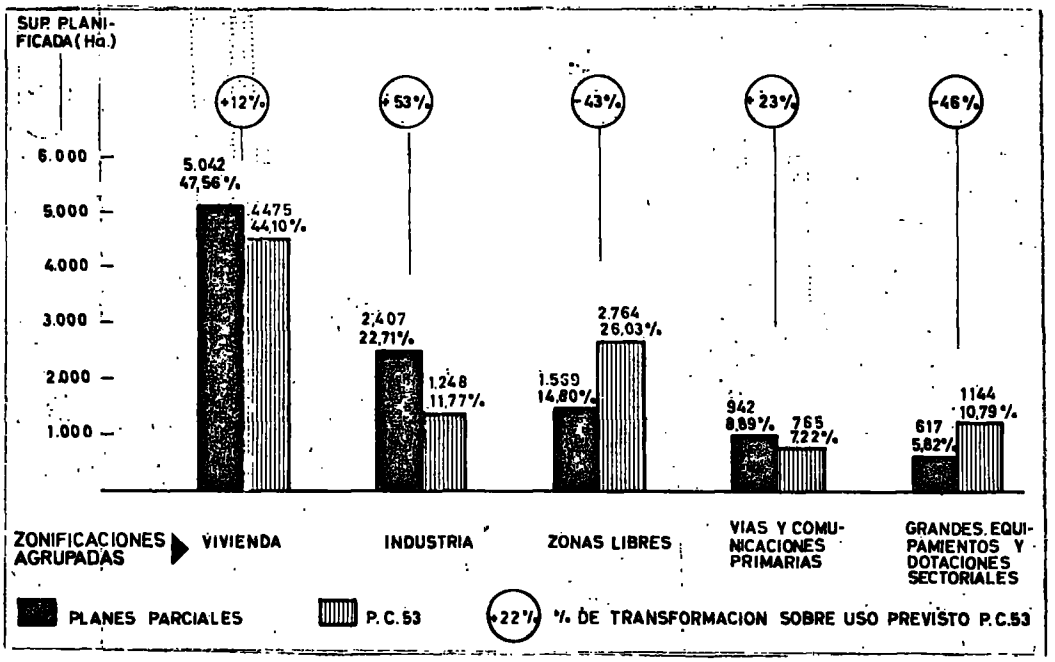


FIGURE 151 'PLANES PARCIALES' IN THE COMARCA AS A WHOLE. CHANGE OF LAND USE 1960-70 Source:- (147)

These p.p.s affected about 16,500 hectares, about one third of the 'comarca' as a whole. The dark columns on the left show the land use proposed in the p.p.s and the columns on the right that of the '53 Plan Comarcal. Above, the area in hectares (top) and percentage of total area (below). The circled figure further up shows percentage change introduced by p.p.s compared with the '53 zoning.

The five groupings of land-use are, left to right:-

Housing (vivienda)
Industry (industria)
Free Zones (zonas libres)
Primary Roads and Communications (vias y communicaciones primarias)
Collective Services (excluding free zones) (grandes equipamientos y Dotaciones Sectoriales)

Many other p.p.s are covered in detail in the Spanish Literature (e.g. 9, 148, 164), including those that were not passed because of effective opposition from the public e.g. the Plan de la Ribera, that proposed a complete remodellation of the coastal zone between the old quarter and the River Besos, replacing old and partly obselete industrial installations and the poorer housing areas of Pueblo Nuevo and San Martin with luxury apartments bordering the sea. The examples given here, however, seem adequate to illustrate the prevailing characteristics of these plans.

"The role of the 'planes parciales' in the process of urbanization of the past 20 years could not be more depressing. Although some have served for the urbanization of certain parts of the city by means of the opening of streets and some have ensured the provision of certain infrastructural accessories like drainage systems, they have, in general, served as one of the principal instruments of land speculation. The drawing up of a p.p. means, as we see it, the revaluation of land that was otherwise not sufficiently profit-producing for private initiative." (133)

2. AN EXAMINATION OF ONE VARIABLE (1953 COMPARED WITH 1970) - FREE SPACE

The Plan Comarcal Revision of 1976 contains a greater area devoted to 'free spaces, parks and gardens' than the '53 Plan, but this is a reflection more of the high percentage of planned changes in the '76 Plan than of any increase in such land use in the period since 1953. Indeed, at present, the gap between planning classification and what happens on the ground seems wider than ever.

A more accurate impression of what has happened since 1953 is given by certain of the studies published in some of the 'rationalist' planning magazines, particularly 'C.A.U.' and 'Cuadernos de Arquitectura y Urbanismo.' One of these (150) attempts a study of 'free spaces' over the period 1953-70 and it is from this that the following information is taken. Here, rather than concentrate on changes of classification introduced by the p.p.s, emphasis is given more to what has actually been going on within given classifications and is a broader and more quantitative study of the type of processes mentioned earlier in connection with Tibidabo and the 'Tres Turons.' It introduces the following concepts:-

Zoned Free Space (ZFS)

All areas classified as 'Sports Zone','Recreational Zone', 'Urban Park', 'Forest Park', 'Private Green area', 'Protection of the Countryside', 'Protection of Roads' or 'Wood' in the'53 plan or subsequent p.p.s (i.e. nos. 27,28,30,31,32, 33,34,38 on Table 25).

Useable Free Space(UFS)

This includes,
a) all areas of ZFS that are 'equipped' with installations as necessary to render the zone useable,
and b) Beach and Wood, which although not necessarily 'equipped' in any way, are accessible and open to public use.

Vacant Free Space(VFS)

Areas of ZFS that because of lack of either equipment or accessibility are not satisfactorily useable. This excludes all agricultural land.

Occupied Free Space (O.F.S.)

Areas of ZFS that are rendered non-useable as regards the public because of occupation by buildings, of a temporary nature or otherwise, land use or extreme topographical conditions (e.g. very steep gradients).
(in theory, at least, ZFS = UFS + VFS + OFS, but occasionally certain small areas are included in the calculations that were not zoned (e.g. an area of beach not classified in the '53 Plan) and a few small discrepancies appear.)

The Built-up Area (bua) and the non-built-up area (nbua)

This division is used to emphasise the direct and immediate effect of losses of free space when concentrated in the former.

The Barcelona Conurbation

The municipalities of San Adrian, Santa Coloma, Badalona and Montgat on the Besos side; Barcelona itself, and Hospitalet, Esplugas, Cornella, San Just Desvern, Sant Joan Despi and San Feliu de Llobregat on the other (Llobregat) side. This is the area where losses of free space have been most severe.

	BUILT UP AREA		NON-BUILT UP AREA		TOTAL COMARCA		M^2 PER INHABITANT		
	Area in Hectares	Area %	Area in Hectares	Area %	Area in Hectares	Area %	BUA	NBUA	Total Comarca
ZFS	884.5	100	10,551.8	100	11,436.3	100	3.3	39.1	42.4
UFS	186.6	21.1	1,990.0	18.4	2,125.6	18.5	0.7	7.2	7.9
VFS	269.8	30.5	8,208.5	77.8	8,478.3	74.2	1.0	30.4	31.4
OFS	428.1	48.3	403.3	3.8	831.4	7.3	1.6	1.5	3.1

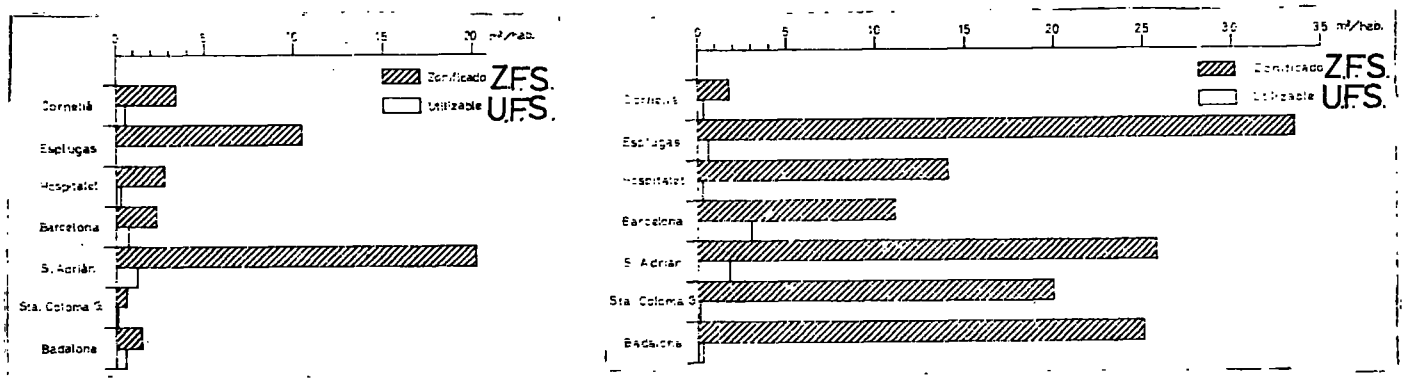
TABLE 29 FREE SPACE IN THE COMARCA 1970

The seven left hand columns are from source (151). Taking the population of the 'comarca' in 1970 as 2.7 million the three right hand columns have been calculated, giving square metres of free space per inhabitant. To each inhabitant in 1970 there existed 3.3 M^2 of ZFS in the bua and 39.1 M^2 ZFS in the nbua, a total of 42.4 M^2. But of this, only 0.7 m^2 of UFS existed in the bua and 7.2m^2 in the nbua.

As Table 29 shows, the UFS in the 'Comarca' as a whole is less than one fifth of the total ZFS; the OFS is 48.3% in bua and if the municipality of Barcelona is excluded, the figure is much higher (64.9%), being highest of all in Castelldefels (where GATCPAC planned their city of repose in the 1930's),

a staggering 95%.

The situation is notably worse in the Barcelona Conurbation (Figure 152), the UFS being zero in the bua in Esplugas. In Barcelona itself the ZFS is 13.3 square metres per inhabitant,2.3 in bua and 11.0 in nbua , itself low in European terms (c.f. Holland 25 square metres per inhabitant minimum, Hanover 78 and Rome 46 (151)), but the UFS figure is as low as 3.8 square metres per inhabitant for the municipality as a whole and yet this figure is higher than any other in the Barcelona Conurbation. It also disguises internal differences within Barcelona itself. (Figure 153)



Built up area Non Built up area

FIGURE 152 'ZFS' AND 'UFS' (SQUARE METRES PER INHABITANT) IN THE BARCELONA CONURBATION Source:-(151)

Figure 155 shows the different types of ZFS in the Conurbation in 1971, revealing the illegal loss of free space (OFS). But to this we must add the legal loss since 1953 (i.e that lost in 'planes parciales'). Figure 154 shows how the net legal loss of free space has, in fact, been greater than the illegal loss (OFS) since 1953 in some of the municipalities of the Barcelona Conurbation. It must be emphasized that the losses of free space have largely occurred in the built up areas and have therefore had an immediate impact :-

> "The systematic lessening of free spaces ... has produced innumerable losses, the rectification of which is in many cases impossible given the phenomenal costs involved. We can succinctly list the urban repercussions of this policy ... - progressive reduction in the levels of physical hygiene and mental health, increasing difficulty in provision of 'social' services that should go with housing, progressive deterioration of work conditions, growing difficulties of access via both collective and private means, disproportionate increases in cost of public transport and of necessary infrastructural works, deterioration of environmental standards, loss of 'significant' spaces and places, in short, the destruction of urban values." (151)

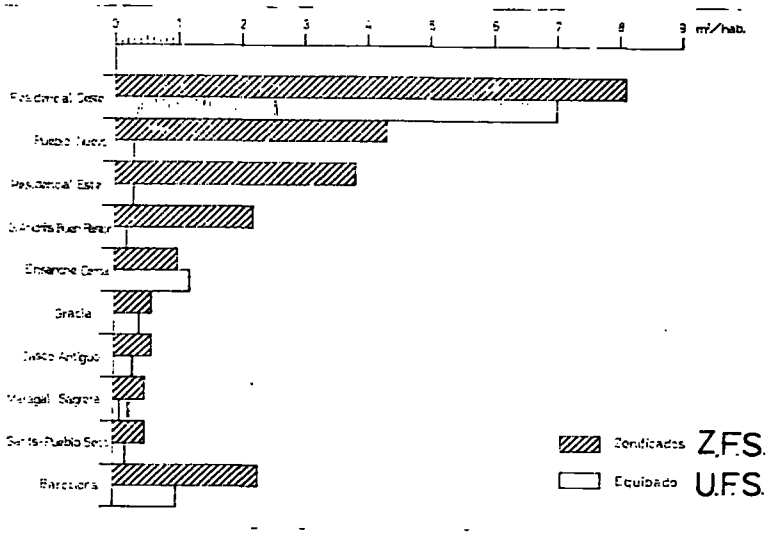


FIGURE 153 ZFS AND UFS IN THE MUNICIPALITY OF BARCELONA (for definition of each 'area' see Figure 157) Source:- (151)

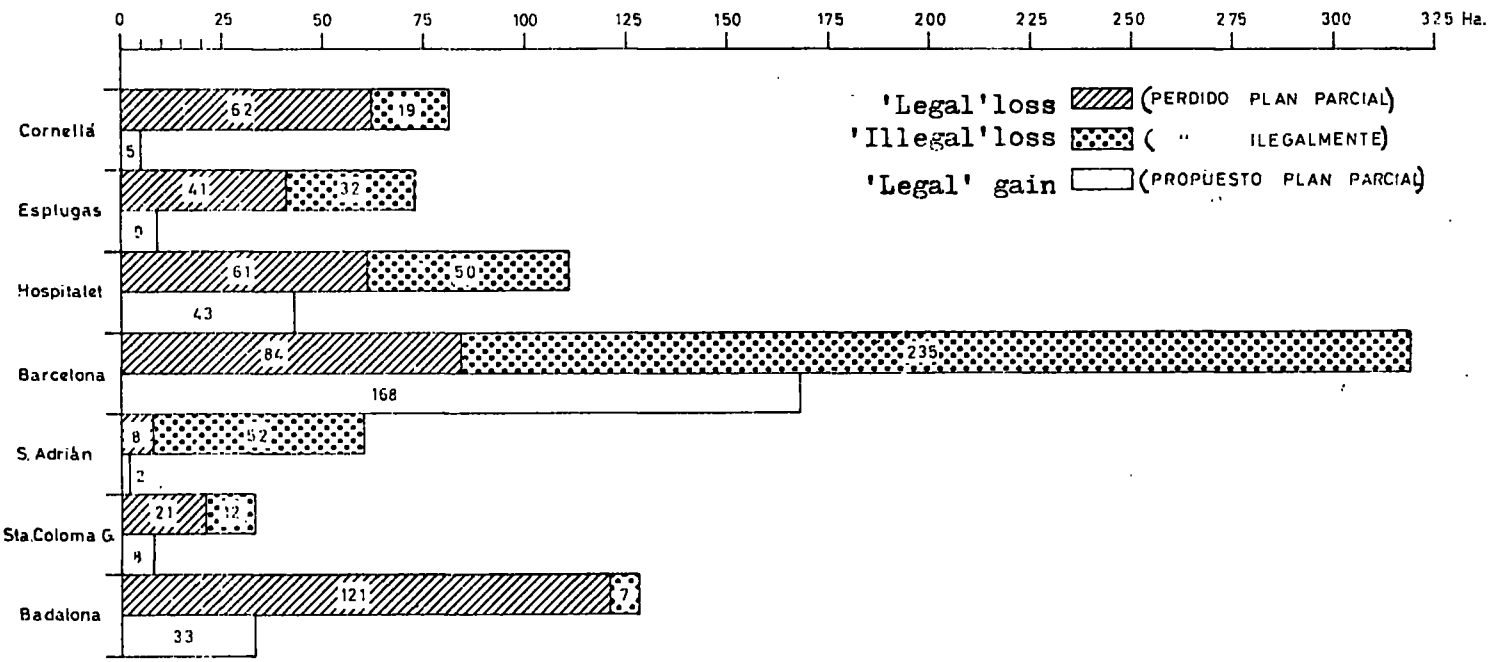


FIGURE 154 'LEGAL' AND 'ILLEGAL' LOSS OF FREE SPACE IN THE BARCELONA CONURBATION 1953-70 Source:-(151)

Within the conurbation, Barcelona is the only municipality where legal gain is greater than legal loss, but this is somewhat overshadowed by the illegal loss of 235 hectares. It must also be remembered that free space areas proposed in 'planes parciales' (i.e. legal gain) do not always correspond to the '53 classifications and may well be for use by a particular sector of the public only (e.g. private tennis clubs). In the whole 'comarca', the figures are as follows (in hectares):-

Legal loss - 830.5 Legal gain - 367.5 Illegal loss (O.F.S.) - 831.4

Overall loss - 1,294.4



FIGURE 155 ZFS IN THE BARCELONA CONURBATION 1971

Source:- (151)

PART E. HOUSING (2) THE LARGE SCALE CONSTRUCTION OF THE 1950'S AND 1960'S

> "Because of its social-economic structure and the diversity of its zones, Barcelona occupies an intermediate place between the great cities of an industrial economy, with which it has in common the types of growth, and the cities of the underdeveloped world, with which it shares the demographic and economic pressures of the rural areas and the struggle of the labour market to absorb them." 1964 P. George (171)

1. BACKGROUND

The 1950's saw the appearance of new phenomena that influenced the rhythm and scale of urban growth and urban politics, with the housing shortage at the centre of both.

This era saw the emergence of the country from the 'fase autarquia' when Spain had been largely cut off economically, socially and politically from the rest of the world. Of particular importance were the trading agreements made with the U.S.A. in 1953, bringing raw materials, agricultural surpluses and machinery to the country. The consequent stimulus to industrial and urban growth was helped along by the post-war works of reconstruction, by then largely finished, and the post-war investments in infrastructure, which were beginning to pay dividends. After an initial period of inflationary growth, both production and consumption levels had increased by the middle of the decade, the pre-war levels being attained only at the end of the 1950's, when a policy of restriction and stabilization was introduced to consolidate the recovery.

Once this fragile industrial and commercial reactiviation was underway, the cities with an industrial base received an unbroken flow of immigrants from the rural regions, particularly the "southern regions where the birthrate was high and the 'latifundio' restricted possibilities of economic advancement and from the mountainous regions of the northwest, even if to a lesser degree." (171)

Exit routes abroad were also blocked off until the end of the 50's (Europe was still not receiving foreign workers and South America was in full economic crisis). Between 1950 and 1960 the population of the municipality of Barcelona grew by almost 300,000 and that of the 'comarca' by nearly half a million (Table 24), which included an immigration of 350,000 between 1952 and 1958 alone. The growth in the 'comarca' (excluding the municipality of Barcelona) is particularly significant, being very slow until 1940 then jumping to a 2% annual

increase in the 40's and to a 7% annual increase in the 50's (Table 24).

The deficits of the previous decade rapidly multiplied and the anarchical peripheral growth and swelling of numbers in the 'barracas' threatened the city with collapse. With the lack of any firm initiative from the Administration, the situation rapidly became explosive. The 'resistencia de la poblacion' began to make itself felt. The 1951 General Strike in Barcelona was repeated in 1956 and from then on at shorter intervals. The population encamped in 'barracas' represented a latent power that forced the Administration to take notice. Public concern for living standards, the 'barracas', the suburbs, the children and the immigrants grew and demonstration of public awareness was shown by such events as the 'Housing Exposition' and the 'Week of the Suburb' in the city in 1957.

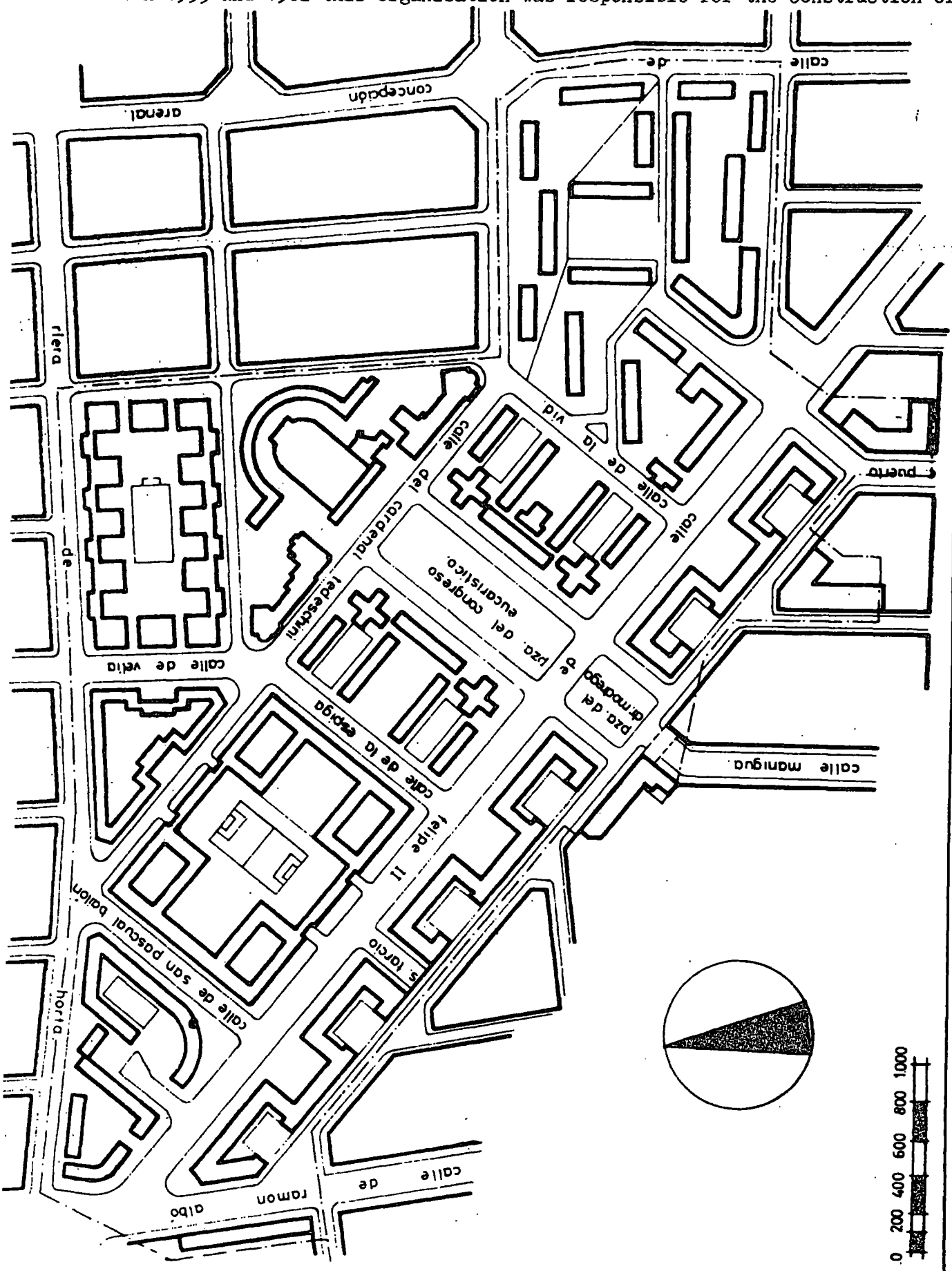
2. THE CONSTRUCTION OF 'SOCIAL HOUSING' - GOVERNMENT HOUSING POLICY IN THE 1950'S

Faced with the crisis situation of the 50's, the Government were forced to adopt a housing and urban policy far more ambitious than anything previously attempted. In the early 50's the construction of 'social Housing' ('vivienda social'- this really means housing constructed for the poorer members of society who would otherwise not be capable of buying or renting a house in the open market) began,undertaken by two semi-public bodies. The result was two housing estates, both completed in 1952, Can Ros (promoted by the Eucaristic Congress - see Figure 156), which paradoxically catered for the middle-class,and 'Grupo de Verdun' in the northern outskirts of the municipality(promoted by the 'Gobernador Civil'). It was not until the middle 50's that what could be called the 'big guns' of public promotion - the O.S.H. (the state body), the P.M.V. (the local body under the wing of the Council) and the C.U.B. (the comarcal planning body) in that order of importance - became wholeheartedly involved. Much of this was due to the urban initiative shown by the Eucaristic Congress of 1952.

> "In the 50's the O.S.H. adopted a new style which came largely from the new atmosphere within the city. In 1951 a social tension, without precedent in the post-war, brought about the re-establishment of a certain normality; the rationing of food disappeared, as did the restrictions on electricity consumption. The Eucaristic Congress of 1952 seemed to pour oil on troubled waters, illuminating the Cathedral and the church of the 'Sagrada Familia', getting rid of a considerable mass of 'barracas' in the 'cleaning-up' of Diagonal as a preliminary to the Congress and producing the initiative that led to the construction of the 'Viviendas del Congreso." (160)

FIGURE 156 'VIVIENDAS DEL CONGRESO EUCARISTICO' - (CAN ROS)

The 35th International Eucaristic Congress was held in the Plaza Pio XII in Diagonal, between Pedralbes and Las Corts in 1952. Urban themes figured very strongly in the Congress and Bishop Modrego was a leading figure in urban affairs throughout the 50's. Between 1953 and 1962 this organisation was responsible for the construction of



2,719 houses in Barcelona, the most well-known being Can Ros ('Viviendas del Congreso Eucaristico' between San Andres and Horta). The inhabitants of this 'poligono' were chosen by the promoters - it was an attempt to create a Catholic 'barrio' of practicing Catholics and was therefore largely middle-class. Internally it was urbanistically of a high quality but isolated physically and culturally from the surrounding area. Source:- (92)

It is a pity that the P.M.V. did not make a better job of rehousing the displaced 'barraquistas'. They were moved to the infamous 'Can Clos', the first P.M.V. 'poligono' of any size, at the southern foot of Montjuich, built in record time - 28 days - to house 3,000 people.

> "The 'barraquistas' from Diagonal thought they had been brought to a concentration camp when they arrived to see the barbed wire fences. They were moved in lorries with their furniture, having been given five days notice of their resettlement. They were left in a wheat field and given the keys to their new houses and the wicks for the coal fires where they would have to cook. As there were not enough houses, two or three families had to inhabit each house." (164)

Two years later, in 1954, three O.S.H. 'poligonos' were built - two in the northern suburbs - 'Verdun' and 'Trinidad Nueva' and one in Hospitalet - 'Onesimo Redondo'. And so began a process that became the customary policy of the O.S.H.- that of almost never respecting the planning regulations in force (usually they omitted to draw up a 'plan parcial'). In Verdun the building volume was 3.7 times higher than that laid down in the Plan Comarcal and 3.9 times higher in Trinidad. Because of the peripheral character of these 'barrios', the accessibility level is very low and services insufficient, constructed late or not at all. "But the process of colonization of urban land had begun in force, the beginning of a new stage in the growth of Barcelona." (160)

Indeed it was. In 1955 the 'Plan Sindical de la Vivienda' made provision for the construction of 550,000 houses in all Spain in the years 1955-59 (of which three-quarters were built). In 1957 the Ministry of Housing was created, in an attempt to initiate a new housing policy in which the O.S.H. would play a leading part. However, in 1957, there began,on a national scale, a policy of restriction to stabilize and consolidate the economic gains of the decade, formally expressed in the 'Plan de Estabilizacion' of 1959, which had the general effect of lessening private investment and led to the bankruptcy of many small firms in Cataluna. But, at the same time, other legislation (Plan de Viviendas Subvencionadas 1957, Plan de Urgencia Social 1957) was passed which added to the 'Ley de Rentas Limitadas' of 1954, aimed at giving private capital a far greater participation in house construction and particularly 'social housing'. And so, paradoxically, in a period of restriction on private capital, the number of houses constructed by private enterprise (with state aid - largely subsidies or 'limited rent' accomodation) doubled from 66,738 in all Spain in 1954 to 125,175 in 1959, whilst those constructed

by the O.S.H. fell from 34,700 to 9,774 over the same period. This apparent contradiction between the 'Plan de Urgencia Social' on the one hand and the 'Plan de Estabilizacion' on the other, reflected the top priority given to keeping the construction firms going, even within the austere economic climate of stabilization, and meant the confirmation, by public and private promotion alike, of the policy started by the O.S.H. of providing houses of reduced dimensions at minimum cost.

Between 1953 and 1958 40,000 housing units were built in the municipality of Barcelona. As immigration alone created a demand for 50,000 new houses in these years and the deficit at the beginning of the decade was about 80,000 houses, the deficit at the end of the 50's is estimated at 100,000. The peripheral expansion of these years in Barcelona and also outside the municipality, in Hospitalet and Badalona, created housing areas lacking in collective services, even more than in the saturated central area of 'ensanche', multiplying the problems of public transport, road infrastructure, schools, drainage, parking etc. It was this development that led Bishop Modrego to talk of 'them' and 'us' at the 'Week of the Suburb', celebrated in Barcelona in 1957, 'us' referring to the 175,000 or more people living in the suburbs of the Barcelona municipality at the time (Table 30) of which about a third lived in 'barracas' or 'coreas'. [1]

TABLE 30 - THE SUBURBS 1957

1957:- according to Modrego and his religious socialists, it was possible to distinguish 6 'zones' within the suburbs -

	Population
Zone 1 - Sector Montjuich	52,377
Zone 2 - Sector Sants	19,200
Zone 3 - Sector Norte: Ramon Albo, Verdun, Prosperidad, Trinidad, Torre del Baro, Can Guineueta	43,307
Zone 4 - Sector Levante: Baron de Viver, Milans de Bosch, La Verneda, Ronda de Sant Martin	22,300
Zone 5 - Sector Maritimo	30,289
Zone 6 - Enclaves of Carmelo, Guinardo, Hospital de Sant Pau, Car Carallen	9,630
TOTAL	177,103

All these areas are within the municipality of Barcelona. Source:- (92)

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[1] 'Corea' means something slightly different from 'barraca', although the latter term, perhaps incorrectly, is often used to cover both. A 'corea' is decidedly sturdier and usually a little larger than a 'barraca' and as they appear in 1976 are generally made of brick and cement and may even have a tiled roof, almost like a tiny bungalow. Most of them were built in the 50's (Corea = Korea- for some reason these houses took the name of the war that was going on about the time of their construction).

3. 'POLIGONOS' AND PUBLIC PROMOTION IN THE SIXTIES

> "From the shameful quality of houses constructed through illegal trespasses to the succession of swindles, the construction of housing in these years (the late 50's and 60's) involved every type of workable dirty business deal, at the expense of the public exchequer." (139)

In the 1960's 170,000 housing units were constructed in the municipality of Barcelona, a third of the total number of houses existing in the same area in 1970 and 46% if Cerda's 'ensanche' and the old quarter are excluded. Of this increase, about 10% was the result of 'public' promotion (O.S.H., P.M.V., largely north of an imaginary line drawn between Gracia and Pueblo Nuevo), built in 'poligonos' increasingly large both in the number of houses constructed (Table 31) and the height of construction.

YEAR	HOUSES BUILT BY 'PUBLIC' PROMOTION	FLOOR SPACE BUILT (M^2)	AVERAGE FLOOR SPACE PER HOUSE (M^2)	SIZE OF PROMOTION
1950-54	3,667	207,634	56.62	All less than 1,000 houses
1955-59	7,078	513,895	72.60	In the main between 1,000 and 1,500
1960-64	8,398	587,510	69.96	All above 1,500
1965-69	8,055	578,779	71.85	All above 1,500
TOTAL	27,198	1,887,818	69.4	

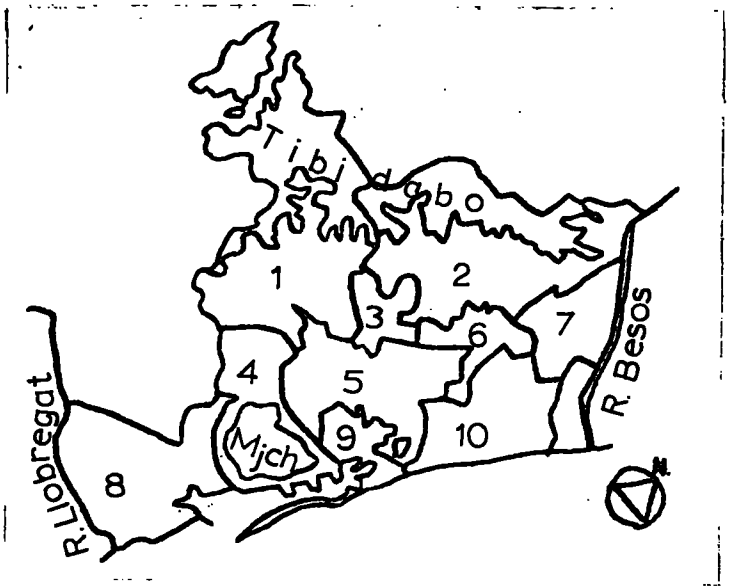
TABLE 31 - 'PUBLIC' PROMOTION OF HOUSING 1950-69 Source:- (131)

In the period 1950-69 there were 44 'public' promotions, of which 31 were of less than 500 houses, largely in the early and mid 50's, - the 'social' housing typified by box-like constructions of two, three or four storeys, producing a total of 5,032 houses. The vast majority of houses (20,000 plus) have come in promotions of more than 1,000 houses - the 'poligonos' of the 60's e.g. South-west Besos, (promoted by P.M.V.) - 4,985 houses; La Paz (O.S.H.) - 2,499 houses.

Although in absolute terms, this public promotion maintained its impetus from 1955 onwards (Table 31), it declined in importance in relative terms. Between 1965 and 1969 the 8,055 'publicly' promoted houses constituted only 7.4% of the total constructed (c.f. 11.64% during the period 1960-64). The rest came from what is usually called 'private'promotion, but which, in fact, are publicly subsidized and protected, privately owned construction firms, which came to the fore in the late 50's following the passing of the 'Ley de Urgencia Social'

(discussed above) and which have been of increasing importance ever since (or at least until the last two years when the construction industry has suffered badly from the economic recession and a series of strikes).

The results of this policy may be summarized as follows:- with the cost of land in the centre and 'upper' (west) Barcelona higher than ever (made worse by the increasing concentration of tertiary and quaternary services in this area) and the absence of an effective regulating plan, large-scale 'poligono' construction has been concentrated in the peripheral, poorly urbanized areas where the price of land is cheaper. In the municipality of Barcelona areas 2,6,7, and 10 (Figure 157) were of particular importance in the 60's, reflected in the



1. West Residential
2. East Residential
3. Gracia
4. Sants - Pueblo Seco
5. Cerda's 'Ensanche'
6. Maragall - Sagrera
7. San Andres - Buen Pastor
8. Zona Franca
9. Casco Antiguo
10. Pueblo Nuevo

FIGURE 157 - DIVISION OF THE MUNICIPALITY OF BARCELONA INTO 10 AREAS

It was in areas 2,6,7, and 10 that most of the 'publicly' promoted 'poligonos' of the 50's and 60's were located (see Table 32). Source:- (131)

population increases (Table 32). It is here that 'public'promotion provided the high density, poorer quality housing (Figure 158) in massive 'poligonos'; although similar 'privately' promoted 'poligonos' do exist in these areas, they are more often found in other municipalities (Bellvitge, Hospitalet, San Ildefonso, Cornella etc.) in even more peripheral locations. But the 'public' promoters, particularly the O.S.H., were the masters in the 60's of creating cheap, poor quality housing of minimum dimensions (La Paz, South West Besos - both in Barcelona, San Cosme - in Prat,and Pomar in Badalona).

However, in the more central areas and 'upper' city, costs were multiplied to such an extent that house construction in these areas often became a

AREA	A 1950	B 1960	C 1965	D 1968	E Density inhabs/ha.	F % of population born outside prov of Barcelona
1. West Residential	82,264 (100)	112,253 (136)	128,340 (156)	150,465 (182)	124	48.1
2. East Residential	63,389 (100)	181,051 (285)	272,959 (430)	349,218 (550)	244	61.0
3. Gracia	95,582 (100)	102,442 (107)	102,226 (106)	114,063 (119)	431	42.5
4. Sants - Pueblo Seco	190,726 (100)	201,979 (105)	200,998 (105)	214,774 (112)	231	47.7
5. Cerda's 'Ensanche'	418,362 (100)	444,599 (106)	420,789 (100)	428,748 (102)	422	49.2
6. Maragall-Sagrera	65,973 (100)	98,303 (149)	119,901 (181)	125,496 (190)	363	50.9
7. San Andres/Buen Pastor	37,692 (100)	59,755 (158)	58,757 (155)	65,349 (173)	133	51.4
8. Zona Franca	9,545 (100)	17,588 (184)	16,167 (169)	31,685 (331)	28	50.8
9. Casco Antiguo	225,265 (100)	224,474 (99)	194,384 (86)	240,539 (106)	794	51.6
10. Pueblo Nuevo	91,381 (100)	115,419 (126)	140,738 (154)	161,874 (177)	195	53.7
TOTAL	1,280,179 (100)	1,557,863 (121)	1655,293 (129)	1882,211 (147)	237 (av.)	50.5 (av.)

TABLE 32 - POPULATION INCREASE 1950-68 IN THE MUNICIPALITY OF BARCELONA

% increase is in parenthesis. Source:-(130)

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prestigious 'pequena operacion', aimed largely at the middle and upper middle classes. Although there were certain exceptions (e.g. Montbau (P.M.V. Figure 159), Guinueta (C.U.B. Figure 145)), they were largely 'privately' promoted. And so, given the 90% : 10% private/public promotion split of the 60's, the "two principal aims of Government Housing Policy - to palliate the most urgent deficits and provide profits for the large constructors" (131) met with only limited success. The housing shortage remained obvious to all. There were 12,280 people living in 'barracas' on Montjuich alone(170) in 1966, whilst in 1972 there were 40,000 luxury flats that remained unsold (173). In other words, the supply of housing was not appropriate to the solvency level of the demand. In 1970, although some effort was made in the late 60's to rid the inner city of 'barracas', many remained (over 3,000 according to

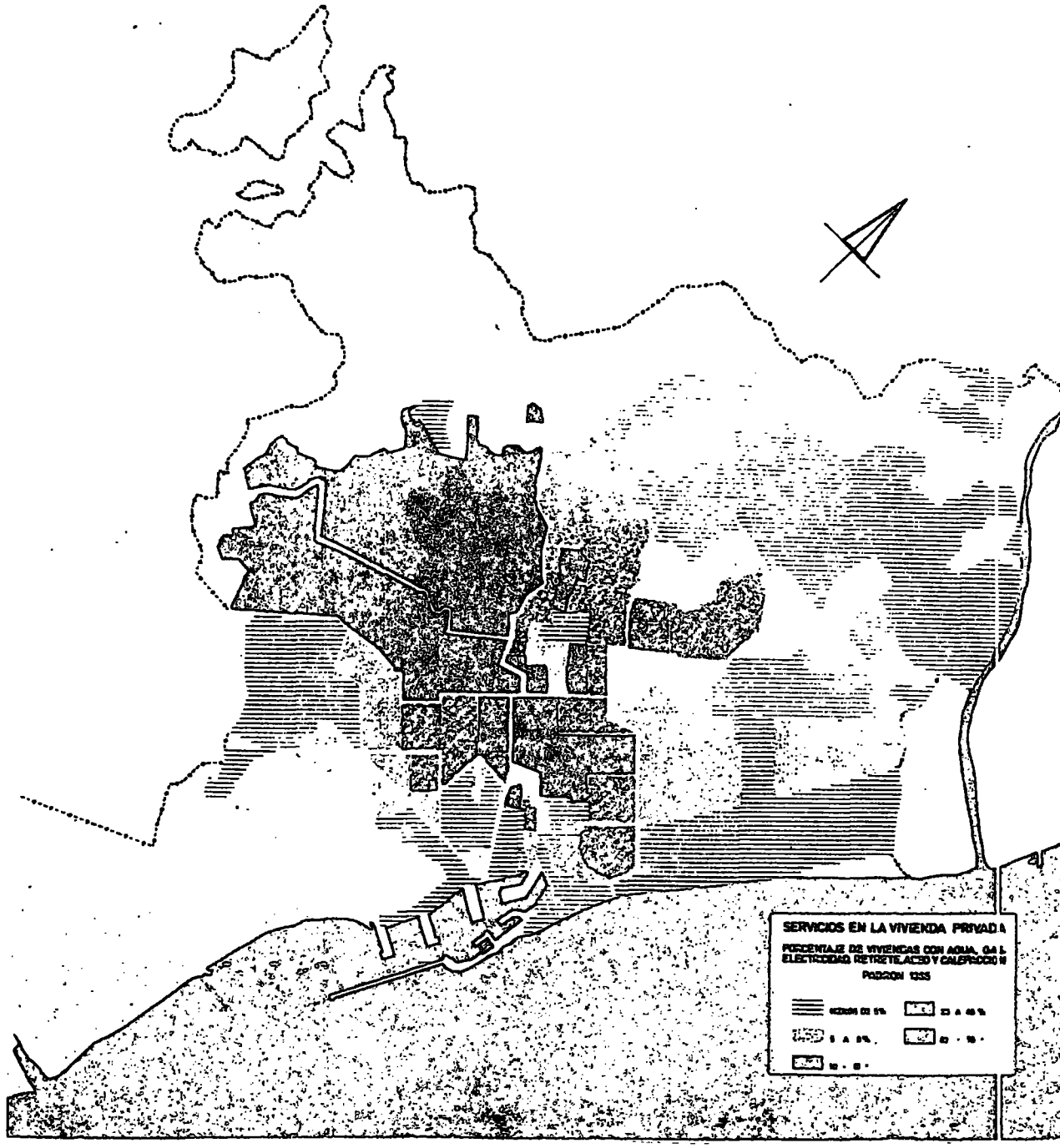


FIGURE 158 - SERVICES IN PRIVATE HOUSING 1965 Source:- (92)

This gives some idea of the differing standards in different parts of the city.
The key reads "Services in Private Housing. Percentage of houses with water, gas, electricity, lavatory, wash-basin and central heating.
Left column - less than 5%; 5-9%, 10-19%, Right column - 20-40%, 40-70%."

Nearly all the publicly promoted housing built since 1950 has been in the areas of 'less than 5%'. Note also the old city, which is also a 'less than 5%' area, where the housing problem was, and is, rather different to that of the periphery - the gradual decay of houses built in the last century or before, that, because of continual speculation on future reclassification for tertiary activities/road infrastructure, have been allowed to deteriorate.

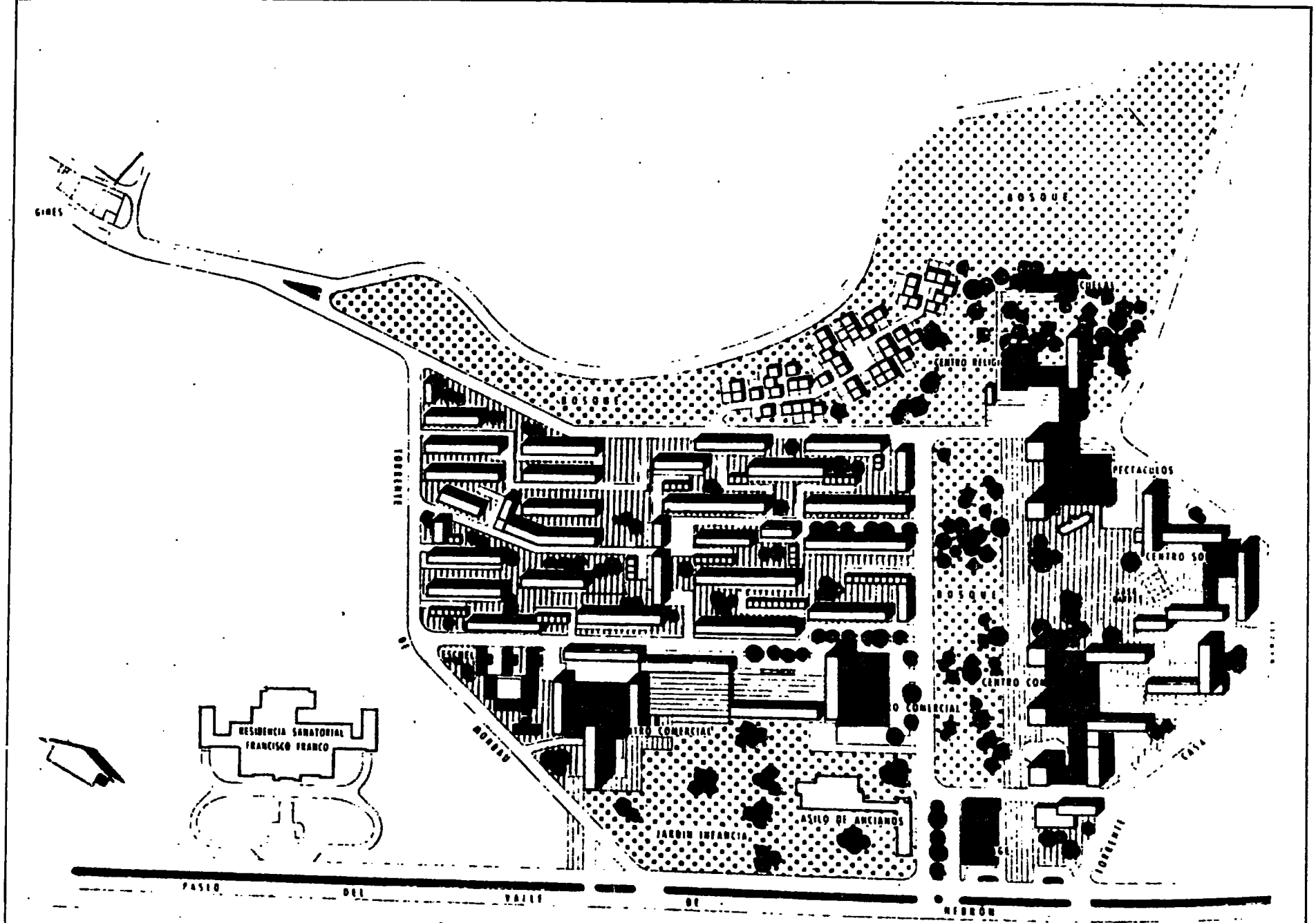


FIGURE 159 - MONTBAU

Montbau is a P.M.V. 'poligono' in the Valle de Hebron and is often quoted as the 'model poligono'. However, it was very much an exception and, because of its cost, largely inhabited by the middle-class. Its very spacious compared with most new 'poligonos', incorporating certain city-garden elements.

Primer proyecto de Montbau. lay-out is

Source:- (92)

(see photo 80)

HOUSING DEFICIT 1970 COMPONENTS	MUNICIPALITY OF BARCELONA	REST OF THE 'COMARCA'	REST OF THE A.M.B.	TOTAL
a. 'Barracas'	3,051	591	337	3,979
b. Houses in derelict buildings (excluding 'barracas')	36,252	9,305	5,598	51,155
c. Unhealthy housing (excluding a + b)	4,550	645	2,876	8,071
d. 'Secondary Nuclei' - sublet housing	26,990	21,297	8,861	57,148
e. Housing for one reason or another considered in 'unsatisfactory condition' (except a,b,c,d,)	14,747	497	456	15,700
TOTAL	85,590	32,335	18,128	136,053

TABLE 33 - HOUSING DEFICIT 1970 Source:-(172)

Source and Year	Municipality of Barcelona	Total Comarca	A.M.B. Total
'Vision Sociografica de Barcelona' by Caritas 1963	170,161 [1]	-	-
The 'Vanguardia' citing official sources 1965	31,000	80,000	115,000 (for total province)
The 'Noticiero Universal' citing of the Plan Comarcal Revision 1966	62,030	91,998	-
According to Vicente Martorell quoting 'Consejo Economico Sindical' 1966	21,000	73,000	-
'Comision Gestora' of the A.M.B. 1972 (as above)	85,590	117,925	136,053
'Construccion de la Ciudad' 1972	225,000		

TABLE 34 HOUSING DEFICIT 1960-70 COMPARISON OF VARIOUS SOURCES

Source:- (164)

1 Includes 'absolute deficit' of 79,590 and 'relative deficit' (of housing unfit for habitation) of 90,571.

source 172 and so did a housing deficit of 85,000 in the municipality of Barcelona alone (Tables 33 and 34).

PART F THE A.M.B. (1) THE 'PLAN PROVINCIAL', THE A.M.B. AND THE 'PLAN DIRECTOR'

1. THE 'PLAN PROVINCIAL' 1963, FORERUNNER OF THE 'PLAN DIRECTOR'

It has already been mentioned that a provincial planning body - the C.S.O.P.B. - was created in the 1940's, with the aim of drawing up a 'Plan Provincial'. In the late 50's this body and its equivalents in the other provinces of Spain were renamed 'Comisiones Provinciales de Urbanismo' (C.P.U.'s), after they had been taken over by the Ministry of Housing in 1957. In 1963, the 'Plan Provincial' was finally published; its 'regulations' (e.g. for buildings) were regarded as binding, but the planning proposals only as 'indicative'. It is no doubt partly because of this that these proposals have generally not been followed. But there are other reasons - the changing economic policy of the government who, through the Ministry of Housing, played a large part in the orientation of the C.P.U.'s; the internal inconsistencies of the Plan; the length of time taken in its formulation; the lack of a sufficiently powerful executive body and question marks about the suitability of the provincial unit for planning. All these criticisms, to a greater or lesser extent, apply also to the 'Plan Director', which appeared later in the 1960's, after the definition of a new planning unit - the 'Area Metropolitana de Barcelona' (A.M.B.), covering about half the province (Figure 141). The 'Plan Provincial', then, can be seen as a type of amateurish forerunner to the 'Plan Director'.

The report accompanying the 'Plan Provincial' contains more studies than concrete proposals. The province was divided into agricultural and industrial areas (Figure 160) and areas of 'preferred development' were defined (Figure 161). In the accompanying regulations ('normas'), Article 27 states:-

> "Building in the territory covered by the Plan will be carried out under the following division into zones: 1. 'Casco Antiguo' 2. 'Ensanche' 3. 'Residencia Intensiva' (etc. up to 16) "

for which regulations were outlined.

