



CERDÀ

English

Ildefons Cerdà (1815-1876)

Cerdà was born in the country, at Mas Cerdà, Centelles, some 50 km north of Barcelona. He was the third son in an enterprising family which traded with the American colonies. From early on he displayed an open, progressive outlook and graduated in 1841 as a civil engineer from an institution where liberal ideas were predominant: the Escuela de Ingenieros de Caminos, Canales y Puertos in Madrid. Prior to this his friendship with Narcís Monturiol, the inventor of the submarine *Ictineo*, brought him under the influence of Cabet's ideas, notably the Utopian world described in his *Voyage en Icarie* (1840). As a member of the Corps of Engineers, he was posted to various places before settling in Barcelona (1849), where he married Clotilde Bosch. The death of his brothers left him the heir to a sizeable fortune, enabling him to obtain leave from the civil service and devote himself, in an individual capacity, to the study of urban planning and to politics (he was deputy for Barcelona in the Spanish parliament, a Barcelona city councillor, vice-chairman of the Barcelona provincial authority, etc.). After a life devoted to the creation of a new city, which remains today an outstanding model of universal relevance, he died of heart disease in Caldas de Besaya (Santander) in 1876.

The walled city of Barcelona

The onset of industrialization drew a large influx of immigrants which Barcelona, still hemmed in by walls, was unable to absorb. Growing congestion and worsening living conditions gave rise to a protest movement which adopted the war cry of *¡Abajo las murallas!* ('Down with the walls!'). Pascual Madoz, the governor, who was a friend of Cerdà and in tune with his ideology, responded by ordering the demolition of the walls (1854), a decision hailed enthusiastically by the citizenry.

Density in the old city had soared to a staggering 890 inhabitants per hectare (as against 90 in London, 350 in Paris and 380 in Madrid). People were crammed into six-storey tenements that towered above a hive of medieval streets a mere 4 metres wide on the average. Even Carrer Ample ('Broad Street') was less than 8 metres across.