> "These zones are delimited in the accompanying plans." (Article 27)

But,in fact, these plans did not exist "and so the 'Plan Provincial' and accompanying regulations remained a simple indicative model for the creation of municipal plans by each individual council." (146)

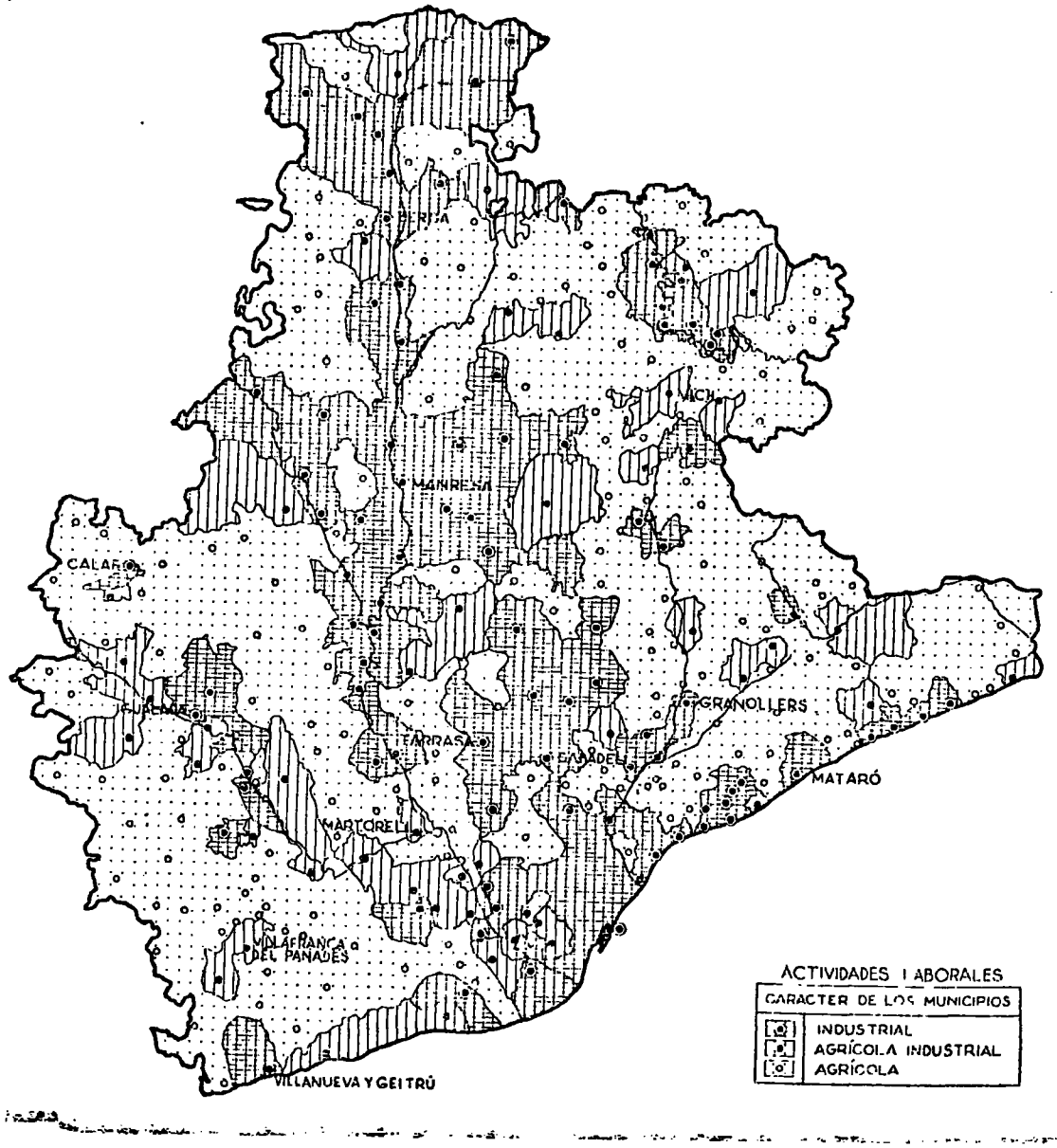


FIGURE 160 THE PREVALENT CHARACTER OF MUNICIPALITIES OF THE PROVINCE (PLAN PROVINCIAL) Source:- (89)

Given this rather fundamental limitation, it is not surprising that the plan's more ambitious scheme of resettling over a million people, in the province (530,000), the rest of the region (200,000) and the rest of Spain (400,000), never really got off the ground (Figure 162).

Criticism can also be made of the province as a planning unit.

"It is difficult to justify rationally the province as an adequate planning unit. The province, above all in Cataluna, is more of a superimposed administrative unit than a tangible territorial reality ... the relationship and interdependence of the Catalan provinces in factors as important as industrial location, water supply, provision and production of energy, communications and transport, agriculture, recreation and tourism suggest the adoption of the Region (i.e. Cataluna) as the planning unit immediately above those of Metropolitan Area, 'Comarca' and municipality. However, the Land Law of 1956 recognizes the Province as a planning unit...

and so the mission that should correspond to the region is attributed to the province. The result has been a type of intermediate planning that makes the synthesis,necessary for the co-ordination of crucial themes,difficult. The 'Plan Provincial' pretends to encompass, on the one hand, the content of a Regional Plan and,on the other,that of municipal and 'comarcal' plans, but in neither case is the result satisfactory. Indicative of the inoperative nature of the Provincial Plan is ... that until now (1970) only three provinces - Guipuzcoa, Madrid and Barcelona - have approved Provincial Plans, and in all three cases they consist more of an outline of general principles than a true programme of action." (146)

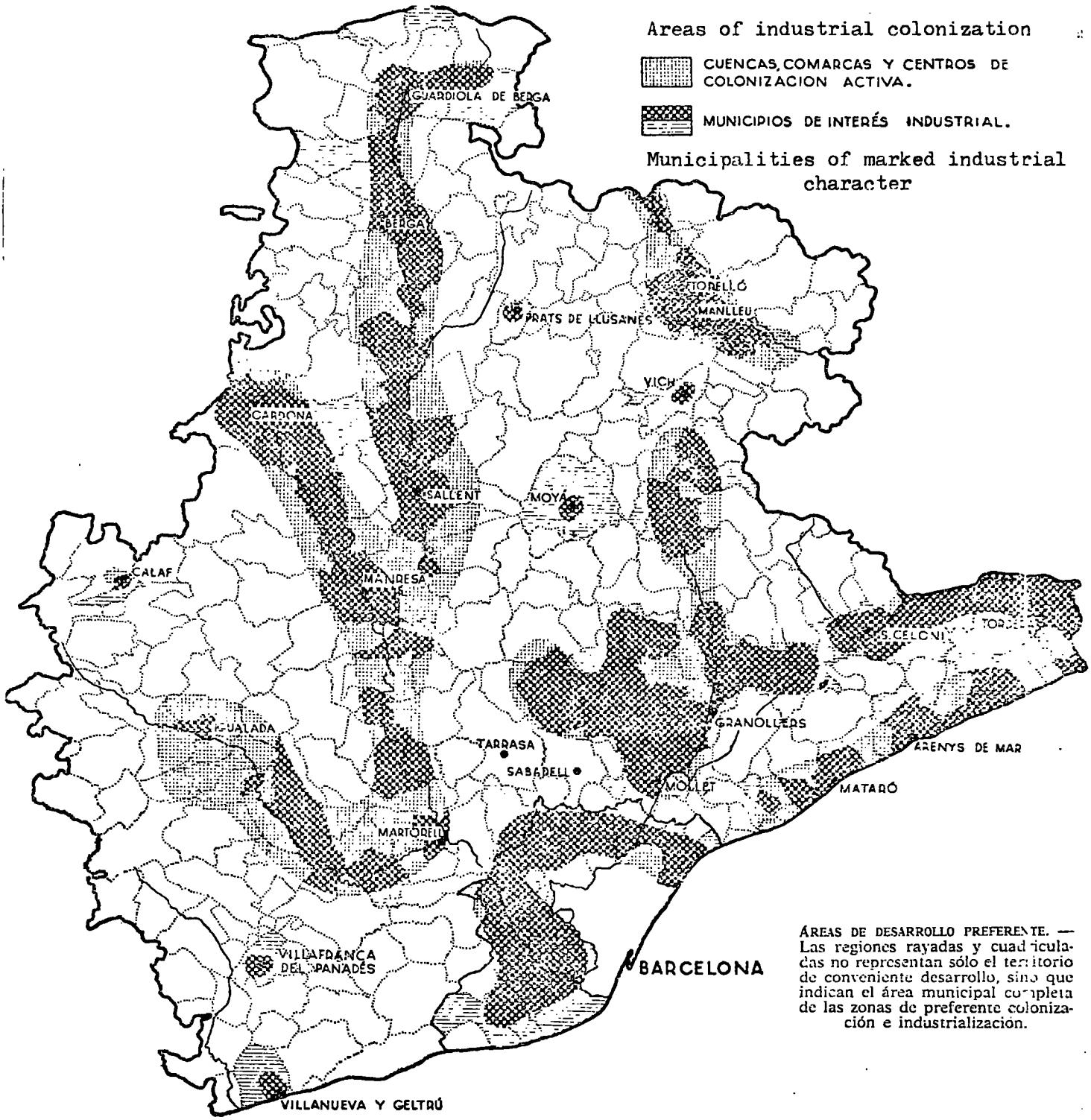


FIGURE 161 - THE 'PLAN PROVINCIAL' - AREAS OF INDUSTRIAL DEVELOPMENT

Source:- (89) This plan, delimiting areas of industrial character/colonization, is typical of the vagueness of the Plan Provincial as a whole.

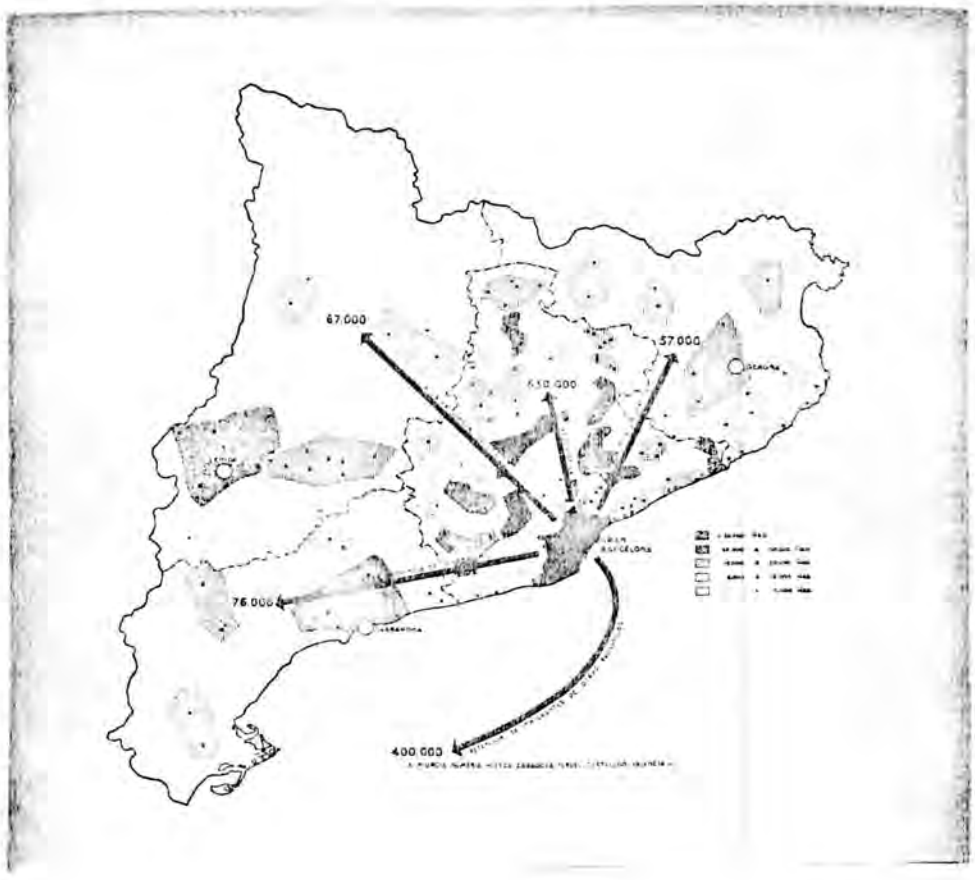


FIGURE 162 THE 'PLAN PROVINCIAL' - PROPOSED 'RESETTLEMENT' OF IMMIGRANT POPULATION Source:- (89)

2. THE A.M.B. AND THE PLAN DIRECTOR - ORIGINS

In 1964, 11 years after the passing of the Plan Comarcal and 4 years before its revision was due (according to the 1956 Land Law), the 'Comision Tecnica', a sub-committee of the C.U.B. specially created for the purpose, began work on the revision of the Plan. Very soon the 'Comision Tecnica' came to the conclusion that the 'Comarca' was not big enough as a planning unit and recommended the adoption of a new delimitation of Barcelona - the 'Area Metropolitana de Barcelona' (A.M.B.)- and the drawing up of a plan the same scale - the 'Plan Director'.

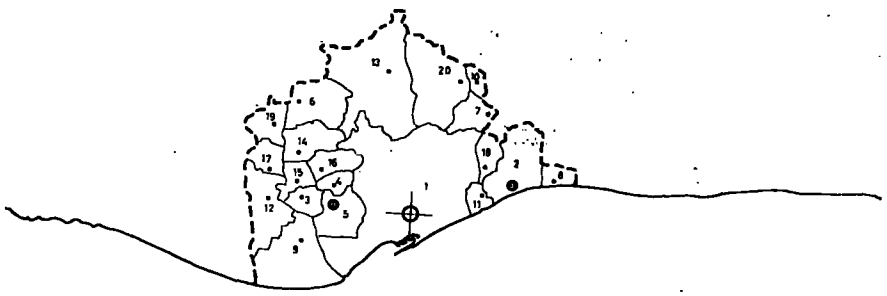
The A.M.B. was larger than either of the two previous definitions of the metropolitan area of Barcelona (Figure 163) and included the 'comarcas' of the Maresme, East Valles, West Valles, the lower Llobregat valley, Penedes and Garraf as well as that of Barcelona. Apart from the 27 municipalities of the Barcelona 'comarca', it included a further 135 (total 162 municipalities), covering an area of 3,297 square kilometres (c.f. 499 square kilometres in the 'comarca' and 99 square kilometres in the municipality). In this definition of the A.M.B. certain factors were clearly important, notably topography (Figure 164) and long-established

FIGURE 163 - THREE DEFINITIONS OF THE A.M.B.

The A.M.B. of the Plan Director (below) is interesting in that it shows the division of the area into 'comarcas' - Alto Penedes, Garraf, Bajo Llobregat, Valles Occidental, Barcelona, Valles Oriental, Maresme and the sub-'comarca' of Tordera. This also reveals the great importance of pre-existing administrative boundaries, especially those of the province, which were taken as the left and right boundaries of the A.M.B. even though a more natural A.M.B. would have excluded Alto Penedes, Garraf and Tordera, leaving a 5 'comarca' A.M.B. (region 1). Source:-(140)

PLANO DELIMITACION DEL AREA METROPOLITANA DE BARCELONA N.º I

1. — Barcelona
2. — Badalona
3. — Cornellá
4. — Esplugas
5. — Hospitalet
6. — Molins de Rey
7. — Moncada y Rexach
8. — Mongat
9. — Prat del Llobregat

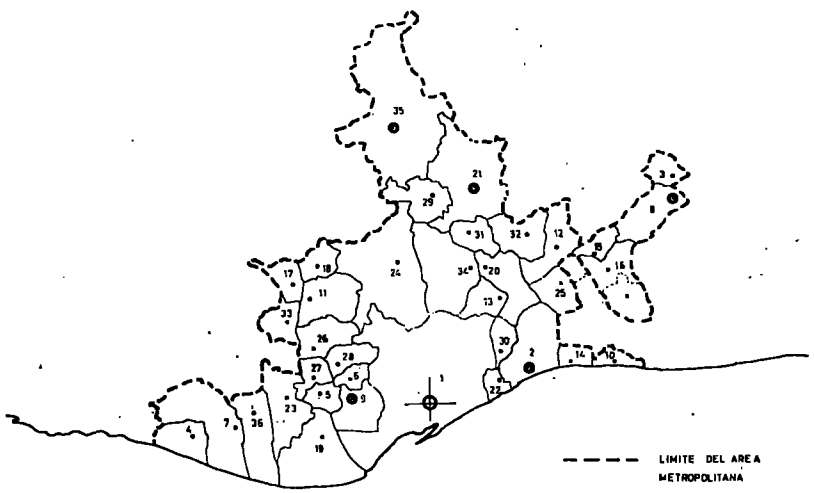


10. — Ripollet
11. — S. Adrián del Besós
12. — S. Baudilio de Llobregat
13. — S. Cugat del Vallés
14. — S. Feliu del Llobregat
15. — S. Juan Despí
16. — S. Justo Desvern
17. — Sta. Coloma de Cervelló
18. — Sta. Coloma de Gramanet
19. — S. Vicente dels Horts
20. — Sardanyola

en «The World's Metropolitan Areas». Berkeley, 1959

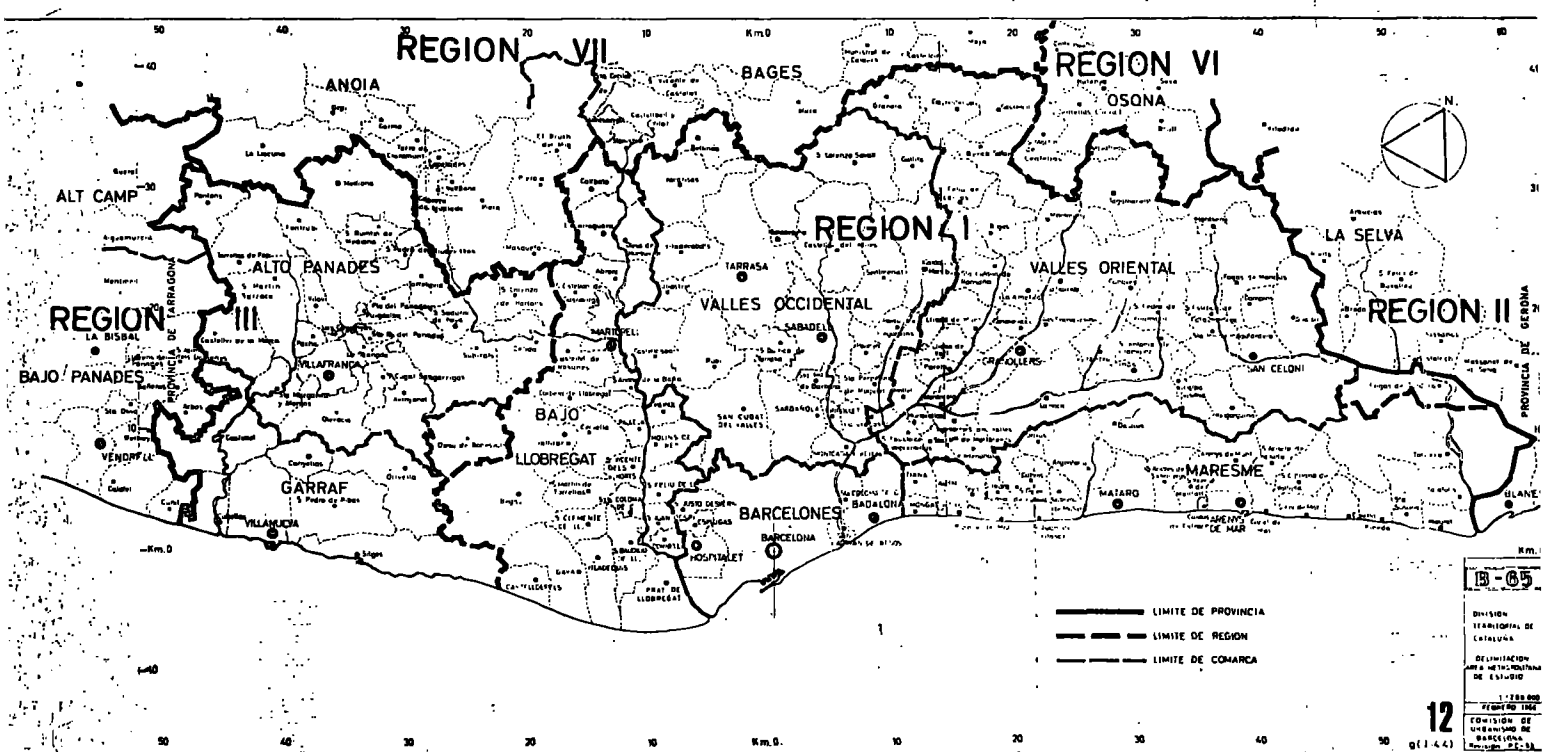
PLANO DELIMITACION DEL AREA METROPOLITANA DE BARCELONA N.º II

1. — Barcelona
2. — Badalona
3. — Canovellas
4. — Castelldefels
5. — Cornellá
6. — Esplugas
7. — Gavá
8. — Granollers
9. — Hospitalet
10. — Masnou
11. — Molins de Rey
12. — Mollet
13. — Moncada y Reixach
14. — Mongat
15. — Montmeló
16. — Montornés del Vallés
17. — Pallejá
18. — Papiol



19. — Prat de Llobregat
20. — Ripollet
21. — Sabadell
22. — S. Adrián del Besós
23. — S. Baudilio de Llobregat
24. — S. Cugat del Vallés
25. — S. Fausto de Capcentellas
26. — S. Feliu de Llobregat
27. — S. Juan Despí
28. — S. Justo Desvern
29. — S. Quirico de Tarrasa
30. — Sta. Coloma de Gramanet
31. — Sta. María de Barbará
32. — Sta. Perpetua de Moguda
33. — S. Vicente dels Horts
34. — Sardanyola
35. — Tarrasa
36. — Viladecans

en «Areas Metropolitanas de España 1960». Dirección Gral. Urbanismos, 1965



Actual delimitación del Area Metropolitana de Barcelona. Comisión Técnica para la Revisión del Plan Comarcal, 196

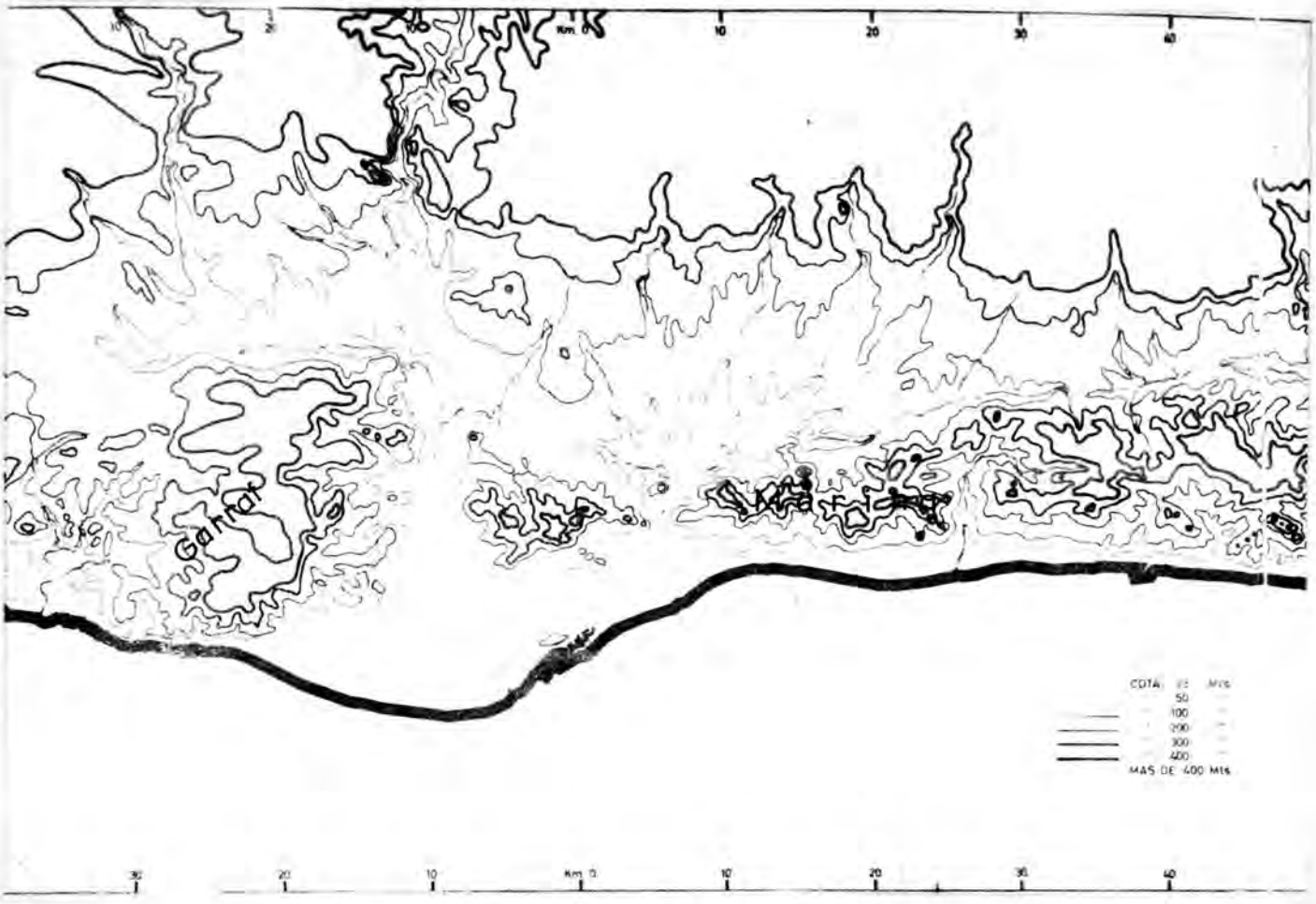


FIGURE 164 TOPOGRAPHY OF THE A.M.B.

Note the litoral range dissected by rivers, dividing it into three parts - the 'macizo de Garraf' (left), separated by the Llobregat from the sierra de Collcerola or Tibidabo (small central section), itself separated from the 'macizo de Marina' (right) by the River Besos. In all, four rivers dissect this range: from left to right, Rivers Ribas, Llobregat, Besos and Argentona. Inland is the less dissected mountain range of Montserrat, San Lorenzo and Montseny. Barcelona is directly above the '0' kilometre on the scale marked at the bottom of the map. Source:- (92)

administrative boundaries (Figure 163). Other factors of importance were population growth and density, dynamism of industry, daily movement to the city, established communications services with the centre etc. The area contained three million people at the time - 66% of the population of Cataluna and 10% of the population of Spain. By 1975, the population of the A.M.B. had risen to four million.

3. PRINCIPLES AND OBJECTIVES OF THE PLAN DIRECTOR

In the report accompanying the 'Plan Director', the stated reasons for a new approach to the planning of Barcelona are reminiscent of those stated in the equivalent report to the '53 Plan Comarcal. "A new form of urbanism" involving the adoption of the A.M.B. as the planning unit was proposed. Population increase, social and economic change, the need for industrial decentralization, the ever

increasing deficits of housing and collective services, were all quoted as making this change of scale a pressing necessity.

From 1964 to 1966, the 'Comision Tecnica' worked on drawing up the Plan Director. In 1965 they made public their declaration of principles and objectives, which the C.U.B. supported. They included the following:-

Principles

1. "To bring about an increase in the standard of living of all ..."
2. "To enable cultural progress ... and contact with nature .."
4. "To give the plan real social relevance by means of :-
   a) The subordination of private interests to the communal well-being ... but with total support to private initiative in as much as it achieves the same..."
5. "The integration of immigrants ... into urban life."
6. "To maintain the representative character of Barcelona city ... within the regional, national and European sphere".[1]

Objectives

3. "To bring about residential, industrial and tertiary decongestion and so policentralism, the only guarantee of homogeneity.
4. The total acceptance of the conception of planning ... that involves its execution by a fully powered (politically, technically, administratively) management body, that assures, at all times, the observance of regulations.
5. The recognition of the essential need for co-ordination of planning at the regional, national and other levels ...
7. To establish an infrastructural network ... extending in a homogenous manner over all the territory.
11. To provide sufficient free spaces ... for recreative needs."

The principles and objectives are of interest for several reasons. First, objective 4 was the key to achieving all others and in this sense the Plan Director must be viewed as a failure. After reserved approval by the Central Government in 1968, the A.M.B. concept was scrapped altogether in 1974. Second, just as in the Land Law of 1956 (Article 40) doubts seem to remain even in the planners' minds of their ability to take the initiative from private enterprise (principle 4). Third, nowhere is the word 'decentralization' mentioned, but rather 'decongestion' and 'homogeneity' (objective 3). As we shall see, this was one of the main points over which the planners could not agree - to what extent to decentralize, particularly tertiary activities, whilst maintaining the 'representative character' (principle 6) of Barcelona - reflected here as in the Plan itself, which was in many ways a

1 The European aspect was indeed of increasing importance throughout the 60's and 70's, e.g. consider the view of the 'Centre for Metallurgical Advice', quoted in (149), that "the A.M.B. is precisely the vertex of the triangle (within Spain) best orientated towards Europe (i.e. Barcelona/Madrid/Bilbao). And so the need for an ordered development of this area and its establishment as a bridgehead against the industrial triangles of Lyon/Grenoble/Marseilles and Milan/Turin/Genoa".

compromise of contradictory planning philosophies.

4. DECONGESTION, THE CITY - TERRITORY MODEL AND THE COMPROMISE ASPECTS OF THE PLAN DIRECTOR

Most planners involved with the 'Plan Director' agreed that the city needed decongesting. Table 35 shows how the population density differed within the A.M.B., between city (38 square metres per inhabitant) and the A.M.B. as a whole (1,250 square metres per inhabitant). Taking the internationally accepted standards of 100 square metres per inhabitant in the built-up area and 500 square metres per

	Inhabitants/hectare	m^2 per inhabitant
Spain	0.61	16,390
Cataluna	1.22	8,200
Province of Barcelona	3.72	2,690
A.M.B.	8.00	1,250
Barcelona 'Comarca'	41.10	240
Barcelona Conurbation	115.56	86
Barcelona Municipality	171.19	58
Barcelona Municipality - built-up area	261.00	38
Barcelona - old quarter	914.77	11
District 5 (part of old quarter)	1,132.70	8

TABLE 35 - POPULATION DENSITY 1960 Source:- (89)

inhabitant outside it, there was plenty of scope for a satisfactory decongestion in terms of people, at least. But, apart from the need to decongest the city, there were few points on which the planners and politicians could agree.

> "The six years of planning of the A.M.B. (1964-70) are the history of the progressive contradiction between a technical idea, the inertia of the administrative structure and the mechanisms of promotion of economic groups" (143).

But it was not only the planners and politicians who could not agree. The planners could not agree amongst themselves.

Between October 1964 and January 1975, five schemes for the Plan Director were drawn up, four of which were used to form the final compromise solution, (the one omitted was based on the creation of two parallel cities of a million inhabitants each and three satellite cities in the A.M.B.).

"A curious consensus of opinion was reached amongst the Central Administration, local Administration, conservative and reformist planners on the panacea of 'territorial' planning to assure the spatial equilibrium of economic and social development. The final report is a compromise that has no meaning for anybody." (133)

This report, the Plan Director, was completed in 1966. Before looking at it as a whole, one of the main conflicts amongst planners is examined here, as seen by Sola Morales (144) - the question of location of tertiary activities within the A.M.B.

> "In a deeper analysis of the Barcelona economic system, external economies reappeared ... pointing towards the values of concentration and in the economic/productive reinforcement of the capital ... Once again came the classic contradiction of the bourgeois city. In what conditions and to what extent does deconcentration outweigh the advantages of concentration?
>
> Where the conflict is clearest is in the location of tertiary and 'directional' centres. On the one hand, the interdependence of tertiary and other activities (industrial/residential) leads to the 'comprehensive' decentralization of all activities together. On the other hand, an analysis of the diverse components of tertiary activities (varying from 'directional' functions, administrative and finance to transport, trade and public services) showed the inappropriateness of the concept of localizing them like collective services (i.e. sharing them out amongst the population), when each belonged to different levels of planning and served hierarchially superimposed spheres. There were also great uncertainties about the size of the tertiary sector, which lent weight to the qualitative vision of location in the centre...
>
> Although this led to criticism on the grounds of the congestion of 'ensanche', the inadequate tertiary facilities there and the high costs of remodellation, the thesis of the tertiary-in-the-centre lobby was, in depth, a logical extension of the vision of the unidimensional, segregated (from its region) city that has no other mechanism of integration (with its region) than through the hierarchy of which it is head. The Metropolitan body, formed by the repetition of equal and consistent elements (the 'new' towns and 'frozen' old nuclei) needs a 'core', a distinct and superior organ ... unfortunately, in the scheme finally approved, it is the idea of a 'Centro Direccional Metropolitana' that stands out and not the ordering of the urban framework around it, of far greater interest from a theoretical and normative viewpoint. The polemic about the typologies and dimensional characteristics of the communications infrastructure, the optimum size and density of settlements, the 'mix' of uses and activities that were at the heart of the proposal of a linear development of old and new centres, was lost in the final compromise, only certain consolidated parts remaining (e.g. the new town of Riera Caldes and the San Cugat - Sardanyola 'Centro Direccional' - Figure 165).
>
> The city-territory structural model, on the other hand, presupposes tertiary decentalization. Instead of a super centre, it aims principally at a powering of the secondary poles of the metropolitan system (Sabadell - Tarrasa, Mataro, Granollers, Martorell, Vilafranca etc - see Figure 165), precisely via the local retention of higher levels of 'directional' and tertiary activities ... It proposed a distribution of tertiary activities throughout the whole 'area' via a system of centres and sub-centres, specialized and interdependent, located as a function of population and infrastructure. Some of these centres - the main ones - would have a clearly 'propelling' character, being the tertiary nuclei within large concentrations of population; others would have a certain characteristic specialization (transport, commerce, administration etc.) and others the specific function of 'rehabilitation' centres, orientated to bringing about, by means of tertiary employment, a restructuring and improvement of degraded and sub-equipped suburban areas. This policy of rehabilitation and reclassification became, because of the large areas to which such policy could be applied, one of the fundamental

FIGURE 165a THE PLAN DIRECTOR 1968 (SIMPLIFIED)

priorities of the 'city-territory' supporters.

On the other hand, the more general ideas of 'city-region' (individual regions within the city territory as a whole - the 'comarcas' within the A.M.B., compatible with city territory model but with 'comarcal' emphasis) appeared at such a doctrinal and generic level that only with difficulty can they be seen in any of the final proposals ... the 'comarcal' organization, for example, and its relationship with the Plan Director, the management of infrastructure, the system of green areas and free metropolitan spaces are themes directly derived from that approach (city-region), but which were scarcely developed in the Plan Director. And what is more, they are those which could have constituted the operative transformation of the 'city-territory' model into a planning reality.

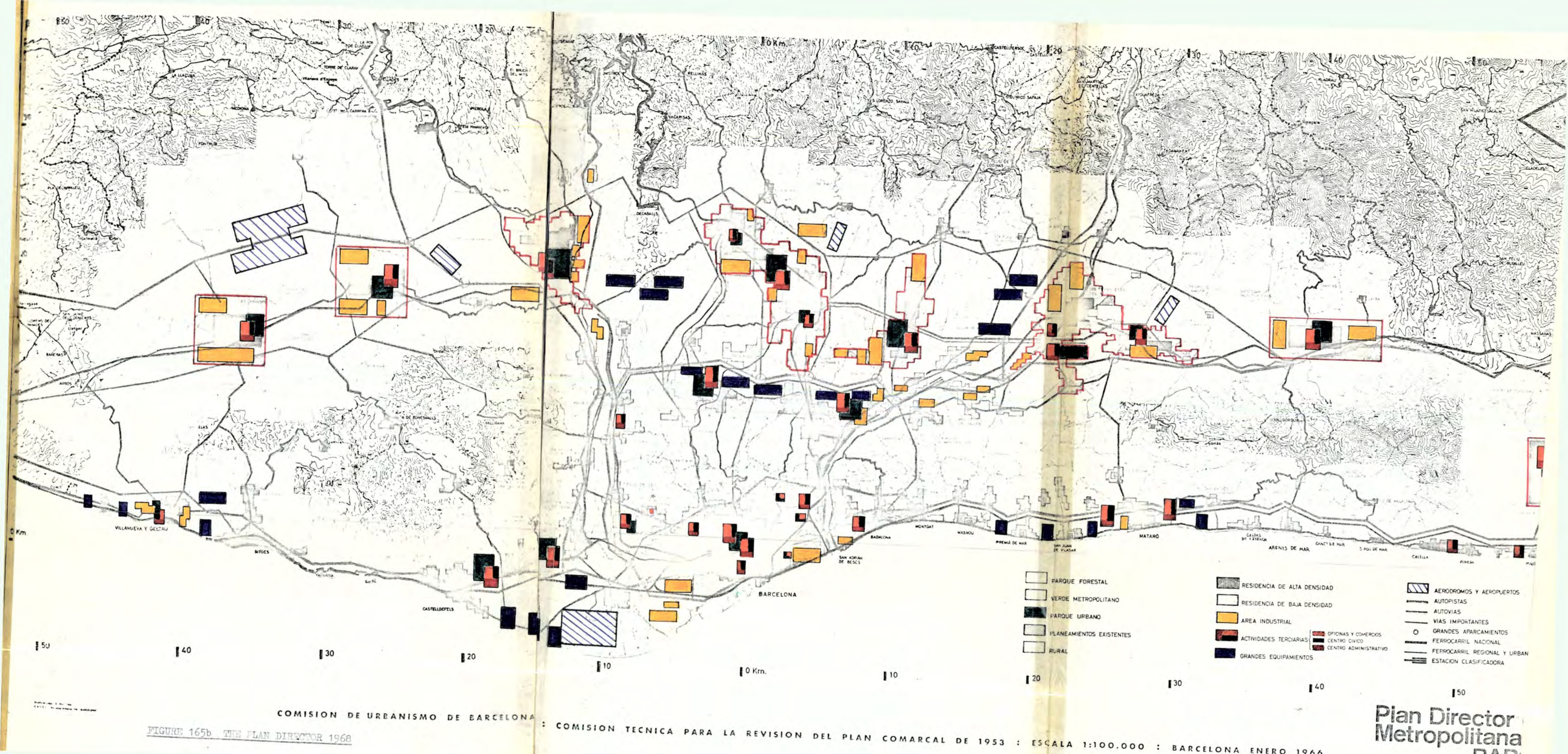
It is clear that of all the proposals of one origin or another that appear in the Plan Director, the most important in modern urban Spanish history is the proposal of the city - territory model for the A.M.B. ... representing the opening up of a way to an interpretation and planning of the metropolitan reality that has scarcely been exploited yet".

(Sola Morales 1972) (144)

5. CONTENT OF THE PLAN DIRECTOR

Despite the compromise nature of the final scheme, it was described by its authors as being founded on the city-territory model , the hypothesis of an urban structure, decentralized, based on a plurality of settlements (policentralism) of diverse character, but maintaining homogeneity in the 'level of urbanization' of the territory as a whole.

Fundamentally, the Plan proposed, once again, a growth poles scheme, giving to Barcelona city the preponderant role of metropolitan centre, but trying to create other centres in the rest of the area (Figure 165a). Two types of growth poles were proposed - those already in existence, which were to be consolidated demographically and economically, and new ones that should be given the potential to balance the existing ones. In this way the Plan represented the desire of the planners to lessen the concentration on existing centres and, by balancing them with new ones, make possible a reclassification, re-equipping and remodellation of the former. The Tarassa-Sabadell fusion was seen as the main growth pole in the year 2010 (the long-term horizon of 45 years, made up of 3, 15 year, short term horizons) with 600,000 inhabitants, to act as the 'directing nucleus' of the West Valles 'comarca' (Figure 163). The seven other urban nuclei were Vilafranca del Penedes, Sant Sadurni, Martorell, Gallecs (Riera de Caldes)/Mollet, Granollers, Sant Celoni and Tordera, each with a projected population of 250,000 to 300,000, linked by an orthogonal communications network. Important roles were also assigned to Mataro (in the Maresme) and Vilanova i Geltru (in Garraf). The role of these growth poles is presented as decisive in making possible the absorption of future



COMISION DE URBANISMO DE BARCELONA : COMISION TECNICA PARA LA REVISION DEL PLAN COMARCAL DE 1953 : ESCALA 1:100.000 : BARCELONA ENERO 1966

Plan Director Metropolitana BAR

FIGURE 165b THE PLAN DIRECTOR 1968

immigrants, industrial and tertiary decentralization and, eventually, social economic development aimed at achieving competitivity at international level. In this sense, great importance was given to the infrastructural system in guaranteeing efficient functioning of the A.M.B.

The population projection for the year 2010 was 6.5 million and the standards set (500 square metres per inhabitant in non-built up areas and 100 square metres per inhabitant in built up areas),

> "aimed at facilitating habitat-nature contact and at making possible efficient provision of collective services and communications, whilst at the same time giving certain flexibility to the possibilities of change of residence." (149)

As for the debate on tertiary activities, the 'decentralisers' generally had their way, although a 'directional centre' was planned in the San Cugat - Sardanyola region. Similarly, industrial location was decentralized in the Plan, with the main centres all having large industrial areas. In Barcelona city, centres remained at Zona Franca (petro-chemicals and cars) and on the banks of the Besos. The communications system emphasised the natural routeways out of the city, along the Llobregat and Besos valleys, but also the inland communications system running parallel to the coast, (one of the original five schemes foresaw an inland motorway running through Valles and Penedes as part of a Helsinki-Gibralter motorway). A second airport [1] was to be located in Penedes (Figure 165b).

6. BRIEF HISTORY OF THE PLAN DIRECTOR 1966-74

The Plan Director was completed and passed by the C.U.B. in 1966. It was the 'avance' of a more detailed plan, that was supposedly to follow later, but in fact never did. In 1968 the Plan Director was passed by the Central Government, after a two year delay in which time Government Planning policy shifted somewhat from concentration on the lesser developed regions of the country (the south, the

---

[1] The present airport, which covers a third of the municipality of Prat to the immediate south of the Barcelonan Municipality, has grown in area steadily since 1940:-

	Passengers	Planes
1940	23,000	2,855
1971	3,200,000	63,315

Since 1971 there have been further expropriations and expansion, but saturation level is estimated in the 1980's. The 'Plan de Infrastructuras' of the A.M.B. advised the location of a new international airport west of Vilafranca del Penedes near the Tarragona-Barcelona provincial border. The Chamber of Commerce, however, said this was not suitable and the Ministry of Air has denied any possibility of new location there, but admits to the likelihood of further expansion of the present airport.

North-west) to one giving more attention to the already industrialised regions. This change was reflected in the development plans of the 60's and 70's (see part H). And so, after a luke warm response in 1966, the Plan was finally passed. But even then, certain reservations were made.

> "The Plan Director of the A.M.B. corresponds to none of the types of plan for which provision was made in the Land Law of 1956 (municipal, 'comarcal' or provincial) ... However, it can be considered that the Plan constitutes a 'Plan Provincial' for a sector of the province." (89)

Following this approval, various teams were created to be in charge of the development of certain aspects of the plan and yet it remained unclear as to who was to be in overall control and from where the necessary finance was to come. The four teams created in 1968 were:-

1. 'P.R.E.P.O.U.' - in charge of drawing up a revised plan for the municipality of Barcelona; dependant on the Council for supervision and control. Mass resignation of staff following the publication of the Barcelona Council's plan - 'Barcelona 2000' in 1970 (see Part G).

2. 'Plan Comarcal' - The Revision team of the 1953 Plan Comarcal. Encompassed all the 'comarca' except the municipality of Barcelona. Dependant on C.U.B. for supervision and control.

3. 'Plan de Infrastructuras Generales' - Encompassed all of the A.M.B. Dependant on the Ministry of Public Works for supervision and control.

4. 'Plan de Accion Inmediata'[1] - Encompassed all the A.M.B. except the Barcelona 'Comarca' and that of Penedes. Dependant on the 'Diputacion' for supervision and control. Theoretically responsible for most urgent planning needs, based on 15 year projections i.e. the first stage of the Plan Director.

And yet, remarkably, there was no A.M.B. management organ to co-ordinate these different activities, that not surprisingly soon started to follow different courses. With local authorities, notably the Barcelona Council, also with their own development plans, the situation soon became chaotic.

In 1970 the 'Ley de Actuaciones Urgentes' allowed for unprecedented intervention in the development of the region by the Central Government. This is discussed in detail later (Part H); suffice it to say here that it only served to complicate the situation further. The principal aim was to establish a new town - Riera de Caldes as the first of the 'new' urban nuclei in the A.M.B. But the manner in which they planned to do it - a piecemeal one-off operation, with very

---

[1] This was the provisional definition of the A.A.I., taking 'comarcas' as defined in Figure 163. But, in a later revised 'comarcal' division of the A.M.B., the A.A.I. was redefined to cover a somewhat smaller area (Figure 169).

little study of the possible social and economic consequences - caused such an outcry that by 1976 little progress has been made on the project.

With resignations and dismissals in the Plan Director teams continuing, the demand, especially from the planning colleges and industrialists, for an effective [1] A.M.B. management body and the general hubbub in the Press becoming the norm, the government dealt the effective death-blow to the A.M.B. concept, when, in 1974, they created the E.M.M.B., a new 'comarcal' management body, dependant on the Central Government. And so, for the present at least, the A.M.B. is effectively dead, mainly because, according to Borja and Tarrago, it was

> "a fine demonstration of 'generic verbalism about the city-territory model . of redistribution and decentralisation, bringing equilibrium and decongestion' (Campos Venuti) which gave no definite orientation to the re-ordering of urban development, still less did it foresee the means of directing it." (133)

PART G LOCAL GOVERNMENT AND PLANNING

1. INVESTMENT POLICY OF THE BARCELONAN COUNCIL 1960-74

The C.U.B., supposedly the management and control body of the Plan Comarcal, made a far smaller contribution to investment in the 'comarca' than the Barcelona Council in the years 1960-74, (see, for example, Table 26). Whilst the annual financial contribution of the state to the C.U.B. rose from 25 million pesetas in 1953 to 200 million pesetas in 1974, expenditure by the Barcelona Council averaged almost 3,000 million pesetas a year during the period 1963-74.[2] In 1960, the 'Carta Municipal' (introduced in the 'Ley sobre modificacion de determinadas disposiciones de la Regimen local') made provision for large increases in municipal taxes and the creation of the 'Gabinete Tecnico de Programacion'(G.T.P the Council's planning body, with the specific task of directing local investment

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[1] In December 1971, a form of A.M.B. management body was created - the 'Comision Gestora', but this coincided with the appointment of a new director - Jose Luis Bruna de Quixano - who tended to use the body as a co-ordinating organ, not for the various planning teams, but rather for the economic activities of the big financing groups. In many ways it was an extension of the ACTUR policy of 1970. This body disappeared with the creation of the E.M.M.B. in 1974.

[2] According to C.A.U. No. 37 (1976), the total investment of the Barcelonan Council 1963-68 was 10,000 million pesetas and from 1969-74 22,000 million pesetas. (Adjustments not made for inflation)

policy by means of 'programas de accion municipal'. Since then, there have been three such programmes, the provisional programme 1963-64 and the second and third programmes 1965-68 and 1969-74 respectively. So another element in the development of the city came forcefully onto the scene; a sectorial analysis of the 'programas de accion' reveals how the revision of the Plan Comarcal and the Plan Director on the one hand and the Council's investment policy on the other, have lacked co-ordination and have, in many ways, been contradictory, whilst the original intention was that the former should develop, in stages, the directives of the latter as they affected the municipality of Barcelona.

The sector that has received most is road infrastructure (construction of roads, pavements, drainage, lighting), accounting for 44% of total investment in the period 1969-74, the most important projects (in financial terms) being the first ring-road ('Cinturon de Ronda' - Figure 166) and the Tibidabo Tunnels, which after legal wrangles remain incomplete, but are included in the 1976 Plan Comarcal and should therefore be completed. Then, certain 'basic services' (water supply, gas electricity, sewage and rubbish disposal etc.) have been favoured at the expense of the so-called 'collective services' (schools, hospitals, sports and social centres, public transport) and investment in housing and 'absorbtion of the suburbs' (Table 36) declined every year from 1969 to 1974 rather than increase as planned, and of this a large percentage is spent on roads anyway (e.g. in 1972 43% was spent on the opening, widening and modification of public roads).

There are two main reasons why infrastructure has been given top priority and why 'collective services' have received little attention. First, the communications infrastructure, and especially roads, is essential for the efficient functioning of production and trade within the urban sustem. On the other hand, 'collective' services, generally speaking, only satisfy the population in their non-productive roles and in this sense there is far less urgency to cover necessities, whilst the 'basic services' have far greater relevance to the production and distribution processes. Second, the realization of infrastructural and 'basic' service developments bring profitable contracts to private interests.

> "Public works are at present the principal source of wealth for the large construction companies. Similarly, water supply, rubbish disposal and drainage companies realize great profits. On the other hand, the provision of schools, houses, hospitals and public transport ... results in infinitely smaller profits." (133)

Nevertheless, as far as is possible, the Council (and the Central Administration) hand over the provision of 'collective services' to private enterprise as well. The effect that private control has had on housing has already been studied in detail in Part E and the activities of the P.M.V. are further discussed below. Much the same thing happens also with schools, hospitals, libraries, sports zones, and public transport. Private enterprise caters for the moneyed classes, leaving the Council and other 'public' promotion bodies (and sometimes state subsidized 'private' enterprise) to provide a minimum of services for the majority. This minimum is not only related to the often quoted minimum level necessary "to guarantee the reproduction of the work force" (133,126) but also, increasingly, to the minimum level needed to temporarily lessen the increasingly vociferous public outcry. The recent extension of the Metro network provides

> "a way out from the circulatory bottlenecks via the construction of a high capacity transport system separated from the road network, that has the effect of increasing the labour supply potential for employers." (126)

Above ground, extension of the bus-routes have followed public demand in the increasingly peripheral 'poligonos' (e.g. San Cosme in the municipality of Prat, 'Pomar' in Badalona - both O.S.H. housing estates, with the majority of people resident there working in the city). All in all, however, it is the private motorist (more than half the families of Barcelona are without a car) who has been favoured, in the short run at least, by such large scale operations as the first ring-road, providing ease of access and circulation for the residents of upper Barcelona, as well as up-valuing adjacent property and by means of 'tactical' investments aimed at 'rationalising' the traffic system (one-way systems, parking areas).

"The effect of these operations has been the 'privatization' of the road network and the deterioration of the urban ring because of contamination and visual intrusion by the car." (133)

Of the 88 hospitals in Barcelona, three have more than 1000 beds, providing 40% of total beds and the majority of 'public' beds. At the other end of the



Source:- The 'Vanguardia' 12.11.76

FIGURE 166 - PLAZA LESSEPS/THE FIRST RING-ROAD

The first 'Cinturon de Ronda' (ring-road) where it meets Plaza Lesseps. This development has been much debated since its first mention in a 'Plan Parcial' approved by the C.U.B. in 1969. Argument has concerned the nature of the crossing (overpass or underpass) and the future of the green zone. The final solution is something of a compromise - the bottom of the tunnel is only a little below the level of its surrounds; most of the [illegible]

scale 50 hospitals have less than 100 beds and 22 less than 20. Of these 72 hospitals, the vast majority are in fact private clinics, usually expensive and located in central or upper Barcelona.

With these hospital services, Barcelona attracts patients, with 37% of total patients living outside the municipality and the hospitals to population ration being seven times higher in Barcelona than in the rest of the 'comarca'. (Some municipalities - Santa Coloma and San Adrian - possess not one hospital bed). This pattern - 'privatization' and concentration-is repeated in schools, libraries and sports facilities. Some idea of service availability in La Paz, typical of the 'poligonos' of the past 20 years, is given in Figure 167.

SECTOR	1969-74 TOTAL	%
1. General Administration and Tourism	683.6	2.46
2. Urbanism and Land	1,780.0	6.38
3. Roads and Pavement	6,981.7	24.98
4. Sewers and Drains	1,856.7	6.65
5. Public Lighting	531.0	1.90
6. Circulation	265.4	0.95
7. Sports installations	532.6	1.91
8. Parks and Gardens	587.2	2.10
9. Housing and Absorption of Suburbs	4,121.7	14.75
10. Surface transport	1,230.4	4.40
11. Subterranean transport	4,315.0	15.44
12. Various supplies	231.3	0.82
13. Water Supply	583.4	2.09
14. Road Cleaning, rubbish collection and treatment	881.0	3.15
15. Health and Social Assistance	1,018.8	3.65
16. Culture	1,574.5	5.64
17. Urgent and unforeseen needs	764.0	2.73
TOTAL (in millions of pesetas)	27,938.3	100.00

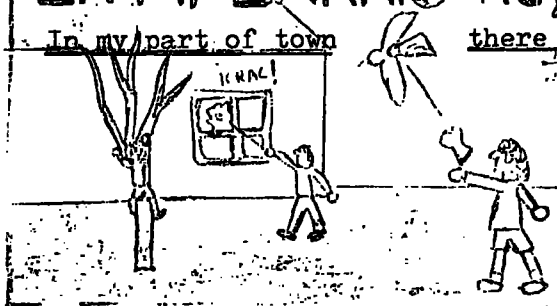
TABLE 36 PLANNED INVESTMENT OF THE BARCELONA COUNCIL 1969-74

Actual investment differed slightly e.g. nos. 3,4,5, and 6 above jointly accounted for 44% of actual investment c.f. 34.48% planned.

Source:- Ayuntamiento de Barcelona 'Programa de Accion Municipal' 1969

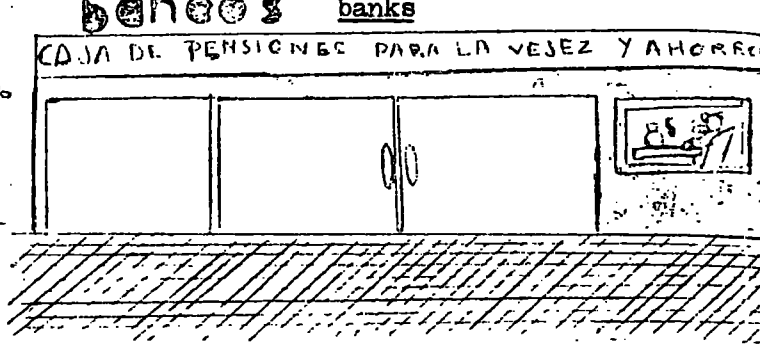
FIGURE 167 - "EN MI BARRIO ... (IN MY PART OF TOWN)

EN MI BARRIO hay...
In my part of town there are



gamberros
thugs ...

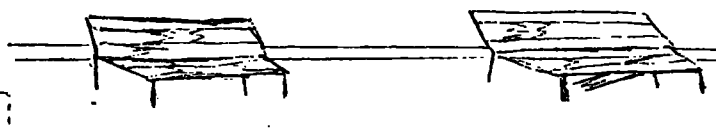
bancos banks



árboles pelados
... bare trees



Bancos rotos
... broken benches



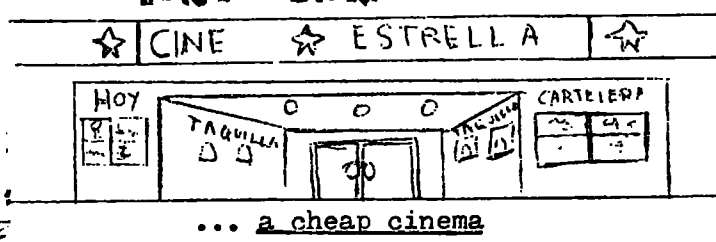
This is one problem, but here is another. My part of town does not have ...

ESTE ES UN PROBLEMA, PERO AHORA VIENE OTRO
MI BARRIO NO TIENE....

a Public Library
BIBLIOTECA PUBLICA

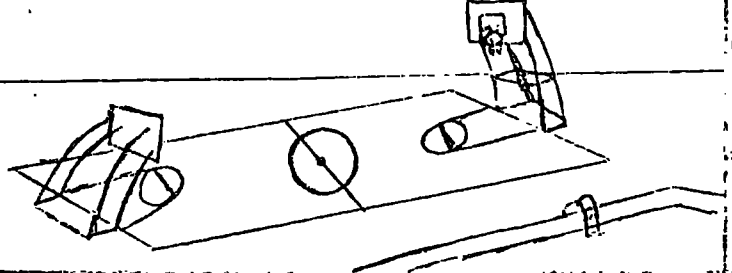


FINE BARATO

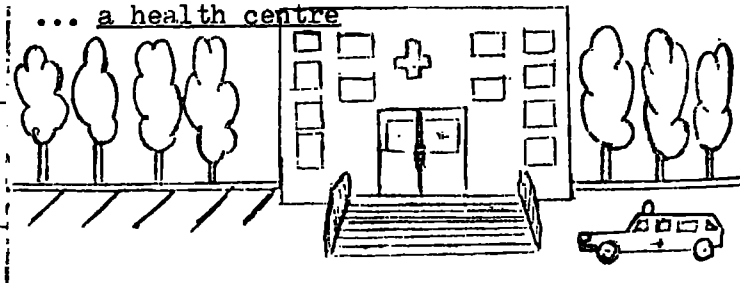


... a cheap cinema

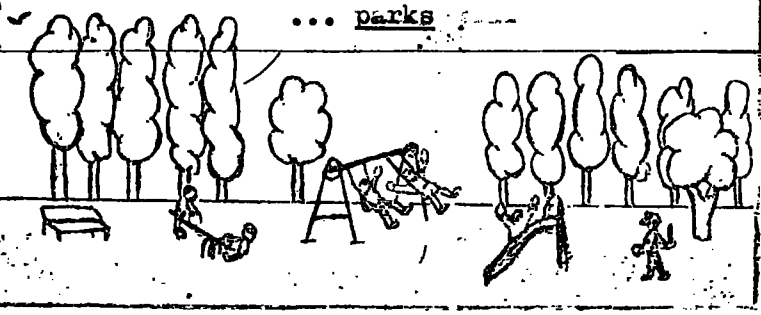
CAMPO DE DEPORTES
... a sports ground



CENTRO SANITARIO
... a health centre

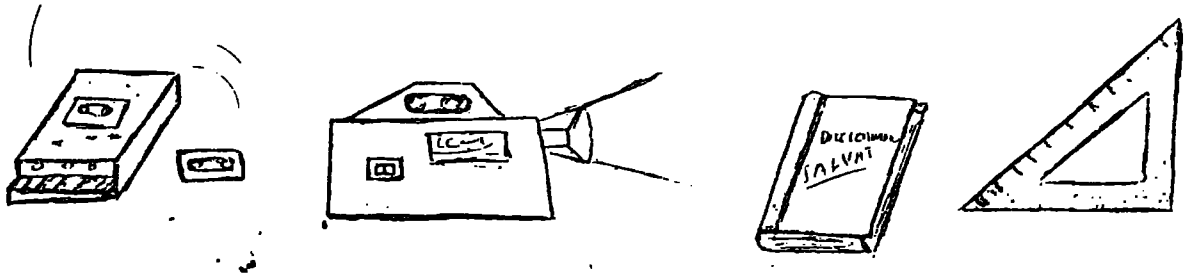


PARQUES
... parks



AULAS SUFICIENTES Y MATERIAL PARA SU UNICO COLEGIO NACIONAL MIXTO "LA PAZ."

... sufficient rooms and materials for its only (mixed, state) college, 'La Paz'.



De la exposición de dibujos infantiles del Colegio de La Paz. Autor: José Antonio Bujalance.

Source:- (161)

In the 60's the C.U.B. was very much dominated by the Barcelonan Council and may be regarded as the rubber stamp body for many of their activities, particularly as Porcioles (the Mayor of the city from 1957-73) was also President of the 'Executive Committee' of the C.U.B. Similarly, as the Council themselves said in 1969, the P.M.V. is not

> "outside the Council and has no jurisdiction itself, but is an organ of the Council and thereby constitutes the most immediate and direct instrument for ... the development of 'social' housing" (quoted in 164).

Housing as a whole is discussed elsewhere (Part E) and it is sufficient to note here that the constructions of the P.M.V. are characteristically

> "in cheap land, the 'left-overs' from other 'urbanizaciones', unhealthy with an almost permanent mist or smog covering ... lacking in services, including schools." (164)

In this period, 1945-71, over 18,000 P.M.V. houses were built, all but 3,000 after 1956. Their 'poligonos' include Can Clos, Polvorin, S.W. Besos, Montbau, and more recently, La Mina and Canyelles in Barcelona, and Singuerlin and Canaletes outside it. La Mina and Canyellas (just like Can Clos in 1952) were built specifically to rehouse 'barraquistas' expelled from central areas (more detail is given in Part K).

One other aspect of the Council's investment policy should be mentioned here. As previously noted, the 1956 Land Law gave municipal authorities the power to acquire green areas for public use, but:-

> "The Council of Barcelona have not only failed to guarantee urban discipline but have followed a timid land policy, not fulfilling their obligations under the law ... what was not invested in the five years from 1970 to 1974 (and should have been) would have allowed the acquisition of a further 475 hectares (of green space). This, together with the 438 hectares existent in 1974 (excluding Tibidabo) would give an average of 5.11 square metres of urban green space per inhabitant as compared with the existent 2.45 suqare metres. With this, they would have met the objectives of the '53 Plan." (155)

This side of the Council's policy has been openly criticised from within; the 'General Management Body of Treasury and Budgeting' have said they cannot

> "give justification to the inobservance of the legal mandate" and that the charge of scarcity of suitable urban land "is seen not to be true." (127)

In summary, the investment of the Barcelona Council 1960-74 reveals an overwhelming priority given to road infrastructure and private mobility, whilst the growing needs of housing, sanitation and health, education, social assistance and public transport have generally been sacrificed.

"The coming generations will throw in our faces the preference shown for the present in these years, although the upper classes already have their solution - get out of the city to the Maresme, to beyond Tibidabo, to Castelldefels, served by an efficient arterial road and a system of 'planes parciales'." (127)

2. 'BARCELONA 2000'

"Such a radical transformation can only be carried out by a conscientious, responsible and representative Administration, active in showing the way, capable of confronting private initiative and land speculation and of carrying through a 'global' policy." Report of P.R.E.P.O.U., Council of Barcelona, 1970.

"Barcelona 2000 - to dream costs nothing ... " (9)

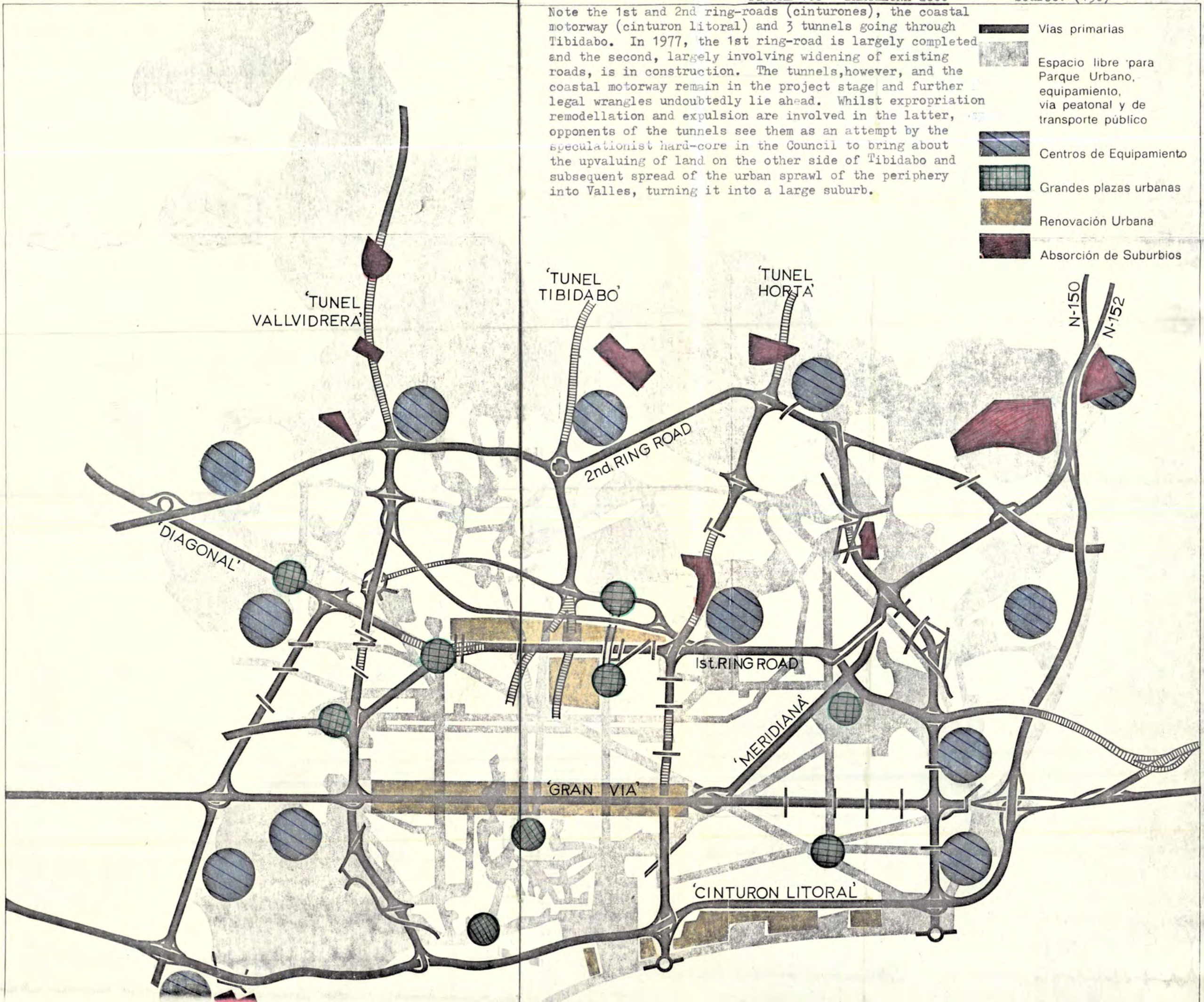
'Barcelona 2000', published in 1970, outlines the Barcelona Council's long-term objectives for the city. Although "the studies realised in the Revision of the Plan Comarcal of 1953 and in the development of the Plan Director have given rise to this Plan" (156) and theoretically it was the work of P.R.E.P.O.U., it largely represents the hopes and ambitions of Mayor Porcioles (the Plan is often called the 'Plan Porcioles') and a return to the 'tertiary at the centre' ideas discussed above (Part F), which were largely rejected in the final draft of the Plan Director. In this sense, it is typical of the divisions, conflicts and contradictions particularly evident amongst planners and politicians after the formation of different bodies to develop different aspects of the Plan Director after 1968.

The Plan has several objectives. Certain areas in the central area of the city are reclassified to facilitate extensive works of renovation (Figure 168). These areas are, at present, largely residential and industrial, but the Plan does not mention problems aggravated by such remodelling - the unchaining of speculative processes, increases in the housing deficit and expulsion of residents, not able to afford the new 'improved' housing, from their 'barrio' (this can be seen as part of the cleaning up of the city centre which has been Council policy in the 70's. Most expulsions of this kind, however, have been to areas outside the Barcelona Municipality and not to the 'absorcion' areas marked on Figure 168).

Industry would remain in increasingly concentrated form as tertiary activities progressively take over the city. Large areas - 1,000 to 1,500 hectares - are 'recuperated' and used for the re-equipment of the city in large service

FIGURE 168 - BARCELONA 2000 Source:-(156)

Note the 1st and 2nd ring-roads (cinturones), the coastal motorway (cinturon litoral) and 3 tunnels going through Tibidabo. In 1977, the 1st ring-road is largely completed and the second, largely involving widening of existing roads, is in construction. The tunnels, however, and the coastal motorway remain in the project stage and further legal wrangles undoubtedly lie ahead. Whilst expropriation remodellation and expulsion are involved in the latter, opponents of the tunnels see them as an attempt by the speculationist hard-core in the Council to bring about the upvaluing of land on the other side of Tibidabo and subsequent spread of the urban sprawl of the periphery into Valles, turning it into a large suburb.



centres, mostly on the periphery of the city, where schools, social centres, green areas, sports facilities, markets, etc. are to be provided. Large urban 'plazas', generally already in existence, are consolidated or enlarged. Great roadways -'Vias Primarias' - permit circulation in and around the great city, whilst public transport is improved by extension of the metro network and the creation of an 'express metropolitan system', details of which are not given.

In assessing these proposals, it is significant to note the estimated expense of the Plan, according to the G.P.T. (see Table 37).

ITEM(S)	Millions of pesetas	%
Development programme 1970-86 Clearing of municipal debt	68.4	25
Universal Exposition on Tibidabo 1982	25.0	9
Recuperation of space after 1986 Re-equipment of city	61.5	23
Construction of 'vias primarias' after 1986	50.0	18
Public transport, industrial decentralization, new costs of development (social centres, care for the elderly), renovation, 'social' housing, conservation of artistic, archeological and cultural patrimony in the municipality, participation in the correction of deficits in services and infrastructure.	67.4	25

TABLE 37 - ESTIMATED INVESTMENT IN THE REALIZATION OF 'BARCELONA 2000'

Source:- (156)

Although Mayor Porcioles claimed that there was "more than enough money to carry out the Plan" ('Destino' No. 21, November 1970) this seems highly unlikely. The estimates have been widely criticised as unrealistic and, in 1973, it was discovered that

> "a lamentable error had been committed (in the estimate for the Exposition on Tibidabo) - they had forgotten to include the necessary infrastructural works in their calculations." (9)

It has also been pointed out that, given the lack of co-ordination and power of local authorities, particularly in the other municipalities of the 'comarca', the effect may be to extend the present chaos of the periphery further into the A.M.B., even if the centre is converted (contrary to the directives of the Plan Director) into a tertiary super-centre. But perhaps the most voiced criticisms of all stem from the scepticism with which many viewed a proposal by Porcioles' regime that

contained provision for new collective services:-

> "The result of the Plan Comarcal of 1953 has been the adulteration known as the 'planes parciales'. This process has involved the invasion of green zones and 'collective service' areas by the speculator and large-scale constructor. The municipal authorities have been a little helpful, at the very least, in encouraging this process. What great change has overtaken the Council so that now it is capable, not only of defending these elements, but also of restructuring their provision ... ?
>
> The great roadways are, perhaps, the only part of the Plan that is feasible ... but experience has shown that they would probably encourage a further oil-slick expansion of the city, bringing enormous 'plusvalias' in the free-space areas nearby.
>
> The idea of Barcelona as the exclusive service-centre for the region is pure metaphysical speculation. How can the city serve its region when it cannot serve itself?" (9)

3. LOCAL GOVERNMENT AND PLANNING IN THE A.M.B. - A STUDY OF THE 'AREA DE ACCION INMEDIATA' (A.A.I)

The activities of the municipal authorities in Barcelona and its 'Comarca' have already been noted. In the more 'provincial' municipalities, the role of local authorities is illustrated by the following examination of planning and development in the A.A.I. (Figure 69) in the 60's.

During the 50's and 60's when the C.U.B. was theoretically the control body for planning in the Barcelona Comarca, the rest of the A.M.B. (and the Province) was under overall control of the C.P.U. ('Comision Provincial de Urbanismo' - the old C.S.O.P. in a new form). Each municipality was supposed to present its local development plan to the C.P.U. for approval, using, in theory at least, the Plan Provincial of 1963 as a guideline. During this time, some 'comarcal' Plans were also passed by the C.P.U., supposedly being at the planning level between municipal plan and Plan Provincial (e.g. Plan Comarcal de Maresme 1961).

Of the 86 municipalities in the A.A.I., only 52 of them had municipal plans approved by the C.P.U. in 1970, even though the other 34 municipalities had plans, many of which

> "are used by the Councils to concede building licences, as if they had been passed by the C.P.U. In reality, then, the approval or non-approval of the C.P.U. is of administrative importance only ... Towns with a construction 'boom' like Calella, Pineda, Malgrat and Mataro on the coast, or Canovelles, Llissa d'Avall and Les Franquetes in the interior have dispensed with the Commission's approval to give a free hand to construction. Planning, then, has two parallel courses, perfectly defined. One legal, official, recognized and approved, the other unofficial, surreptitious, but real and effective." (146)

Taking the plans approved by the C.P.U., they alone permit the settling of 1.9 million people, 85% of the total forecast for the A.A.I. in the year 2010 in the Plan Director (Figure 169). If the non-approved Plans are included, the population potential is 3.8 million, 170% of the 2010 projection and five times the present population (1970) of the A.A.I. (700,00).

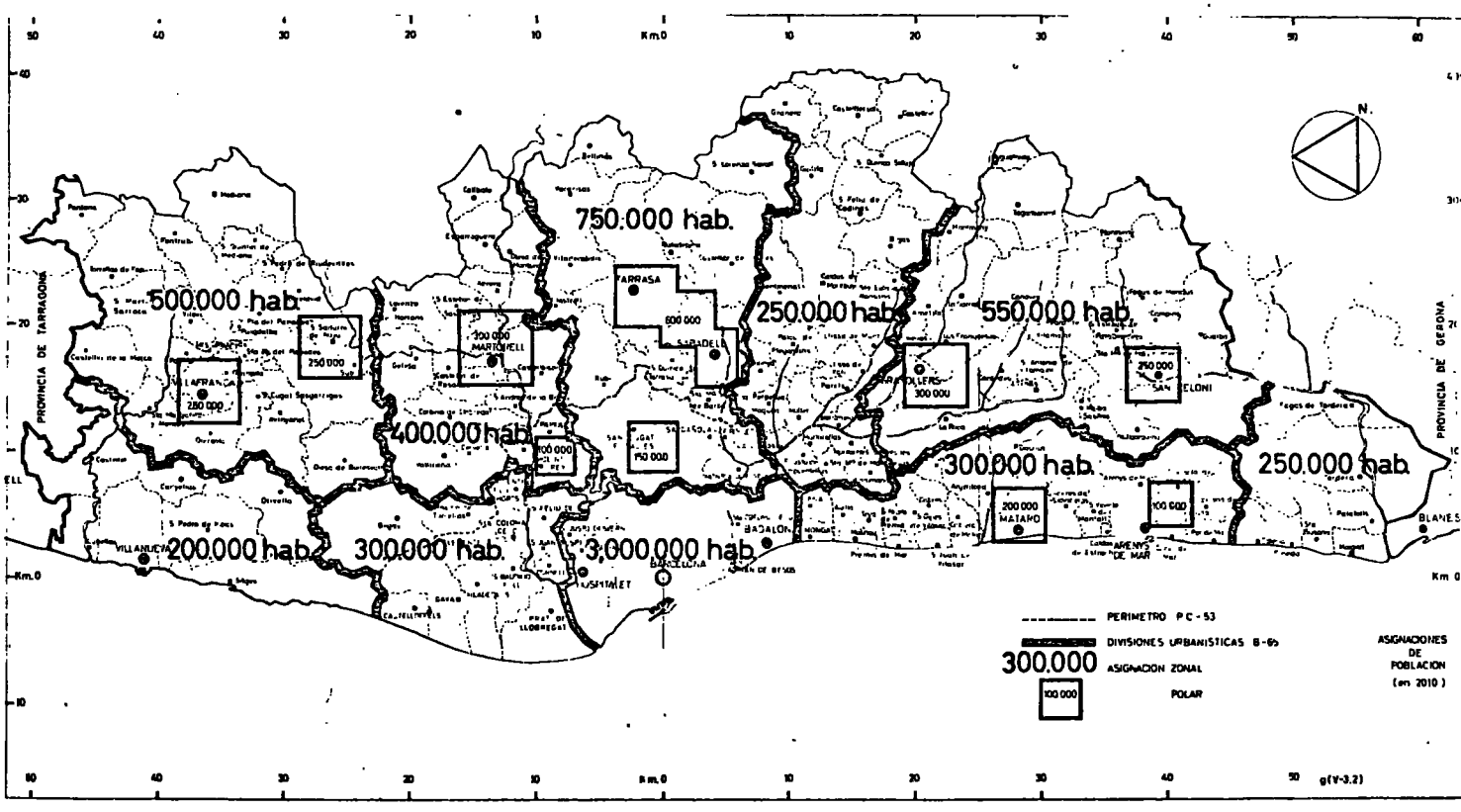


FIGURE 169 - REVISED 'COMARCAL' DIVISION OF THE A.M.B.

Compare with the traditional divisions on Figure 163. The A.A.I. was also redefined to include the five 'comarcas' centred around Martorell, (Llobregat Valley) Tarassa-Sabadell (West Valles), the new town of Riera de Caldes (Central Valles), Granollers-San Celoni (East Valles) and Mataro (Maresme), giving a population of 2.25 million (c.f. 6.5 million total A.M.B.) projected for the year 2010. Source:- (89)

Planning then, has been used to create an expectancy of urban use, a form of protection bringing certain revaluation of land and greater profit in the case of expropriation, without any certainty that such change will ever take place. Sometimes this is extended to a physical protection - a minimum occupation of the 'urbanized' land, involving the skeleton road system and first buildings, bringing the "runaway degradation of 'natural' areas" (146). This process is best seen in the study of 'planes parciales' in the A.A.I., of which only 21% had C.P.U. approval, the other 79% being tolerated and often promoted by municipal authorities (c.f. San Medin on Tibidabo pages 244-247) (Table 38).

"In the majority of cases, the 'urbanization' is limited to the opening of roads with a mechanical excavator, the laying of water pipes and electric cables, the latter always above ground. Shortly afterwards begins the process of disintegration of slopes, invasion of roads by landfalls and uncovering of water pipes. To complete the image, one must note the sad spectacle of pseudo-architecture found in these plots ...

In 1971, the urban panorama is such that it is fitting to question the efficiency of planning in our political, social and economic context ... the doubt arises as to whether the urban plans drawn up in the last 10 years have been to programme the future necessities of the community or rather to build a smokescreen giving ... legality to the errors of the present and profitability to the operations of the future." (146)

'Comarca'	'Planes Parciales' not approved		'Planes Parciales' approved by C.P.U.			
	No.	Area (Has.)	No.	Area (Has.)	% of Total No.	% of Total Area
	a	b	c	d	$\frac{c}{a+c}$	$\frac{b}{b+d}$
Llobregat	95	2,761	38	849	28	23
West Valles	83	3,358	32	1,440	27	30
Central Valles	98	2,426	31	1,157	24	32
East Valles	71	2,240	7	318	7	12
Maresme	150	2,220	26	553	14	20
TOTAL	497	13,005	134	4,317	21	24

TABLE 38 - 'URBANIZACIONES' (PLANES PARCIALES) IN THE A.A.I. UP TO JUNE 1970

Source:-(146)

PART H STATE PLANNING AND INTERVENTION IN THE 60'S AND 70'S

1. THE DEVELOPMENT PLANS

It has previously been stated that the 1950's marked the active involvement of the state in the provision of 'social' housing. But the end of the 50's and beginning of the 60's is noted in much of the planning literature as making another change, which was

"due, in part, to the loss of hegemony on behalf of the landowning oligarchy and their replacement by the industrial-financial bourgeoisie, who, from this moment on, really determine the fortunes of the country ... this situation of change, latent throughout the 50's, was clearly evident from 1957-58 onwards, when a series of stabilizing measures were issued and especially... after the 'Plan de Estabilizacion' of 1959 (which included a reduction of credit facilities, changes in interest rates, introduction of certain import

duties) which resulted in high levels of unemployment [1], in agricultural areas as much as in urban areas ... In summary, it was an effort to finally close the autarchial period and begin a policy of development." (139)

In the 60's "the foundations were laid for a period of expansion based on the receipt of foreign currency from tourism and the remittances of emmigrants, together with a continual process of inflation." (129)

This new policy was expressed in three development plans spanning the 60's and 70's, which are important from the urban planning viewpoint in that they guided the Central Administration's attitude to planning activity in Barcelona, which changed quite noticeably with the differing emphasis of the three plans. The first plan followed a report on the Spanish economy by the World Bank in 1962 and was very similar in its directives and content to the French development plans. Directives were binding for the public sector and indicative for the private sector. The first plan (1964-67) had two main objectives - economic expansion, involving certain concrete proposals for the restructuring of industry, and regional development in both the largely rural regions of the south and north west and also within the rural provincial areas of already industrialised regions. The former was to be achieved by the development of growth poles ('polos de desarrollo'/'poles de croissance') via a system of credit facilities and fiscal incentives to industry to move to locations in which a certain minimum level of investment in infrastructure had already been made. Industrial decongestion estates were created within the provinces of Madrid and Barcelona. This, then, helps to explain the luke-warm reception given to the Plan Director and the Metropolitan Area concept by the Central Administration in the mid-60's, which, although not strictly contradictory to a 'development of the regions' policy, tended towards the emphasis of the already existing industrial areas rather than the establishment of the new. So, whilst the Plan Director was shelved between 1966 and 1968, decongestion estates were created at Manresa and Igualada within the province of Barcelona but outside the A.M.B. (see Figure 143).

---

[1] "This unemployment led to the migration of great masses of workers from country districts to the industrial areas and in a second stage to European Countries - a great part of the million plus Spanish workers who today form part of the proletariat of Western Europe (excluding Spain) left Spain about 1959." (139)

There is some disagreement over the second development plan (1968-71) in planning literature. Whilst the 'Area Metropolitana' was undoubtedly given some importance, Tarrago, Brau and Teixidor maintain the plan was a

> "clear continuation of the directives contained in the first plan, without introducing great changes. The fundamental policy was that of growth poles, with the appearance of the concept of the Metropolitan Area." (139)

On the other hand, Tarrago and Borja state elsewhere (133) that the

> "second development plan gave priority to the Metropolitan Areas over the growth poles and regional development policy."

(In Barcelona, the Plan Director of the A.M.B. was approved with reservation in 1966). We can say it was a form of bridge between the first and third plans which saw a "turn about in the attitude of the Administration." (149)

In the urban policy of the third development plan, we again find the expression 'ordenacion de territorio' very much to the forefront (as in the Plan Comarcal and the Plan Director). A hierarchial classification of urban areas was introduced including the following (in general going from big to small) - 'Metropolitan Areas; 'Urban Areas', 'Metropolis', 'Middle-sized cities', 'Main towns of Comarca', 'associaction of municipalities', 'tourist areas' etc.

> "In this aspect - the ordering of territory - we can see the explicit abandonment of the 'growth poles' policy ... In fact, it meant the official recognition of its failure after 8 years (1964-72) ... Andalucia and certain areas of Galicia, which were the main regions where concentrated efforts had been made, still had high levels of unemployment. The abandonment of the utopian growth poles policy was accompanied by a redirection of the 'metropolitan areas' policy. The growth pole locations, which were generally selected on political as much as economic grounds, gave way to investment in the industrial conurbations aimed at gaining maximum possible returns." (139)

This, however, needs clarification. It was not so much an abandonment of 'growth poles' policy - the Plan Director contained several e.g. Gallecs/Mollet, including the new town of Riera de Caldes - but rather the abandonment of a 'growth poles'policy on a national scale, involving the creation of new industrial regions. But this did not mean that in the already industrialised territories e.g. the A.M.B., growth poles could not be developed as part of the policy of creating a policentric homogeneity throughout the territory. It can be seen more as another step away from the 'zonas devastadas' pro-rural policy of the immediate post-war, that was forced to change as the industrial 'burguesia' gradually replaced the landowning oligarchy in the seats of power. In 1973 the third development plan was seen as

> "assuring a greater dynamism in the process of transforming the Plan Director into more concrete proposals. It now seems a fixed idea in the Central Administration mind that the Metropolitan Areas will have a decisive role to play in

the future economic development of the country." (149)

This seemed to be verified by the 'Law of Urgent Realizations' ('Ley de Actuaciones Urgentes', known and referred to from now on as ACTUR) in 1970, which attached great importance to the need to create new towns - English style - within the Metropolitan Areas of Madrid and Barcelona to aid decongestion. Since then, however confusion of political and economic objectives have clouded the issue; in 1974 the 'E.M.M.B.', a new 'comarcal' planning body, was created by decree from Madrid to replace the C.U.B. This imposition of centralist will, which has been compared with that of the 'Nueva Planta' in 1716, has left the A.M.B., for a while at least, in the background. This aspect of centralist policy is discussed in more detail in Part J below.

2. STATE HOUSING POLICY - THE 'OBRA SINDICAL DEL HOGAR' (O.S.H)

The activities of the O.S.H. in Barcelona are discussed elsewhere (Parts E and K), so only a brief outline is given here.

The O.S.H., part of the Ministry of Housing, has specialised in the promotion, financing and construction of housing of minimum dimensions, standards and costs - "el barraquismo vertical", it has been called (131)-producing over 300,000 housing units in all Spain, including almost 45,000 in the Province of Barcelona (Table 39 and Figure 170). Location of these housing estates has,generally speaking, been in peripheral, low-priced areas, sometimes totally unsuitable for construction e.g. San Cosme was built on the salt marshes of the Llobregat valley. Construction is normally undertaken without municipal licence, 'plan parcial' approval, or visa from the'Colegio de Arquitectura'. In short, the O.S.H. deal in the"production of marginal habitat of doubtful legality." (131)

	Number of 'groups'/'poligonos'	Number of houses
Municipality of Barcelona	8	9,091
Rest of Comarca	18	14,843
Rest of Province	41	20,787
Total Province	67	44,721

TABLE 39 - O.S.H. CONSTRUCTION IN BARCELONA

Source:- (157)

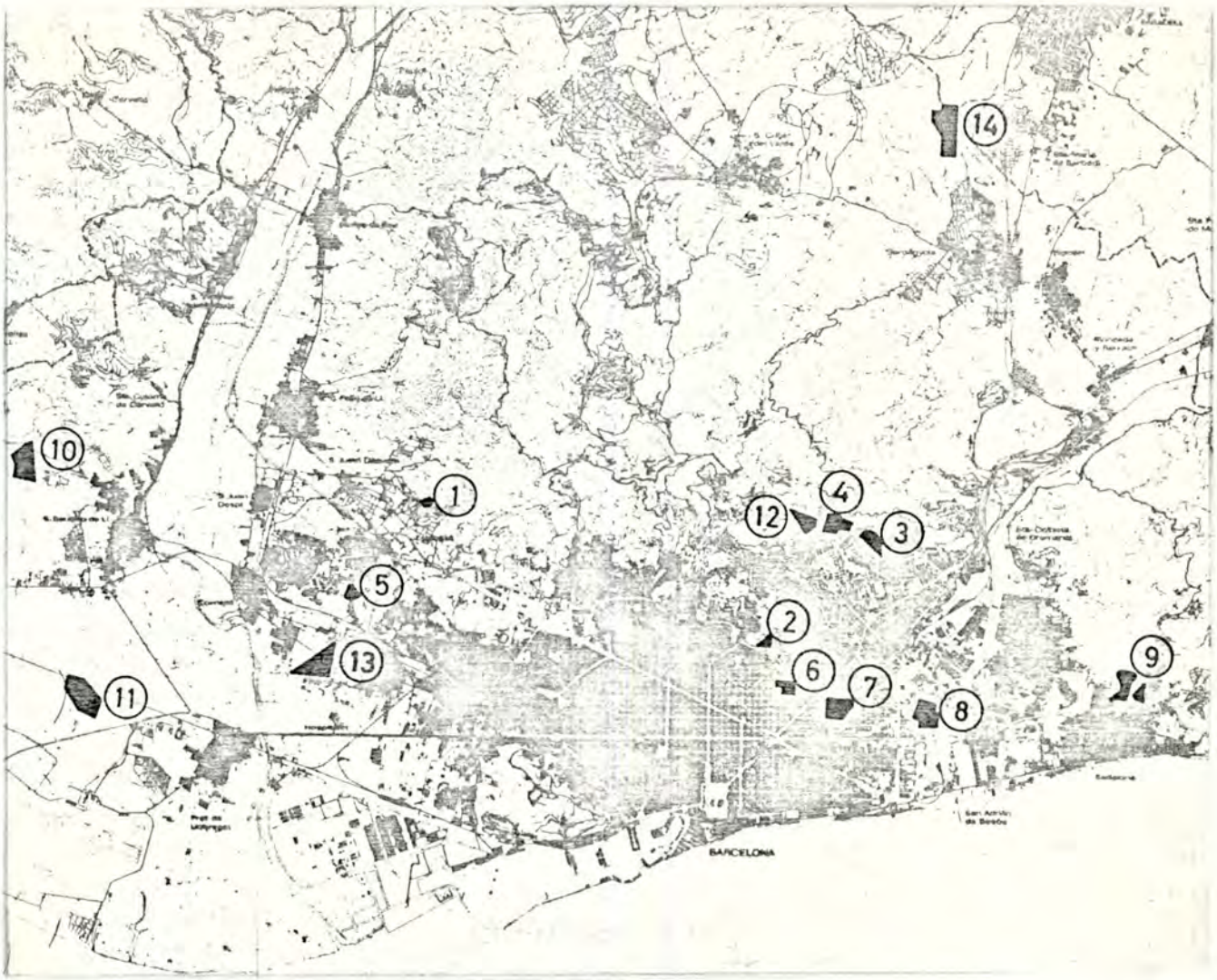


FIGURE 170 - O.S.H. 'POLIGONOS' IN THE 'COMARCA' Source:-(160)

In fact, all the 'poligonos' as shown here have been displaced about half an inch to the left and to get a true picture adjustment should be made e.g. No. 8, San Roque, is on the right bank of the Besos.

KEY

1. La Merced 1948
2. Meridiana 1945
3. Trinidad 1954
4. Verdun 1954
5. Onesimo Redondo, Hospitalet 1955
6. J.A. Parera 1956
7. La Paz 1963
8. San Roque, Badalona 1956-60
9. Pomar, Badalona 1967
10. Cinco Rosas, Sant Boi de Llobregat 1967
11. San Cosme, Prat de Llobregat 1964
12. Roberto Bassas, Guineueta, 1964
13. Gornal, Hospitalet, 1972
14. Can Badia, Sardanyola, Santa Maria de Barbara 1971

The result has been a continual feud between tenant (or owner) and the O.S.H. officials. Complaints are generally of the same nature - leaks, dampness, poor state of electrical system and installations, floods in basement, frontage deterioration, deficient sewage system, lack of collective services and infrastructure.

In recent years, the O.S.H. have, to some extent, given in to public opinion, giving special grants for repairs and guarantees of conservation responsibility (i.e. O.S.H.'s) on the sale of the houses.

In the late 60's and 70's, the O.S.H. has played the dominant role in creating new housing for the 'barraquistas' cleared from the city centre, resettling them in the 'U.V.A.S' (Unidades Vecinales de Absorcion), notoriously low quality housing areas in the adjacent municipalities of Prat (San Cosme), San Baudillio de Llobregat (Cinco Rosas) and Badalona (Pomar), each containing between 1,500 and 2,000 housing units (i.e. one per family) in low, two or three storey, plurifamiliar blocks.

3. THE 'LEY DE ACTUACIONES URGENTES' ('ACTUR') 1970; THE NEW TOWN OF RIERA DE CALDES/GALLECS

> "From 1970 onwards, following the 'ley de Actuaciones Urgentes', a series of realizations were begun - the new towns of Riera de Caldes, Martorell-Anoia, 'Mancomunidad' Sabadell-Tarassa, that, although co-ordinated from Barcelona, are promotions from Madrid, opening the way for extraordinary intervention by the Central Administration." (149)

The Law of 1970 -'ACTUR'- made provision for the state to intervene in the creation of whatever it deemed necessary within the urban sphere. Of course this was nothing new, with the Ministry of Public Works (roads, drainage, supply of water, ports), Ministry of Air, Ministry of Work and Ministry of Housing (via the O.S.H) all intervening, as more or less autonomous entities, in the 50's and 60's. 'ACTUR', however, reduced further the need to keep in line with any existing planning principles, policy or regulations. Feasibility studies (e.g. for location of a new town) were not now necessary, but only an 'explanatory report', the emphasis being more on 'telling' than 'suggesting' or 'evaluating'. Similarly, the expropriation procedure was cut by half (for these measures only) and it was admitted that these realizations may require modification of existent planning regulations.

Of the three 'new towns' (Figure 171) Riera de Caldes (or Santa Maria de Gallecs- in Central Valles, about 15 kilometres from the city) was the first to be started. It now seems clear that the new government intends to proceed with this, the first of the projects to be reactiviated after a five year delay caused by legal wrangles,[1]

---

[1] On December 1st, 1976, the company 'Santa Maria de Gallecs S.A.' was formed with capital of 300 million pesetas. The Minister of Housing, in Barcelona at the time, said the greatest difficulty had been expropriation, soon to be completed in 1977, costing a total of 1,200-1,400 million pesetas.



FIGURE 171 THE THREE 'ACTURS' IN THE A.M.B. Source:- (165)

Marked with a black A in a white square, the three 'ACTURS' are, left to right, Martorell-Anoia, Mancomunidad Sabadell-Tarassa, Riera de Caldes.

Of the three, only Riera de Caldes shows immediate signs of being realized, although Sabadell, Tarassa and Martorell, as established industrial centres, continue to expand and to some extent encroach on the defined territories of the 'planned' new town developments.

Riera de Caldes is to cover an area of 1,472 hectares, the majority of industry to the left side of the area shown in the diagram, along the banks of the River Caldes. The plan is to be realized in three five-year stages, each involving the settlement of 50,000 people, with a fourth stage of twenty years when the total population will reach 180,000.

administrative problems and change of government. It is perhaps worth considering here the origins of Riera de Caldes and its relationship with the planning ideology and political-economic forces of the day.

> "The first graphic manifestation of the subject came in 1963, in the 'Plan Comarcal' for Valles Central. The appearance of a new 'comarca' in Valles, between its two neighbours, East and West Valles, is perfectly in keeping with the concept of new cities. Central Valles was centred around the axis of the River Caldes but lacking in important urban nuclei (Figure 169) and ideal for those attracted to creating something out of nothing; besides, it was obvious that within a rigorously competitive model of territorial equilibrium, this new 'comarca' would need a capital.
>
> During the elaboration of the Plan Director, the idea of Riera de Caldes had its supporters and,although the city-territory model was accepted, the compromise solution included Riera de Caldes as one of the poles of growth in the A.M.B. But the bad and widespread custom of confusing a sketch with a plan gave rise to the belief that the realization of the 'new city' was a definite objective of the Plan Director, whereas the ideology behind the Plan Director demanded a staged realization involving a rationalisation of actions and reestablishment of priorities aimed at providing the most suitable developments as fitted each situation. It must be said that the Plan Director did not have a plan of defined and explicit stages (the A.A.I. was a poor attempt at a first stage), but a simple reading of principles and objectives clearly shows that the new city of Riera de Caldes is not given any priority at all ... What has happened is that the Plan Director has been used as an 'a posteriori' justification of centralist policy...
>
> So here are the new cities, all with full judicial recognition, achieved without the problems that a global planning policy would have presented. But, despite all the obstacles overcome by such intervention (sic), the road ahead is not clear and there remains, amongst others, the question of what type of administrative entity the new city will constitute, which should of course have been considered beforehand. We have arrived at a situation where the contradictions and objections are of little consequence compared with the acute necessity of giving an answer, no matter what type, to the problematical urban situation of the country. The answer chosen, however, should not surprise us. It includes two elements capable of persuading many citizens of various condition. One, it involves massive construction of housing which is undoubtedly necessary. Two, it is an operation of enormous size, which can be seen as a sign of economic development and progress, ... but which, in fact, is nothing more than an extension of their housing policy into the sphere of the A.M.B. (indeed, at first, Riera de Caldes was to be called 'Poligono El Valles', which would have caused far less confusion)." (142)

Turning now to the economic side of these 'realizaciones', the process is clearly planned to bring business to the large capital promotors, the state concessionaries entrusted by the government to realize these projects, which can again be seen as an extension of the 'subsidize-private-constructors' policy used in the housing sector in the late 50's and 60's. Here, however, a monopolistic factor is introduced, the mere size of operations automatically excluding the small promoter. What this means in planning terms is that great attention is paid to the execution of urbanism by the state concessionaries within loosely defined 'minimum size parcels of 5-10 hectares', watched over by the Administration, who make sure they do not break too many rules. Herein, then, lies the only element

of 'rationality' in this process - i.e. the actual physical formation of these 'realizations' on the ground - which thereby clearly constitutes an anti-planning standpoint, when planning means the rationalization, on a global level, of a problematical situation, orientated towards the adoption of corrective measures and the consequent re-ordering of that problematical state.

> "It needs great ingenuity to believe that a great 'poligono' of houses and industry, created 'a priori' and autonomously and that chooses to exclude consideration of certain urban processes from its calculations, has anything to do with planning or strategy." (142)

PART J THE A.M.B. (2) THE NEO-CAPITALIST'S VIEWPOINT AND THE NEED FOR AN A.M.B. MANAGEMENT BODY

In 1973, a book entitled 'Management or Chaos? - the A.M.B.' was published. It is important because of what it says and who says it. Its authors, the 'Circulo de Economia', are an assortment of economists, industrialists and academics who may be said to represent the neo-capitalist viewpoint on planning issues. This group, the most dynamic section of the 'burguesia industrial,' have been of increasing importance in political circles in the past ten years and with this book they take a belligerent standpoint that finds them, in many ways, on the side of the working class and the rationalist planner in the fight against speculation and the demand for effective management in the A.M.B.

> "The rights of the individual landowner are limited by certain considerations of the public well-being. It is necessary to provide sufficient urban land in the A.M.B. as much as to attend to the needs of expansion as to solve collective problems." (149)

The bulk of the information is taken from the above mentioned book (149) and all quotations (in Part J) are from this work unless otherwise stated.

1. BALANCED GROWTH vs. TERTIARIZATION OF THE CENTRE

> "The Metropolitan Area concept revolves around a central assumption - the creation of a continuum, consisting of built-up nuclei alternating with areas of free space, as an alternative to the present tendency of hyper-concentration, expressed in the centralised location of tertiary activities, high-class residences and political decision-making bodies."

This present tendency is reflected in the analysis of the city carried out by the authors of 'C.A.U.' No. 10 in 1971 (Table 40 and Figure 172).

As has already been noted, the attitude of the Barcelona Council to this change has been to encourage it, by means of the 'programas de accion' in the 60's and 70's, involving selective sectorial investment, largely in infrastructure.

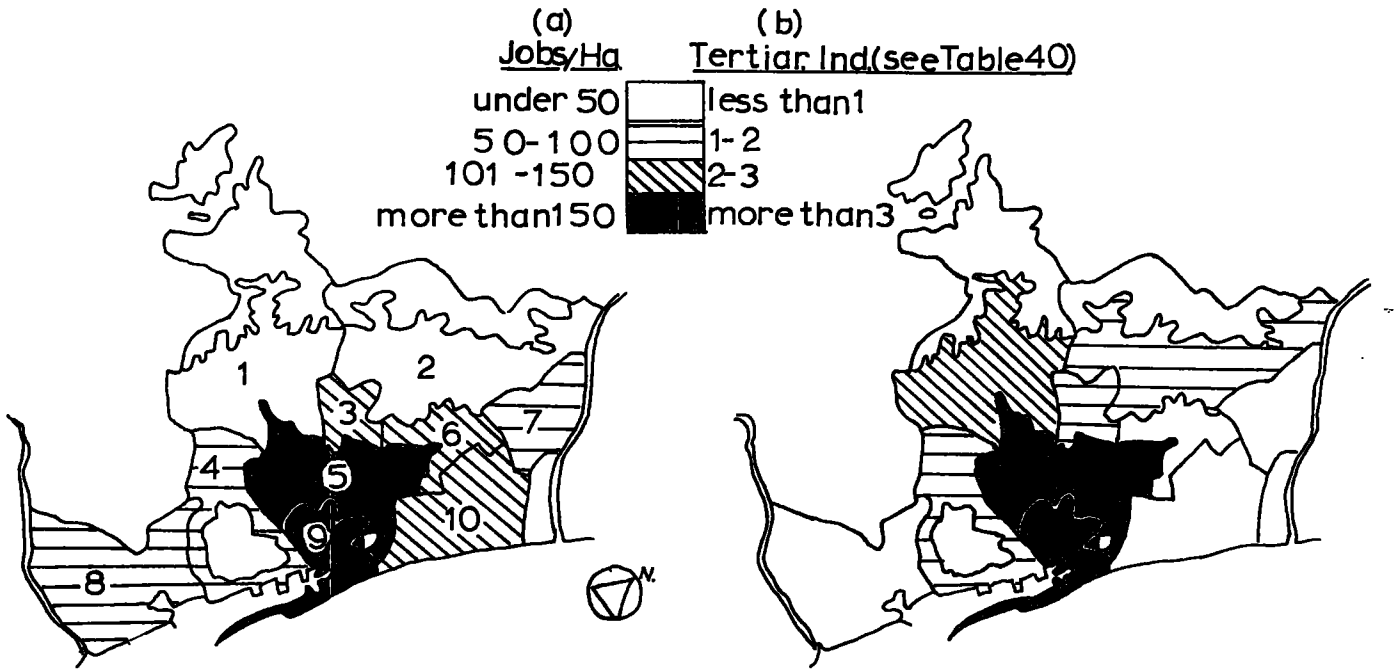


FIGURE 172 EMPLOYMENT AND TERTIARY ACTIVITIES IN BARCELONA 1971

Source:-(130)

In the municipality of Barcelona there is a clear central business district, where employment in services is far greater than in the rest of the city. It is centred around Paseo de Gracia/Via Layetana/Diagonal and includes the old quarter and most of Cerda's 'ensanche'. In 12% of the municipality more than 50% of the tertiary employees work. 44% of the offices built in Barcelona in the 60's are in Cerda's 'ensanche'. Borja, writing at the end of 1971, says:-

> "Industrial jobs which, until recently, provided the majority of jobs in the Municipality of Barcelona, now account for a little more than a third of the total (of almost 900,000). Tertiary employees number more than 350,000 and, adding industrial administration, personal services and transport, the figure comes to 550,000." (129)

TABLE 40 (below) EMPLOYMENT STRUCTURE IN BARCELONA 1971 Source:- (130)

AREA OF CITY	JOBS PER HECTARE	EMPLOYMENT STRUCTURE % OF TOTAL JOBS				'TERTIARIZATION INDEX'
		INDUSTRY	COMMERCE	SERVICES		
				SKILLED	UNSKILLED	
	a	b	c	d	e	$\frac{c+d+e}{b}$
1	47	29	23	25	23	2.4
2	31	37	11	40	12	1.7
3	140	39	21	19	21	1.5
4	95	45	11	25	19	1.2
5	326	23	23	30	24	3.2
6	117	52	8	28	12	0.9
7	72	60	7	20	13	0.6
8	64	72	2	22	4	0.4
9	269	17	29	29	25	4.8
10	102	59	8	20	13	0.7
	122	35	18	27	20	1.9

What is not stated in these programmes, nor in the Council's plan -'Barcelona 2000' - is the other side of this policy, that at present involves the suburbanization of the 'comarcal' ring, consisting largely of conglomerations of industry and low-rent residences.

> "The growing suburbanization of Valles (Figure 173) exemplifies the tendency that could follow in the rest of the A.M.B. as the direct opposite to 'balanced growth' manifests itself ... The low numbers of tertiary workers in these cities (8% of the work force in Sabadell and 9% in Tarrasa) is indicative of the problem."

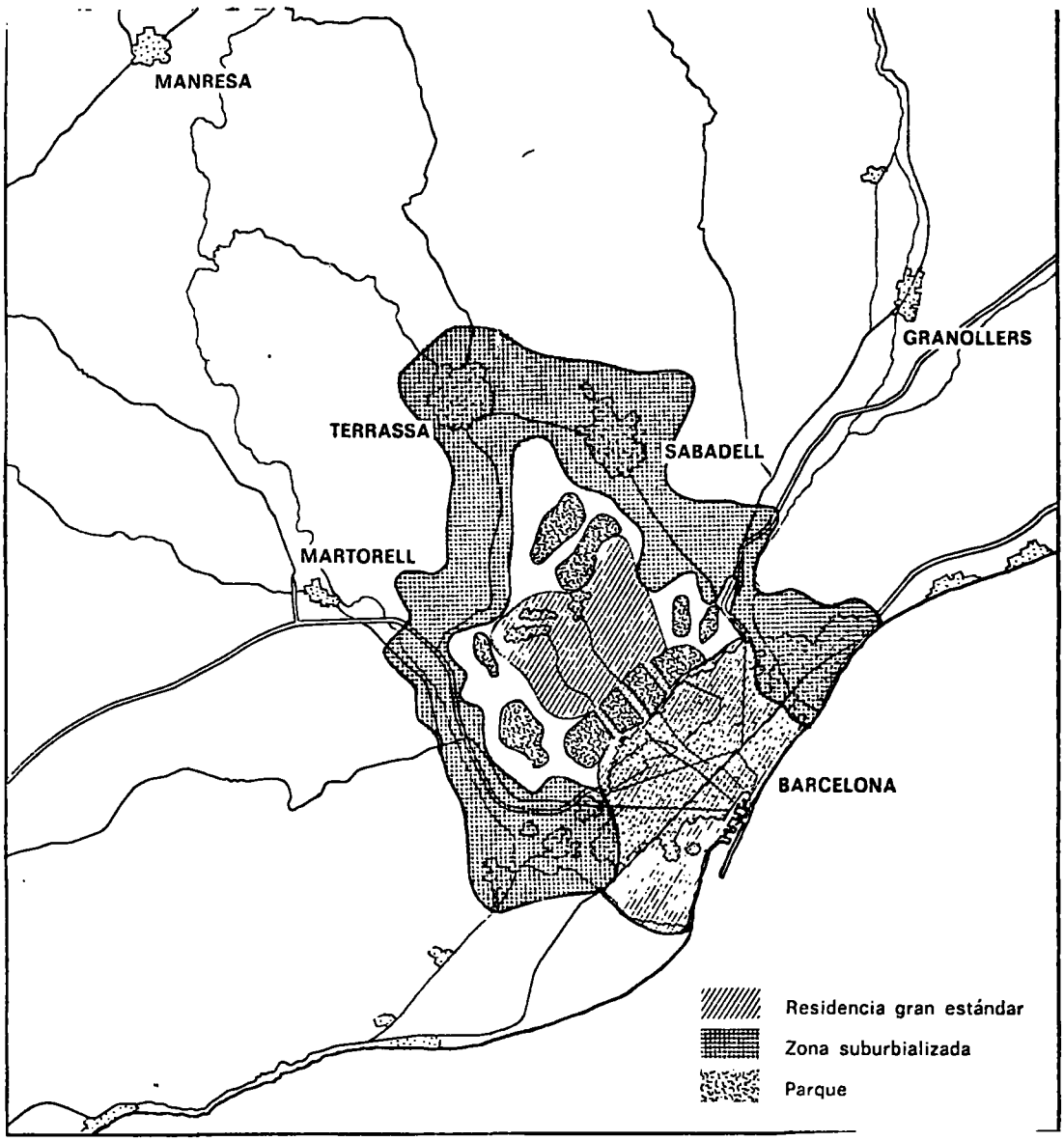


FIGURE 173 THE SUBURBANIZATION OF VALLES Source:-(149)

The outer ring of suburbs spreads to engulf Sabadell and Tarassa as tertiary activities and residences of high standard are concentrated on Tibidabo and in the city.

In 1971, 23 'cultural and economic entities' from Sabadell and Tarassa formulated an 'alternative proposal' for Valles, based on the creation of an adequate communications network between the towns and cities of Valles and with other A.M.B. nuclei rather than exclusively with Barcelona.

> "It is important, then, in trying to achieve a more balanced development, to integrate the urban proposals for Valles and those of the other 'comarcas' with the overall planning of the A.M.B. The way towards this multi-polar concept, which seems the only viable one, would involve some concrete short-term measures, particularly the creation of a second metropolitan nucleus - the Tarrasa-Sabadell 'mancommunidad' (Figure 171) - equipped with the principle tertiary and cultural elements - a central market, a Polytechnical University and a Central Hospital etc. "

In this context it is interesting to note that somewhat contrary to the rationalist planners quoted earlier, the 'Circulo de Economia' viewed the

> "recent measures undertaken within the framework of 'ACTUR'" as
>
> "a hopeful attempt at intervention ... The main criticism of them is that they were acts of urgency and that they had to be undertaken by the Central Administration."

2. PLANNING, INDUSTRIAL LOCATION AND LAND SPECULATION

In the A.M.B. the price of industrial land (i.e. that classified as such in 'comarcal', municipal or 'parcial' plans) is far greater near the established industrial centres (see Figure 174) and yet there is a marked industrial congestion in Barcelona city, which suggests that the price of land is still not a fundamental factor in deciding location, at least not to the extent of attracting industry to new locations outside the established industrial areas. This situation of the concentration of industry in the city and immediate 'comarca' cannot be explained solely as a function of a spontaneous model of development, an oil-slick type of expansion within the industrial sector. The continued location of new industry around the urban nucleus seems largely to reflect a lack of infrastructural development elsewhere and the non-existence of any systematic demarcation of land available for industrial use, in terms of industrial estates and zones, in the rest of the A.M.B.

The consequences of this situation are obvious to all in terms of social costs and degradation of quality of habitat. In effect, the industrial growth of the 'comarca' is proceeding without planning, producing the co-existence of large and, above all, small and medium-sized industries within the residential lay-out. Even within Cerda's 'ensanche' the co-existence of industry with tertiary or residential activities is evident.As Tarrago has said:-

> "One of the characteristics of industry in Barcelona is the number of small industries still existent within the 'casco urbano'. " (130)

"However, once a certain level of concentration is reached, the process enters a crisis stage, leading to the collapse of infrastructure (communications, parking, loading, unloading, storage) and the overvaluing of land destined for industrial use, on which act the same speculative processes as act on residential land (i.e. the retention of land zoned for industrial use awaiting value increase in an increasingly limited market). This has resulted in a difference between the theoretical availability of industrial land and the real offer, that is, a difference between vacant land, classified in 'planes parciales' or the 'Plan Comarcal' as industrial and what is actually put up for sale by the proprietor. For example, in 1969, excluding the industrial estate of Zona Franca, there were 1,729 hectares of vacant 'industrial'land in the 'comarca'.

It seems clear, then, that urban planning does not have the desired effect in this field either. (The Land Law of 1956 says nothing about the retention of 'industrial' land). On the one hand, speculation suffocates the supply of industrial land and on the other hand, 'planes parciales' generally delimit a small number of excessively large parcels of land for industrial use and so force the small and medium-sized industries to seek smaller plots, usually within the residential areas. Theoretically, as Table 41 shows, there is enough land within the A.A.I. alone to meet the estimated needs of industry until after the turn of the century. The problem at hand consists of getting rid of land speculation and so the semi-permanent 'holding' of land, which can then be urbanized and equipped as necessary. Equally, the creation of industrial estates at the instigation of the Public Administration has been proved to be effective in other countries and represents a valid objective.

Various studies realized in this respect come to the same conclusion; to act on this scale effectively will be impossible until the bodies in charge of planning have greater financial resources at their disposal, until the 'Plan Director' becomes a 'plan de ordenacion' with greater legal powers and until a better transport system at regional level and the needs of modern industry are provided. Only then will it be able to realize the main objective of the Plan Director: that any industry, at all times, can find industrial land, well-equipped and suitable for its particular needs. In the meantime, the scarcity of available, suitably equipped,industrial land for development results in congestion and the observable diminution of economic growth of Cataluna."

3. ROAD COMMUNICATIONS AND PLANNING

Much attention has been paid in recent years to certain aspects of communications in the province, normally suggesting improvements; the need for adoption of European track width by the railways; the need for a new airport (see note 1 Page 285); river canalization and port extension; improvement in road network. The last named subject perhaps best illustrates what has been typical of all communications development - its total disconnection with overall urban planning and policy.

In 1962, the Ministry of Public Works (M.P.W.) began work on an arterial network in the 'Comarca'. At the same time a 'consulting' company 'Dorsch Iberia', under the direction of the World Bank, were employed to assess the viability of a motorway from La Junquera (on the Franco-Spanish border) to Murcia, running across Cataluna. In 1966, the Plan Director established a new arterial network (Figure 175) recognising that of the M.P.W., but widening and extending it into the A.M.B. In the late 1960's, and early 1970's, the revision of the Plan

Gráfico 10

VARIACIÓN DEL PRECIO DE LOS TERRENOS DE USO IND
EN RELACIÓN A SU DISTANCIA A BARCELONA CIUDAD

PARETS DEL VALLES ——— dirección Barcelona Norte (1)

-VILANOVA I LA GELTRU ------ dirección Barcelona Sur

(1) La división entre Norte y Sur tiene por eje el Río Llobregat

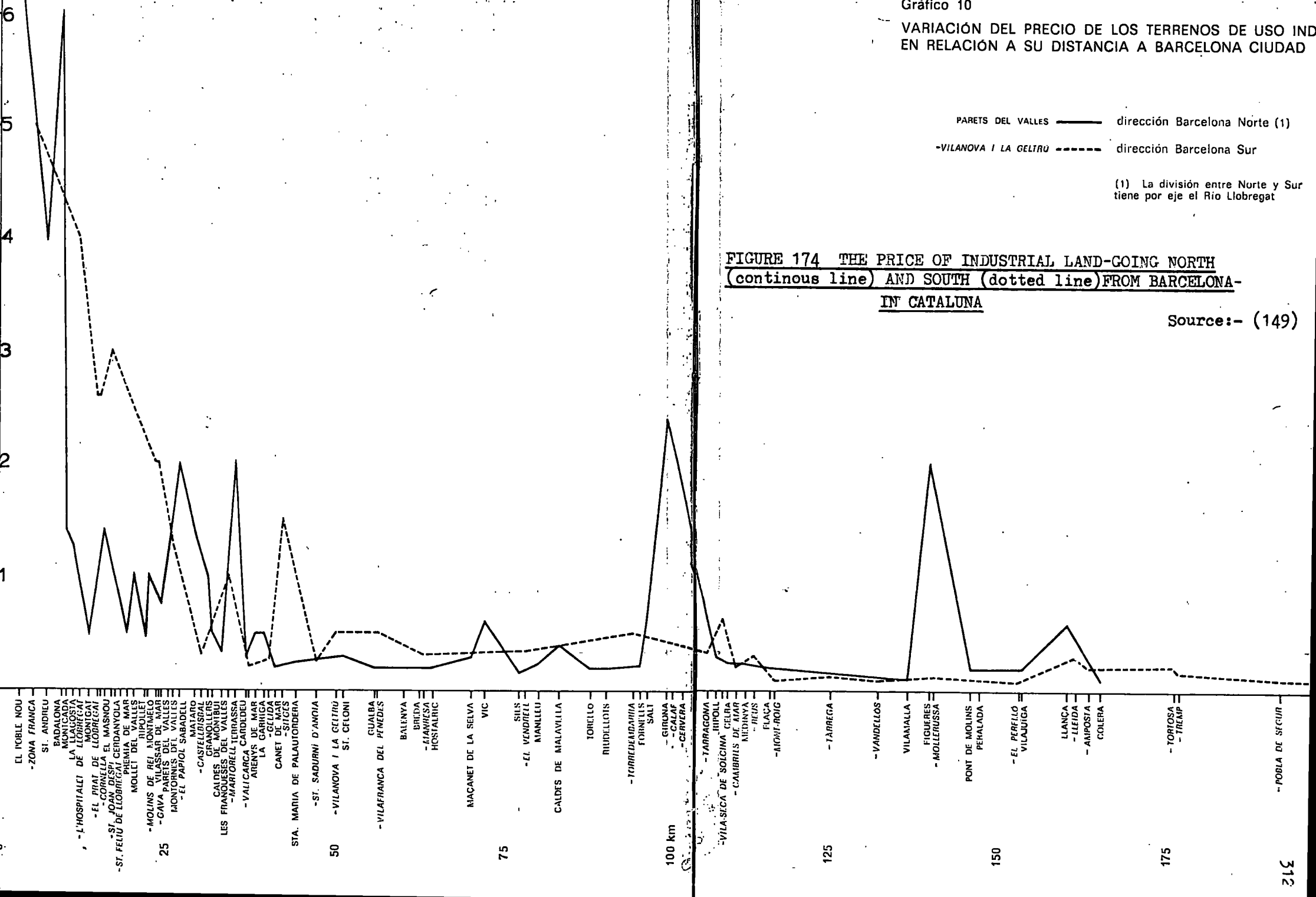


FIGURE 174 THE PRICE OF INDUSTRIAL LAND-GOING NORTH (continous line) AND SOUTH (dotted line) FROM BARCELONA-IN CATALUNA

Source:- (149)

'COMARCA'	DEMAND				SUPPLY
	1970-80	1980-95	1995-2010	1970-2010	LAND SUITABLE AND THEORETICALLY AVAILABLE
Llobregat Valley	213	232	424	869	2,500
West Valles	485	369	376	1,170	2,550
Central Valles	227	258	601	1,086	4,650
East Valles	258	249	301	808	2,350
Maresme	254	430	370	1,054	1,250
TOTAL	1,437	1,538	2,072	4,987	13,300

TABLE 41 SUPPLY AND DEMAND OF INDUSTRIAL LAND IN THE A.A.I. Source:-(149)

Comarcal (made public in 1976) suggested modifications within the 'comarca', which brought conflicts with other Plan Director teams, the engineers of the M.P.W. and the Council of Barcelona . In 1971, in an effort to overcome the lack of co-ordination amongst planning teams, the M.P.W. inserted its engineers -'en masse' - into the 'Equipo de Infraestructuras' of the Plan Director, whilst leaving the different facets of planning, as ever, non-communicated. This team published its 'Arterial Metropolitan Network' for the A.M.B. in 1975, about one year after the A.M.B. concept had been effectively rejected by the Central Government, so leaving the M.P.W. with a complicated and voluminous study developed for an administrative unit that did not exist.

Within the A.M.B. there is a marked deficit in road infrastructure. The Area contains 10.7% of the population, 14.53% of the cars, but only 1.08% of the total road network (1973) (424 vehicles per kilometre of road compared with 32 in Spain as a whole -1970). The result is the congestion of the road network; the problem is particularly acute in the 'comarca' on the access roads into Barcelona (Figures 176,177 and 178) where the midday figure reaches 25,000-40,000 cars per hour.

The third development plan proposed the construction of roads in Cataluna in two stages, the first involving the construction of a network parallel to the Pyrenees or the coast, the second creating a network running at right angles to the Pyrenees. Its aim was to link all the main towns of Cataluna by means of an isostropic

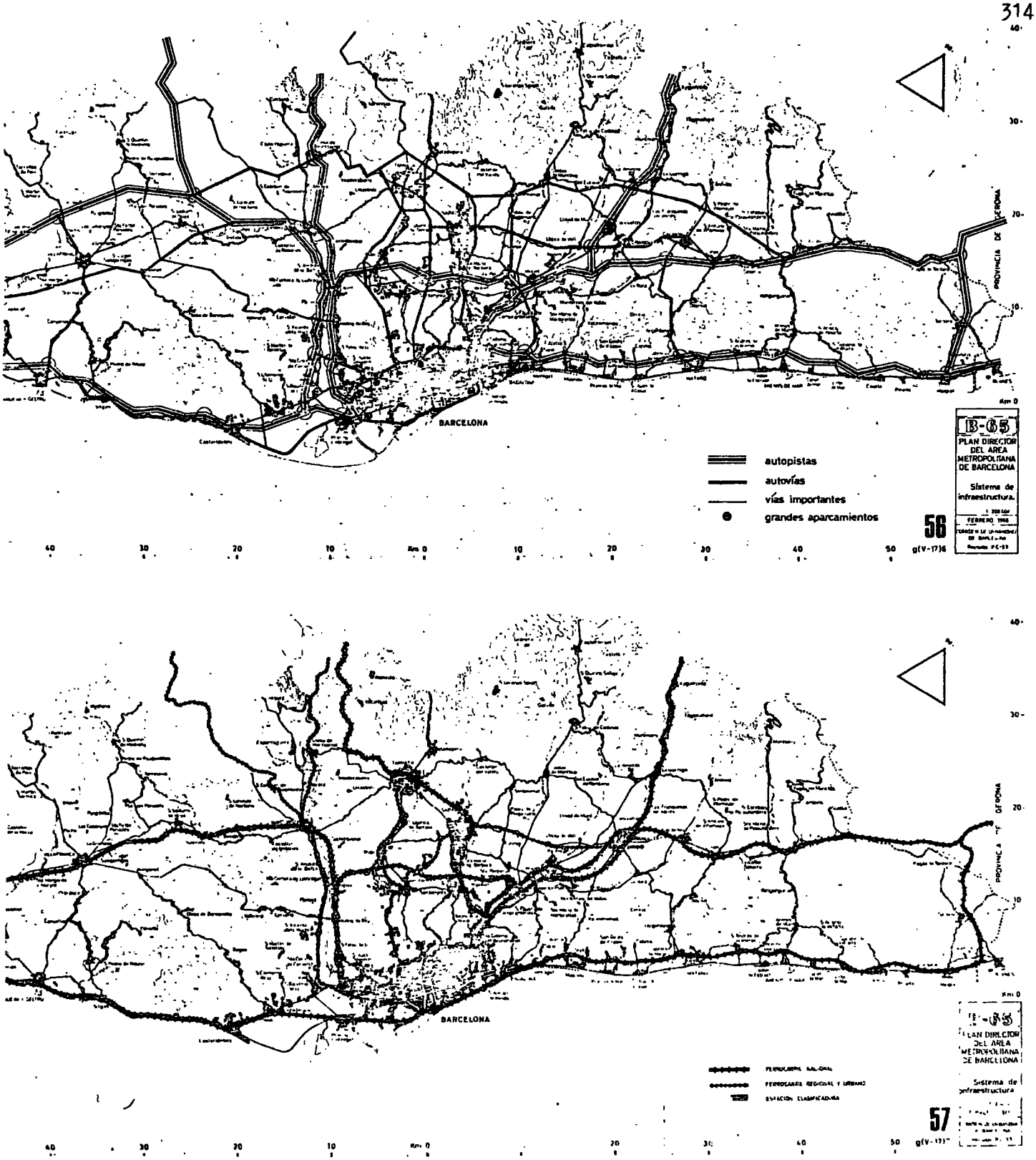


FIGURE 175 ROADS (above) AND RAILWAYS (below) PROPOSED IN THE PLAN DIRECTOR 1968

Source:-(89)

network, adapted to topographical conditions, to replace the existing radiocentric pattern.

This scheme is valid in theory in that it facilitates the much needed decongestion but it must be linked with the existing communications network, particularly that within the 'comarca' of Barcelona. In this sense, the present policy of building

toll motorways within the A.M.B., constructed and run by state concessionaries, seems unsatisfactory, particularly when it is realized that motorway construction means the loss of opportunity for improving secondary, pre-existent roads running parallel to the motorway. Comparison of the arterial networks of Barcelona and Madrid reveals a clear difference: all the access roads into Barcelona are toll roads.

The ministerial decision to change the third ring-road (Figure 171) into a toll motorway (it was originally to be built and financed by the M.P.W. with a budget of 5,000 million pesetas, but government decision changed it to a toll motorway) has only worsened the problem of access into Barcelona and that of by-passing it. In effect, the change will only result in the diversion of by-pass traffic going round the city onto the second ring-road, with the consequent saturation and circulatory problems.

As for the main free motorway within the A.M.B., Barcelona-Sabadell-Tarrasa (completed in 1975), it seems to have serious limitations. According to the M.P.W. it will reach maximum capacity by 1980, which, bearing in mind the growing importance of Valles, suggests a rapid saturation of the road network.

Facts like the transformation of the third ring-road into a toll road illustrate the disconnection between road construction and urban planning. The two have followed separate courses with sporadic points of contact, when conflicts have always been settled in favour of road constructors. The intervention of state concessionaries and the construction of toll roads is the result and equally the cause of this disconnection. At times, such realizations respond more to private/economic criteria than to the need for creating an adequate infrastructural base in the A.M.B. (for example, the strange course of the Barcelona-Lerida motorway that goes via the coastal town of El Vendrell rather than via Igualada and Interior Cataluna (Figure 176)). In any case, the negative result of these types of roads must be underlined - the main access roads into the city carry a toll and so discourage many from using them and at the same time cause hold-ups in peak hours. It is significant that the toll roads, notably the Montgat-Mataro motorway and the Barcelona-Molins de Rey stretch, have scarcely eased congestion because the toll has discouraged usage whilst the pay-points actually cause congestion particularly in summer. This is particularly true of the toll



FIGURE 176 o ROAD NETWORK IN AND AROUND BARCELONA 1971

Source:- Michelin Map No. 43
Scale: 1:400,000

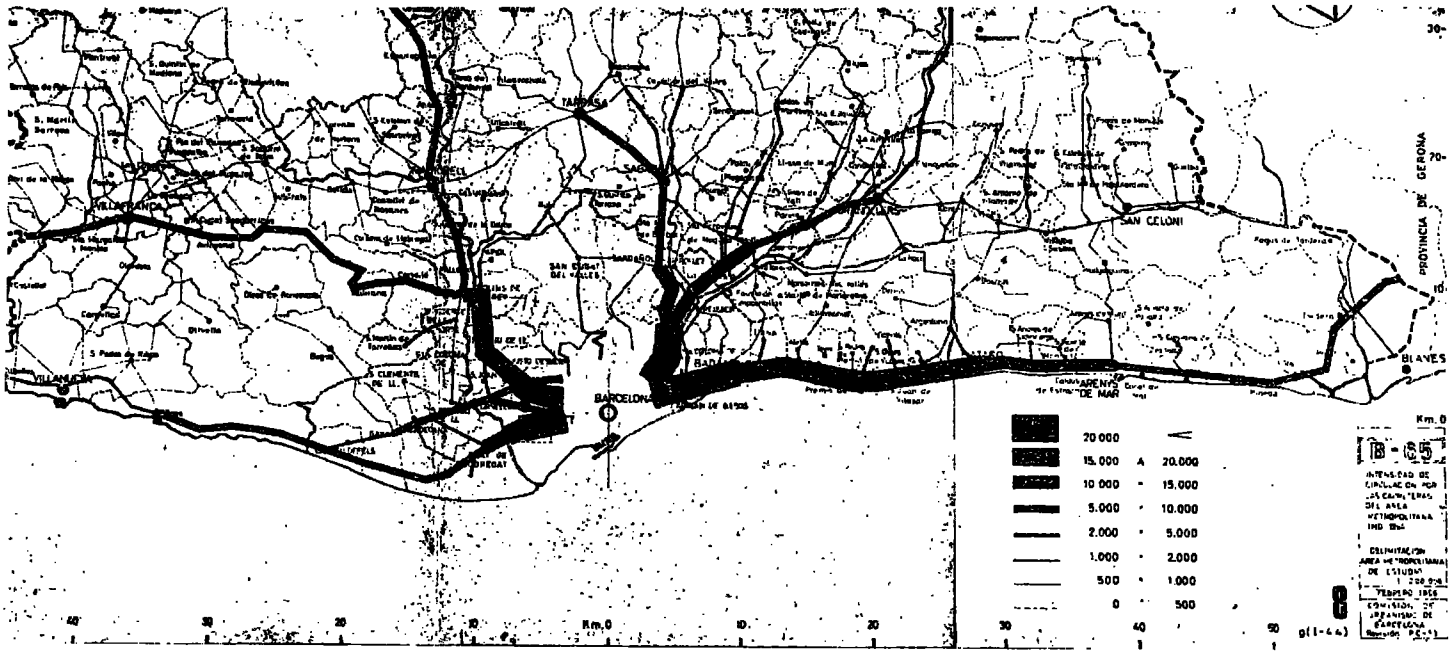


FIGURE 177 TRAFFIC INTENSITY AT MIDDAY IN THE A.M.B. 1964 Source:-(140)

The figures show the intensity for one hour at midday.

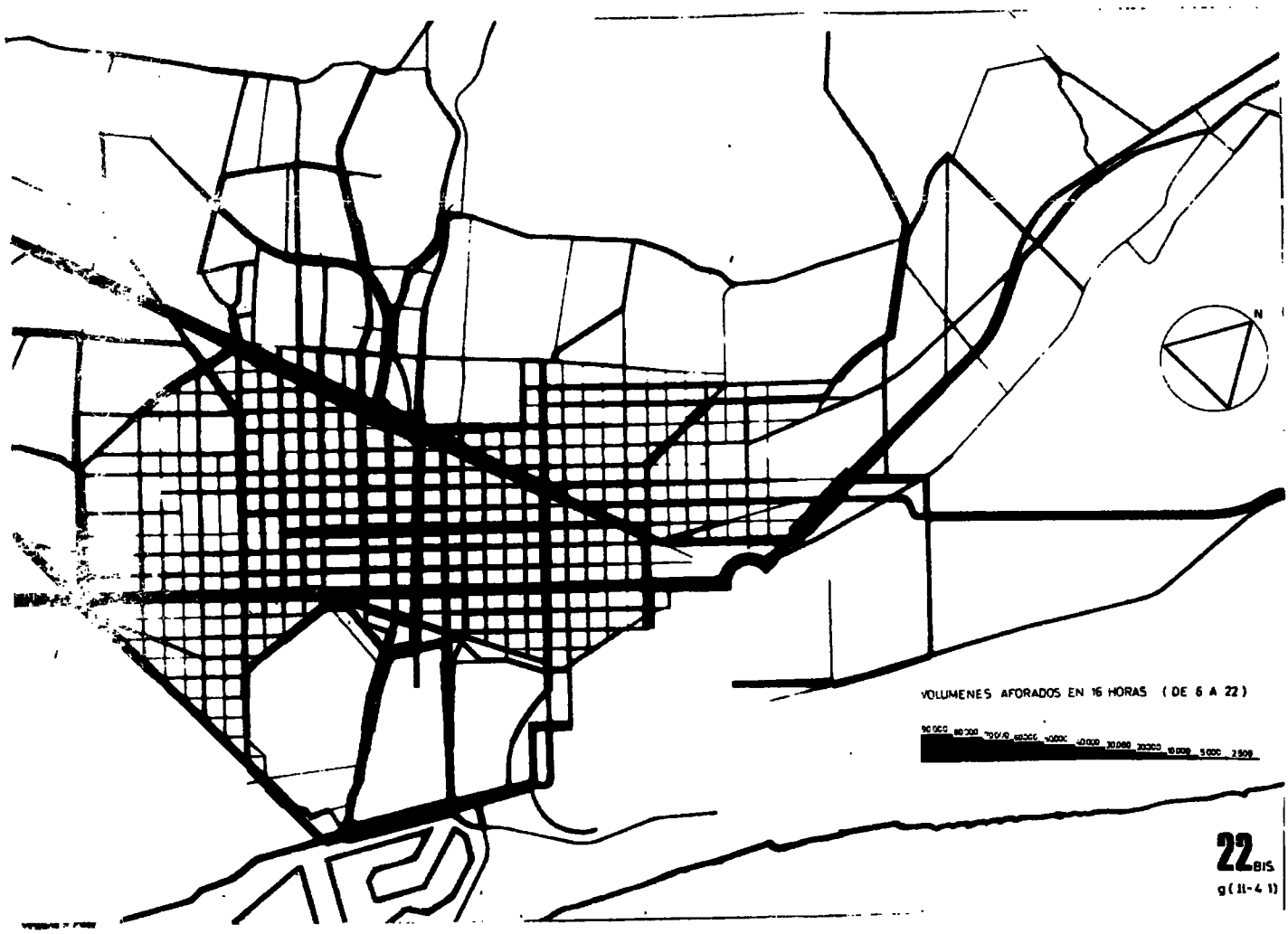


FIGURE 178 VOLUME OF TRAFFIC IN BARCELONA FROM 6 A.M. TO 10 P.M. 1965

Source:-(92)

motorway to Gerona, which gets most of the week-end Costa Brava traffic as well as commercial traffic. Inland, in West and East Valles, the N-152 (Barcelona-Granollers) and the N-150 (Barcelona-Sabadell-Tarassa) are infamous because of congestion and hold-ups. The 'autovia' to Castelldefels suffers regular circulatory collapses and there are particular bottleneck points throughout the region and within the city. Within all Cataluna there were, in 1973, 21.39% of the vehicles and 7.40% of the roads in Spain.

> "What makes this disconnection possible is the 'institutional insufficiency' of the management of the A.M.B. and so the lack of integration of the policy of the M.P.W. with the objectives of the Plan Director. Again we see the need for co-ordination between the decision-making bodies of Public Works, the Councils, the 'Diputacion' and the 'Comisiones de Urbanismo'. This will not come spontaneously. It presupposes the existence of a governing body for the A.M.B., that has jurisdiction over the municipalities (and their Councils) that co-ordinates the activities of the different Ministries."

4. THE NEED FOR AN A.M.B. MANAGEMENT BODY: THE CREATION OF THE E.M.M.B. (ENTIDAD MUNICIPAL METROPOLITANA DE BARCELONA) 1974

(i) In recent years the call for an A.M.B. management body has been widespread amongst planners and industrialists in Cataluna. Borja and Tarrago, writing in 'C.A.U.' No. 10 (133) refer to the

> "need for working out an urban policy on the Metropolitan Area Scale within a wide framework capable of overcoming deficits and redistributing activities on a large scale."

The 'Proyecto Maso' put forward by the Mayor of Barcelona, Enrique Maso, in 1974, suggested the creation of a commission to run the A.M.B. and approve the Plan Director, the realization of the Plan to be financed by the state, whilst the C.U.B. should "not only keep all its functions, but extend them into the A.M.B." (162). The Barcelona Chamber of Commerce have spoken of the "impossibility of planning the territorial ordering of areas that do not coincide with geo-economic units," advising

> "the modification of traditional administrative territories, the province and the municipality ... The total and decisive planning that we propose is only possible within a political framework ... that gives the broad powers technical solutions demand, that is by the creation of a management body to make decisions effective throughout the A.M.B." (163)

Similarly, the 'Circulo de Economia' state that

> "the A.M.B. suffers from 'instituational insufficiency' ... the territory continues to be divided between two 'Comisiones de Urbanismo' (the 'comarcal 'Comision'- the C.U.B.-and the provincial 'Comision' - the C.P.U.) ... the situation is aggravated by the realization of private speculative objectives, with the consequent degradation of the urban and rural landscape ... investments must be controlled by a governing body of the A.M.B. " (149)

It is worth adding here that apart from the two 'Comisiones de Urbanismo', there were also the Barcelona Council with their 'Gabinete Technica de Programacion' and consequent 'Programas de Accion Municipal', the 'Diputacion' that had considerable influence on some planning aspects within the province, notably roads, the Plan Comarcal of 1953, its revision team and its off-shoot, the Plan Director and the various sub-plans of that - the 'Plan de A.A.I.', 'Plan de Infraestructuras' etc. Apart from this the ACTUR of 1970 made provision for central intervention via a series of Ministries - Housing, Public Works and Air - greater than ever before, whilst individual municipalities also had their 'planes generales', many of which were not in line with the 'Plan Provincial' as they should have been. The situation, then, was one of confusion and chaos with nearly everybody (with the exception of the worst land speculators in the provincial municipalities) involved callingfor the recognition of an A.M.B. management body as the first step in correcting this situation.

(ii) The widespread call for a management body with sufficient powers to run the A.M.B. was effectively answered by the Central Administration in 1974, when it created the E.M.M.B. ('Entidad Municipal Metropolitana de Barcelona'), a management body to replace the C.U.B., but with even less financial aid from the state and less freedom of action. This decision represents a step back to the 1953 'comarca' and a decisive 'no' to the idea of an A.M.B. decision-making body. This, after the importance attached to Metropolitan Areas in the third development plan, represents something of a contradiction, which is examined at the end of this section. First, however, detail on the E.M.M.B. and some of the criticisms that it has attracted.

The 'Decreto-Ley' of August 1974 created the E.M.M.B. to direct planning activities in the 27 municipalities, coinciding with those of the 'Comarca' of 1953 (although no mention was actually made of the 'Comarca'). The E.M.M.B. is run by a Metropolitan Council ('Consejo Metropolitano') and its task has been to draw up a 'Plan Metropolitano' for this area (i.e. the revision of the '53 'Plan Comarcal', which had been going on for over a decade, but was renamed the 'Plan Metropolitano' and published in 1976). The final approval of this and all decisions, however, are left in the hands of the 'Organ Desconcentrado'. Both these bodies, the Metroploitan Council and the 'Organo Desconcentrado' and particularly

the latter, have only served to move the balance of power more in the direction of Madrid. The President of the Metropolitan Council was named by the Home Office and no reference at all was made to finances; in other words, the Metropolitan Council, made up of representatives from the Councils of Barcelona (10), Santa Coloma (2), Hospitalet (2), Badalona (2), others (4) and the 'Diputacion' (6), had to finance itself. The 'Organo Desconcentrado' (in fact largely coinciding with the C.P.U. - the Provincial planning body) is made up of members of Government ministries with the Ministry of Housing having overall control. The creation of the E.M.M.B. has been widely criticized by the majority of political, economic and planning forces in Barcelona, from the normally pro-state newspaper, 'La Vanguardia' and the Mayors Porcioles and Maso to Catalan industrialists, planners writing in 'C.A.U.' and the political left. Criticism has centred around three points - the sphere of action (the 'comarca' rather than the A.M.B.), lack of resources and political-administrative limitations.

As Teixidor has said:-

> "Obsolete and saturated to the extreme, it is difficult to imagine how the new entity (the E.M.M.B.) can propose any action in this area (the 'comarca') without encompassing a larger sphere of intervention." (162)

Certainly, population growth in the past 20 years has been greater in the 'comarca' (excluding the municipality of Barcelona) than in either the Barcelona municipality or the rest of the A.M.B. (see Table 23) and industrial figures for the years 1965-72 in the A.M.B. (the municipality of Barcelona 30.5% of new inds rest of the 'comarca' 25.8%; the rest of the A.M.B. 43.7%) would suggest a reversal of the trend of previous years, when the 'comarca' was still the main area of industrial investment. In short, the E.M.M.B. can be criticized in that it is incapable of providing the authority that, for reasons previously outlined, is needed in the A.M.B.

To leave the financing of activities in the hands of member Councils plainly makes the E.M.M.B. (unless the state chooses to aid it in specific projects) even less effective as a managing body than the C.U.B. was. Many Councils are incapable of contributing; only the Barcelona Council has a large enough budget to make any impact. The political-administrative limitations are obvious, Government Ministries (the Home Office and the Ministry of Housing) maintaining effective control.

(iii) It remains, then, to discuss why the Central Government took this option after placing emphasis on the Metropolitan Areas in the third development plan. As Teixidor has said:-

> "Many observers have reached the conclusion that ... it has been a political decision - a question of impeding the formation of an administrative entity that, because of its dimensions and power, would have served as a platform for Catalan Nationalism."

Equally,

> "Some observers see it as an answer to the ... bitterness of the class fight that has surrounded the new Plan Comarcal (1974-1976, see Part L) the central authority intervening in an attempt to contain, by decree , this dynamic situation. But there is also another aspect - underlying the whole proposal is a determination to keep the local industrial bourgeoisie in place ..." (162)

This last point is perhaps the key to the real situation. The Central Administration seem determined to do things <u>their</u> way. This, of course, is nothing new. Since 1714, the central authority have dominated Cataluna, with very few interruptions. But with the end of the Porcioles era, the rising power of industrial/financial bourgeoisie (the neo-capitalists), their influence under the Maso mayorship (1973-75), the increasingly vociferous popular movements and increasingly common ground found amongst critics of the urban system from different ranks of society, combined with the growing urgency of the situation, the creation of the E.M.M.B. and the dissolution of the C.U.B. can be seen as a firm reminder by the Central Administration that they are still in control. It is part of policy started with 'ACTUR' in 1970 and continued with the appointment of Joaquin Viola as Mayor to succeed Maso in 1975, which many regarded as a step back to the days of Porcioles.

Before leaving this topic, it must be mentioned that we may well be talking here about a past age in the urban history of Barcelona and that 1975 will be viewed as a turning point. To what extent can the Central Government of 1976 be seen as following the same policies as that of 1974? Viola, the last Mayor of Barcelona to be appointed under the Franco regime, was removed from office recently (December 1976), just 15 months after taking office. The implications of the political changes now taking place in Spain could well result in the final recognition of the A.M.B. and the creation of an A.M.B. planning authority.

PART K HOUSING (3) - THE SEVENTIES - RESETTLEMENT

1. THE CLEANING UP OF THE CENTRE

The 'barracas' of this century first appeared in 1929 when the 'Consorcio de Zona Franca' obtained the houses and land around the southern side of Montjuich through expropriation, forcing the residents - largely fishermen and unskilled labourers - to construct their own residences. Since then 'barracas' have been a feature of the city, with up to 20,000 existing in the 50's in the municipality of Barcelona alone.

In the 60's, however, there began a policy, on a national and local scale, to rid the large cities of their 'barraca' settlements. In 1963, the Central Government approved the construction of 6,500 'units of absorption' ('Unidades Vecinales de Absorcion' - 'UVAS') in the Barcelona area, which were eventually built by the O.S.H. in the middle and late sixties (Table 42).

MUNICIPALITY	NAME OF 'POLIGONO'	DATE	NO. OF HOUSES	NO. OF INHABITANTS
Badalona	Pomar	1967	2,000	9,366
San Baudillio	Cinco Rosas	1967-8	1,500	8,000
Prat	San Cosme	1964	1,500 [1]	13,800

TABLE 42 'UVAS'

[1] Not yet completed (1972). A further 800 houses are planned.

Source:- (157) and (164)

Similarly, in the 70's, the P.M.V. have constructed large 'poligonos' - Canyelles and La Mina - in the northern periphery, specifically for the purpose of rehousing the 'barraquistas' and have further projects underway, involving the construction of "houses of one storey covering 50 square metres, with minimum services, surrounded by a wall" (164), known as 'VOTS' ('Viviendas de Ocupacion Transitoria'), to be used as temporary residences only.

The main areas to have been cleared up are Montjuich, where over 12,000 people were living in 'barracas' in the mid sixties, Can Tunis, at the foot of

Montjuich, the location of the first 'barracas' referred to above, and the Somorrostro/Campo de la Bota area, along the coast near Pueblo Nuevo. On Montjuich, the clearance was started in 1963 when Franco, on visiting the city to cede the fortress grounds to the municipal authorities, asked that the appearance of this hill area be improved. Two years later, the construction of an amusement park resulted in the destruction of 300 'barracas' (Figure 179) and the rest were cleared after 1968. At Can Tunis, the expansion of the port led to the clearing of the area. At Somorrostro, the plan to build a 'Paseo Maritimo', inspired by similar promenades on the 'Cote d'Azur' in the South of France, led the Council to uproot the inhabitants, encamped there since the thirties (photos 75 and 76) and resettle them, not in houses, but in new 'barracas' a little further along the coast at Campo de la Bota. This area itself has since been cleared and the inhabitants moved again, this time to the P.M.V. 'poligonos' of 'La Mina' and 'Canyelles'. Despite these efforts, however, and claims by politicians that the 'barracas' are on the way out,[1] 3-6,000 remain[2] in the muncipality of Barcelona alone.

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[1] For example, "Barraquismo in Barcelona is now on the way to a total and complete disappearance." The Minister of Housing 1966, quoted in (114)

[2] Estimates of 'barracas' vary but according to the magazine 'Ahora', 1972, the following constituted the main groups of 'barracas' in the municipality of Barcelona:-

'La Perona' -	900	
Buen Pastor -	52	
Torre Baro -	150	(really 'coreas')
Roquetas -	180	
Vallbona -	100	('coreas')
Can Tunis -	588	(now destroyed)
Zona Franca -	380	
Port -	140	
Pueblo Seco -	300	
Carmelo -	135	
Turo Rubira -	110	
Coll -	40	
Francisco Alegre	306	
Campo de la Bota	692	(now largely cleared)
Cementario Viejo	100	
Santa Engracia	121	
Avenida de Madrid	25	
TOTAL	4,789	

Source:-(164)

The policy of rehousing people in "groups of houses, normally low in height, that are characterised by their deficient construction and the continual protests of the inhabitants" (164) has been widely criticized . Taking one example,in the 'UVA' of Cinco Rosas in San Baudillio, of 94 'blocks' studied, 45 had defects in the roofing, 47 had cracks in the walls, 58 suffered flooding of the entrance hall and 59 suffered leakages through the sky-light (164). Apart from the quality of houses constructed, however, other problems have arisen. Nobody wants to see these people moving in just down the road. This is particularly true of the Gypsies of 'La Perona', the largest 'barraca' area left. Attempts to rehouse them,in particular, have brought protests from potential neighbours, matched only by that of the Gypsies' present neighbours in San Martin. [1] With the Gypsies, the case is further complicated because, in the majority of cases, they do not want to move anyway. Those resettled in 'San Roque' in Badalona soon left and returned to San Martin. Another problem is that with the 'UVAS' being built outside Barcelona, the resident municipalities often have a 'barraca' problem themselves. So, in Prat, a third of the new housing units went to people from 'barracas' from that municipality. This was made worse by the fact that the O.S.H. had originally planned to build 3,000 houses, whereas only half this figure were eventually built.

> "The resolution of the problem of the 'barracas' by means of the exportation of their inhabitants to outside the municipality is not an authentic solution, given that the 'UVAS' are very deficient urbanistically and as regards the standard of construction. If, in 1963, there were 2,700 'barracas' in the 'comarca' (outside the Municipality of Barcelona), with the expulsions made up to 1972, which total over 4,400, plus those 'barracas' that have 'naturally' been added in these years, then the 'barraca' problem has reached a gravity in the 'comarca' as a whole that previously only existed in Barcelona." (164)

Another side to this policy has been the drawing-up of the so-called 'Plans of Urban Renovation', the majority of which remain in the project stage for one reason or another. The 'Plan de la Ribera', the most ambitious of them all, involved the remodelling of the coastal strip (204 hectares) between the Citadel Park and the River Besos and was strongly backed by the Council and large fin-

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1 'La Perona' in San Martin is now the largest 'barraca' area in Barcelona. In August 1972, 40 women from the adjacent 'poligono' of La Verneda met in Plaza San Jaime to discuss the matter with municipal authorities. The 'Correo Catalan' reported:- "In the opinion of the said women, the poor example set by the inhabitants of the 'barracas' and the consequent ill effects on the communal life in the area demand of the Mayor a rapid solution." Since then, following the lack of this rapid solution, there have been several demonstrations, petitions and incidents, including the burning of one 'barraca'.

ancing groups of the city. It proposed the construction of semi-luxury residences in an area at present occupied by largley obsolete, industrial installations and poor quality housing areas and had much in common with the 'Paseo Maritimo' project. Following legal battles lasting almost a decade, the idea has now been dropped, temporarily at least. Other plans of remodellation exist for the northern suburbs of Torre Baro, Vallbona and Trinidad, where the imminent construction of the second ring-road has upvalued adjacent property. All these plans involve the re-equipping of largely low-quality housing areas with new, better and more expensive housing, infrastructure and service installations, which themselves lead to speculative revaluation of land and the expulsion of the majority of former residents to outside the municipality.



Montjuïc, el nuevo Parque de Atracciones y los barraquistas.
—Se ve que lo han hecho con la mejor intención. Pero podrían haber preguntado si preferíamos alguna otra cosa.

FIGURE 179 - MONTJUICH, THE NEW AMUSEMENT PARK AND THE 'BARRAQUISTAS'

The inhabitants of the 'barracas' (to the right) admire the new 'parque de atracciones' (left).

> "You can see they've done it with the best intentions, but they could have asked us if we would have preferred something else."

The Fortress is in the background and the caption and drawing are by Puig of the 'Correo Catalan'. Reproduced in (164).

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2. RIERA DE CALDES

Some mention can be made of Riera de Caldes here as it represents part of the policy to transfer industry and housing to areas outside the municipality and in this case, outside the 'comarca'. This new town will involve the construction of 30-40,000 houses, which, according to Borja (129) are

> "destined to become vast residential ghettoes, not part of an equipped and balanced urban structure. It is not so much an operation designed to help ease the housing deficit, but it is rather an instrument of industrial decentralization, encouraging the installation of the work-force in close proximity to new industrial zones, in conditions guaranteeing a certain level of social control."

PART L THE PLAN COMARCAL (4) THE REVISION 1974-76

(i) In March 1974, the C.U.B. presented their plan for the revision of the Plan Comarcal of 1953. This plan"would have been passed in the early months of the previous year if it had not been for the opposition of Porcioles" ('Tele-Expres 30/3/74). But since then Maso had become Mayor, a man with "a regional perspective of municipal problems" (180), a supporter of the A.M.B. concept and generally accepted as representative of the new 'burguesia industrial'. The A.M.B. idea was still widely supported but the 'Comision Gestora del A.M.B.',created in 1971, lacked any financial power and was largely overshadowed by the proposed government intervention in the same area of action (e.g. Riera de Caldes and other 'ACTURS' all within the A.A.I.). Under Maso, however, many hoped for a reaffirmation of the A.M.B concept and this new Plan Comarcal was seen as representative of Maso's intentions.

The main points of the 1974 Plan were:-

(1) The restriction of construction in the central zones of urban areas to prevent aggravation of existent deficits.

(2) A hierarchialized road plan - motorways, 'autovias', urban roads, local roads, assuring good circulation and accessibility at 'comarcal' levels.

(3) The recuperation of deficits of green areas and the re-equipment of collective services avoiding remodelling as far as possible.

(4) A policy of conversion of industrial land into public areas by means of transference of small and medium-sized industries to industrial estates in the 'comarca'. Use of these lands for collective purposes (especially in the coastal zones of Barcelona, Badalona and Montgat).

(5) To give a leading role to public initiative, that would come to control an important part of the land area and so be able to carry out development programmes, control the promotion and construction activities of private initiative that thereby would be forced to cede land for the provision of services etc.

The Plan was the proposal of "certain technicians, reformists and possibilist (180) and was aimed at a particular social-economic sector, the 'gran burguesia industrial', supposedly interested in its realization. At the same time, the minimum necessities of the city in terms of collective services and green zones were provided. The strength of the plan was supposedly the rationality of its proposals as part of the social pact between the needs of development of capital on the one hand and the population at large on the other.

In 1974, just after the beginning of the 'public information' stage of the

Plan (when individuals could make 'impugnaciones' (appeals), which could change the Plan), Marti and Moreno wrote:-

> "We doubt whether the ever-present pressure groups, acting in the interests of the buying and selling activities of the land and construction industries, will agree to a Plan such as this, that restricts, to so great an extent, their speculative interests". (9)

They certainly did not.

(ii) (This section presupposes the existence of a 'bloque dominante' in political-economic spheres, consisting of three main elements:-

a. The property capitalist ('Capital Inmobilario'),
b. The upper middle-class industrialists ('gran burguesia industrial'), of which the neo-capitalists constitute the most dynamic element and
c. the large financing groups ('gran capital financiero').)

In fact, almost nobody has felt satisfied with the Plan. The sectors of society with interests directly jeopardised by the proposals have protested from their different points of view. This is relevant in that some of these protests have had the effect of changing the content of the Plan.

Ironically, although the Plan supposedly represented a social pact between the industrial middle-class and the industrial proletariat, the working classes never thought of the Plan as theirs and, generally speaking, have not given it support. The expropriation necessitated by the great infrastructural developments in the Plan - the second ring-road and the extension of the road Garcia Morato through the old quarter (Figure 180 and photo 67) brought thousands of 'impugnaciones' (appeals) against the Plan.

> "Those affected in the 'barrios'and 'pueblos' see increasing discrimination against them as they continue to suffer from the proposals for the better functioning of the city." (180)

And although they have welcomed the inclusion of more collective services and green areas in the Plan, there have been reservations about their overall insufficiency, the lack of guarantees for their realization and the fact that financing these operations may fall on their shoulders.

More significant,however, when considering the effect of protests from the various sectors of society (working-class protest against the second ring-road and the Garcia Morato road has been overruled) has been the attitude of the so-called 'bloque dominante'. The property capitalists have seen their interests directly threatened, despite the new speculation possibilities offered by re-classification,and have launched a wide campaign against it. The response of the

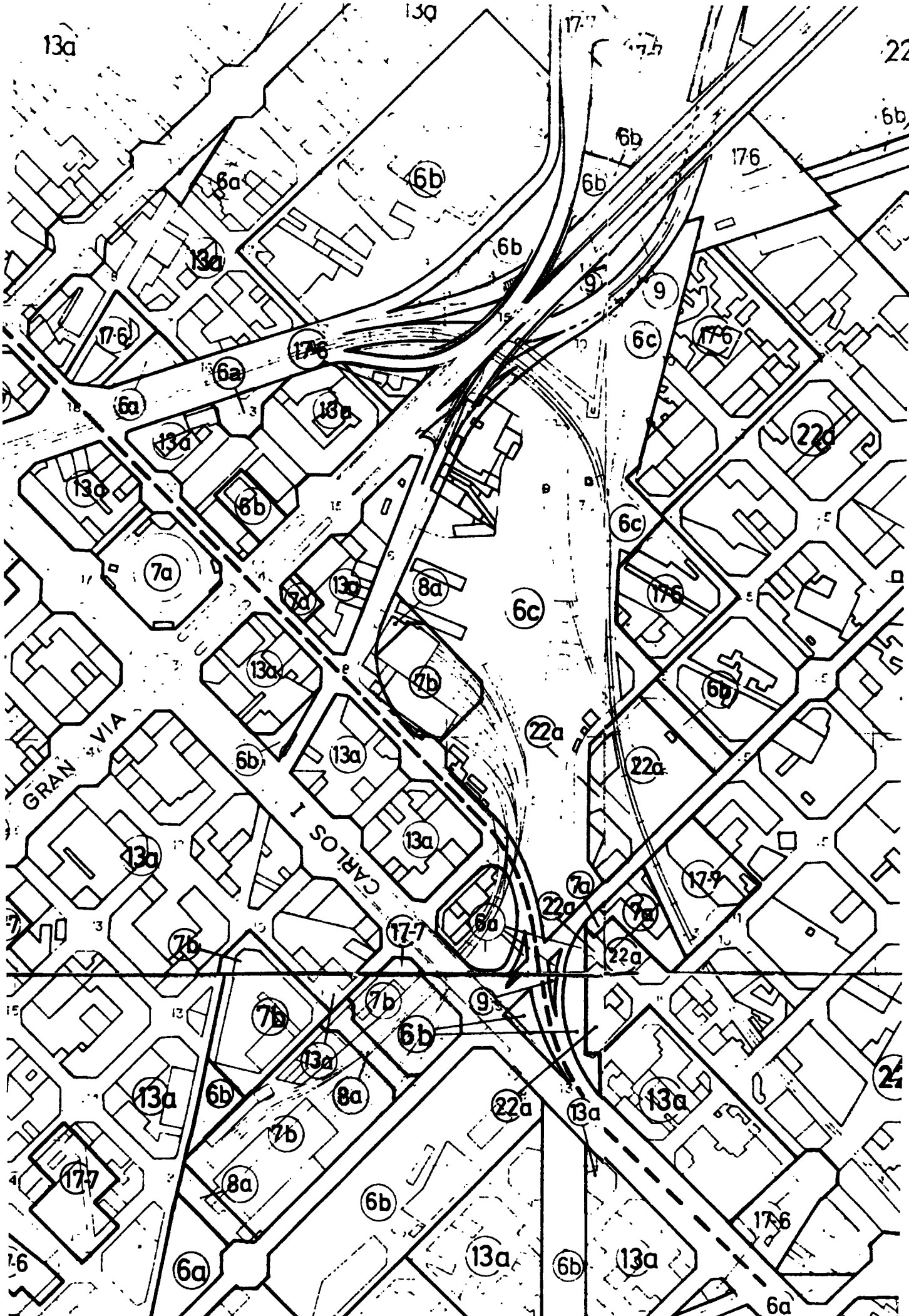


FIGURE 180 THE PLAN COMARCAL 1976 Source (165) For key see Page 329.

Key to Figure 180

A small section of the Plan Comarcal 1976 is given here (scale 1:5000 - as yet nosmaller scale map is available to the public, and the new norms are as yet unpublished although they can be consulted at the Public Information Centre of the C.M.B.) Without giving exhaustive detail on land classifications, the most significant are:-

6. Urban parks and gardens
   a) Existent
   b) Of new creation (local character)
   c) On 'urban scale' (both existent and of new creation)

7. Collective Service Areas
   a) Existent
   b) Of new creation (of local charcater)
   c) On 'Metropolitan scale' (both existent and of new creation)

17. Urban renovation - transformation of existent use.

14. Physical remodellation
of a) Public promotion
   b) Private promotion

Leaving aside discussion on realization, the Plan itself contains several interesting features, notably the hierarchialized road system, in which many of the main roads of 'ensanche' are blocked off (providing pedestrian free-space areas leaving groups of'manzanas' (normally 9) each group being a 'sub-system' of the whole that "looks for complementary elements within the whole but nevertheless covers the minimum requirements of the inhabitants". (179)

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upper middle-class industrialists has been decisive. Although their public mouthpieces, like the 'Circulo de Economia' have come out in favour of the Plan for 'citizen motives', their real position has not been this. With their interests intermixed with those of the large financing groups,(who have felt their property investments jeopardized) and property capitalists, they have generally taken the same side in opposition to the Plan.

After the 'public information' stage, the property capitalists directed a campaign against the Plan with:-

> "direct pressure on the Administration by means of credit restrictions imposed by the savings banks. They helped to create a situation of insecurity, with political threats,and they blamed the Plan for the grave crisis experienced by the construction industry, a crisis really due to the structure of the industry. They also used leading lawyers to contest legal actions ('impugnaciones')". (180)

This campaign aimed at destroying the 'progressive' proposals of the Plan and gaining control of the bodies through which urban policy was directed: it was helped somewhat by the creation of the E.M.M.B. in August 1974 (discussed in Part J) producing a variety of administrative problems thereby disjointing the elaboration of the Plan and the continuity of its proposals. More important still,

however, was the rise to mayorship of Viola, (who, like Porcioles, had strong links with the property capitalists) who replaced Maso in 1975. Shortly afterwards Serratosa, the progressive Director of the original Plan who had worked closely with Maso, was removed from office and the way was paved for the necessary 'modifications'.

(iii) The new Revision of the Plan Comarcal was passed in February 1976 (Figure 180) and following a new public information stage, involving minor changes, final approval was given in July of the same year. There has been considerable criticism of the large amount of infrastructural development included in the Plan. That the Plan decongests seems to be true; in fact, it recognizes nearly all possibilities of road construction (the ring-roads, Garcia Morato, a coastal motorway along the line of the Paseo Maritimo, Tibidabo Tunnels, motorways up the Llobregat and Besos valleys) but:-

> "The basic road network occupies 20% of the classified land which pre-supposes the existence of a reserve of public land to be used for an essentially private function (private mobility). And so it seems fitting to ask why ... they have not made a similar allocation of land for the public transport system." (179)

Similarly, the provision of green zones and collective service areas are seen by many as insufficient and also imbalanced e.g.:-

> "The minimum requirement (according to the '56 Land Law) of 10% of the surface area being green has not been complied with in every 'sub-area' (see Table 43) ... as for collective services, the problem is the same or worse ...in particular, Barcelona with only 2.06 square metres per inhabitant and the East Delta area with 5.31 square metres per inhabitant, are far from the desired levels." (179)

Nevertheless, the Plan can be shown to compare favourably with its predecessors of 1953 and 1974 (Table 44) and this brings us to a key point. As with the 1953 Plan, it is not so much what is marked out on the ground that matters, as what provision is made for its execution.

> "The lack of any specific reference to the Land Law or equivalent mechanism in the documentation of the Plan and the potential role of 'planes parciales' in modifying the Plan could mean the death-blow to our already maltreated 'Comarca'." (153)

And what of the leading role that public promotion was to play in the 1974 Plan? It is here that the battle for the control of urban space in the 'comarca' has been won and lost. A norm has been introduced that permits the 'privatizacion' of a good part of the reserves destined for collective services. To this effect, Article 170 of the norms is very clear in admitting the right of private

Sub-areas	W.D.A.	E.D.A.	Llobregat	Valles	Besos	Barcelona	Total Comarca
Green Zones M^2/inhab.	6.08	6.4	6.63	13.98	11.74	1.97	7.26
% of total area	4.94	12.6	6.74	15.8	16.85	4.31	10.46
Collective Services M^2/inhab.	23.52	5.31	12.60	16.44	7.26	2.06	10.08

Sub-areas

West Delta Area (W.D.A.) = Municipalities of Castelldefels, Prat, Gava, Viladecans, San Climent, San Baudilio.

East Delta Area (E.D.A) = Municipalities of Hospitalet, Cornella, Esplugas, San Just.

Llobregat = Sant Feliu, Sant Joan Despi, Molins de Rei, Santa Coloma de Cervello, San Vicenc dels Horts, Palleja.

Valles = San Cugat, Cerdanyola, Ripollet, Montcada i Reixas

Besos = Badalona, Santa Coloma de Gramenet, Sant Adrian de Besos, Montgat, Tiana.

Barcelona = Barcelona.

TABLE 43 GREEN ZONES AND COLLECTIVE SERVICES IN THE SUB-AREAS OF THE 'COMARCA' ACCORDING TO THE PLAN COMARCAL 1976

The subdivision of the Barcelona 'Comarca' into six sub-areas is shown.. The municipalities referred to can be seen on Figure 142.
The Table reveals large discrepancies between, for example, Barcelona and Valles in provision of green zones and services. Source:- (179)

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enterprise to develop the 'sistemas generales' (port, airport and railway installations; electrical and gas services; road system; collective services on a 'comarcal' scale). At the same time, article 214/2, referring specifically to 'community services' (collective services on a local scale), confirms the right of private enterprise to intervene if public bodies have not done so within twenty-four months of approval of the Plan. These possibilities of intervention by private initiative mean that a whole series of service installations - sports areas, schools, hospitals - that were meant to satisfy collective needs could, in practice, be nothing more than private clubs and centres. Beneath this lie qualitative differences in the concept of service installations. It is not only a question of assuring certain standards in square metres per head, but of guaranteeing that they are available to everybody

and this is precisely what the present plan does not do. The impression given by the other norms is the same. The urban park areas are not preceptively public property and the same is true of the forest park areas that also make provision for

	Plan Comarcal '53		Plan Comarcal '74		Plan Comarcal '76	
	Hectares	%	Hectares	%	Hectares	%
Infrastructure (plus used-up free areas e.g. road shoulders, grass verges)	4,717.5	20.68	9,827	32.75	9,800	31.71
Parks and Gardens in the built-up areas	1,818.0	7.97	3,146	10.48	3,250	10.51
Collective Service Installations	966.0	4.27	4,367	14.56	5,200	16.82
Urbanized land and potential urban land ('urbanizable')	12,506.0	54.83	9,966	33.23	10,000	32.36
Industrial land	2,800.0	12.28	2,694	8.98	2,650	8.58
Total built-up area and potential built-up area	22,807.5	100.00	30,000	100.00	30,900	100.00
Non-urbanizable (including forest parks)	24,944.5		17,752		16,852	
TOTAL	47,752		47,752		47,752	

TABLE 44 COMPARISON OF THE 3 'PLANES COMARCALES'

a form of extensive building that alone permits the construction of 2,000 new houses.

The future of the Plan Comarcal and the effect it will have on the development of the city, however, remains in the balance. Although the original '74 Plan has been vastly modified to facilitate the protection and promotion of the

economic interests of the 'bloque dominante', the social-political changes since Franco's death make the eventual outcome of the Plan uncertain. A changing political scene (involving, for example, a democratically elected public administration) could see the reintroduction of many of the 'rationalist' proposals of the '74 Plan, which were lost in the transformation of the Plan from 1974 to 1976.

CHAPTER 6

SUMMARY

SUMMARY - THE ROLE OF PLANNING IN THE EVOLUTION OF BARCELONA

> "The development of a city is the result of a complex series of interactions between public power ... and private initiative ... The urban realizations, resulting from these interactions, clearly reflect ... the political, social, and economic situation at any one time." Busquets (110)

Until 1850, Barcelona was a walled city of 2.3 square kilometres. By 1950, the municipality of Barcelona covered almost 100 square kilometres. Today, the city is the central nucleus of an agglomeration that loosely corresponds to the 'Comarca', an administrative unit consisting of 27 municipalities, itself part of a Metropolitan Area, containing over four million people and 193 municipalities, that struggles, largely in vain, to find some form of administrative and economic structure. Barcelona is a densely populated city, averaging over 300 inhabitants per hectare, with densities of over 1,000 inhabitants per hectare in the old city.

In assessing the role of planning in the evolution of Barcelona, it is important to note that the content of plans and the meaning of planning have changed with time, from the early attempts at control, through the plans (based on differing ideologies) aimed at ordering and arranging the whole city, to the more recent orientation of some plans towards co-ordination of large-scale investment.

1. 1714-1854 Planning and growth in the medieval city (i.e. within the medieval walls)

In the period from 1714 to 1854, when the city was almost entirely contained within its medieval walls, planning was confined in the main to the laying down of a series of regulations to restrict the height and overhang of buildings and set minimum dimensions for rooms. These regulations reflected concern for the structural safety of buildings and living conditions, particularly hygiene, within the buildings, but were largely ineffective because of the corruption and inefficiency of the Barcelona Council, who made the rules and regulations but did little to enforce them.

Nevertheless, even in this early period, there were some more positive ventures, involving attempts to re-order and re-arrange the city. The military authorities, concerned about hygiene and safety, but also about security in a notably nationalist and rebellious part of Spain, opened, straightened and widened streets, and in the early years of military occupation (1714-18) destroyed a large

part of a neighbourhood - the 'barrio de la Ribera' (photo 64) - to make room for the construction of the citadel. This, in turn, created the need to rehouse those left homeless, resulting in the first extra-mural construction - the housing area of Barceloneta - planned and constructed along severe para-military, baroque lines. But it was not only the military authorities who ventured into this more sophisticated form of planning (i.e. ordering or arranging - 'ordenacion' - rather than just control). In the second half of the eighteenth century, there were several attempts to plan the development of housing estates around the factories of the fast-growing cotton calico industry (largely dyeing and printing), of which Bastero's project (Figure 26, page 43) is the best-known example. Then, in the nineteenth century, as population densities reached over 1,500 inhabitants per hectare in certain parts of the city and the need to expand the city beyond the walls intensified, so came a whole series of early plans of 'ensanche' (expansion) from both military and municipal architects, that seem rather unambitious in comparison with those that appeared in the 1850's, but which had to be so because of the insistence of the military authorities that the city should continue to be encircled by protective walls. Only in 1854, when the central government consented to the destruction of the walls, did expansion onto the plain become a realistic possibility.

2. 1855-1952 The expansion across the 'plain of Barcelona'. The Plans of 'Ordenacion'

It is really the plans of the 1850's - of Garriga y Roca, Rovira i Trias (Figure 181) and above all of Ildefonso Cerda (Figure 182) - that mark the real

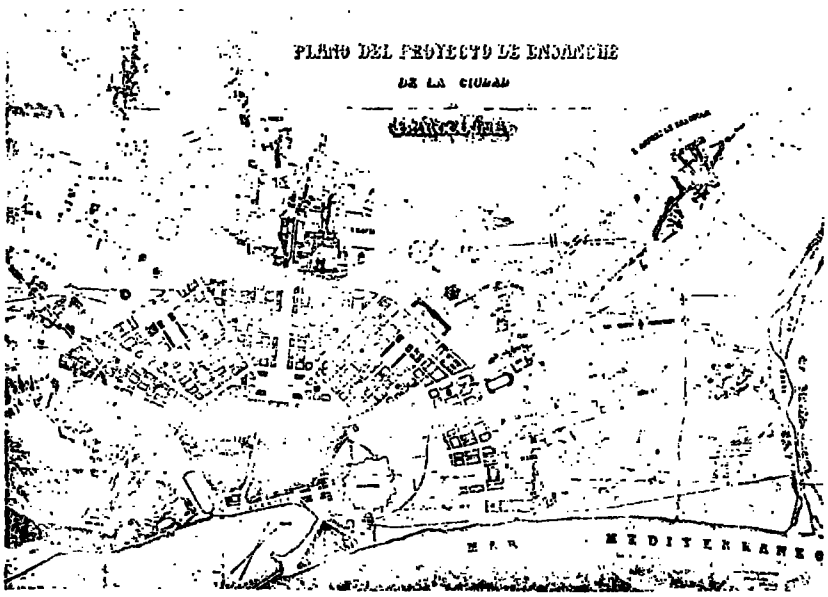


FIGURE 181 PLAN ROVIRA I TRIAS 1859

The winner of the competition for a plan to develop the city beyond its walls in 1859, but turned down by the Madrid Government who preferred Cerda's plan. Far less ambitious than Cerda's plan, it foresaw the expansion of the city in radio-centric form (c.f. the policentricism of Cerda) and was based on the theme "the lay-out of a city is more the work of time than that of the architect."

step forward to the idea of 'ordenacion' on a large scale; in the case of Cerda, the whole city is ordered, with all elements - housing, industry, roads, free space, markets, hospitals, social centres etc. - given their place within the Plan, which, apart from the normative controls it established, is also a hypothesis of globality (i.e. all encompassing) and of form, something quite different from anything that had gone before. This content of global formalisation is what characterised plans for the city for the next century.

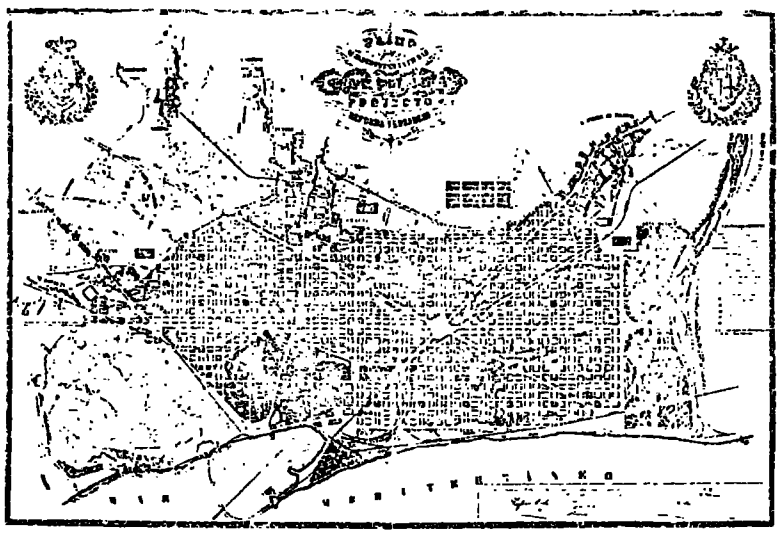


FIGURE 182 THE PLAN CERDA 1859

Passed by the Madrid Government (to the anger of part of the Catalan bourgeoisie) in 1860 as the official plan of development for the city beyond its medieval walls. It remained so, with slight modifications, until 1953. The city today has the quadricle (or, in fact, octagonal) street layout and main roads (Gran Via, Diagonal, Meridiana) from Cerda's Plan, but little else. Particularly notable for their absence are the collective service elements - parks, markets, gardens and hospitals.

Different commentators stress different aspects of the plans since 1850 and the historical contexts from which they come. Some writers (23, 24, 92, 173) see the Plans Cerda, Macia (Figure 183) and Torres Clave (Figure 184) as isolated examples of 'rationalist' planning, as corrective measures aimed at re-ordering the urban chaos that other plans (the Plans Jaussely (Figure 188), Rubio i Puduri (Figure 185), Comarcal '53 (Figure 186) and Barcelona 2000 (Figure 187)) only encouraged. This can be taken a step further by arguing that the first two rationalist plans - those of Cerda and GATCPAC - correspond to two breaks (1855-74 and 1931-39) in the otherwise

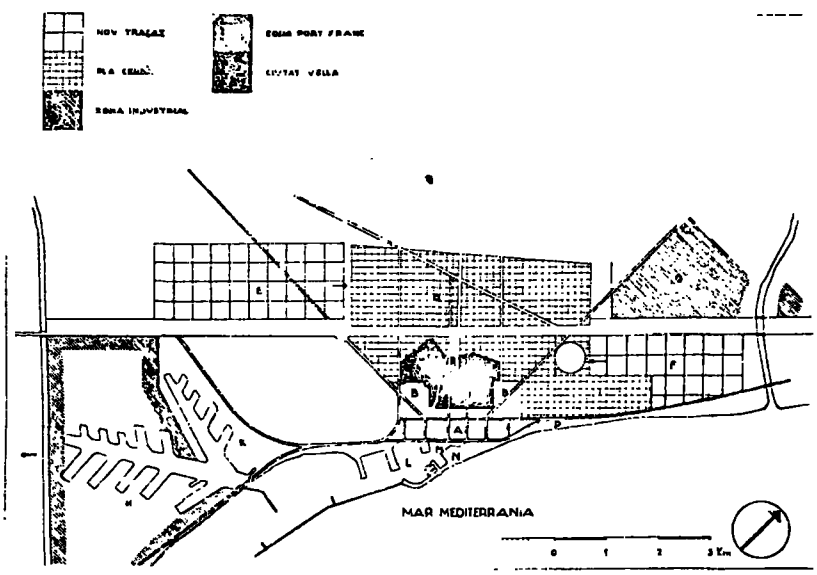


FIGURE 183 THE PLAN MACIA 1933

The Plan Macia was the product of GATCPAC (an association of progressive, Catalan architects), drawn up in collaboration with French architects Le Corbusier and Jeanneret under the Second Republic. It attempted a definite zonification of the city and is often quoted as the second of the 'rationalist' plans (following Cerda's) with its progressive , democratic character and advanced technology.

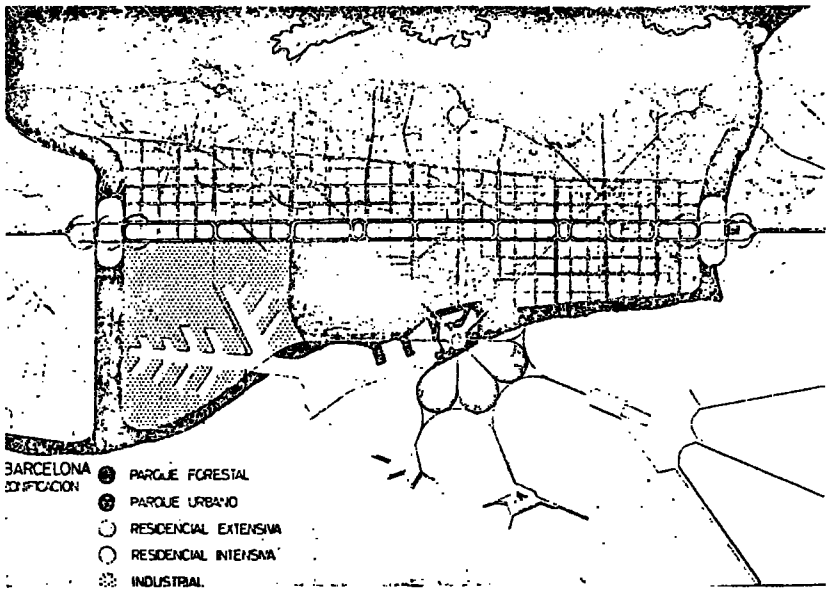


FIGURE 184 PLAN TORRES CLAVE 1971

Presented to the Barcelona Council (which rejected it) in 1971 by C.O.A.C.B. as an alternative to the Barcelona 2000 plan. In its zoning of the city into functional areas and its advanced technology (e.g. the new airport extending out over th sea) it has obvious similarities to the Plan Macia. Indeed Torres Clave was one of the main forces in the 30's in the era of GATCPAC.

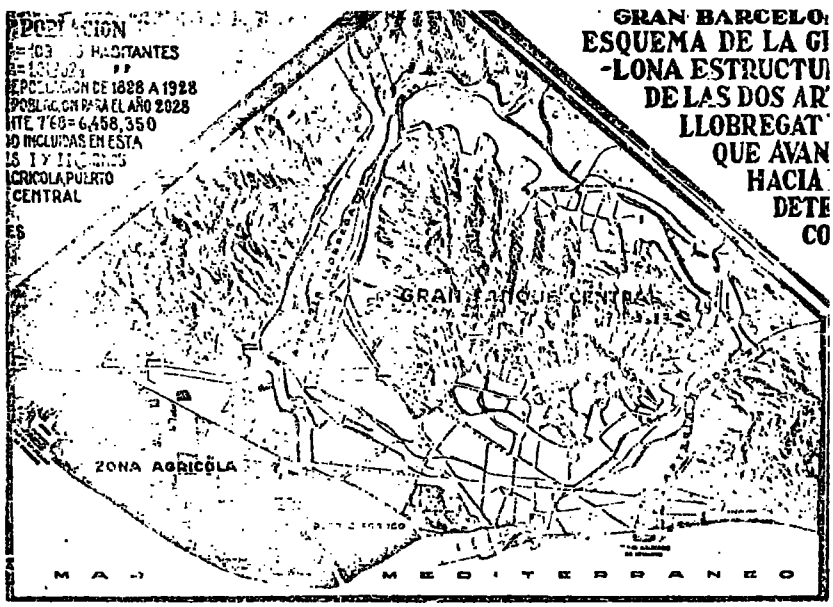


FIGURE 185 'BARCELONA FUTURA' BY RUBI I TUDURI 1929

Drawn up under Primo de Rivera's dictatorship, it is seen by many as the forerunner to the 'Barcelona 2000' Plan, encouraging the 'natural growth of the city, in the 'economic system' It is significant that 3 years later, under the Second Republic, Rubi i Tuduri presented his 'regional planning', a functional zoning of Cataluña, regarded as being ideologically quite distinct from his 'Barcelona Futura' plan. This kind of turn-about lends weight to the argument that political circumstances strongly influenced the planning ideology of the Catalan bourgeoisie.

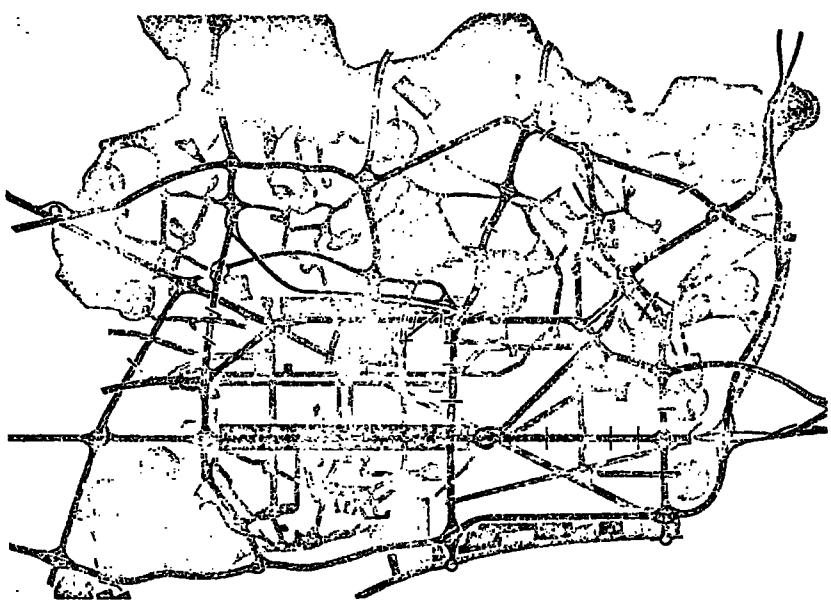


FIGURE 187 'BARCELONA 2000' OR PLAN PORCIOLES 1970

Regarded as the model 'capitalist utopian' plan, in its infrastructural skeleton providing the necessary co-ordinating elements for big-business operations.

unbroken political hegemony of the economic 'bloque dominante', when, for short periods a combination of certain elements of the working and middle classes held power in the city and directed growth and development along 'rationalist' lines.



FIGURE186 PLAN COMARCAL 1953

The first 'plan de ordenacion' to cover such a large area - the 'Comarca' - consisting of Barcelona plus 26 other municipalities. Apart from its 'nuclearised concept' of the city region, it classified every part of the area with fixed building volumes and land uses. Although somewhat conservative, criticism of the Plan seems in many ways unfair. Provision was made for its enforcement (the Law of 3. 12.53 , Land Law 1956) but the plan was radically transformed and often ignored in the boom expansion of the city in the 50's and 60's, reflecting the private control of the public administration (i.e. the political dominance of the 'bloque dominante').

Source:-(92)

Some writers (e.g. Sola Morales (138)), however, stress subordination of planning to capitalist ideology throughout the period since 1714, making little of these supposed 'rationalist' phases. Others (Pereira(176)and Bohigas (15)) argue the importance of Catalanism in motivating the bourgeoisie to place emphasis on expansion at all costs as a means of furthering the political projection of Barcelona within Cataluña and the 'Paises Catalanes' [1]. This phenomenon, they argue, has been most evident when centralist dominance has been most marked.

These theories add something to our understanding of the situation but fail to give any definite conclusions. The breaks in the political hegemony of the 'bloque dominante' have never been long enough to show whether the new-found allegiance between certain elements of the bourgeoisie and the working-classes would have been strong enough to carry through 'rationalist' corrective measures such as those contained in the Plan Macia. Similarly, controversy surrounds the 'egalitarian city' of Cerda. Following recent research by Tarrago (105) and Soria y Puig (104, 105), little doubt now remains about the scientific rigour with which Cerda approached the urban problems of his time. His plan was based on an idealised model which presupposed the existence of an egalitarian society. It is what Soria y Puig terms a 'concrete utopia' and available evidence suggests that Cerda envisaged the growth of the city along these lines to whatever extent was practically possible. Undoubtedly, he mistakenly placed great importance on the destruction of the medieval walls as a factor in ridding urban society of the evils of land speculation. But Grau argues strongly that Cerda's real intentions were not so egalitarian and that he foresaw the 'bastardization' of his plan and included certain well-masked provisions within it to encourage this very development (his arguments are discussed in greater detail in Appendix 2). Grau remains in the minority in his scepticism about Cerda, but his arguments illustrate the uncertainty surrounding the importance of the supposed breaks in the political hegemony of the 'bloque dominante'.

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[1] 'Paises Catalanes' include all Cataluña, most of Valencia, the Balearic Islands, Andorra, the Eastern Pyrenees and the area around Perpignan in South-West France.

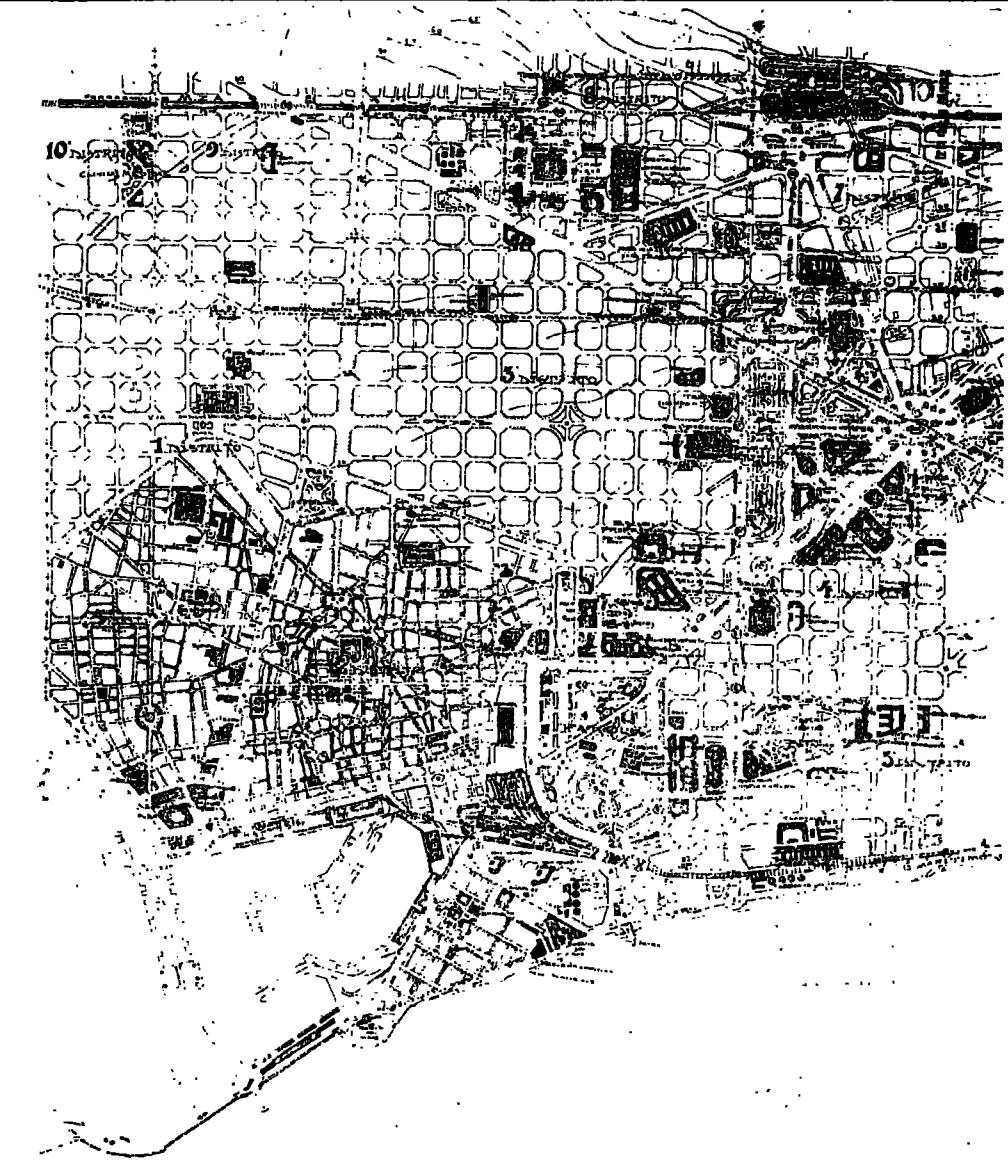


FIGURE188 JAUSSELY'S 'PLAN DE ENLACES' 1907

The 'monumentalist' city'par excellence', the Plan Jaussely is viewed by some as similar to 'Barcelona 2000' in its 'capitalist utopia' content. Certainly the expense of transforming the inner city made it an unrealistic proposition from the start, but it is more an effort at 'ordenacion' than a plan of co-ordination. Its professed objective was, in fact, to link the 'ensanche' with the outlying suburbs and this part of the plan was officially passed in 1917 (Plan Romeu Porcel) and added to Cerda's Plan as the official plan of development for the city. The diagram shows planned transformations of the central part of 'ensanche'.

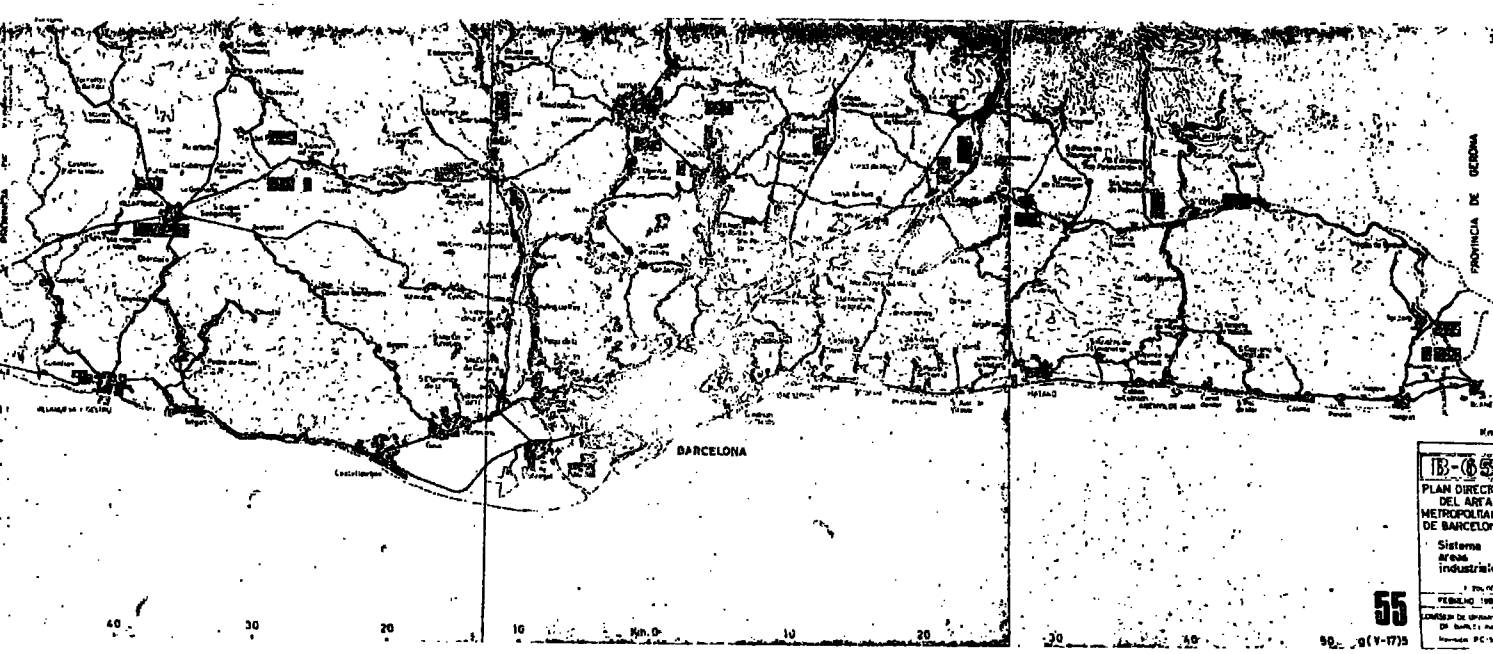


FIGURE189 THE PLAN DIRECTOR 1968 - was the first real effort at territorial planning based on the Metropolitan Area. In the 60's this controversial plan was the subject of heated discussion amongst planners, economists and politicians, largely between the 'tertiary at the centre' lobby and the 'decentralization of all activities' school. Although the final version was something of a comprise, the decentralizing element is very strong (the black rectangles are industrial areas) The plan was provisionally passed by the Central Government in 1968, but effectively cast aside in 1974 with the creation of the E.M.M.B., a new 'Comarcal' planning body, but is still widely supported amongst planners and industrialists, who maintain that any effective planning in the future must inevitably be on this scale.

Similarly, it is difficult to assess the real importance of Catalanism in forging the 'expansionist' policies of the bourgeoisie. It is an attractive idea to be able to perceive in the history of the city a correlation between periods of marked centralist dominance and the main periods of expansion (1876-86, 1923-29, 1950-70). But to what extent there was a conscious change in the attitude of the bourgeoisie, involving an abandonment of 'rationalism' and adoption of 'expansionism' in an attempt to reassert the political importance of the city at these times, is debateable. Certainly, the social and functional segregation that has characterised the city since 1714 (Figure 190) suggests that preservation of social and economic divisions has always featured strongly in the reasoning of the bourgeoisie when directing the development of the city, irrespective of the weight of centralist power in the city.

Without going any further into these lines of argument, all of which involve debateable suppositions, one thing remains clear. From 1860, the 'plain' of Barcelona was developed under the direction of the Catalan bourgeoisie, who, as a rule, paid scant regard to approved planning legislation. Although the Plan Cerda remained the official Plan of expansion for the city until 1953,(with slight additions from the Plan Romeu Porcel of 1917, based on the Plan Jaussely 1907), only the octagonally shaped block development of the city and the tree-lined streets of Cerda's plan were respected. (photo 66) The 'manzana' was built up on all sides (c.f. only two in the Plan) and within, and 'aticos' and 'sobreaticos' added on top; parks and gardens were encroached upon or disappeared altogether; 'manzanas' originally destined for collective service installations (schools, markets, hospitals) were used instead for house construction or commercial/industrial activities. Instead of the egalitarian policentricism foreseen by Cerda, a functional and social segregation evolved, with bourgeois residences centred around the commercial central axis (Paseo de Gracia), whilst the working classes lived in the decaying old city and increasingly in the sub-equipped, poorly connected periphery of 'ensanche' in and around the old nuclei, dating from pre'ensanche' days, but now enveloped by the expansion of the city (see photo 65). It was these so-called 'mixed zones' that had the greatest concentrations of industry, some of which also dated from pre'ensanche' days.[1]

1 From the late 18th century onwards, 'prados' - the outfields for the bleaching and drying processes of the calico industry - had been located outside the medieval walls. These inevitably involved industrial installations and then housing.


Molins de Rei
Sta Perpetua de Mogoda
Ripollet
Montcada y Reixach
La Llagosta
Cornellà
Hospitalet
Badalona
Mongat
San Adrián de Besòs
BARCELONA
8bIII
5b
8bII
9bII
9aI
9bI
9aII
8bI

FIGURE 190 FUNCTIONAL ZONES 1976

Source:- based on ideas in (92) and (24)
Map from (165)
Scale:-80,000:1 (approx.)

KEY TO FIGURE 190

1. The old city, formerly enclosed by the medieval walls (now destroyed). Central axis (running top to bottom along the Ramblas) comprises largely tertiary activities (shopping centre, some offices). On either side of the Ramblas there are mixed zones of middle/working-class decaying housing, dating from last century or before with some industry. Over 1000 inhabitants per hectare in some 'barrios'.
2. Gracia - high-class residential area of 'alta burguesia' in the 18th and 19th centuries. Now mixed middle/working-class housing with some industry and tertiary activities.
3. The Commercial Centre - centred around the 'Paseo de Gracia'/Plaza Cataluna (early 'ensanche' 1860-1900) and Diagonal/Plaza Calvo Sotelo (largely post-war, 1940 onwards).
4. Luxury Housing
   a) In the 'ensanche' - largely built 1860-1900. Increasingly forced out by tertiary/office development.
   b) Upper Barcelona. (Pedralbes and Sarria) Considerable recent development, but still a low-density housing area.
5. Middle-class Housing Area
   a) Area of 'ensanche' (in the main constructed 1890-1930).
   b) As tertiary activities have taken over the centre, the middle-classes have moved to:-
      San Gervasio/Tibidabo (formerly part of upper Barcelona), Vallcarca (increasing encroachment on green areas of the 'Tres Turons'), and more recently, the western end of Valle de Hebron, marking the creation of middle-class 'poligonos' (housing estates) of Montbau (and later Guineueta).
6. Mixed Zone - Middle-class housing and industry
   a) Parts of the 'ensanche' (in the main built 1890-1930)
   b) The old 'alta burguesia' settlements of Las Corts and part of Sants.
7. Working-class Housing
   a) Barceloneta - first houses built in 1753. Most are old and decaying.
   b) Beyond the northern periphery of 'ensanche' an anarchically developed area encompassing long-established working-class 'barrios' of San Andres(partly), Carmelo and Horta with recent 'poligono' development e.g. Ciudad Meridiana, Canyellas etc.
   c) Recent 'poligono' development of 50's and 60's in previously empty land,
      i) Within the Municipality of Barcelona, between San Martin and the River Besos, comprising 'poligonos' of San Martin, La Paz, and S.W. Besos.
      ii) Outside Barcelona, particularly in Hospitalet and Cornella to the S.W. and Santa Coloma to the N.E.
8. Mixed Zone - Working-class Housing and Industry
   a) The old nuclei on the plain of Barcelona (with recent additions of housing/ industry.
      i) San Andres
      ii) San Martin
      iii) Hostafranchs and the foothills of Montjuich (San Beltran, Pueblo Seco, part of Zona Franca and also Sants.)
   b) Old Nuclei outside the Municipality of Barcelona (with recent addition of housing and/or industry).
      i) Badalona/San Adrian
      ii) Prat
      iii) Esplugas/San Justo/San Juan
9. Industry
   a) Long-established areas (pre- 1850)
      i) Seaboard area of San Martin and San Adrian ii) Port Area
   b) Recent developments (largely 1950 +)
      i) Zona Franca ii) South Hospitalet
10. Main Green Areas
   a) Montjuich (cleared of 'barraca' settlement in 60's and 70's - includes some areas of construction dating from the Universal Exposition 1929 plus recent additions e.g. 'Parque de Atracciones' (Fun-fair))
   b) Tres Turons (including ecroachment by middle-class and 'barraca' settlements)
   c) The Citadel Park - created in 1880's after the destruction of the Citadel.
   d) Tibidabo (with many clandestine, illegal settlements, largely 'secondary' summer residences).

The city was growing in radiocentric form, in fits and starts, reflecting the economic and political climate of the time. The globality of Cerda's Plan was lost. The bursts of growth, notably 1876-86 (the period of 'gold fever') and 1914-29 (the period of the 'Gross Barcelona') saw further 'densification' of Cerda's 'trama' (road lay-out), whilst two International Expositions (in 1888 and 1929) paved the way for the urbanisation of two new areas, the Citadel Park area (photo 64) and the Montjuich/Plaza Espana area (photo 28), both typifying, in their grandeur and 'monumentalist' nature, the bourgeois concept of the city 'par excellence' (e.g. the buildings of 'Arco de Triunfo', 'Palacio de Justicia' and the 'Palacio Nacional').

In the old quarter, a succession of plans failed to make much impact. All of these (by Cerda 1860, Baixeras 1880, Darder 1918, Vilaseca 1941; and the 'Plan Parcial' of 1959) included proposals to build three new roads crossing the city, largely reflecting the desire to improve mobility in and through the area. But destruction of property, particularly that of commercial importance (e.g. as in Calle Puerta Ferissa, on the course of the proposed cross-town road) and even old, decaying property is generally opposed by the owners. Only one of these roads - Via Layetana - was realized (photo 63), this in 1916 in the period of 'municipal socialism' when the reformist elements in the Council did, for once, manage to overcome the property interests. As a rule,[1] however, the bourgeoisie were primarily concerned with promoting the growth of the city and the social-political-economic system, in which they were the main benefactors and, as such, neither reform in the old city nor the egalitarian city of Cerda played much part in the scheme of things.

3. 1953-76 A change of scale in planning and growth. The coordination of sectorial investment.

In the past twenty-five years, the content of urban plans has changed noticeably. First, there has been an increase in the scale of planning. In 1953, the Plan Comarcal (Figure 186) was approved, a plan that is superficially an extension of the idea of 'ordenacion' to a much larger area with all the

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[1] Here one can make much of the era of the Second Republic (1931-39), generally viewed as the main exception, the main break in the political hegemony of the 'bloque dominante' when part of the Catalan bourgeoisie, free at last from centralist oppression (autonomy of Cataluna 1932-36), tried to introduce the 'rationalist' Plan Macia.

27 municipalities of the 'comarca' classified according to land use, with building volume and building use controlled by regulations inherent to each classification. Then, in the sixties, the Plan Director (Figure 189) attempted to re-order the Metropolitan Area of Barcelona, emphasising tertiary and industrial decentralisation within the new 'city-territory model'. This latter plan found increasing support amongst certain elements of the bourgeoisie (mainly the neo-capitalist industrialists) as the diseconomies of agglomeration, particularly congestion in and around the city, began to outweigh external economies of the same. But the growth of the city in radiocentric form continued and planning has generally come to represent a form of co-ordination of large scale sectorial investment in industry (Zona Franca, Martorell), in 'privatized' recreational areas (Castelldefels, Las Corts) and, above all during the 1950's and 60's, in housing estates (the 'poligonos' of Bellvitge, San Ildefonso, La Paz etc.), at the same time reflecting the progressive concentration of capital in the hands of a few large financing groups, in marked contrast to the old atomised capitalist promotion of the early 'ensanche'. So the Plan Comarcal, although intended to be a strict plan of 'ordenacion', has been little more than a rough guideline, with the 'planes parciales' more or less giving promoters licence to do what they liked.

The Public Administration, particularly its local representatives, has played a leading part in this re-orientation of planning policy. In the 1950's, the central government were forced to do something because of the ever-growing housing deficit. This is estimated at 80,000 in 1950 and 100,000 in 1960 in the municipality of Barcelona alone (estimates of the deficit in the 1970's are as high as 225,000). The Government provided financial incentives, encouraging private initiative to invest in housing, whilst directly promoting the construction of the lowest quality, minimum cost, peripherally located housing estates ('poligonos' - photo 80) themselves through their semi-autonomous entity, the O.S.H. The local administration, whilst similarly participating in the housing 'boom' through their dependant housing body, the P.M.V., has followed a policy of investment in infrastructure (the ring-roads, Calle Meridiana, Calle Guipuzcoa) that provided some sort of co-ordinating element for investors as well

as easing circulation in and around the city and providing large profits for construction firms. This concept of using planning to co-ordinate investment activities was taken a step further by the publication of the Council's plan, 'Barcelona 2000' (Figure 187) in 1970. This plan has been described as a typical 'capitalist utopian' plan. It proposes the large scale renovation of the centre of the city and the creation of new service centres in the peripheral areas of 'ensanche'. Barcelona city would become the tertiary [1] and representative centre of the region, efficiently linked with its hinterland by means of a system of motorways. This Plan represents the long-term capitalist objectives and as such is unrealistic and so 'utopian' (in an economic-social-political sense rather than technical) in the short-term. For example, the proposed urban renovation of the centre presupposes public expropriation on a vast scale, damaging private urban incomes and the speculation process. But as a framework, a point of reference for the large scale investor, it would serve the purpose of co-ordinating large scale development activities, such as the now aborted 'Barcelona 1982' International Exposition on Tibidabo (the dream of ex-Mayor Porcioles) and the renovation of the coastal seaboard area between the Citadel and the River Besos, where it was proposed to build high-rise luxury flats (and not collective service centres) in areas of old and run-down industry (e.g. photo 65). This proposal, the 'Plan de la Ribera',remains shelved, temporarily at least, after ten years of public outcry and legal wrangles.

And so the Local Administration, whilst making allusion to the 'social benefit' of their planning policies, (e.g. the collective service centres in the 'Barcelona 2000' plan and the clearing of 'barracas' from the city centre in the late 1960's and 70's) has, by and large, acted in collusion [2] with private interests, only favouring collective interests when the deficits make such action necessary to guarantee the functioning of the urban system (e.g. provision of housing estates, whilst at the same time tolerating the existence of 'barraca' areas (photo 75) in the 1950's and 60's).

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[1] The tertiarization of the centre is a marked feature of the development of the past 15 years. This tendency, completely contrary to the objectives of the Plan Director, has been welcomed and encouraged by the Barcelona Council.

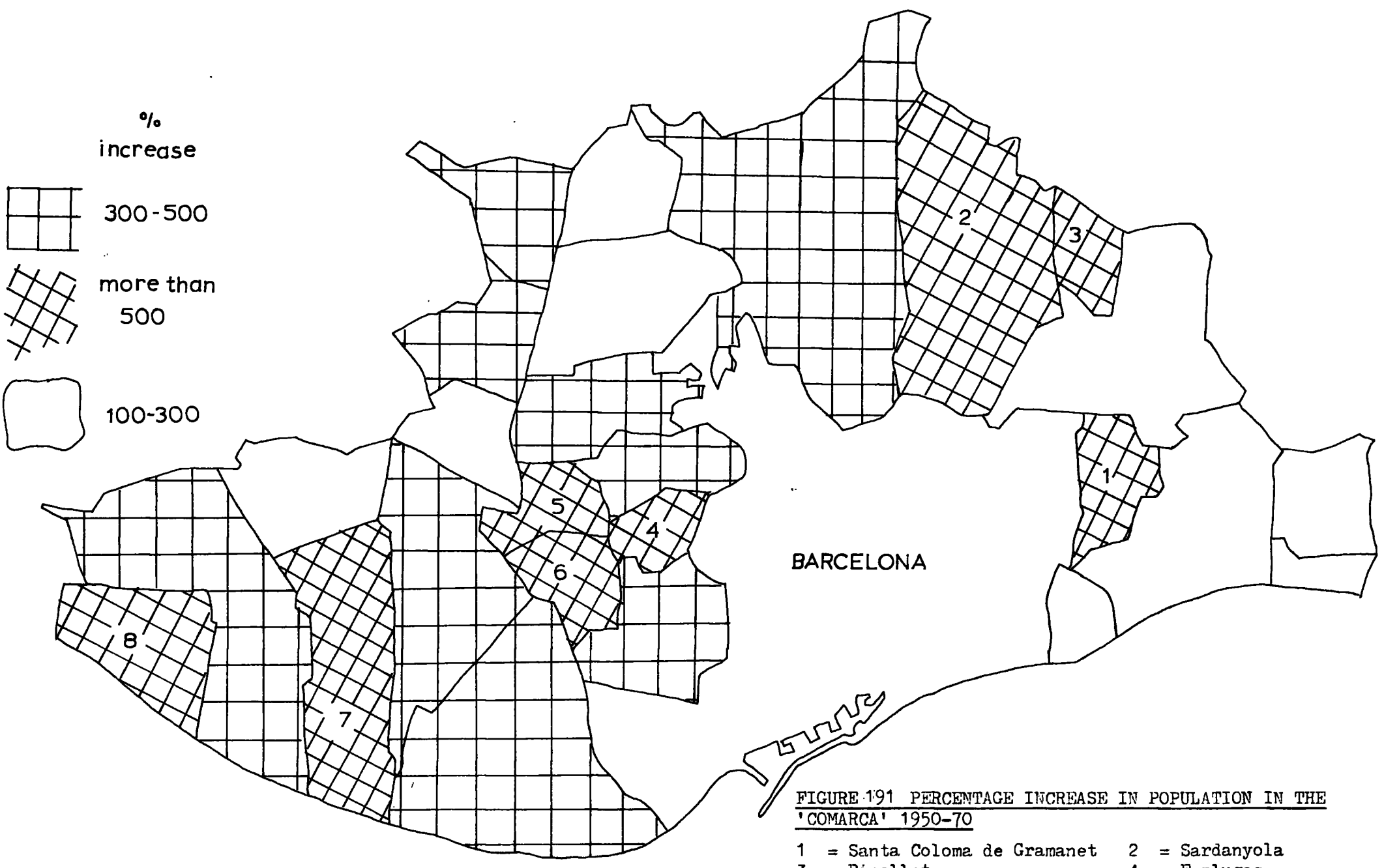
[2] The scandals and rumours of corrupt practices under the Mayorship of Porcioles from 1957 to 1973 are many. Above all, they concern the connection between Porcioles and certain economic groups, who benefitted from policies favoured by the former.

The effects such policy has had on the evolution of the city are clear to all. The central business district ('commercial centre' on Figure 190) has grown rapidly in a disorderly fashion, stretching up along Diagonal to Plaza Calvo Sotelo (photo 78) as the logic of high land prices in the centre (combined with the asserted right of ownership and the still very fragmented division of land) has brought tertiary and quaternary activities to this central area of 'ensanche' as its residential function has lessened. In the old city, however, decaying housing is often left to get worse because the always pending renovation scheme of the Local Administration (which, because of the price of land, difficulty of expropriation etc., never becomes a reality) makes voluntary improvements by the proprietor an unattractive proposition. It is a paradoxical situation when the old centre of the city is in too bad a state of deterioration to serve for much, yet, being the centre, it is too costly to put it right.

In the rest of 'ensanche', there has been a further 'densification', the result of operations on the margin of or even against the approved planning legislation (e.g. 'edificios singulares', 'planes parciales', introducing higher building volumes etc.). The attraction of these transactions are the external economies offered by proximity to the centre, accessibility, integration within the urban 'trama', prestige of the centre and the maximising of returns in the short-term irrespective of the longer term social and economic costs (degradation of urban habitat, lowering of standards, lack of collective services and congestion).

And so a policy of tolerance and even encouragement by the Local Administration has seen the anarchical growth of the periphery of Barcelona, overflowing into the other municipalities of the 'comarca' (see Figures 190 and 191), where, above all, the immigrant population [1] has encamped (Figure 192) in a variety of 'marginal habitats' (from the old 'cascos urbanos' in a state of deterioration and the chaotic areas of auto-constructed 'barracas' to the more recent 'poligonos', nearly always of low quality and not satisfactorily integrated into the urban system). The peripheral ring has been rapidly

[1] Immigration has, as Nadal has said, been a 'colossal business' for Cataluna, not only creating an almost unlimited supply of cheap labour, but also an almost unlimited demand for housing and so land, perpetuating the speculation process in the periphery. In 1887, over a third of the population of the city came from outside the province and by 1970 the fraction was over a half.



(For fuller list see Figure 142.)

FIGURE 191 PERCENTAGE INCREASE IN POPULATION IN THE 'COMARCA' 1950-70

1 = Santa Coloma de Gramanet 2 = Sardanyola
3 = Ripollet 4 = Esplugas
5 = San Juan Despi 6 = Cornella 7 = Viladecans
8 = Castelldefels Source:- (176)

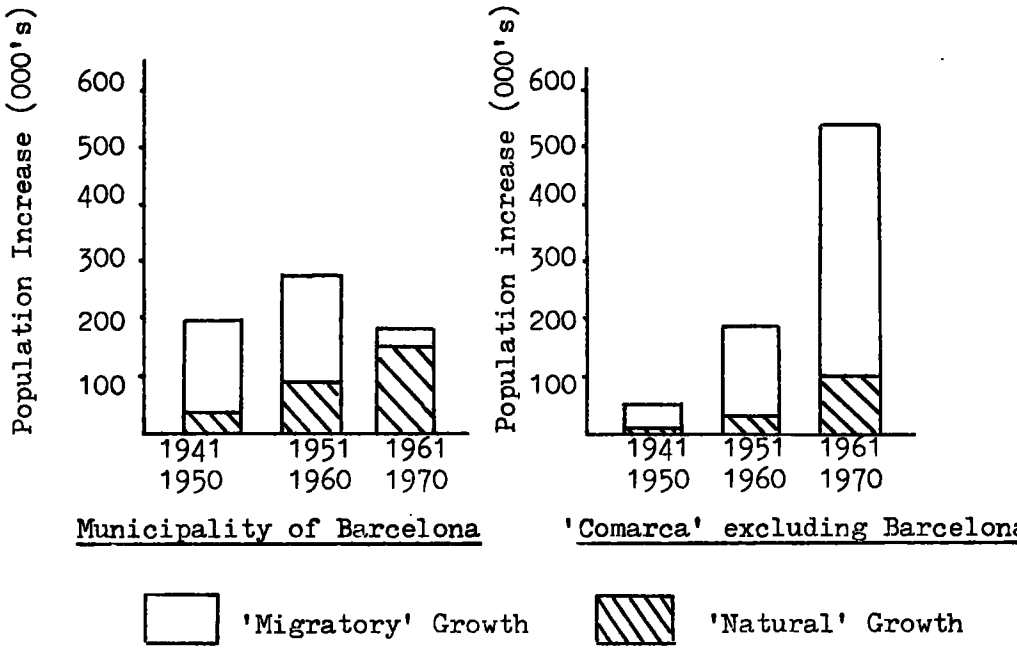


FIGURE 192 'NATURAL' AND 'MIGRATORY' GROWTH 1941-70 Source:- (176)

suburbanized as a result of speculatory activities by private and public administration alike, of dubious legality and on the margin of, or at times clearly against, the planning legislation in force (e.g. the O.S.H. 'poligonos' in the northern suburbs of Verdun and Trinidad created building volumes over three times as high as those laid down for the area in the Plan Comarcal without even drawing up a 'plan parcial').

We are faced, then, with an urban system which has the financial and human resources to resolve its acute functional difficulties, but which evolves in the grip of certain economic and political structures that permit the dominant groups in society to 'resolve' the contradictions of urban development by means of a policy that, in fact, only aggravates the problems and inequalities. The attempts to control and order the city in the past have, generally speaking, failed, largely because the content of plans and intentions of planners have conflicted with the political-economic realities of the time or with those of the time shortly after their appearance (Cerda, Macia). Only in its more recent connotation of co-ordination has planning come to mean something more in keeping with the political and economic realities of the age. And yet today, more than

ever before in the history of the city, there is a need for 'rationalist' planning to correct the imbalances of the present urban system. Day by day, the accumulataed deficits of housing and collective services get worse, and the need for industrial decentralization grows - suitably equipped areas, with housing and service installations, must be made available to industry outside the already congested 'comarca'. The required scale of planning would seem to be that based on the Metropolitan Area concept, involving the re-ordering of a chaotic situation on a territorial scale. What remains to be seen, however, is whether the social and, above all, economic and political factors, somewhat in a state of flux at present, create the right historic moment for the introduction and effective realization of such a plan. It has been the absence of such effective realization that has characterised the role of planning in the evolution of Barcelona since 1714.

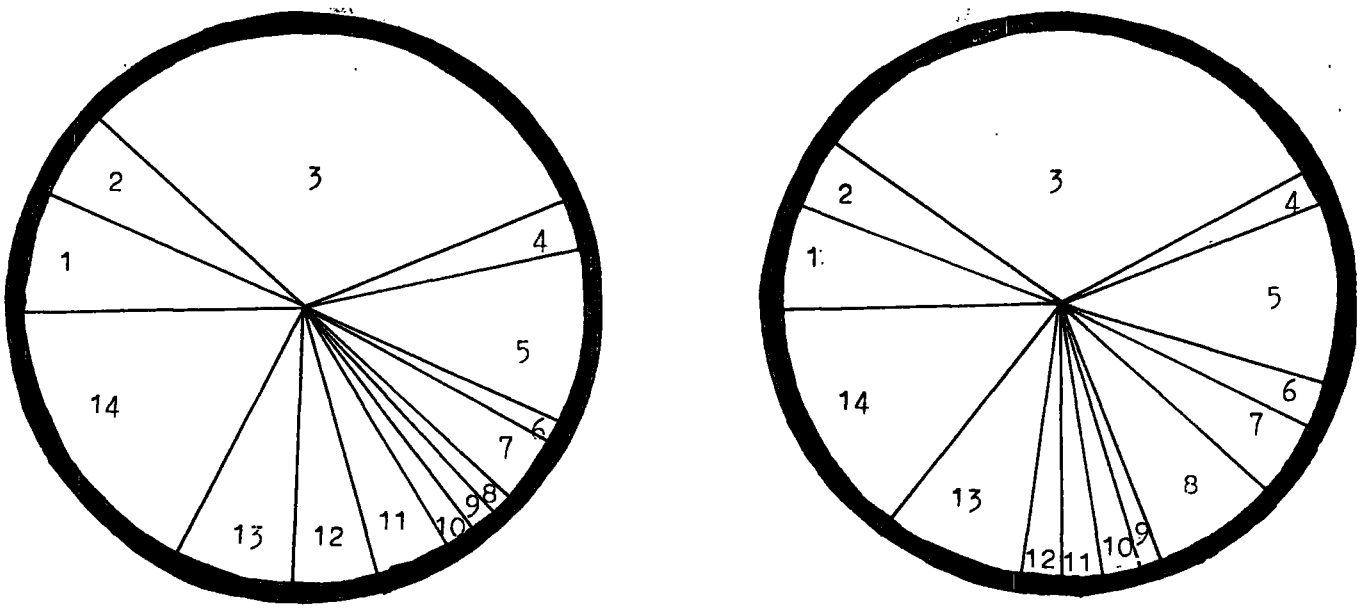
APPENDIX 1 - FURTHER INFORMATION FROM THE 'CATASTRO' OF 1717

1. OCCUPATIONS 1717 c.f. 1516

One of the main objectives of the 'Catastro' was to establish the economic condition of each member of the population of Barcelona. Amongst personal data gathered was that of occupation of the 'head of family' - originally there were over 300 categories, but here they are re-grouped into only 20. The 1516 census (the 'fogatge') contained a similar classification and so a comparison between the two dates, 1516 and 1717, can be made, (Figure 193 and Table 45). Three things are immediately clear about the economy of Barcelona at the two dates:-

(i) The figures suggest a remarkably similar occupational structure in the city at the two dates.

(ii) The economy was almost entirely land-orientated. The proportion of sea-orientated workers (fishermen, seamen, boat-builders) was small (4 or 5 per 100 in 1717 and 1516) compared, for example, with that of Palamos (42 per 100 in 1717 [1]) or Mataro (25 per 100 in 1717 [2]).



1516 Key 1717

1. Agriculture and cattle-raising
2. Fishing and seamen
3. Artesans
4. Various
5. Food and commerce
6. Transport
7. The 'professions'
8. Domestic service
9. Destitute
10. Public employees
11. Nobility and upper class
12. Clergy
13. No answer
14. Widows

Source:- (2)

FIGURE 193 OCCUPATIONS OF 'HEADS OF FAMILIES' 1516 and 1717

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1 From Nadal J. 'Demografia y economia en el origen de la Cataluña Moderna, un ejemplo local - Palamos 1705-1839' in 'Estudios de Historia Moderna' Vol. IV, Barcelona.

2 Llovet J. 'La Ciutat de Mataro' Vol. I Barcelona 1959.

OCCUPATION	HEADS OF FAMILY													
	WHOLE CITY				SECTOR I		SECTOR II		SECTOR III		SECTOR IV		SECTOR V	
	No.		%											
	1516	1717	1516	1717	1516	1717	1516	1717	1516	1717	1516	1717	1516	1717
Agriculture	425	467	6.63	6.02	24	16	91	208	64	77	30	18	216	147
Cattle-Rearing	7	7	0.10	0.07	1	0	4	0	0	1	0	1	2	5
Fishing and Seamen	284	297	4.43	3.83	2	1	11	22	237	239	27	9	7	26
Carpentry and Construction (Artesans)	329	542	5.13	7.00	29	54	77	173	118	180	32	55	73	80
Shoes and Leather (Artesans)	465	510	7.28	6.57	39	33	128	124	229	251	35	54	34	48
Textiles and Clothes (Artesans)	979	949	15.27	12.24	50	47	414	294	397	477	55	68	63	63
Metals (Artesans)	229	361	3.57	4.65	8	7	49	65	191	228	17	19	24	42
Glass and Ceramics (Artesans)	48	77	0.74	1.50	1	3	3	1	10	17	22	37	12	18
Graphic and Decorative Arts (Artesans)	60	85	0.93	1.09	9	10	18	38	16	22	17	6	3	9
Food	230	427	3.58	5.50	28	30	75	97	78	197	27	41	22	62
Commerce	474	399	6.68	5.14	27	30	86	70	243	217	83	30	18	44
Transport	56	203	0.87	2.61	2	14	12	54	30	94	8	14	4	27
The 'Professions' (law, medicine, army)	254	344	3.06	4.43	56	71	80	100	83	94	45	43	20	36
Domestic Service	71	590	1.01	7.61	8	67	21	199	14	127	9	70	19	127
Destitute	93	49	1.45	0.63	10	7	19	19	16	9	17	5	31	9
Public Employees (civil servants)	117	173	1.81	2.23	29	13	31	47	26	44	14	34	17	38
Nobility and Upper Class	258	176	4.02	2.27	44	42	61	36	70	45	63	30	20	23
Clergy	307	168	4.78	2.16	78	45	120	61	46	29	36	14	27	19
Various	182	119	2.83	1.53	22	8	41	21	86	67	40	15	13	8
Widows	1118	1122	17.14	14.47	119	116	302	295	384	371	169	117	144	223
No answer	449	652	6.70	8.41	47	37	107	138	106	160	76	121	113	196
TOTAL	6388	7717	100	100	633	651	1747	2071	2334	2946	792	802	882	1247

TABLE 45 OCCUPATION OF HEADS OF FAMILIES 1516 and 1717

Source:-(2)

(iii) The economy was, generally speaking, artesan-orientated. In 1717, the trades 'carpentry and building', 'shoes and leather', 'textiles and clothes', 'metals', 'glass and ceramics', 'graphic and decorative arts' form 34.8% of the total and 44.1% of the 'productive' heads of families (excluding 'nobility and upper class','destitute', 'widows' and 'no answer').

The 'Fogatge'of 1516 suggests a very similar situation. In 1717, Barcelona was very similar to the Barcelona of 1516, still in the Middle Ages; the Bourbons had conquered a typical medieval city.

Looking at the figures in more detail (Table 45), the following can be noted:-

a) Agriculture (crop-cultivation) - the main loss between 1516 and 1717 is in zones 9 and 10 - Sector V (see Figure 7, page 12), a result of the gradual encroachment of buildings in the 'Arrabal'.

b) Artesans Looking at the sub-groups, there seems to be a special weighting towards carpenters, bricklayers (construction) and glassmakers in 1717, probably reflecting the reconstruction of buildings after the 1713-14 siege of the city. This is supported by the fact that the increase is largely in Sectors I and II (zones 5,6,7, and 8), which bore the brunt of the attacks and where the majority of destroyed houses lay.

Another point worth noting is the relative scarcity of textile and clothes makers. Of the 949 total in 1717, 654 were clothes makers (tailors, hat and glove makers) and 295 'textile' workers, of which 103 made silk goods, 96 woollen goods, 65 linen and canvas and 4 cotton. It must be remembered that these figures refer to 'heads of families' and the whole family was often involved in the process. Nevertheless, the figures are surprisingly low considering Barcelona's great reputation for textiles, especially woollen drapery, in the early Middle Ages.

c) Domestic Service - servants and porters. Both figures (1516 and 1717) are clearly misleading as they refer to'heads of families' living in their own houses. Previous figures (Table 5, page 19) show that there were 471 men servants and 2,277 woman servants living in other people's houses and therefore not taken into account in this survey. The 571 servants mentioned in the 1717 census lived in their own houses, travelling daily to work in the houses of their employers.

d) Public Employees A fairly high number in 1717, perhaps connected with the great administrative changes after the coming of the Bourbons.

e) Nobility and Upper Class Relatively few in 1717. Many had supported the Duke of Austria and the Hapsburgs against the Bourbons and had been executed or had fled the country.

f) Clergy As with servants, there were many clergymen (203 in 1717) living 'in' with families and not counted in the survey.

g) Widows At first glance the 1717 figure - 1,222 or 14.47% of all heads of families - seems extraordinary and the bloody war of 1713-14 may seem the logical explanation. However, considering the 1516 figure was even higher, it does not seem so odd, especially as 1516 was in a relatively tranquil period in Barcelona's history. Furthermore, in examining the zone by zone breakdown, we find that widows are most numerous in the zones least affected by the war (17.8% of Sector V were widows - the highest sector by sector figure, where the lowest number of houses were 'destroyed houses' in 1717 - 0.49% - see Table 1, page 11), although the second highest figure (17.75%) was in Sector 1, the area containing most destroyed houses.

> "We believe ... that the figure in the census ought to be viewed as normal, and the high percentage be seen as a reflection of the higher death rate of men, common to all epochs." (2)

2. RENT AND INCOME

Using information taken from the 'Catastro', Nadal and Giralt have drawn up two indexes of the rich, one based on rents (Table 46), the other on 'business income' (Table 47). From these figures, graphs have been plotted (Figure 194), showing the two indexes to be remarkably similar. What is perhaps surprising is that concentration of wealth was very modest, far different from the enormous contrasts that characterised industrial society.

> "In the moment of receiving the 'Nueva Planta', the capital city of Cataluna was at the end rather than the beginning of an age - a pre-industrial society, without the anticipation of the great changes that were just around the corner." (2)

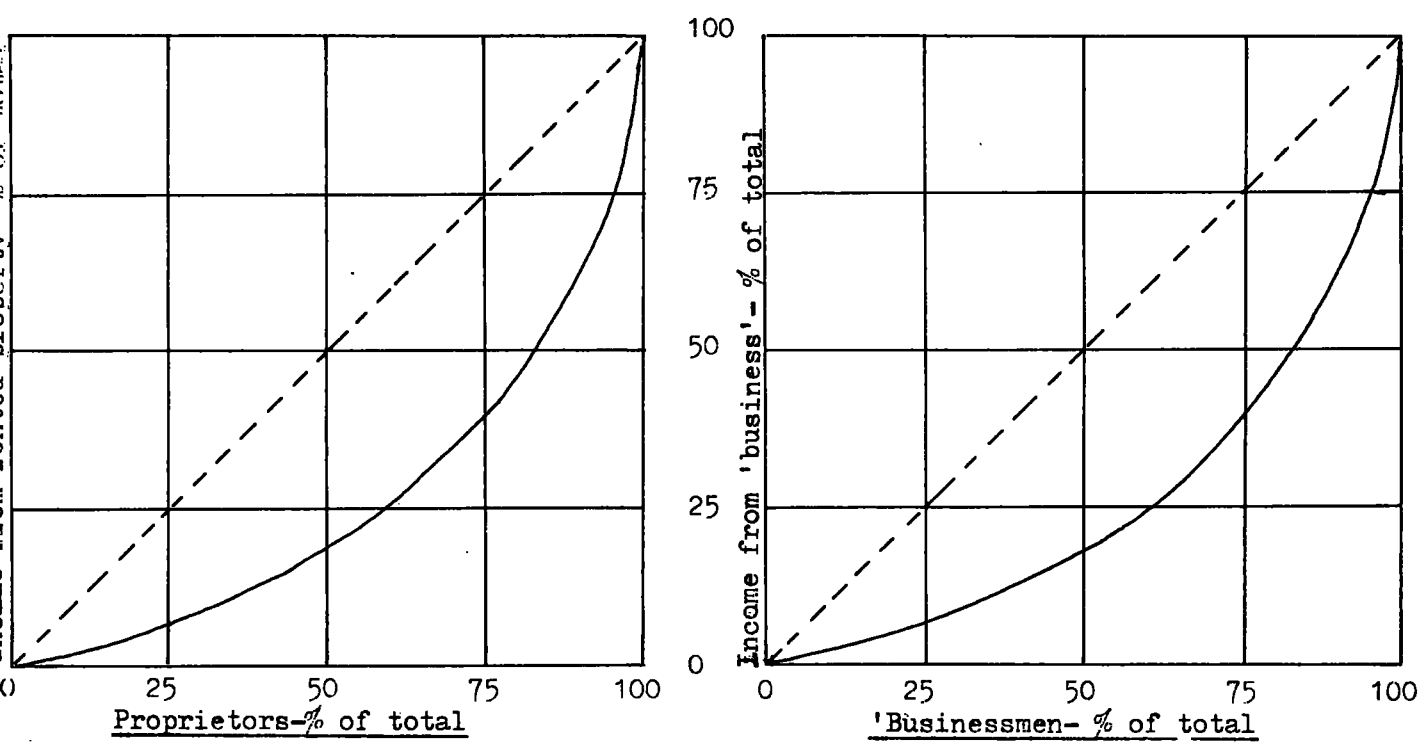


FIGURE 194 DISTRIBUTION CURVES FOR RENT AND BUSINESS EARNINGS 1717 Source:- (2)

The similarity of the two curves suggests income from rented property and from 'business' were closely connected. Certainly the former would have been invested to some extent in business.

PROPRIETORS		RENT RECEIVED (including the proprietor's estimate of his own rent)	
Accumulative Number	Accumulative Percentage	Accumulative Amount (in 'libras' and 'sueldos')	Accumulative Percentage
335	10	4,482 libras 10 sueldos	1.93
503	15	7,559 .. 12	3.27
671	20	11,109 .. 02	4.86
1,007	30	20,211 .. 04	8.74
1,174	35	25,242 .. 04	10.92
1,342	40	31,032 .. 01	13.42
1,678	50	44,600 .. 04	19.29
2,014	60	61,459 .. 01	26.59
2,349	70	82,626 .. 03	35.74
2,685	80	110,337 .. 06	47.73
3,021	90	148,776 .. 10	64.36
3,189	95	176,724 .. 18	76.46
3,323	99	213,676 .. 14	92.44
3,346	99.7	223,429 .. 18	96.66
3,357	100	231,129 .. 10	100.00

TABLE 46 RENT RECEIVED FROM PROPERTY 1717 Source:-(2)

a) The total number of landlords or proprietors in 1717 in Barcelona was 3,357 (43.5% of the total heads of families). Almost half the families of Barcelona lived in their own house.

b) The total rentable value of housing was 231,129 'libras', 10'sueldos' (the Barcelona currency was similar to pounds and shillings). Of this total, 44.95% was estimated by the landlords and referred to their own houses (i.e. owner occupied) and was probably an under-estimate.

c) Looking at the table, then, we can see that 10% of the proprietors received 1.93% of the rent (for example) or, working back from the other end, 0.3% of the landowners got 3.34% of the rent.

BUSINESSMEN		EARNINGS	
No.	%	(in libras and sueldos)	%
150	11.74	147 .. 00	2.15
192	15.03	208 .. 15	3.06
409	32.02	642 .. 01	9.42
444	34.76	730 .. 12	10.72
616	48.23	1,251 .. 13	18.36
762	59.67	1,837 .. 03	26.95
956	74.86	2,911 .. 03	42.71
1023	80.10	3,380 .. 03	49.60
1146	89.74	4,427 .. 03	64.96
1221	95.61	5,240 .. 13	76.90
1265	99.06	6,094 .. 13	89.43
1272	99.60	6,392 .. 13	93.80
1277	100.00	6,814 .. 13	100.00

TABLE 47 'BUSINESS EARNINGS' ('GANANCIAL') 1717

The 'Catastro' divided earnings into:-

a) 'Personal Gains' by which it meant the gains of the "everyday worker and individual who works mechanically" - i.e. labourers' wages from manual work and

b) 'Business Earnings', which applied to

"those who work in money exchanges; those who traffic and trade in property; those who manage other traders by correspondence, for commission; those who buy and sell and make gains on investments in buying and selling; those merchants of silk, linen and canvas in the open market, the druggists and procurers and others of this kind; the landlords and contractors in whatever business they use their own capital and the artesans and workmen who have investments, or who gain money from industry, talent or fortune other than in their own job." (from Patino's 'Instruccion') This latter list of businessmen totalled 1,277 (16% of the heads of families in 1717).

The four columns are similar to Table 46. For example, 32.02% of the businessmen earned 9.42% of the total business earnings. Reading backwards (or upwards), 19.90% of the businessmen earned 50.4% of the income.

APPENDIX 2: THEORY, MODELS AND APPLICATION (THE POLEMIC ABOUT CERDA)

> "According to his lights and the tendencies of the time, he (Cerda) submitted a plan that combined extreme rigidity with stereotyped dullness in a masterly fashion. His chequerboard scheme received the Royal consent, although a public competition had been arranged at the time, and the winning design (Rovira i Trias's) was far superior to Cerda's plan." E.A.Gutkind (86).

> "His book, 'Teoria General de la Urbanizacion ...' was a classic. In many ways he was the founder of an urban science, preceding Baumeister (1876) and Stübben (1893) and Unwin (1908), Triggs (1909) and Haverfield (1913)"
>
> M. Domingo (76)

Gutkind's opinion of the Plan Cerda is one of the few that exist in English, whilst Domingo's view on Cerda is from one of the many articles and books published recently in Spanish, that discuss every aspect of his work. In the following pages many of these recently aired views and opinions are reproduced in English. This seems justified in view of :-

(1) The paucity of information about Cerda in English (Gutkind (86) and Choay (87)).

(2) The relevance of the conflicting views about Cerda in assessing the connection between the so-called 'rationalist' plans (Cerda and Macia) and supposed breaks in the political hegemony of the 'bloque dominante'.

(3) The tremendous attention now given to Cerda and his work by urbanists in Spain, particularly as regards the connection between his theory and models on one hand and application on the other.

1. CERDA'S CONCEPT OF URBANIZATION (Based on an essay by A. Soria y Puig (102)). AN INTRODUCTION TO HIS 'TEORIA GENERAL ... Y APLICACION ...' 1867

> "Before beginning a study of a subject, it is very helpful and accepted as the general rule... to begin with a definition and explanation of the words most used in the study, and those whose meaning is not well defined, or have various and uncertain interpretations." (31/27)

According to Soria y Puig, Cerda invented the word 'urbanization' ('urbanizacion') "from the latin word 'urbs'" (102). He used it:-

> "not only to indicate an act that brings about a 'grouping' of buildings and regularizes the funtioning of that group once formed, but also to mean the principles, doctrines and rules that should be applied .. to enhance the development and vigor of the physical, moral and intellectual aspects of social man and increase the well-being of the individual, which collectively forms the happiness of the public." (31/30)

The same word, then, covers two concepts - the act of applying certain principles (meaning A) and the principles themselves (meaning C), but Cerda also saw a third meaning. He considered it as a fact (meaning B) and affirmed that those who did not consider it "amongst the sciences that show man the road to perfection" (31/31) (meaning C) at least had to recognize that it existed as a fact:-

> "admirable for its complexity, enormous in its implications, measureless in its results, for the influence it has exercised, now exercises and will always exercise on the life of social man." (31/32) (meaning B)

We find ourselves, then, in a web entangling three meanings of the word 'urbanization':-

Meaning A - The Act of 'urbanizing' an area.

Meaning B - The Fact - the 'urbanized' area.

Meaning C - The scientific theory of 'urbanization'

In the narrowest sense, as Cerda himself saw it, urbanization is no more than "the act of converting an open or free field into a group of buildings" (31/30) (meaning A). The word'urbs'(or 'urbe') did not mean, as it does today, a large city, but was used only "to express, simply and generically, a group of buildings without reference to the size of that group." (31/30)

As regards the result of this process (meaning B), Cerda thought the word ' 'city' ('ciudad') had a rather narrow meaning, applying especially to things and not people. He therefore looked for another word - "a virgin derivative of 'urbs' that embraces .. what we call a city" (31/29) and other things besides.

As this suggests, in every 'urbe', Cerda distinguished between the 'material part' or the 'containers' ('parte material/ 'continente') and the 'moral part' or the'contained' ('parte moral'/'contenido') - that is to say, the road system and houses on the one hand and the population on the other. He called these two parts 'organisms' ('organismos'), whilst the relationship between the two he called the 'functioning' ('funcionamiento') of the 'urbe'. He thus used his word 'urbanization' to include "not only the 'containing' and 'contained' parts but also the ... reciprocal dependence of the two." (32/677). It is in this sense (meaning B) that Cerda usually used 'urbanization', although it often included the act (meaning A) too. As regards the science or theory (meaning C), Cerda scarcely used it, preferring the terms 'urban science' (31/17) or 'urban theory' (32/2).

2. THEORY - A GENERAL OUTLINE

Domingo talks of Cerda's "total vision of the city that was going to solve all the problems of society," but notes that:-

> "as recipients of this plan, looking at the existing city today, one could ask 'in the 'ensanche' of Barcelona, did Cerda intend a simple modification and extension of the old city, or did he try to adapt his model of the ideal city to existing reality?'" (76).

This, then, is one of the questions about which there is still much controversy. Few now argue (as we shall see later) about the existence of a model. But to what extent did Cerda abandon his model in his plan of Barcelona? Whilst Domingo and writers in 'Construccion de la Ciudad' (C.D.C. 24 and 177) see a new idealised city in both the theory and its application , which was then bastardized by the Catalan bourgeoisie, Grau, whilst admitting the existence of an idealized model, maintains that the bastardization was inherent in the plan itself and existed with Cerda's knowledge, if not his blessing. Let us first look at the theory, as seen by Domingo and others, and then its application,as seen by Domingo and writers in C.D.C. [1] and others and then Grau's views on both, before

[1] These include A.Armesto, J.F.Cluco, A. Ferrer, C. Marti, A. Marin-Buch, S. Tarrago, J.C. Theilacker.

looking at the new information published this year (1976) to mark the centenary of Cerda's death.

(a) Theoretical Considerations and Influences

Cerda himself said that statistics constituted the "most interesting starting point, from which to arrive, with all possible certainty, at the foundation of an urban theory" (31/815) and few dispute the importance he attached to the use of statistics in the formulation of his theory. Bordoy, for example, talks of "his extraordinary use of statistical data" (54) and draws attention to the fact that nearly all volume II of 'Teoria General' (32) is data.

> "He carefully studied the topographical conditions in the city, measured the streets, squares and 'intervias' (i.e. 'manzanas'), analized existing conditions ... and compiled censuses on the bases of sex, age, social strata etc. " (54).

A look at 'Teoria General ..' (31/32) or 'Statistical Monograph' (71) 1856 reveals this to be true. Bordoy illustrates the importance Cerda attached to statistical data by showing how certain data encouraged his adoption of the road system in which roads ran from north-east to south-west. Bordoy quotes Cerda:-

> "there are different laws to which the inhabitants are subject as regards thei mortality, which can be seen when we compare two or more streets of different orientation." (54)

From his statistical studies of the old city, Cerda was fully aware of the importance of establishing better hygienic conditions in the new city..

> "Through his study of statistics of the working class, we see his concept of hygiene, one of the most progressive of his age ... the new society needed a city where two fundamental principles could be realized - ease of movement and maintenance of the most hygienic conditions possible." (76)

The importance Cerda attached to the steam engine is again little disputed. The writers of C.D.C. talk of his "enthusiasm for the steam engine that led him to an exalted and romantic view of it," (24) whilst Bordoy says "he was absolute in his appreciation of the importance of circulation ... that strengthened his vision of the possibilities offered by the steam engine in the immediate future." (54) Cerda himself said it was his aim "to see the locomotive functioning in the interior of the 'urbe', in all the streets, in front of the house, to always be at his (man's) disposal" (31) and Domingo concludes that:-

> "the technological advances of the time had impressed Cerda to such an extent [1] that he thought it essential to think about a new city in terms of accomodating the society brought by the steam engine. This new power-source would vastly increase industrial output and,mounted on four wheels, would make possible cross-country movement" (76).

(b) Cerda's New City (based largely on an article by Domingo)

How did Cerda understand this new city, which was to accomodate the new industrial society? In his introduction one can already see his fundamental concern with man in his two states - that of movement from one place to another and that of tranquility, when he relaxes in his home. All through his theory, he

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[1] In 1835 the journey from Barcelona to Madrid took Cerda one week. In 1869, it took the train 21 hours and 35 minutes to do the same journey.

insists that these are the basic principles on which to build the new city.... It is thus clear that his plan was based on these two elements - the'vias' (i.e. roads) running across the city in all directions and the'intervias' (called 'manzanas' in Cerda's original text and in other places in this thesis), spaces that had the fundamental function of making possible peaceful repose. With these two simple elements - 'vias' and 'intervias', his project was developed.

Within the road system, a hierarchy was established:-

a) Roads connecting the city with its region,

b) Roads facilitating movement of traffic within the city and

c) Roads that connected the city with the house.

Previously, this classification of roads had been done only on a qualitative basis e.g. views and stopping places. Never before had the problem of circulation been used as the starting point on which to base a plan and never before had there been a quantitative study.

As regards the 'intervias', Cerda said:-

> "that in each one of the spaces, cut off by the city roads, there exists a little world, a little civilisation, the basic unit, if you like, that in all details is similar to the big civilization, the city itself, which is no more than a harmonious incorporation of these basic units, linked together by the great urban road system." (31/363)

The city was seen by Cerda as a juxtapositioning of small fundamental units ('urbes'), linked by the road system ('trama'). From this we deduce that its construction should not, at least in theory, follow a hierarchical pattern, but rather be based on the concept of isotropicism - construction beginning simultaneously in different parts of the city. Cerda saw the 'intervia' ('manzana'/'urbe') as a self-contained unit, not needing the other parts of the city.

Cerda did not leave the 'intervias' exclusively for housing, but used them for the necessary services, at two levels - for the general requirements of the city (hospitals, cemeteries, woods, slaughter-houses) and more particularly for each zone (markets, administrative buildings etc.) Equally there was to be a :-

> "regulating power in the city, destined to establish and maintain harmony in all functions ... during the day and at night and everywhere; it would not be rational to omit from our general picture of the city something that plays such an important role ... we will have to occupy ourselves with the functioning of the Administration in the city." (31/595-6).

> "Furthermore, it is a known fact that in every well-organized city, apart from the town hall, where the local administration functions, there are, or there should be, other buildings distributed throughout the city, where the administration of justice can be carried out and the problems of the locality seen to and which can be used, in each zone and even in each street, as school buildings." (31/665-6)

Comment

At a recent lecture at the University of Barcelona,[1] Domingo noted that Cerda is often seen as a planner of things that were not carried out. In trying to be positive Domingo outlined the importance of 'vias' and 'intervias' in much

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[1] Given March 23, 1976 and entitled 'Teoria y proyecto en el Ensanche de Barcelona' by Senor Miquel Domingo.

the same fashion as above. This takes us so far, but his emphasis on the positive, (i.e. what we are sure about) and avoidance of some of the issues about which doubts remain seem to lead him to some doubtful conclusions about Cerda and invites criticism. He says, for example, that "although Cerda agreed on the logical necessity of collective services, it represents a substantial change in his supposed theories" (76), a view that is challenged somewhat by the recently published research of Tarrago and Soria y Puig (23), which also far advances Domingo's rather vague view on the existence of a model in Cerda's planning.
His comments on the location of industry within Cerda's plan give no satisfactory answer to one of the main questions about the plan - that is, where industry was to be located. Domingo implies that Cerda may have intended industry to be located outside the 'trama'.

> "We cannot believe that Cerda involuntarily omitted this new component (industry) that was to be inseparable from his new city. We remember the display of his utopian ideas in attacking industry as the cause of the greatest ills in the city, that, by its effects on hygience, made it incompatible, at the technical level, with the house." (76)

In fact, Cerda did not totally omit industry from his 1859 Plan, alotting 30 'manzanas' to 'state buildings and industrial establishments' (see Table 16, page 77) and Grau's arguments, which in many ways contradict Domingo's interpretations, seem a lot stronger on this point, although they themselves are partly answered by Tarrago and Soria y Puig. (sections 4 and 5 of this appendix)

3. APPLICATION - ANALYSIS OF THE PLAN CERDA (Largely from an article in 'Construccion de la Ciudad' No. 0 (24))

(a) Practical Considerations - The Location of Barcelona

The 'ensanche' of Barcelona was to extend over the plain of Barcelona, [1] the limits of which were:-

(1) At the bottom - the line of the coast.

(2) To the left - the mountains of Montjuich and beyond, the R. Llobregat.

(3) To the right - the River Besos

(4) At the top - the old Roman Road (today Traversera de Gracia) situated more or less on the 50 metre contour and beyond, the Sierra de Cerola (today Tibidabo).

Some of these features can be seen in Cerda's topographical Plan (Figure 41).

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[1] The plain, according to Garrut (54) was "largely dry for most of the year, but in wet periods there would be many torrents flowing down from 'la Sierra de Cerola (now Tibidabo) to the sea ... There were scattered 'masias' (rambling old houses) and a few small industries, e.g the brick works next to the Paseo de Gracia ... which in less than a century was to be the most aristocratic and elegant part of the city... The River d'en Malla, carrying water from the Cerola, was also used as a communal rubbish dump."

According to 'C.D.C' one of the most noticeable characteristics of the Plan Cerda is the right-angled structure of the street plan. His decision to adopt this was undoubtedly influenced by certain geographical facts:- [1]

Feature of Plan	PLANS OF 'ENSANCHE'		
	Garriga y Roca	Rovira i Trias	Cerda
Maximum dimension of plan	2,000	5,000	7,500
Max. length of a straight road	1,200	2,180	7,500
Distance between cross-roads	140-200	100	113.3
'Rapid' roads	every 600	every 1,200	All roads
Width of 'normal' roads	10	10	20,30 and 60
Width of 'rapid' roads	20	12	20,30 and 60
Type of 'manzana'	Totally built-up without central 'patio'	Built-up on four sides with central 'patio'	Built-up on two-sides only
Pedestrian precincts	some	none	Within the 'manzana'
Max. height of buildings	?	19	16
Projected number of inhabitants	105,000	280,000	800,000 *

TABLE 48 COMPARISON OF PLANS OF 'ENSANCHE'

(Figures in metres unless otherwise stated) Source:- (24)

* The density of population in the new Barcelona was to be 250 inhabitants per hectare, 40 square metres per person, (according toSoria y Puig and Tarrago (23)).

[1] To these we can add the man-made features on the plain - the walled Barcelona, the military zone (defined by the distance a cannonball could reach - about one kilometre) where few buildings existed and the settlements on the plain largely outside the military zone.

- the direction of the River Besos and Llobregat (north-west to south-east) and their tributaries (Rivers Horta, Gimena, Bagatell and Blanca).

- the parallel lines of the coast and inland mountains, running north-east to south-west.

- the most favourable orientation as regards penetration of the sun for the whole city - north-west to south-east and north-east to south-west.

- the natural exits from the plain to the region of Valles inland were to the top left and top right of the plain, forming a 90 degrees angle with one another and 45 degrees angles with the right-angled structures of streets. (These two routeways are today Avenida de la Meridiana and 'Paralelo' (otherwise Marquis del Duero and previously Carretera de Sans)

(b) Urban Morphology

"The absolute modernity of the Plan Cerda cannot be fully understood without reference to its cultural, scientific and visionary nature."

This can be illustrated by comparing the Plan Cerda with two other proposals for'ensanche' - those of Garriga y Roca and Rovira i Trias (see Table 48).

According to the above mentioned article (24) it is worth noting the following features in Cerda's Plan:-

- the structural homogeneity
- the importance attributed to mobility within the city
- the lineal continuity of traffic ways
- the width of streets (minimum 20 metres)
- low density of buildings
- relationship between streets, buildings and interior of 'manzana' (see Figure 48, page 79)
- the foresight shown in planning for so large a city (in comparison with other plans.)
- The roads 'La Meridiana' and 'Paralelo' that led out to the region of Valles through the Besos and Llobregat valleys.
- the road - 'Diagonal' - that acted as a focal point for many of the surrounding municipalities and a point of reference for all 'ensanche'
- the existence of a great longtitudinal axis (Gran Via) that crossed all the city and suggests the direction of further linear growth
- the greater width of three vertical running streets - two of them (Calle Urgel and Paseo San Juan) tangents of the old quarter, the third (Paseo de Gracia) the real central axis of growth and prolongation of the central axis of the old city (the Ramblas).
- the incorporation of the old quarter into 'ensanche' by means of the prolongation of three of the new roads of 'ensanche' to cross the old city.

(c) Building Typology

Cerda wrote nothing (as far as is known) about the types of buildings he intended for 'ensanche'. Possibly, he had planned to discuss this in the third volume of 'Teoria General ... ' which was left unwritten. However,

"through an analysis of the typologies preceding (i.e. the artesan dwelling predominant in Barcelona up to 1770 - Figure 195) and contemporary to Cerda's work (i.e. the 'new' houses of up to 5 storeys that typified construction 1770-90), we can deduce the intentions implicit in his proposal. These elements were observed and analysed by Cerda ... and figured strongly in his intentions." (24)

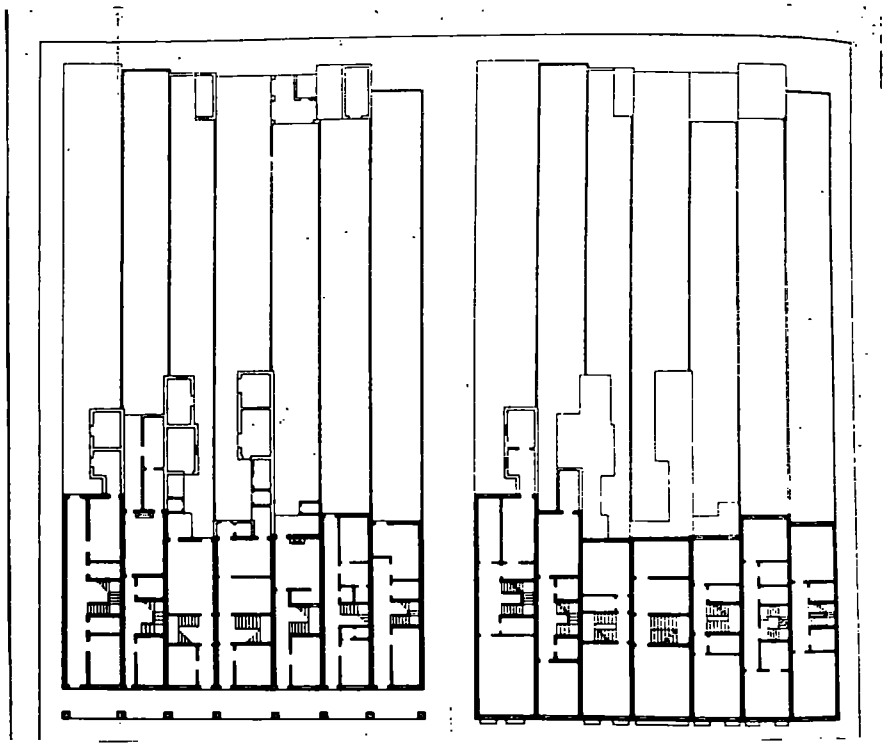


FIGURE 195 PLAN OF THE ARTESAN 'PARCEL' AND HOUSE OF THE 18TH CENTURY

(i) Ground Floor (ii) Upper Floor

According to 'C.D.C', Cerda intended the building typology in his plan to include some of the features of the 18th century artesan house. These may be summarized as:

(a) Width of 4-8 metres, reflecting traditional parcelling of land.
(b) Building depth of approximately 10 metres.
(c) Garden/Orchard of approximately 10 metres depth.
(d) Ventilation of all rooms except central services nucleus (stairs, drainage etc.)
(e) Two floors and sometimes an attic.
(f) Ground floor passageways of about 4 metres, over which the upper floor was built.
(g) Importance of parcels of land in determining size and grouping of buildings.

New concepts to appear after 1770, which were also to figure in his plan can be summarized as:-

(a) Greater building depth of 20-24 metres.
(b) Stairways and independent access to different floors.
(c) Central ventilation shaft ('patinejo' or 'patio')
(d) Increase in height and number of floors (up to 5).
(e) Reduction in size of family dwelling. Previously a house of two floors. In the 19th century a part of one floor.
(f) Development of more regular blocks of housing, particularly outside the old city.

Source:- (24)

Comment

The above quoted views on urban morphology in the Plan Cerda are plain enough, although the extra width of the three central roads, and especially the Paseo de Gracia, may seem a little contradictory to the idea of 'structural homogeneity', especially in view of the subsequent development of this central axis. It may be that in searching for the truth too much has been read into Cerda's actions. This seems particularly true of 'C.D.C.'s comments on building topology in light of the writings of Angelon (see page 382) who was a personal friend of Cerda, although Cerda certainly had preferences in this field, which were probably represented by the work of such people as Fontsere i Mestres (see page 96).

And what of the location of industry in the Plan Cerda?

> "There is no explicit reference to the location of industry ... which is very surprising, considering the economic and technical background of Cerda. It can be argued that he visualised the homogeneic distribution of artesan-type industries (then still predominant) throughout the city, while the large industries were to be separated from the main urban area, which, because of their nature, were better located next to the sea and the Rivers Besos and Llobregat. (This, in fact, is what happened and Grau sees is as a betrayal by Cerda of his original intentions). The lack of any clear options on his part continues to be baffling ... This consideration should not lead us, however, to the conclusion ... that Cerda intended 'ensanche' to be used primarily as an area of bourgeois housing. It is difficult to imagine that the bourgeoisie alone were numerous enough to occupy a new city of more than 500,000 inhabitants. According to our analysis, it is easier to see the egalitarian ideology of Cerda. He obtained his principal data from amongst the working-class and more than once was seen involved in the popular movements of his epoch." (24) [1]

(Grau's views, discussed below, differ considerably; he suggests that Cerda did intend a residential zoning of the city, and casts doubts on his identification with the fortunes of the working-classes).

4. GRAU'S VIEW - FURTHER CONSIDERATION OF THEORY AND APPLICATION

The following lines of argument are taken from an article by Ramon Grau (103):

> What was Cerda's contribution to the science of urbanisation? What is, especially, the value of his work on the relationship between theory and application and more specifically, what place did Barcelona take in his work? Was Barcelona, as Cerda maintained, just an example and just one possible application of scientific principles discovered elsewhere? Up to what point is the project of 'ensanche' and reform enclosed within the general theory? How did the practical needs of Barcelona fit in with the theoretical principles? In the project, what should we stress, the ideal model or the necessary adaptations?

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[1] Cerda accompanied a workers commission to Madrid in 1855 to complain about working conditions in Barcelona.

(a) Cerda's Theory - the place of Barcelona and some questions still unanswered

In his introduction to volume 1 of 'Teoria General...', Cerda talks of Barcelona simply as 'a practical example of the principles and precepts, derived from science and developed by art' (by which he seems to mean the social sciences) and the title of volume II is 'Urbanisation considered as a fact - Urban Statistics of Barcelona'. But why did he select Barcelona? 'Determined to complement the urban analysis with the statistical study of one city, I did not hesitate for a minute in selecting Barcelona. First, because the results of my studies need to be applied first and foremost to Barcelona. Second, because having lived in Barcelona for so many years, and having worked many times in the municipality, it was the city I knew best.' (32/3)

As can be seen throughout his work, the centre of Cerda's interest for urban problems, historical reconstruction and description of principles is motivated by the Barcelona situation. Barcelona, then, is something more than just an example. In Cerda's work, it occupies a special and central place. The Catalan city is the first and foremost field of application. Cerda left Barcelona (in forming his theory) in order to return to it; this fact casts certain doubts on the authenticity of the theoretical character of some of Cerda's conclusions about urbanisation. He represented some of Barcelona's urban problems as common to all urban situations, which, in some cases, seems to be untrue.

In north-west Europe, 19th century urbanisation came in the wake of the industrial revolution. In this sense, it is undeniable that the Barcelona case exercised a special stimulus to Cerda's thoughts. Barcelona was already, by 1850, a great industrial city on an international scale. The modern character of Barcelona's problems, made worse by a working-class movement in its advanced stages, necessitated, without doubt, a new type of solution. (The inappropriateness of the solutions given and carried out by local government, evident since 1750, was greater every time.) The survival of certain ancient parts of the city, e.g the medieval walls, under the protection of a complex and changing political system, throughout the first half of the 19the century, did nothing except exacerbate the need for a radical change in the planning of the organisation of space and accentuate the contrast between a rapidly changing civilization and an inflexible city form, paralized by the actions and decisions of previous generations. It is from this background that Cerda's work comes. So, if on the one hand, he was able to make certain generalisations about urbanisation, relevant to the intellectual atmosphere in Europe's other cities, where similarly progressive plans were drawn up to meet similar urban situations, we must ask, on the other hand, 'would Cerda have arrived at the same conclusions had his observations been of another city, let's say Madrid [1] or Valencia?'

The strong influence that Barcelona exerted on Cerda is evident throughout his writings, (despite the abstract character that 'Teoria General...' implies) in that he obviously takes his examples from Barcelona, and the lack of a broader base to his studies shows itself when the author fails to distinguish, with sufficient clarity, between problems of a general nature (i.e. applicable to all cities) and the strictly local situation (which often is not). His often inflexible treatment of observations of different disposition and unequal importance lead him, on occasion, to debateable conclusions. The clearest example of this is that of the role attributed to the walls in the upsurge of land and house speculation within the city - a view conditioned by the extreme case of the Catalan city in the middle of the 19th century and exaggerated by the long local history of anti-mural activity (from Capmany in 1797 (see page 33) to Monlau in 1841 (see page 60)). In his treatment of this topic, (31/260), Cerda deliberates over whether the walls only aided the development of land speculation or whether, in fact, they caused it. This uncertainty - and he seemed to favour the latter possibility- led Cerda to misjudge the effect that the destruction of the walls would have on property construction, and to believe that the increase in the availability of urban land was going to destroy, once and for all, the power and influence of 'private property' as regards the lives of the working class.

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1 Cerda drew up a plan for the interior reform of Madrid in 1862, although very little of this work has been recovered (see Page 55).

This example is, in fact, vital to the understanding of the reasoning behind some of the modifications to his model city that Cerda accepted.

In the theories of Cerda, in the main elaborations of his study of industrial Barcelona, the Catalan city is never far from his thoughts. Given the disappearance of the later volume or volumes [1] of 'Teoria General ...', the plan of 1859 becomes the main source in searching for the true intentions of Cerda (Soria and Tarrago, however, have recently widened the scope of research to include much other evidence.). A great many of the steps taken towards a rehabilitation of Cerda, begun in earnest in 1959, to mark the centenary of the Plan Cerda, have been efforts to discover his basic principles from his plan:- homogeneity, regular distribution of services, particularly in the repetition, at various intervals, of markets and parish churches, the design of the open 'manzana' as the primary 'cell', the importance of circulation etc. More difficult, however, is to discover the intended differentiation of urban space. In this sense, he indicated the role of parish churches as definers of zones and it is also possible to see something profound in his road pattern. Other aspects are even more obscure.- building typology, distribution of social classes throughout the city and, above all, the location of activities, especially industry. In this case, our ignorance is particularly damaging. After all Cerda's theoretical planning, we are asked to consider the project of 'ensanche' and reform of Barcelona - the realization of his model of a modern industrial city - without knowing what place industry occupied in his plan. The speculation over his plan has only just begun. With the loss of other more direct sources, we must continue to decipher his plan and, at the same time, search his writings, in an attempt to answer the remaining questions about Cerda.

(b) <u>A closer look at Cerda's modifications (i.e. adaptations of model [2] to practical necessities</u>

Considering that so much about Cerda's model remains unexplained, a study of the adaptations of his model to the pre-existing Barcelona is of considerable value, in that it at least allows us to see Cerda's urbanisation in practice and to see his priorities.

The general characteristics of the adaptation are already known. The square blocks are orientated , taking into account the line of the coast etc., the quadricle pattern is cut to adjust to the masses of Montjuich and the old quarter (see Figure 197). It fits in with the suburabn nuclei of Sants, Gracia and San Andres. It is cut by two large diagonals and various railway lines that assure good communication between the different sections of the city and with areas outside. But less attention has been paid to the more detailed adaptations. Of these, a constant feature is the extraordinary timidity with which Cerda tackles the areas already built up ('timid' in comparison with the ideas held by Cerda and with his forthright models). This timidity shows itself everywhere. It is sufficient to look at some of the most obvious examples:- [3]

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1 Most people agree that the third volume was "to establish the fundamental principles of the science of urbanisation" (31/337). Grau, however, notes that in his introduction, Cerda lays down far wider intentions. A <u>first part</u> was to be dedicated to the study of urbanisation as a result of its historical evolution. A <u>second part</u> was to be an exposition of the theory of urbanisation (or, as above, 'fundamental principles ...'). A <u>third part</u> was to disclose the practical rules derived from the theory. A <u>fourth part</u> was to be dedicated to the reform and 'ensanche' of Barcelona. (1/17)
Of all this we have only volume I and II of 'Teoria General', which Grau maintains represent only the first part as above, although volume II would seem to represent the fourth part.

2 Cerda's model is explained in full in the last part of this appendix. Its existence has only been hinted at up to this point, in accordance with the writers quoted, although Domingo's diagrams (Figures 197 and 198) are fairly explicit. Nevertheless, they are included later rather than earlier, as they seem more relevant as background to Soria y Puig's description of the model.

3 Considering Grau's views, it is worth noting that Domingo has said, "at the technical level, we understand the intentions of Cerda. What he really was planning was a new city. His plan clearly shows this, the lack of connection between- cont. over

(i) The treatment of the walled Barcelona

The plan of interior reform of the old quarter (Figure 60, page 93) does not solve the problem of congestion, takes little account of the medieval layout of the city and passes over some of the best opportunities of connecting the old city with 'ensanche'. As regards this last point, one can point out the lack of relationship between 'Puerta del Angel' and the Paseo de Gracia and the preservation or creation of a frontage of buildings along the Rondas (in the zones of San Pedro and San Pablo) that separated rather than united the two cities (i.e. the old and the new). They are aspects that reveal a certain poverty in ideas in solving the problem of transition and should be realized in understanding the further degradation of the old quarter that followed.

(ii) The treatment of pre-existing built-up areas within 'ensanche'

Particularly relevant are the suburban nuclei of the municipality of San Martin de Provencals - Icaria, La Llacuna, Clot, Sagrera and Camp del Arpa (Figure 196), but also the isolated settlements scattered all over the plain. The procedure is either very general as, for example, in Camp del Arpa, where a rectangular area is preserved, within which the pre-existent settlement remains intact, or very refined as, for example, in the sectors found between the streets of Peru, Bach de Roda, Pedro IV (Cerda, in fact, planned to build over this street which existed before 1860) and Selva de Mar, where an almost imperceptible variation in the street and housing layout permits the continued existence of certain pre-existing buildings within the plan. In the case of Clot, the whole zone is enclosed within the vertice formed by the intersection of 'La Meridiana' with the railway to Zaragoza, the two meeting in the Plaza de las Glorias and both involving significant changes in the quadricle pattern. In this way Cerda managed to integrate a deformation necessitated by pre-existing settlement with an irregularity produced by the needs of inter-city communication. The long continuous blocks of housing in the 'supermanzanas' in the zone immediate to Clot again suggests the image of a concealed barrier (i.e. similar to that in the Rondas in the zones of San Pedro and San Pablo in the old quarter). In the case of La Sagrera (often called San Martin de Provencals), La Llacuna and Icaria, he opted for mixed solutions: as with Clot, conservation of previously existing buildings necessitated changes in the new road pattern, but, as with Camp del Arpa, the creation of 'supermanzanas' made possible the preservation of 'old' settlement intact. Thus, in a certain way, Cerda's plan consolidated the physical barrier that had enclosed Barcelona, making expansion up to the Besos difficult. We believe Cerda was perfectly conscious of the difficulties caused by the interruption of a large number of the cross-town streets, and that he intended it to be so. The orientation of the two diagonal routeways and consequent location of Plaza de las Glorias all favoured the continuance of an urban barrier. (What Grau does not say, but what he seems to be hinting at, is that Cerda intended the area between this urban barrier and the River Besos to be used for the location of industry. This is, in fact, what did happen).

(iii) Treatment of suburban nuclei on the periphery of 'ensanche'

Cerda aspired to overcome the city/country contrast. ("Ruralize the urban; urbanize the rural" is often quoted as representing one of his main objectives). However, we believe the indecision caused by the incompatibility of Cerda's plans with a precise delimitation of the city led him to treat each of the peripheral nuclei in differing ways. In the zone of Hostafranchs, the pattern of squares is broken to integrate, by means of an irregular layout, the

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..... the peripheral nuclei and 'ensanche', the lack of remodellation of the old quarter, limited to the opening up of three new roads, an extension of the principles of easy access..... all this seems to confirm his intention of creating a new city." (76)

Grau clearly disagrees with this interpretation of the evidence found in the Plan.

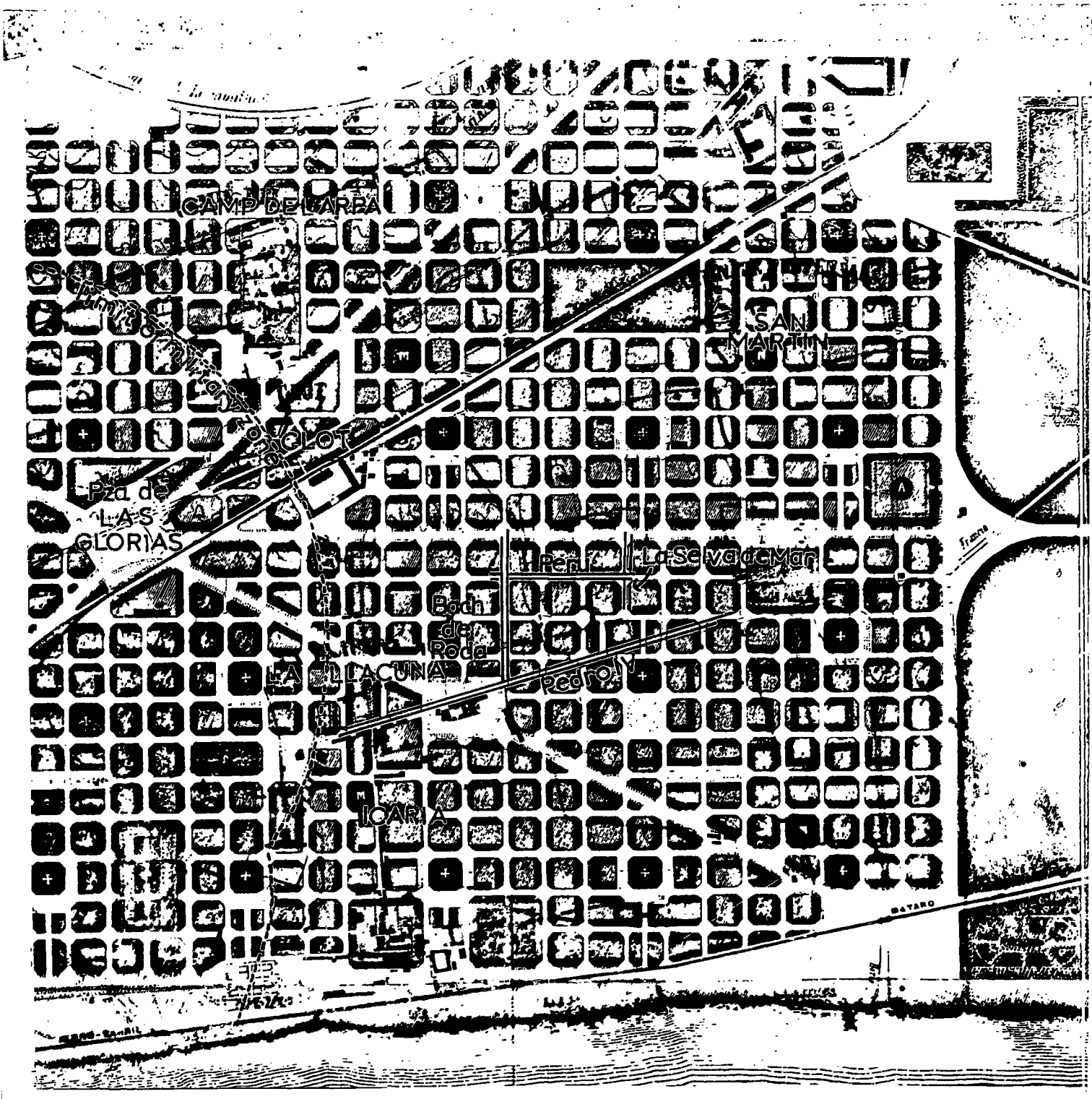


FIGURE 196 THE MUNICIPALITY OF SAN MARTIN DE PROVENCALS

Source:- Plan Cerda as reproduced in (24). Reproduced in full in Figure 46

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pre-existing buildings (Figure 46 in the back envelope) and the project ends in a large plaza that should evidently serve as a focal point for the three zones in this sector (Bordeta, Sants, Hostafranchs). In Gracia, the western limits of pre-existent settlement is bordered by an extension of Calle Balmes (two streets to the left of Paseo de Gracia) and a series of 'manzanas' adapted to include pre-existing buildings, but to the east there is no attempt to define the limits of Gracia. In San Andres de Palomar, the quadricle layout ends abruptly across the line of Meridiana. Here, and to the west of San Andres, the canal to carry waters north of 'ensanche' provides a poor solution to problems of continuity. Whilst San Andres is included within the Plan Cerda, Sants (catalan - Sans), a zone of similar character and much nearer the old city is excluded, and with it Las Corts, so appropriate for the implantation of Cerda's intended 'ensanche'. Whilst Cerda's

boundaries are indicative of the problem of delimiting the city, so his treatment of the peripheral zones and the implantation of certain services, especially hospitals, shows the difficulty in establishing a coherent continuity on the periphery of 'ensanche'. His options and, above all, his exclusions are facts to bear in mind when trying to get the correct perspective on the later development of the outer zones of Barcelona e.g. the rupture of 'ensanche' on Hostafranchs, in spite of the prolongation westwards of Gran Via; the chaos of Las Corts; the overflowing of Gracia eastwards; and the lack of coherence of the urbanization between Traversera de Gracia (the old Roman road) and the mountains to the north west.

(c) Cerda's 'STRATEGY' - a clue to the role of the Plan Cerda in subsequent development of the city.

When asked by his rivals and enemies to explain his timidity in dealing with the pre-existing settlement, he said:-

> "In proposing the first practical example of the application of our principle we think it convenient and opportune not to astound with extreme rigorousness but to offer instead a type of conciliatory compromise between the needs of theory on the one hand and the rules of application on the other." (31/814)

In effect, the plan of 'ensanche' and reform of Barcelona cannot be understood as an 'absolute'proposal, independent of its historical context, but rather, with its revolutionary boldness and yet its compromises (seemingly contradictory), it is, above all, the expression of a strategy. In the mind of Cerda, there existed, apart from his desire to create a 'new city', other priorities and a series of negotiable questions. His plan is a result of this negotiation.

What was Cerda's chief objective? He had taken part in the formation of a workers'movement seeking change, and had contributed to it with his study of the working conditions of the Barcelonan proletariat ('Statistical Monograph' 1856). He realized the "overwhelming necessity to demonstrate, by means of unquestionable data, the great difficulty or near impossibility of trying to subsist on the wages earned by the work-force of Barcelona." (32/559) One of the greatest problems facing the proletariat was finding housing. Their situation was often extreme as with the "seamen's families ...(that)... live in their ships in order to save the price of lodging in a house, which they cannot afford because of their poverty." (31/204) His principal aim, then, is the resolution of this problem. "The great majority ... are condemned to live in other people's houses," (31/260) because of the 'monopoly' established within the walls, that artificially restricted the land that could be built on, the unlimited supply of which would solve the problem. On this count, Cerda's optimism is excessive. On the one hand, he does not realize that the demand will remain insolvent and on the other he overestimates the role of the State as a regulator of proceedings, considering it as an independent force above the class war.

> "The institution of property has found itself compelled to relax some of its rigidity in consideration of public utility which has now come to be a principle of the State in modern societies." (31/174)

His main objective was to get this process in motion in the immediate future and his plan must be seen in this light.

From this, we can understand some of the stranger parts of his plan that seem a renunciation, to an incomprehensible degree, of his theory and model. The preferential development of zones with an industrial tradition (e.g. San Andres de Palomar and San Martin de Provencals, but not Las Corts) and, above all, respect given to the zones already built up, even those of poor housing areas (La Llacuna, Hostafranchs) are explicable as a desire to initiate new construction in these working class areas and at the same time not worsen the disequilibrium between supply and demand of houses.

To implement his plan and impose his solution to the urban situation on a bourgeoisie who were not in agreement with his plans and little disposed to grant concessions, Cerda had to give in on some counts in an effort to avoid confrontation. Today, we cannot get the complete picture, but there are significant coincidences in this respect: the outer part of the zone of San Pedro (top right of the old city - see Figure 60), left alone by Cerda, but of vital importance for a satisfactory connection between the old city and 'ensanche', corresponds to the

area occupied and exploited by the cotton manufacturers since the 18th century; the isolated buildings left alone in the 'ensanche' and that necessitated subtle changes in the street pattern are largely factories; the zones conspicuously left outside 'ensanche' - Gracia (to its eastern side), San Gervasio and Las Corts, were the areas traditionally preferred by the dominant classes for their luxurious secondary residences.

Does it fit to interpret all these concessions as the price consciously paid by Cerda so that he could at least impose the basics of 'ensanche' as he wanted? Cerda's words warrant this interpretation:-

> "Even when working under an irresistible conviction to propose some radical solution, one should, at the same time, plan another system of compromise and transition that perhaps in the circumstances could be judged as conveniently adoptable." (31/15)

But, and here it seems to us that the case of Barcelona can be seen as a 'typical example', perfectly in line with all the content of the author's work, the compromises themselves became more deeply rooted in Cerda himself than the ideals of a new city with which he started. What appears in his plan of 1859 as a necessary strategy, reappears in broader form all through 'Teoria General.' of 1867. Much of what is written in the early pages ('To the reader' and 'Introduction') for example, seems strikingly different from some of his proclaimed objectives. In concentrating attention on the technological transformations -that were all important as a world wide factor of change - Cerda attained his prestige as a man conscious of the historical and evolutional importance of the age in which he lived. However, in this same sense, the fight between 'lo nuevo' and 'lo antiguo' - both terms referring to technology - leaves in a different plane the social problems created by the ensuing struggle and which were the starting point of his investigations. The confrontation between classes in 1855 had become for Cerda, by 1867, a confrontation, much more general and ambiguous, between civilizations. It is in these terms that one must view the changes in spatial organization that followed his plan. Was it only a strategic compromise to interest the dominant classes or did Cerda really have a change of face? The connection between these two historical conflicts - that between the new technology and the old urban space and that between the interests of bourgeoisie and workers - is not clear enough to leave us sure that his fight 'por lo nuevo' was also a fight for the interests of the proletariat. After Cerda's timidity and modifications, what is left, as regards Barcelona, is an attempt to alleviate social differences within the new urban space, an attempt which, after the initial concessions to the interest of a determined bourgeoisie, was directed by the dominant classes without great difficulty.

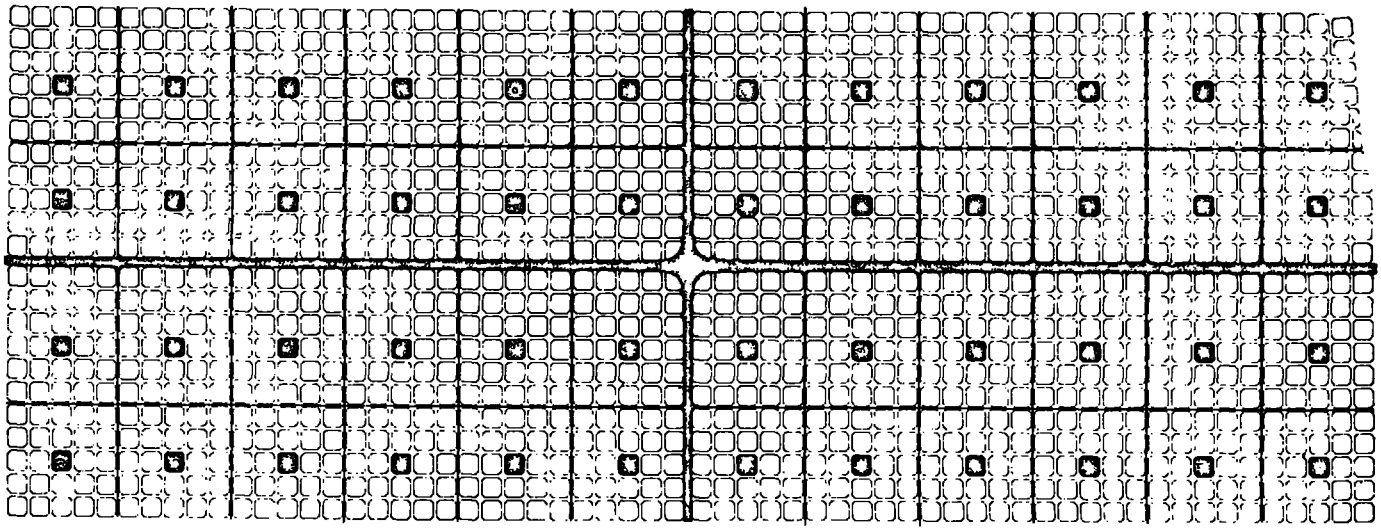
5. THE CERDA EXHIBITION - BARCELONA 1976 - THE MOST RECENT STATEMENT

(The following is taken from the 'Centenary of his Death', a booklet (23) largely written by Salvador Tarrago (S.T.) and Arturo Soria y Puig (A.S.P.) The exhibition was held in March and April 1976. Much of this information has since been published elsewhere, notably in 'Construccion de la Ciudad' Nos. 6/7 January 1977 (177)).

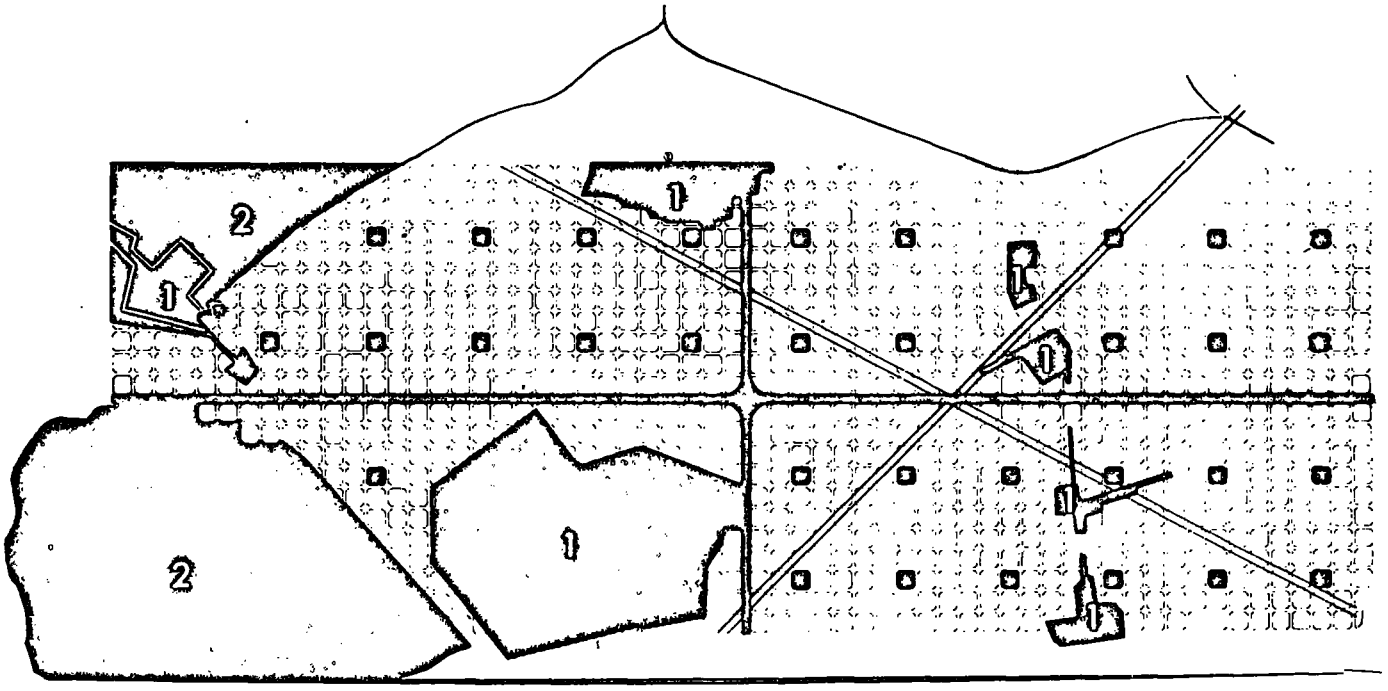
> "The discoveries of unedited material, written by Cerda ... has been so great during the preparatory stages of the exhibition ... that there has not been sufficient time to analize and assimilate the new findings satisfactorily. Therefore, although the result of many years of patient study and research, the interpretation remains incomplete and provisional.. When this new material is assimilated and when many very obscure historical questions have been examined in depth, then will it be the right time to begin a responsible criticism of his work, of the ambiguities within it, of the arguably 'weak points', of the aspects that need reconsideration because of the passing of time ... This exhibition is no more than a starting-point, an aperitif ... " (A.S.P. -(104)).

(a) Cerda's Model

Reference has already been made to Cerda's model and certainly Domingo (76) in his diagrams (Figures 197 and 198) and writers in 'C.D.C' in their mention of



Posible modelo de Cerdá empleado en el ensanche de Barcelona.
Comparación con un barrio proyectado para el ensanche.



Adaptación del modelo al ensanche de Barcelona.

1 Casco antiguo de Barcelona y los agregados a llano (Sants Gracia, Camp de l'Arpa, Clot, La Llacuna i Poble Nou)

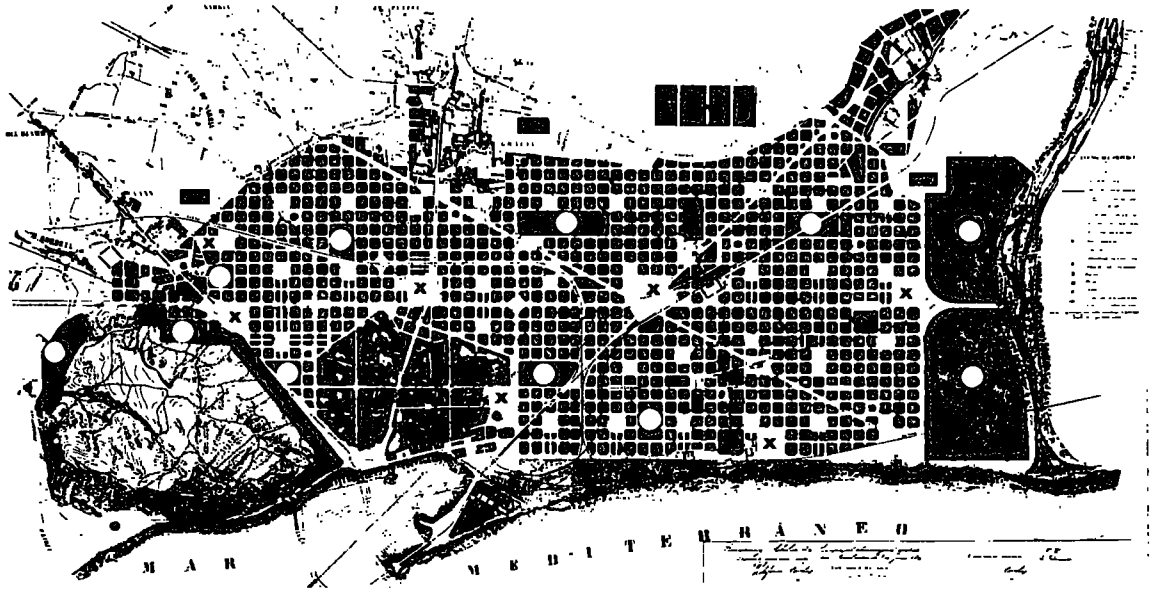
Pre-existing settlements

Zones that because of their 'topographical conditions were unsuitable for 'ensanche' - Montjuich and the area beyond the canal.

2 Zonas que por sus condiciones topográficas quedan fuera del ensanche (Montjuic y parte derecha del canal de desvío de las aguas de la Riera Malla).

FIGURE 197 - CERDA'S THEORETICAL MODEL (ABOVE) AND ITS ADAPTATION TO BARCELONA (after Domingo)

It is interesting to note that Domingo's model differs from Soria y Puig's (Figure 201a) in that it lacks the symmetry of the latters' 5 x 5 grouping of 'manzanas' Domingo suggests a model of 60 x 22 'manzanas' (c.f. Soria y Puig's 60 x 20) with division into zones of 6 x 5 or 5 x 5 'manzanas'. The 'manzanas' in the centre of these zones - coloured black - represent the 'social centres'.
Source:- (76)



Distribución del equipamiento

Collective services	■	*Zonas de equipamiento colectivo.*
Green zones	▣	*Zonas verdes.*
State buildings, ind.	×	*Zonas destinadas a usos varios (Edificios de Estado, Establecimientos Industriales, etc...).*
Markets	•	*Zonas destinadas a instalación de Mercados. (En la zona del Port se ubicaba el futuro Matadero.*

86 'Manzanas' left white represent the 'social centres'

FIGURE 198 DISTRIBUTION OF SERVICES IN THE PLAN CERDA (after Domingo)

Source:- (76)

'neighbourhoods' and'groups of neighbourhoods' take us some way towards understanding it. It is, however, fully revealed in the analysis by Tarrago and Soria y Puig (23), which is the fruit of "several years work and is offered here for the first time." (S.T. 1976)

> "A detailed examination of Cerda's plan shows 10 x 10 blocks of 'manzanas'. The perimeters of these blocks, to which we have given the name districts, are formed by streets with a continuous row of houses on each side (Figure 199). From here, it is not difficult to deduce the theoretical model of 60 x 20 'manzanas' that Cerda had in mind (Figure 200) and the distribution of services within the model. The top-right hand 'district' of the plan (Figure 201b) bears resemblance to the model (Figure 201a). There were to be four churches (or buildings of similar nature) within each district, each one situated in the corner of a 6 x 6 block of 'manzanas', concentric within the 10 x 10 blocks - the districts and a market in one of the four central 'manzanas' of each district. From the situation of the market and the careful design of the surrounds of the 'social centres' (Figure 202) it can be supposed that the churches (or what are often called 'social centres') were the centres of 5 x 5 blocks of 'manzanas' that we shall call zones.

Soria y Puig also sees:-

> a third grouping of 20 x 20 'manzanas', that we will call sectors ... A sector of 400 'manzanas' is thus divided into 4 equal districts of 100 'manzanas', which in turn are divided into 4 equal zones of 25 'manzanas' " (105)

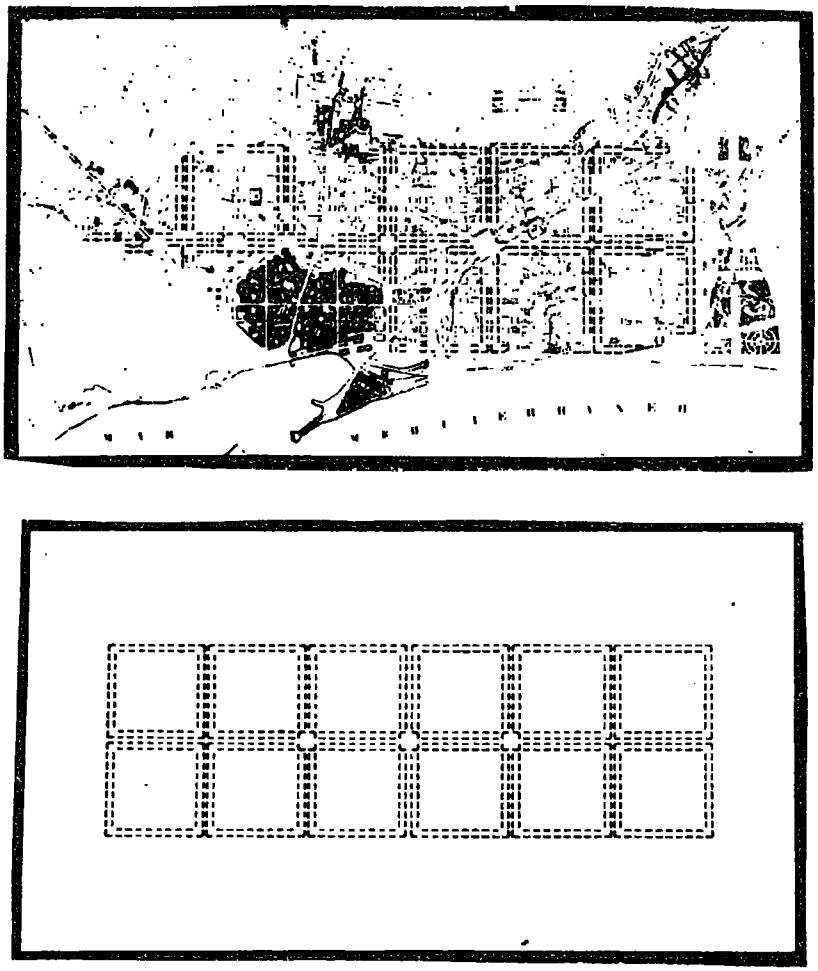


FIGURE 199 - 10 x 10 BLOCKS OF 'MANZANAS' - 'DISTRICTS' Source:- (23)
(after A. Soria y Puig and Salvador Tarrago)

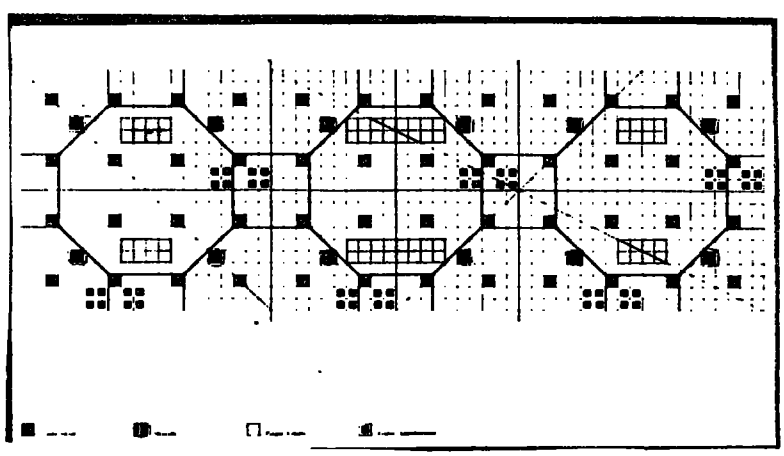
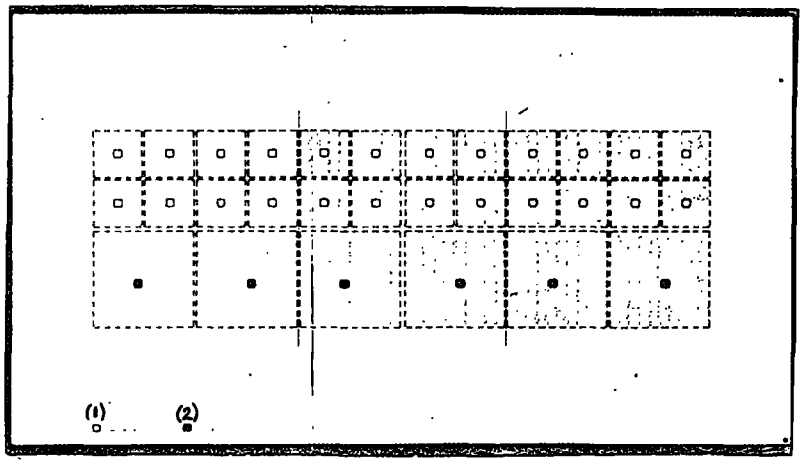


FIGURE 200 A POSSIBLE THEORETICAL MODEL Source:- (23)

The key to shaded 'manzanas' at the bottom reads from left to right:- Social centres; Markets; Parks; Administrative/Industrial Establishments; (see note with Figure 204).

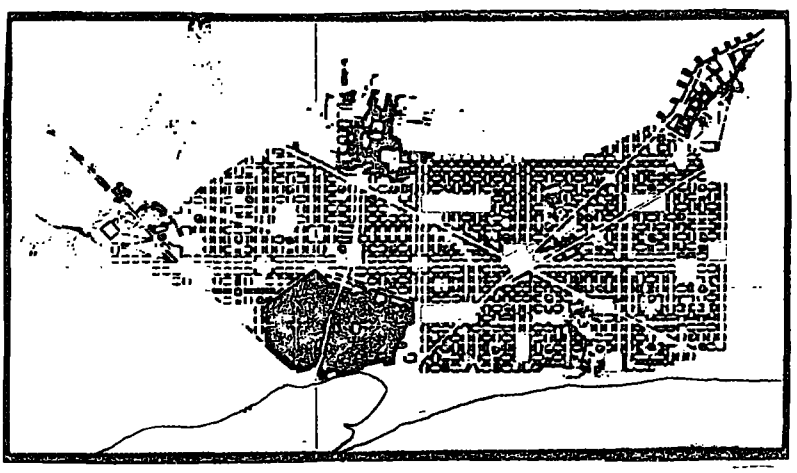
FIGURE 201 SOCIAL CENTRES AND MARKETS



(a) Model Distribution of 'Social Centres'(1) and Markets (2) within Zones and Districts

Number of 'Social Centres' - 48

Number of Markets - 12



(b) Distribution of Markets (red) and 'Social Centres' (green) in the Plan Cerda

N.B the top right hand zone is tha which most resembles the model distribution.

Number of 'Social Centres' - 32
Number of Markets - 10

(excluding the old city)

Source:- based on an idea in (23)

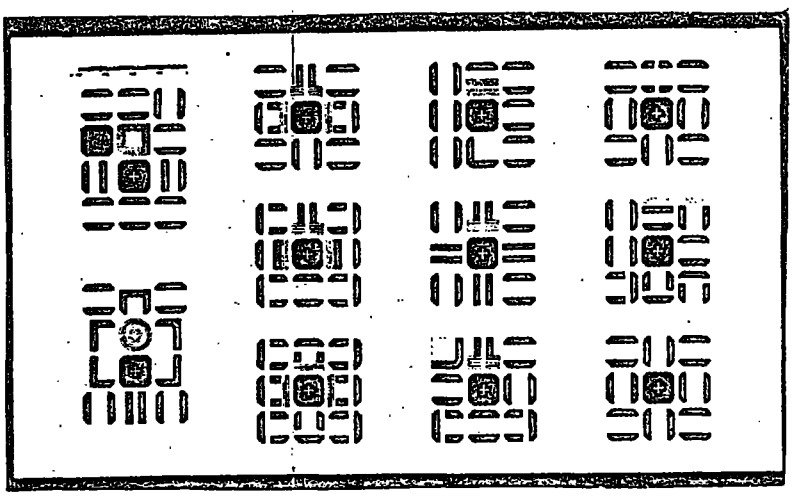


FIGURE 202 - ARRANGEMENT OF BUILDINGS AROUND THE 'SOCIAL CENTRES'

(after Soria y Puig and Tarrago)

"Cerda tried to demonstrate that an egalitarian city did not exclud variety." S. Tarrago.

Source:- (23)

The sectors, however, remain a little more difficult to see than the districts and zones, at least in the plan, even if not in the model (compare 201a and b).

We can see then, that each zone was centred around what can be loosely termed a'social centre' (in the Plan Cerda - "a church, sanctuary, asylum, school or administrative centre for the culture and benefit of the parish") and each district around a market. But, what services would be attributed to a sector? - a portion of industry, some public buildings and some parks. What is still difficult to be sure about is the exact number of 'manzanas' destined for these uses within each sector. It seems probable that within each sector there were to be 16 'manzanas', distributed in units of 4 and situated near the corners of districts, to be used for industry or public buildings. As regards parks, it does not seem unreasonable to affirm that there were to be two parks in each sector, or in other words, one for every 200 'manzanas'. However, in the plan, it appears the central sector was to be better endowed, in this sense, than the two lateral sectors; it could be that he reasoned that the two lateral sectors were near to their respective green zones of far greater dimensions (the wood on the Besos and Montjuich), whilst the central sector was further from both and so merited greater attention. However, there are many theories regarding the number of parks destined to each sector and what is shown in our diagram is but one of many possibilities (Figures 200 and 204)

> "It is left, lastly,to talk of the importance of the octagon in the Plan Cerda. Looking carefully at the'manzanas' that illustrate the chapters of Cerda's 'Theory of Urban Movement', (published in the 'Revista de Obras Publicas 1863-4), we can see that the width of streets is more or less equal to the length of the 'chaflan' (measured along its line of buildings - not including the pavement) and that these crossroads form more or less regular octagons (Figure 205). The reason why they are not exact octagons seems clear. The 'chaflan' is the hypotenuse of an isosceles triangle. In practice, the other two sides were 14 metres, a round figure that seemed convenient at the time of marking out the building lines on the ground. However, this results in the 'chaflan' being marginally less than 20 metres and it is because of this that there is a difference between what happened in reality and what was planned in theory (Figure 206a). The surprising thing was to discover that the building depth (taken as 24 metres) was also a function of the dimensions of the octagons (Figure 206b).
>
> Whilst it is beyond doubt that the lay-out of 'ensanche' is based on the geometric pattern formed by the interaction of two squares in a 45 degree relationship to one another (one largely visible, the other not - Figure 206b), what we do not know for sure is if the octagon also played a role in the distribution of churches, markets and parks in each sector. It is, of course, easy to draw an imaginary octagon in each sector of the theoretical model (Figure 200 and Figure 203) by which the location of certain services can be explained, but here the octagon is not of obvious importance.[1]

---

1 On this occasion, Tarrago seems to differ slightly in his opinion from Soria y Puig. Elsewhere, he says, "the location of the social centres of each zone, of the markets of each district and of the parks of each sector, are all determined by the geometric relationships between the quadricles, the octagons to which they give rise and their diagonals." (105)

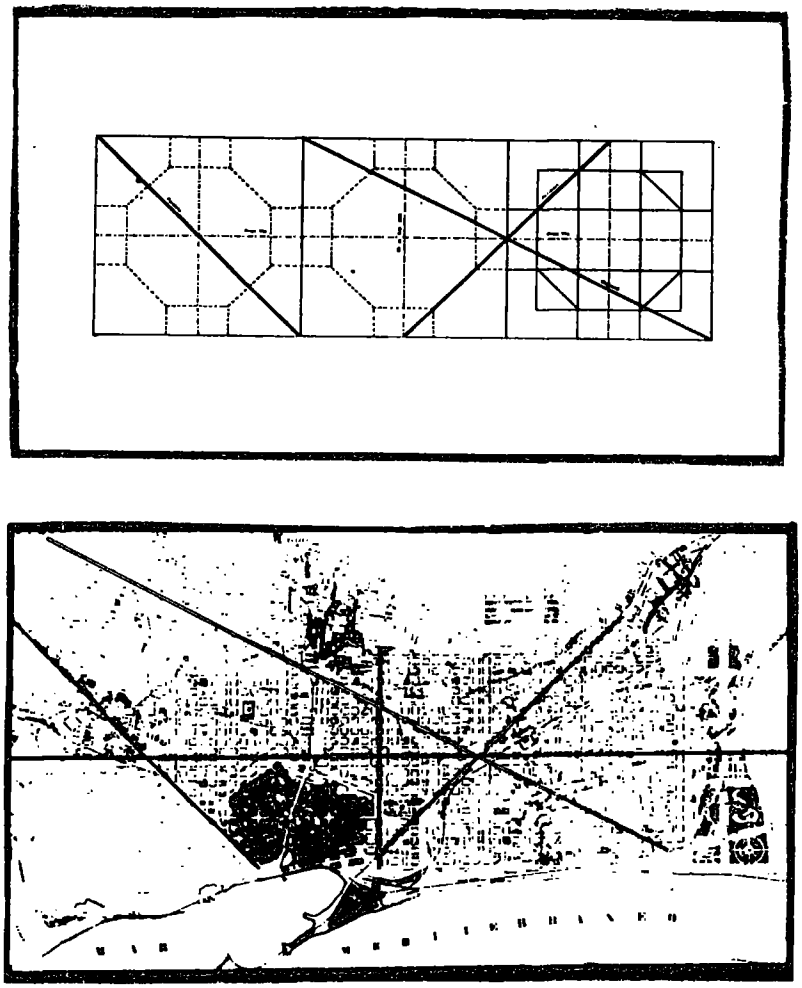


FIGURE 203 ROADS IN THE POSSIBLE 'REGULATING PLAN' (ABOVE) AND IN THE PLAN CERDA (BELOW) Source:- (23)
(after Tarrago and Soria y Puig)

In any case, it is important to emphasize that, in his Plan, Cerda left nothing to chance ... As Angelon has said (33s/663) :-

"Cerda never judged anything on the first visual impression,neither in his technical vocabulary did the word 'chance' exist."

Another anonymous critic, writing in 'Revista de Obras Publicas' in 1863-4, who had heard Cerda explain his project, affirmed that "there is not one single line that ... does not have a reason for being." (105)

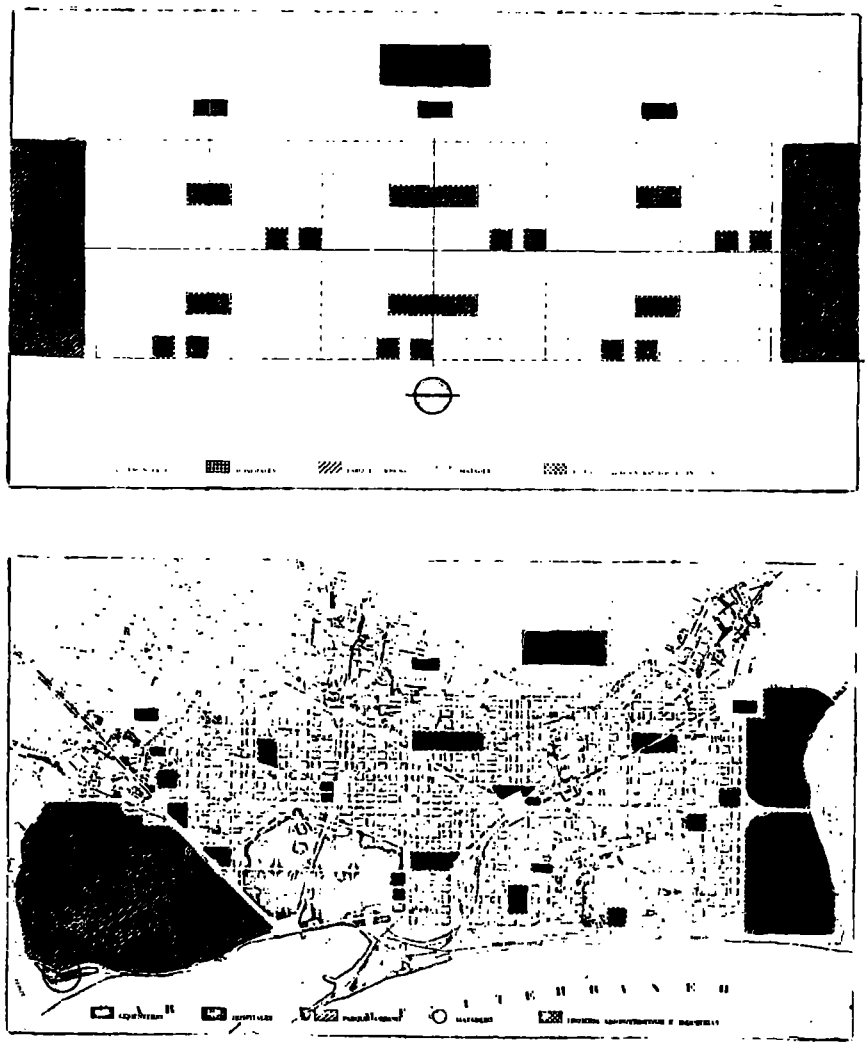
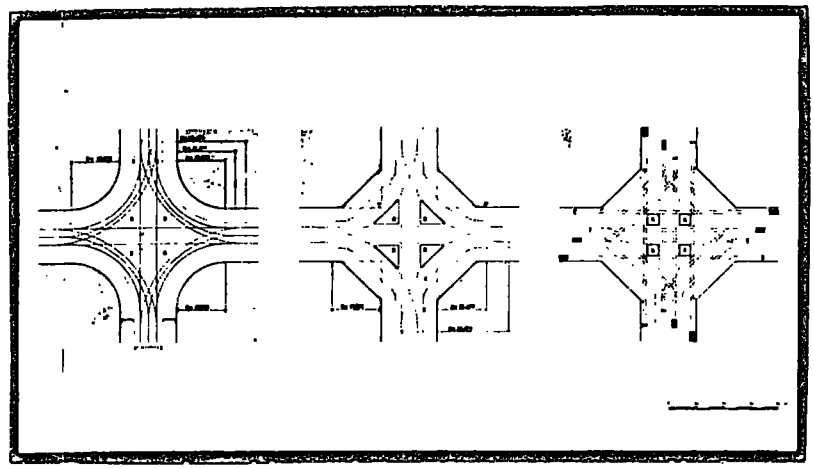


FIGURE 204 DISTRIBUTION OF MACRO-SERVICES IN THEORY (ABOVE) AND IN THE PLAN CERDA (BELOW) Source :- (177)

Comparing the theoretical model above with Figure 200, a significant difference is noticeable. In the latter, there are four blocks, of four 'manzanas' each, alloted to 'Administrative Centres' per sector. This typifies the confusion surrounding Cerda's intentions as regards the place of industry in his Plan. These blocks would seem to be destined, in theor to use as Administrative or Industrial Establishments, for which Cerda designated 30 'manzanas' in his Plan. Even though the Plan Cerda did not cover three full 'sectors', it would seem, nevertheless, that Cerda underalloted in this sense, considering there are 16 such 'manzanas' per 'sector' in the theoretical model. But a look at Figure 46 reveals that there are other 'super-manzanas' in the Plan around Camp del Arpa, Clot and especially Icaria. Here, then, is something of an answer to Grau's criticisms concerning the absence of industry in the Plan Cerda. Although Cerda did not mark them as such (because industry was long established in these areas), he intended these 'super-manzanas' to be used for industry and complement those new 'manzanas' marked for this use in the Plan.



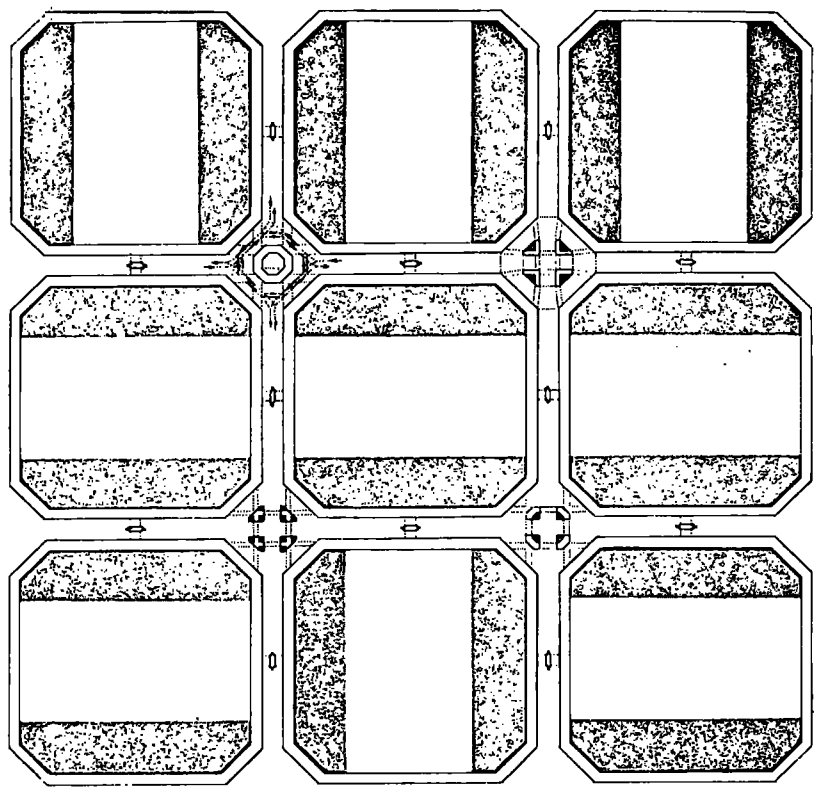
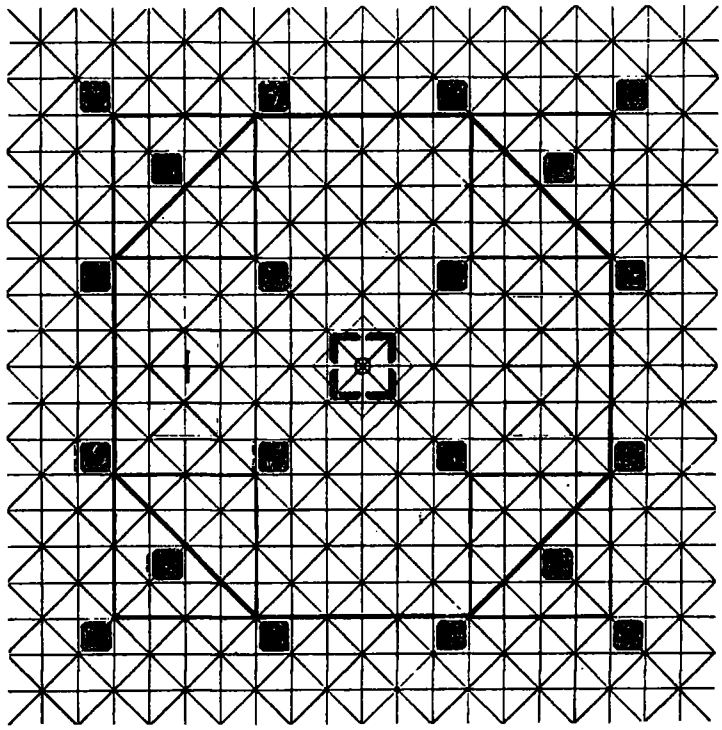


FIGURE 205 CROSS-ROADS, 'CHAFLANES' AND CENTRAL ISLANDS

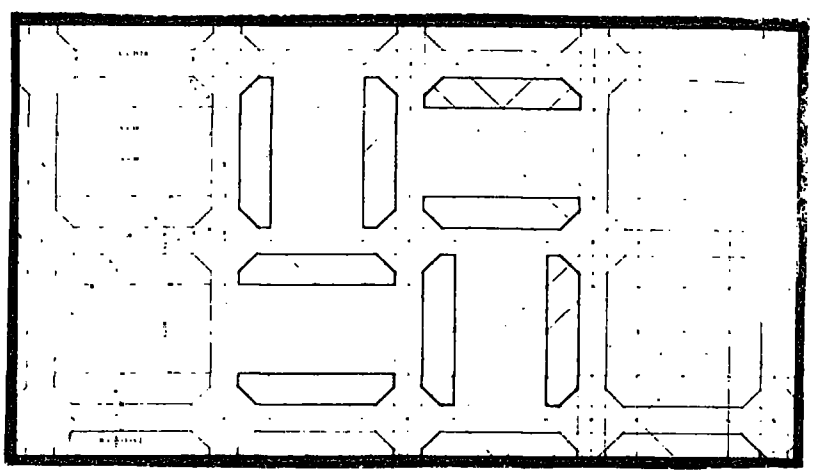
The upper diagram is taken from 'Revista de Obras Publicas' 1863 and shows how 3 cross-roads were planned on the ground. In these, the road is 20 metres wide, but the 'chaflan' slightly less, for reasons explained on page 376
The scale on the right is in metres and reads 0 ... 10 ... 20 ... 30 ... 40 ...

Below, some further applications, showing the islands half-way along the sides of 'manzanas', which like those at cross-roads, were not built in practice.

Source:- (23)



a



b

FIGURE 206 THE OCTAGON IN THE PLAN CERDA Source:- (23)

Above: The perfectly octagonal 'plazoleta' that theoretically existed at cross-roads and which can also be used in the explanation of distribution of certain services (Figure 200).
Below: The background of the intersection of the two squares at 45 degrees to one another in the Plan Cerda.

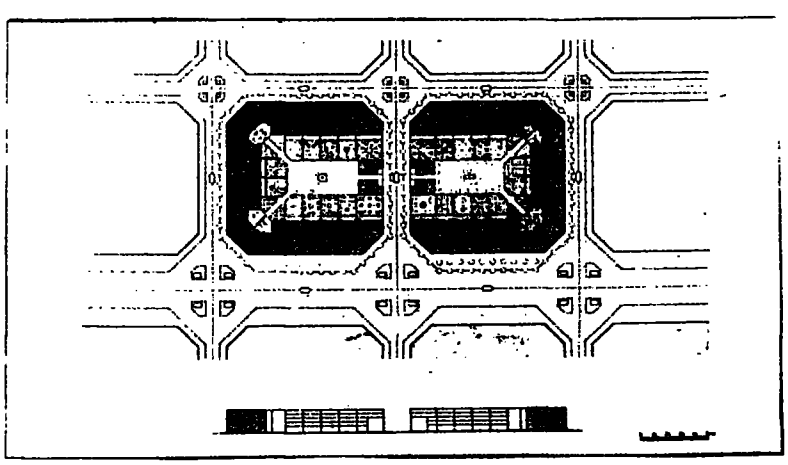


FIGURE 207 3-SIDED 'MANZANAS' - 186

Note the central islands for pedestrian crossing and double line of trees lining the wider roadway.

Source:- (23)

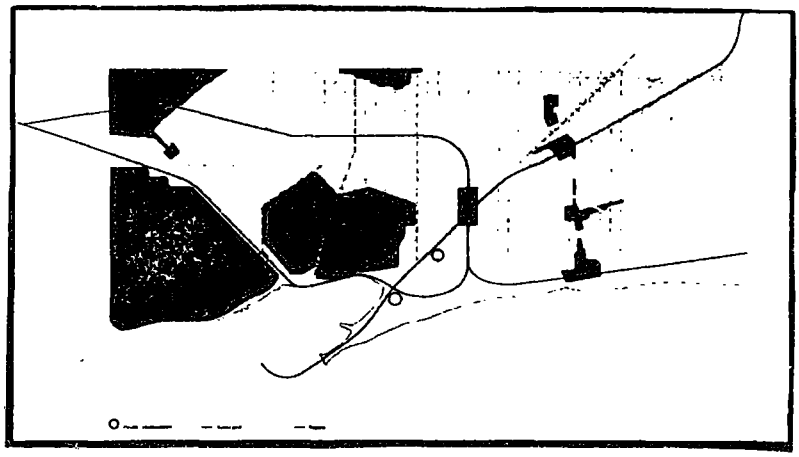


FIGURE 208 - THE 'STATION OF STATIONS' (marked by black rectangle)
Source:- (23)

(b) A few loose ends tied up

Although the Cerda Centenary 1976 poses many questions that are still to be answered, it also brings to light a lot of new information about a variety of points regarding Cerda's Plan.

The cross-roads and 'chaflanes' have already been mentioned in connection with his model. Soria y Puig points out, however, that Cerda was aware that the streets should be much more than a passageway for vehicles and was part of the principle that "the buildings and the road network are two inseparable concepts." ('Revista de Obras Publicas' 1863-4) He took into account the demands of both vehicles and pedestrians and designed a variety of central islands in the space created by the existence of 'chaflanes' (Figures 205 and 207). Cerda's intention was to save the long walk round the 'chaflanes' that pedestrians must make today. None of these central islands have been built. Cerda also proposed to put an electric clock at every cross-roads. Apart from the urban parks, there were to be about 100 trees in each 'manzana' - 36 in the interior, which were never planted, and 56 on the edges of the pavements - one every eight metres, most of which were planted and exist today (for example, see photos 1-4). Along the larger avenues, the lines of trees were to be doubled (see Figure 207).

Cerda proposed to "decentralize and spread out the population of these anthills (in the old city), where human beings lived piled up on each other" (33n/558) and Soria y Puig concludes that the Plan Cerda was to "incorporate the old city as another zone and so create a new centre of gravity in the new city." Doubts remain, however, as to what role the Plaza de las Glorias was to play in this aspect. Did Cerda intend to create a new urban centre there, or did it hold only geometrical significance for Cerda? At present

there is no definite answer, although the majority opinion seems to be against the idea of a new centre.[1] Soria y Puig goes on to talk of a 'policentralism' (similar to the 'isotropicism' of Domingo):-

> "The decision not to privilege the centre but enrich the whole led to a 'policentralism' and the creation of many centres with their own services uniformly distributed throughout the city. Given the predominance of the parallels with the coast and perpendiculars to the same, we can speak of a lineal policentralism around the Gran Via."

Nevertheless, Tarrago suggests that Cerda intended there to be one central station:-

> "From the little detail known regarding the location of stations in the Plan Cerda, we have formulated the hypothesis that they were all to be situated near the crossing point of 'La Meridiana' and Paseo de Carlos I (Figure 208). This 'station of stations' - what Cerda called the 'colonia mercantil y maritima' - was to connect all the systems of transport in the city - railways, tramways, carriages and boats and act as a great commercial and economic centre."

As regards the criticisms of Grau, it is worth noting that Angelon, secretary of 'Promotion of Ensanche', of which Cerda was technical director, has written that :-

> "Cerda believed too much in justice and was too much a friend of humanity to order the new city in zones of unequal conditions ... But it had to be that individual freedom ... enabled proprietors to construct magnificent palaces or narrow and modest houses in their new urban lands. Neither Cerda, nor anybody else, could order a city where each family and each individual had monotonously similar houses, like the cells in a convent .. Because of this, Cerda, who was above all practical, did not enter the realm of private property, nor did he put restrictions on private construction." (33s/664)

Tarrago says that:-

> "the presence of industry within the urban system was acceptable given the width of streets and isolated nature of the 'manzanas'"

and that the doubt about its exact location is "due largely to out ignorance rather than his failing. Whilst the artesan workshops and small industry was left to co-exist with dwellings, within the normal 'manzana', medium and heavy industry was located in blocks of 4 'manzanas', that offered a greater isolation from the rest of the city." (Figure 204) He quotes as an example the Batllo factory, built under the direction of Magi Rius, Cerda's collaborator in the 'Promotion of Ensanche' society, which "had the most extraordinary tile chimney of our industrial architecture and that, because of its height, guaranteed the health of the neighbourhood." (This factory is today part of the 'Escuela Industrial' - see photo 24). Nevertheless, Soria y Puig points

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[1] Domingo in his lecture at the 1976 Cerda Exhibition in Barcelona and writers in 'C.D.C.' (24) suggest Plaza de las Glorias as a possible new centre. Grau (103) seems more to think that Cerda intended the old city to remain as a focal point and that he certainly did not intend to integrate it into the new city, but one of Cerda's hardest critics, Ruperto Lacosta, criticises Cerda's Plan for trying to decentralize the city(33j).

out that:-

> "Just as there are differences between the theoretical model and the project, so there are the same between the project and the parts later realized by Cerda through the society of 'Promotion of Ensanche'. Although this question still requires research, there are indications that Cerda did not consider as final the distribution of housing within the Plan, but only indicative. One must realize that after the approval of the Plan, many new forces appeared on the scene that from about 1864 onwards, gave a new aspect to urban politics ... it is probable that this obliged him to reconsider certain extremes."

(e.g. the two 'manzanas', built-up on <u>three</u> sides - c.f. two in the Plan - proposed by the 'Promotion of Ensanche' in 1863 - Figure 207).

Soria y Puig also reveals how Cerda foresaw the financing of his Plan, "without the need to impose (financially) on the state, nor the province, nor for the municipality to make any sacrifice, direct or indirect, neither in the present nor the future." He reasoned "that the cost of producing any great social improvement is covered by the advantages it produces." (33k/518) By this Cerda meant that the proprietors should finance the construction of streets because of the resultant increase in the value of adjacent land. His proposals are summarized in Table 49. The legal aspects of construction in Spain is the subject of a recently published book by Bassols (106) and it seems likely that here too Cerda played his part. The draft proposal of the General Law of Reform, Drainage, Expansion and Improvement of Cities, published in December 1861, was inspired by Cerda. If passed,it would have been "one of the most progressive and radical texts in the history of legislation" (106/216). However, the Barcelona bourgeoisie, aware of the threat to their interests, used all their power and influence to get the proposal withdrawn.

SELF-FINANCING OF URBAN GROWTH: CERDA'S PROPOSAL

1. Reparcellation of building plots.
2. The free cession to the Council of all land destined for use as streets.
3. Financing of construction of streets and consequent urbanization by the landowners themselves.
4. Expropriation of two strips of land, 20-30 metres wide, to help finance the internal reform of the old quarter.

TABLE 49 - FINANCING OF THE PLAN CERDA

Source:- Soria y Puig (23)

(c) The Egalitarian Urban Science of Cerda (An answer to Grau?)

(extracts from an essay by Arturo Soria y Puig - (104)).

"Let us go directly to what is, in my opinion, the crux of the matter - Cerda stated for the first time the necessity of approaching urban problems in a strict egalitarian and scientific manner ... Today, when many of us are tired of the mania of calling any loosely-strung series of arguments 'science' ... we may have an initial distrust of a 'scientific' urban hypothesis, especially when it is egalitarian. But Cerda lived in another epoch and we say now that he was no starry-eyed dreamer, that he knew what was the rigour of science and that his egalitarianism was not just an'a priori' ideology ...

In studying Barcelona in the most minute detail, Cerda found inequality in a thousand different forms ... But he did not stop at merely noting these inequalities - he quantified and classified them ... Cerda demonstrated, for example, the relationship between the death rate in Barcelona at the time and a variety of factors - social class, density of housing, orientation of streets, floor of building, presence of interior gardens etc.. knowing then, beyond doubt, the importance of such factors, he could find no other 'rational' way of distributing such factors amongst the population other than to do so with the maximum possible equality ... Thus,'egalitarianism', when used in the 'rationalising' of certain urban questions, means something slightly different from its meaning as a mere ideological and utopian option ... Furthermore, from the systematic application of the criterion of 'maximum possible equality' to a series of important dilemmas within urban planning, there comes an urban programme of sufficient importance and coherence and yet very general and abstract making 'multiple formalizations' and 'different concretions' acceptable within it. Let us apply the saidcriterion to some questions related to Cerda's proposal. It leads, in theory at least, to:-

- NO to the reinforcement of the centre to the detriment of the periphery;
- NO to excessive concentration.
- NO to social segregation.
- NO to excessive functional specialisation of space.
- NO to excessive hierarchialization of roads and unequal distribution of services.
- NO to marked regional inequalities.

On the positive side, this egalitarian criterion leads to a series of theoretical proposals guided by the above ... Within the egalitarian logic, the function of the planner is to correct the equalities that the economic, political and social system generates, taking into account that to give equality to persons, groups or zones in unequal situations to begin with, is, at best, maintaining the inequality and, at worst, increasing it; to achieve a greater equality in an unequal society, then, one has to decidedly favour the (initially) unfavoured....

In reading this, more than one person may have thought that although this egalitarianism may have a rational root and offer attractive theories, its results remain decidedly utopian in that they are incompatible with one of the fundamental principles of a classist society, by which the satisfaction of human needs is subject to a system of varying economic gain. Because of this, however, does one have to abandon all idea of an egalitarian urbanism as 'utopian'? Perhaps this is one of the most important questions that faces us today in examining Cerda's work ...

In a certain way, the urban science of Cerda can be considered as a game attempt to synthesise the dialectics of the two extremes between which every urban proposal oscillates - the 'utopian' and the 'technical'. This synthesis was conditioned, of course, by the historical time in which it occured - before Cerda, nearly all the great post-Industrial Revolution 'utopian' plans had been formed already (Owen, Saint-Simon, Fourier, Cabet, etc.) and had begun to lead to 'parcellized' intervention in urban reality -

but the Plan is still worth reconsideration today (note I say reconsideration - not resurrection or copying).

In fact, only from the interraction of the 'utopian' and the 'technical' can a social science be born that does not fall into the trap of being technocratic - narrow and authoritarian - or 'illuminist' - vague, schematic and simplest. Nevertheless, such a social science - as was Cerda's - remains 'utopian' in that the object of study is so great that the whole project of a social science remains 'utopian' in that which it tries to achieve, being probabalist, flexible, axiomatic and experimental in contrast with the mecanist, determinist view that prevailed in the 19th century and still does in some circles. An urban science so considered would give rise to what we could call concrete utopias, an excellent example of which is the Plan of Reform and 'Ensanche' of Barcelona by Ildefonso Cerda."

APPENDIX 3 THE SATIRE SURROUNDING CERDA AND 'ENSANCHE'

(based on an idea by J.M. Garrut - (67)).

> "The vision of a grand city that Cerda had in forming his Plan was not shared, in general, by the citizens, nor the Council in particular. The imposition of the Plan was received with disgust ... criticism was very severe, comparing the pros and cons of the two plans, but always agreeing that Rovira y Trias's was superior to Cerda's." Puig y Alfonso (43)

Bearing in mind the nature of the Plan Cerda, it is understandable that parties were formed both for and against it with interests being either threatened or favoured by the Plan. Fears and hopes and later bitterness often found vent in satirical journals, such as the 'Pajaro Verde' ('Green Bird'), which, in 1861 became the 'Pajaro Azul' (Blue Bird'), the 'Diablo Suelto' ('Rampant Devil') and 'Un tros de paper' ('A piece of paper'). It is, perhaps, of interest to look at some of the sketches published in this period (Figure 209 A-H).

FIGURE 209 - CERDA AND SATIRE OF THE TIME



Solicita otros vestidos por ser cortos los que

A.

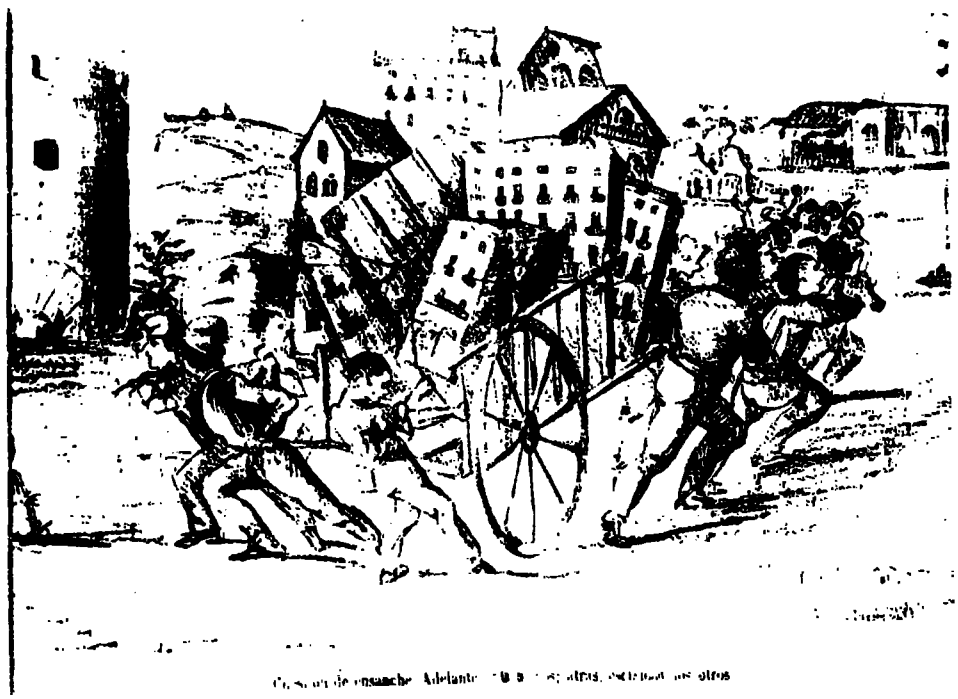
In Barcelona at about the time of 'ensanche' skirts had come to be worn short, contrary to the accepted fashion of the age. In the sketch, a jury pronounces judgement on the necessity of increasing the area. The woman's skirt, however, also represents Barcelona - the walled Barcelona - and the judgement of the jury, the need to expand the area of the city.



Efectos del aumento de alquileres.
Una familia aguardando el ensanche.....

B

The increase in rents in the first half of the 19th century in the walled city was excessive. This sketch shows a family 'waiting for ensanche' on the plain of Barcelona.



C

The argument over 'ensanche' - 'Forward' shout some; 'Backwards' shout the others. In the background are Montjuich (to the left) and the train to Martorell (to the right). It is perhaps significant that there are far more shouting 'forward' (i.e. pro-'Ensanche') than 'backward' (i.e. anti-'ensanche').



Ensanche. Nuestra opinion.

D

Cerda believed his Plan would once and for all end the exploitation of the poor by landlords. This sketch shows Cerda marching determinedly out on to the plain to construct the new houses, whilst the proprietors, some trampled underfoot, flee in fear.



Pesadilla de un propietario *de la Oposicion.*

E

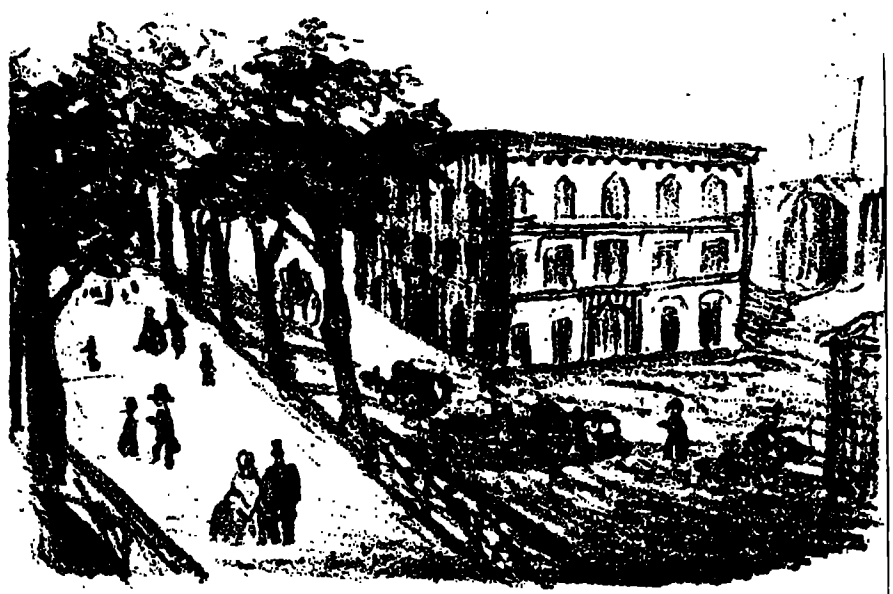
This sketch represents the recurring bad dream of a landlord (or landlady) Whilst his (or her) property in the old city remains unlet ('para alquilar' = to let), Cerda, checkerboard in hand (representing his Plan), directs the construction of new houses in 'ensanche', where the previous tenants of the proprietor are now living. To the left, a little demon jeers at the proprietor and his ill fortune.



etodo adoptado por algunos entusiastas para el trazado de ciertas calles.

F

The checkerboard was perhaps the best-known ironic representation of Cerda's Plan. This sketch is just one of the many variations on this theme - gold coins are laid on certain streets of Cerda's Plan. The caption beneath reads:- "Method adopted by 'certain enthusiasts' in the development of certain streets" a hint at the role played (despite D and E) by moneyed interests in the development of 'ensanche'.



Variedad de arquitectura adaptada en los edificios levantados en los terre-

G

The monotony of the Plan was often attacked by cartoonists. Houses built under Cerda's guidance on the cross-roads of Calle Lauria and Calle Consejo de Ciento (photo 32) were copied by others. Thus the "variety of architecture of buildings built on the plain" is said very much tongue in cheek.



H

Some people thought that 'ensanche' was expanding too far. Here, as 'ensanche' approaches (the head is the 'Casa Gibert', built and later destroyed on the edge of Plaza Cataluna), the Count of Barcelona lets out the cry "Detente, Abraham" ('Stop, Abraham') in an effort to impede its advance, whilst the columns in the background do the same ('non plus', or 'no more').

APPENDIX 4 JAUSSELY'S 'MONUMENTALIST' CITY

A brief outline of the Plan Jaussely was given in the text (pages 148-152). Here, greater detail is given of the Plan which epitomised the 'monumentalist' concept of the city 'par excellence'.

The main monuments, squares 'paseos' etc. are marked on Figure 210 and drawings [1] of some of these are shown in Figure 211. Jaussely classified Plaza de las Glorias (A on Figure 210) as the "Administrative and monumental centre of the city." To the left was the Central Square (B) and above, the 'Plaza del Ayuntamiento' (C), occupying six of Cerda's 'manzanas'. From here, upwards, stretched a widened Calle Lepanto (6) and below, a widened Calle Marina (4). Between the Central Square (B) and Plaza de las Glorias (A), Avenida de la Meridiana (2) was converted into a 'Paseo Jardin' (D) of 125 metres width, and Gran Via, widened to 100 metres and given the name 'Avenida de las Glorias' (3a). In the triangle formed by the Central Square (B), the 'Paseo Jardin' (D) and the 'Avenida' (3a), a 'Panteon de Catalanes' (X) was to be built along with two large public buildings to be used as museums. To complete the sector, two wide diagonals (8,9) were added, leaving Plaza de las Glorias with 11 roads radiating out in different directions.

Above the Plaza de las Glorias, on Calle de la Industria (10), 80 metres wide, Jaussely planned a large railway station - 'Estacion Centro' (Z), in front of which extended the 'Plaza de la Estacion' (E). This was linked with Paseo San Juan (11), by a new diagonal road (12), near which a large Plaza - 'Centro Social' (G) was situated around a large public building of the same name (Y). Of course, the 'Sagrada Familia' church was preserved in Jaussely's Plan; it was situated very near to the new diagonal road, and the new roads and plazas afforded excellent viewpoints of the church. Below Las Glorias, the 'Plaza Exagonal' (H) was created to surround the 'Palacio de Justicia' (S). The area was linked to the 'Paseo Jardin' of la Meridiana (D) from which the Palace could be viewed.

As already noted, the central section of 'ensanche' including 'Plazas' Cataluna, Urquinaona, Universidad and Letamendi (I,J,K,L), Paseo de Gracia (13) and Rambla Cataluna, was largely left alone by Jaussely. But further left, towards Montjuich, there were other modifications and additions. Plaza Espana (M) was planned, but in a slightly different place to where it exists today. From here, upwards, stretched Calle Tarragona (16), widened to 40 metres, from the top of which was projected Paseo Jardin N-S (N) meeting Diagonal (1) in another 'gran plaza', today Plaza Calvo Sotelo (O). (Paseo Jardin N-S exists today in reduced form - Avenida de Infanta Carlota). To the right of Paseo Jardin N-S, a park, covering several 'manzanas', was planned (P between 18 and 19) within which was the 'Model Prison' (U) and just outside at the top of Calle Tarragona,

[1] The Plan Jaussely included 68 such drawings as well as a large variety of plans varying in scale from 1:5000 to 1:50 and a number of photographs.

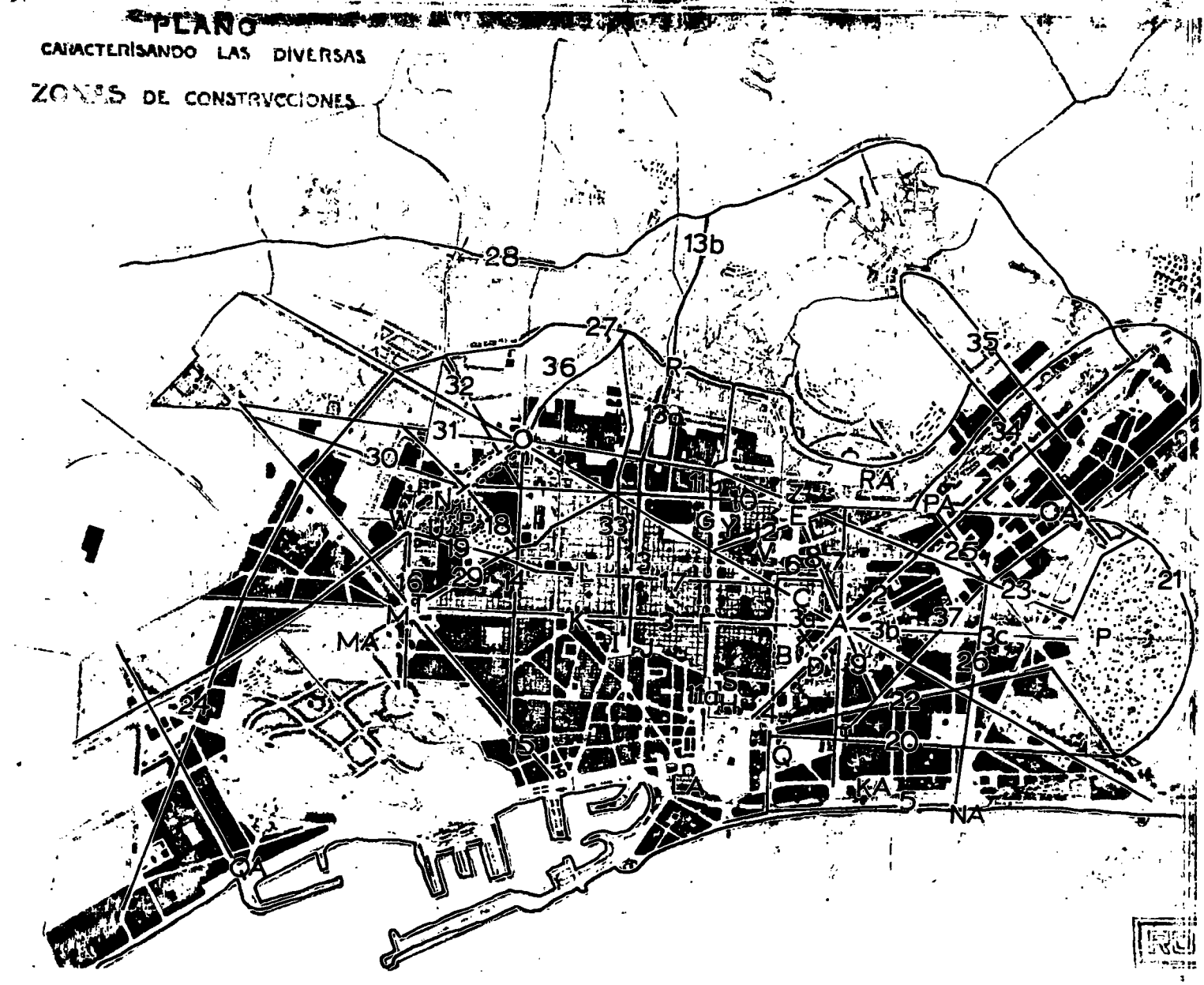


FIGURE 210 ANALYSIS OF THE PLAN JAUSSELY Source:- (A.H.B.)

ROADS ('calles', 'paseos', 'enlaces' etc.):- 1. Diagonal 2. La Meridiana 3a.Avenida de las Glorias 3b. Paseo del Parque 3c. Salon del Parque 3. Gran Via 4. Marina 5. Paseo Maritimo 6. Lepanto 7. Dos de Mayo 8/9. Transversal roads crossing Plaza de las Glorias 10. Industria 11. Paseo de San Juan 11a. Salon de San Juan 11b. General Mola 12. Transversal radiating out from 'Estacion Central' 13. Paseo de Gracia 13a. Mayor de Gracia 13b. Hospital Militar 14. Urgel 15. Marques del Duero 16. Tarragona 17. Aragon 18. Transversal West-East (Paseo O-E) 19. Diagonal de Ferrocarril (today Roma) 20. Paseo Bajo (Calle Llull) 21. Paseo Circular 22. Carretera de Mataro (Calle de Pedro IV) 23. Other transversal (symmetrical to 22) 24. Paseo de Puerto Franco 25/26. Roads of the 'Circumvalacion de Industria'(inner ring-road) 27. Paseo de Ronda 28. Paseo Rural (Carretera de Cornella a Fogas de Tordera) 29. Transversal N-S ('Paseo' N-S) 30. Berlin 31. Traversera de las Corts 32. Carretera de Sarria 33. Balmes 34. Paseo de Marragall 35. Paseo Fabra y Puig 36. 'Enlace' with San Gervasio 37. 'Enlace' with San Andres

PLAZAS, SQUARES, PARKS etc. A. Plaza de las Glorias B. Central Square C. Plaza del Ayuntamiento D. 'Paseo Jardin' de la Meridiana E. Plaza de la Estacion F. Plaza Tetuan G. Plaza de Centro Social H. Plaza Exagonal I. Plaza Cataluna J. Plaza Urquinaona K. Plaza Universidad L. Plaza Letamendi M. Plaza Espana N. 'Paseo Jardin N-S' O. Plaza de Calvo Sotelo (today's name) P. Parks Q. 'Garden Botanica' R. Plaza Lesseps PUBLIC BUILDINGS AND MONUMENTS KA 'Cementario de Este' (Cemetery) LA 'Estacion Termino' MA Tunnel of Montjuich NA Marbella Beach OA Estacion de San Andres PA Estacion del Norte QA Casa Antunex Beach RA Hospital de Santa Cruz S. Palacio De Justicia T. Bull ring arenas U. Model Prison V Sagrada Familia W. Est de la izquierda X. Panteon de Cataluna Y. Centro Social Z. Estacion Central

the 'Estacion de la Izquierda' (W).

To the right of Las Glorias (A), the main feature is the large open area (P) located in a similar position to Cerda's wood on the Besos. In Calle Industria (10) two other stations, those of San Andres (OA) and 'del Norte' (PA) - relocated from near the Citadel - were planned. The 'Paseo Bajo' (20) ran from the 'Garden' Botanica' (Q) to the park by the River Besos and its semi-circular extension round the back of the park (21) joined it to Calle Industria (10). Two roads - one new (23), the other previously existing (22) were symmetrically located and met in the park by the Besos. On the coast, a 'Paseo Maritimo' (5) ran from Barceloneta to the lowest point of Diagonal (1), that if built would have prevented the inaccessibility of this part of the coast, that exists today.

It is important not to forget that the proclaimed objective of the 1903 competition was to find a Plan that linked Barcelona with the outlying settlements and also linked the settlements themselves. The solution to this last problem Jaussely saw in the creation of three ring-roads encircling the city. The first followed a devious route from the beach of Casa Antunez (QA), along a short section of Paseo de Puerto Franco (24) up to up to Paseo Jardin N-S (N),along Calle Industria (10) and then down to Marbella beach (NA) via two roads of 75 metres width (25,26). The other tow, the Paseo de Ronda (27) and Paseo Rural (28) have been the basis of ring-road proposals ever since, and Paseo de Ronda is in construction today. As for linkages between the city and its suburbs, Sants was linked by the southward extension of the Paseo Transversal (29) going via a tunnel of Montjuich (MA) through the southern part of Sants to the Llobregat. Calle Berlin (30) joined the northern part of Sants with the city. As regards Sarria, Calles Tarragona and Urgel, (16,14) were extended upwards and Carretera de Sarria (32) widened. To join the city with San Gervasio, Jaussely, planned a link road from what is today Plaza Calvo Sotelo (O) up to the Paseo de Ronda (27). This road (36) met the Paseo at its intersection with Calle Balmes (33), where a great 'plaza' was projected. Rambla Cataluna, too, was extended upwards, through this 'plaza' and on to Tibidabo. From Plaza Lesseps (R), a new road was to link Paseo de Ronda (27) with Paseo Rural (28) (This road was to follow the course of the Vallcarca river and today exists as Avenida del Hospital Militar (13b). Gracia was already well-connected with the city by Calle Balmes (33) and Mayor de Gracia (13a), but to the west, General Mola (11b) was extended up to Paseo de Ronda (27). Movement within and through San Martin de Provencals was facilitated by the development of Plaza de las Glorias, but another road (37) ran from Low San Martin northwards to San Andres Station (OA), circling round in a great loop behind San Andres to join Calle Industria at the new 'Estacion del Norte' (PA) Horta was linked with the city via Paseo de Fabra y Puig (35) and Paseo de Maragall (34) which itself was joined to the Paseo de Ronda (27) thus linking Horta with the city via Gracia and San Gervasio.

The Plan Jaussely also included some proposals for reform in the old city (Figure 212), conserving Via A (Layetana) of the Plans Cerda and Baixeras. Via C , the cross-town road was also maintained but Via B abandoned. As in the city as a

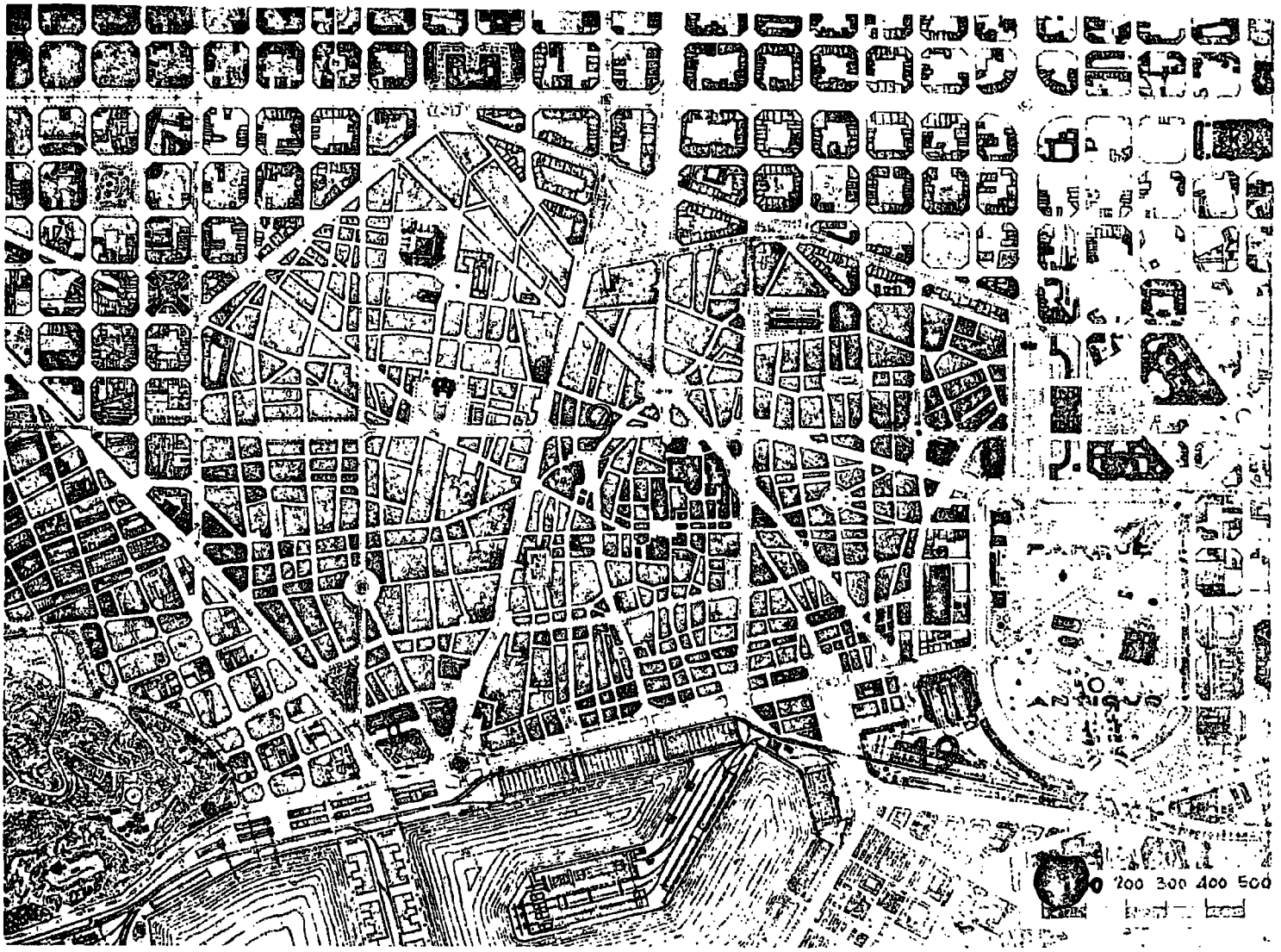


FIGURE 212 JAUSSELY'S PLANNED REFORMS IN THE OLD CITY Source:- (A.H.B.)

whole, he introduced a series of diagonals running across the old city, with new public squares and gardens, typical of his 'Ecole de Beaux Arts' architecture.

Jaussely planned considerable changes in the railway network of the city. As we have seen he planned the construction of three new stations on Calle Industria (Z, PA, and OA) and one near 'Paseo-Jardin N.S.' (W). The 'Estacion Termino' (LA) from which trains went to France, was left alone in its location below the citadel park. All trains to Madrid were also to go from this station, necessitating a cross-city route. Jaussely planned that the station should have two levels, upper for passenger trains and lower for freight. The former would leave the station on a viaduct, coming down to ground level around the Paseo Maritimo (5), and then (on the Madrid route) rise above ground again as they followed the 'Paseo Circular' (21)facilitating traffic movement below (thus Jaussely foresaw the extension of Barcelona up the coast to Badalona and beyond). Trains would touch ground again at the 'Estacion de San Andres' (OA) and run the course the Calle Industria (10) in a cutting.

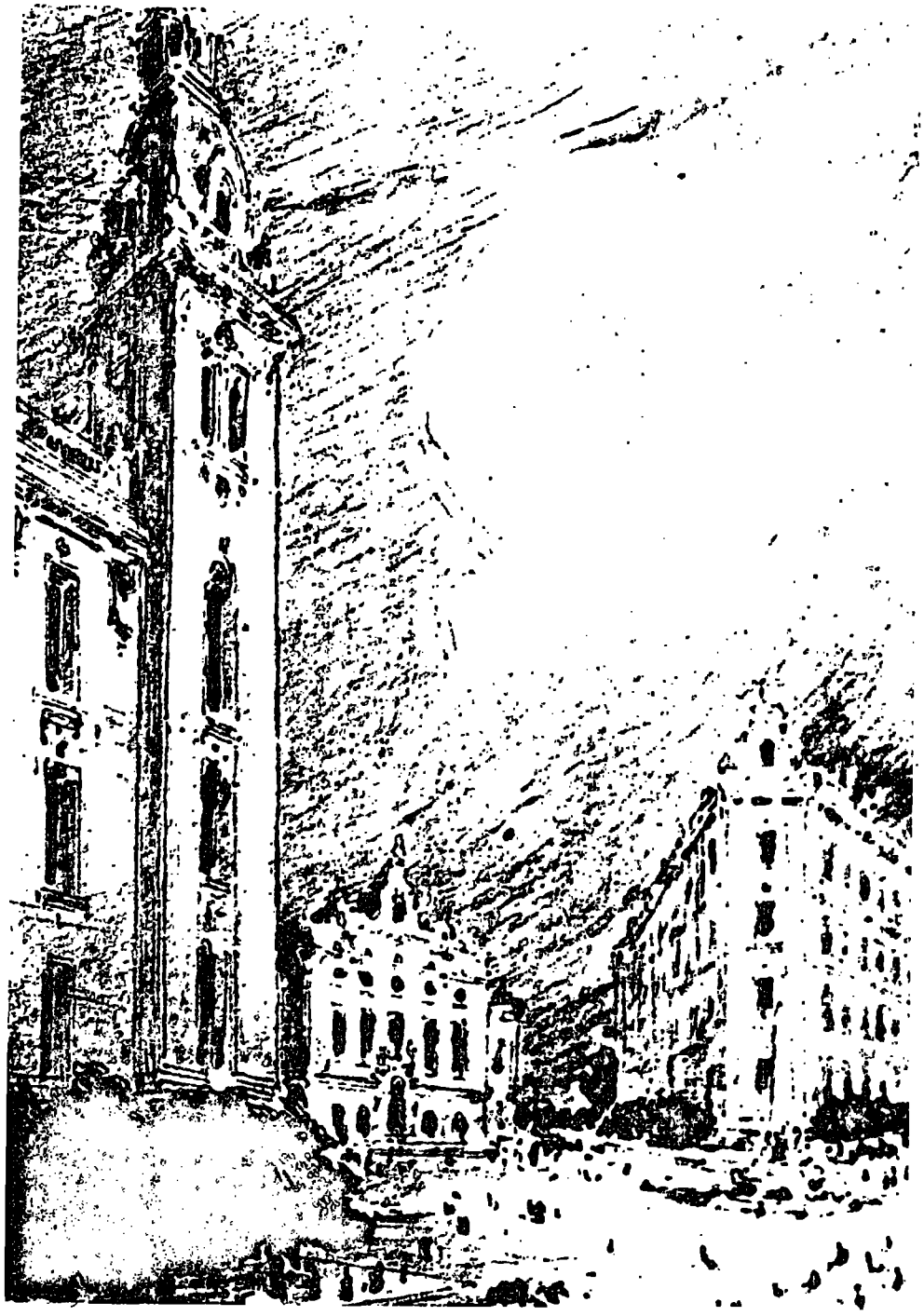
Without going into detail on green spaces in the Plan Jaussely, we can say they were extensive. According to Jaussely's classification there were ten

'internal' parks and nine 'exterior' parks; twelve public gardens or squares; ten 'avenue gardens'. In all, 1,000 hectares in an area of about 80 square kilometres - 19% of the area of the city. Jaussely conserved the 'Hospital de San Pablo' (RA) and planned three new ones along Paseo Rural (28). All cemeteries were kept, except the 'Cementerio de Este' (KA), which was moved to the banks of the Besos. Churches and markets were distributed throughout the city.

Of the new roads and 'paseos' planned by Jaussely within 'ensanche', the only diagonal to be constructed was the Avenida de Gaudi near the Sagrada Familia church. Outside 'ensanche' the Paseo de Ronda (27), Paseo Rural (28), Fabra y Puig (35), Paseo-Jardin N-S (N) exist today, as does about one kilometre of the Paseo Maritimo (5). All these, except Avenida de Gaudi, were included in the Romeu-Porcel 'Plan de Enlaces' of 1917. But the transformation of Cerda's 'ensanche' was dropped for reasons discussed in the text (pages 153/4) and Jaussely's 'monumentalist' city has remained only in the plans, sketches and drawings of 1907.

iva I. Tenencia de Alcaldía en el Pa-

The Mayor's Residence in the Paseo N-S



a m. Paseo Marítimo (lado Barcelo-

aseo Maritimo (on the arceloneta side)

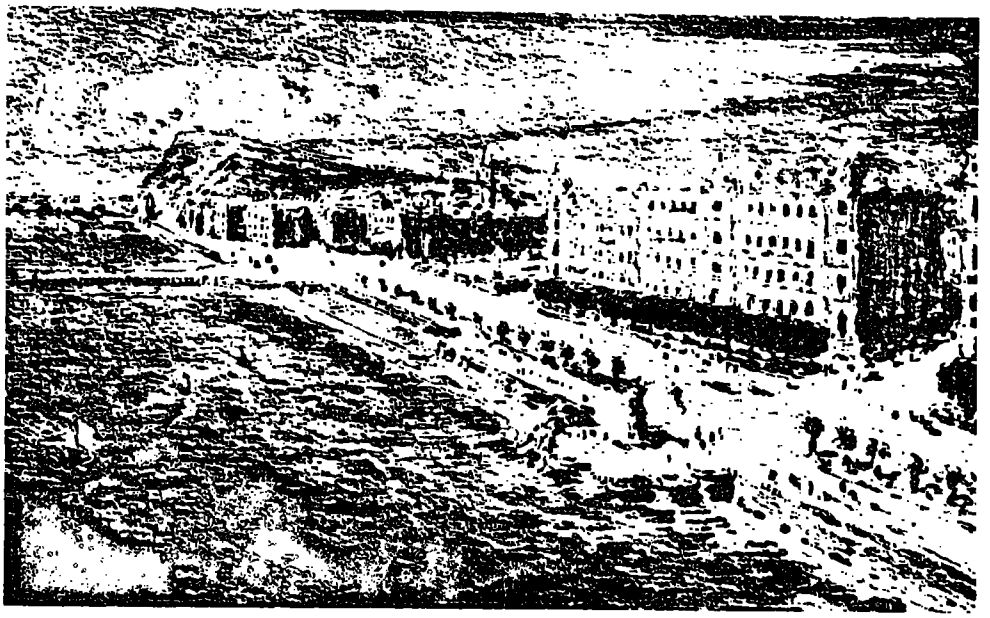


FIGURE 211 JAUSSELY'S MONUMENTALIST CITY Source:- (A.H.B.) and (89)

B I B L I O G R A P H Y

(1) MERCADER J. 'L'Ordenacion de Cataluña por Felipe V - La Nueva Planta' Madrid 1951

(2) NADAL J. and GIRALT E. - 'Barcelona en 1717-18 - Un modelo de sociedad pre-industrial' Madrid 1967

(3) MERCADER J. 'Del Consell de Cent al Ayuntamiento Borbonico' in 'De Hispania' No. LXXXII Madrid 1961

(4) MERCADER J. 'Els Capitans Generals - el Segle XVII' (Biografies Catalanes Serie Historica No. 10) Barcelona

(5) MERCADER J. 'L'establiment del Reial Cadastre a Catalunya y la seva fonomentacio economica i social' Barcelona

(6) TARRAGO S. 'Barcelona segun el Catastro de 1717-19' in 'CUAD.'* No. 80 January-February 1971

(7) BRUGUERA M. 'Historia del Memorable Sitio y Bloque de Barcelona' - Vol. II Barcelona 1862

(8) DOMINGUEZ-ORTIZ A. 'La Sociedad Española en el Siglo XVIII' Madrid 1955

(9) MARTI F. and MORENA E. 'Barcelona - a donde vas?' Barcelona 1974 Editorial Dirosa

(10) IZARD M. 'La Economia Catalana Moderna' in 'El Fet Urba a Barcelona' in C.A.U.** No. 19 May/June 1973

(11) GRAU R., LOPEZ M. 'Barcelona entre el urbanismo barroco y la Revolucion Industrial' in CUAD. No. 80 January-February 1971

(12) CAPMANY i MONTPALAU A. 'Memorias Historicas sobre la Marina, Comercio, y Artes de la Antigua Ciudad de Barcelona' Vol. I Barcelona 1961

(13) MUMFORD L. 'La Ciudad en la Historia' 1966 Buenos Aires

(14) LOPEZ M. 'Vivienda y Segregacion Social en Barcelona 1772-91' in C.A.U. No. 19 May/June 1973

(15) BOHIGAS O. 'Barcelona entre el Pla Cerda i el Barraquisme' Barcelona 1963

(16) MARTI C., PADRES S., VELA S. 'Degradacion y Monumento - El Barrio de la Ribera en Barcelona' in 'Construccion de la Ciudad No.3 June 1975

(17) PUJAL J. 'La Barcelona del Segle XVIII' Barcelona 1951

(18) GRAU R. 'La Manufactura Algodonera y la Ciudad' in C.A.U. No. 19 May/June 1973

(19) VILAR P. 'Catalunya a dins l'Espanya Moderna' Barcelona 1951

(20) VILAR P. 'Crecimiento y Desarrollo' Barcelona 1964

(21) CARRERAS CANDI 'Geografia General de Cataluña' Barcelona 1916

(22) CUAD. No. 101 - March/April 1974 Edited by Jose Antonio Dols, Barcelona

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Notes on Figure 46 - The Plan Cerda

On the key ('Leyenda del Proyecto'), the first six items are:-

1. Roads of 50 metres width.
2. Roads with railway (planned).
3. Roads with railway (existent).
4. Stopping places for porters and carriages.
5. Roads of 30 metres width.
6. Roads of 20 metres width.

The rest of the key reads:-

✠ Churches, sanctuaries, asylums, schools and other buildings for the culture and benefit of the parish (Social Centres).

A Location of State buildings and Industrial Establishments.

H Hospitals

M Markets

P Parks

The military zone is clearly visible (e.g. on Montjuich)

There are drainage canals to the North and West.

Previously existing buildings are marked in black.

Contours are marked but are not always clear.

There is an arrow pointing north at the bottom of the Plan, in the harbour.

The scale was 1:10,000, but because of enlargement is approximately 1:1850

Source of map:- (24)

GUINARDÓ

MARAGALL

EL CONGRÉS

SAGRERA

CAMPO DEL ARPA

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SGDA. FAMILIA

MARINA

PUEBLO NUEVO

CLOT

AUTOPISTA

Avenida de José Antonio Primo de Rivera

Plaza de Valentín Almirall

Calle de La Verneda

Calle de Guipúzcoa

Calle de Cartagena

Calle de Tánger

Calle de Pujades

Calle de Wad-Ras

Calle de López Varela

Calle de Galicia

Calle de Provença

Calle de Mallorca

Calle de Valencia

Calle de Aragón

Calle de Rosselló

Calle de Bailén

Calle de Balmes

Calle de Pau Claris

Calle de Roger de Llúria

Calle de Ausiàs Marc

Calle de Marina

Calle de Sicília

Calle de Lepanto

Calle de Nàpols

Calle de Còrsega

Calle de Diputació

Calle de Pere IV

Calle de Ramon Turró

Calle de Pallars

Calle de Llull

Calle de Ciutat de Granada

Calle de Ciutat de Balaguer

Calle de Ciutat de Berga

Calle de Ciutat de Granollers

Calle de Ciutat de Sabadell

Calle de Ciutat de Vic

Calle de Ciutat de Tarragona

Calle de Ciutat de Tortosa

Calle de Ciutat de Vilafranca del Penedès

Calle de Ciutat de Vilanova i la Geltrú

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GRACIA
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PROYECTO
REFORMA Y ENSANCHE

PEDRALVES

S. GERVASI

SARRIA

PUTZET

S. ANDRES DE PALOMAR

JURISDICCION DE LAS CORTS DE SARRIA

CORTS DE SARRIA

SANS

BORDETA

GRACIA

CEMENTERIO

Canal para desviar del llano las aguas de la montaña

HIPODROMO

GRAN BOSQUE

CASTILLO DE MONJUICH

MAR MEDITERRÁNEO

MATARO

LEYENDA DEL PROYECTO

- Calles pares de 30 metros de anchura
- Calles con hierro-carril en proyecto
- Calles con hierro-carril en explotacion
- Estaciones para lagunajes y cuevajes
- Calles de Ronda y transversal de 30 met. anch.
- Calles ordinarias de 20 metros anchura
- Iglesias creadas, salas de asilo, escuelas y demas edificios y establecimientos para el culto y la beneficencia parroquial
- Emplazamientos que pueden destinarse p.r edificios del Estado y establecimientos municipales
- B Bogatelas
- M Mercados
- P Parques

Escala de 1 por 10000 metros

Barcelona y Abril de 1859
El Ingeniero de caminos canales y puertos
Wenceslao Cerdá

Es copia del plano original aprobado por Real Orden de 7 de Junio 1859
El Director General de Obras Públicas

Es copia rubricada y comprobada
El Gobernador

V.º B.º

Lit.ª Moderna de B. Pera Portaceli de Ros n.º 11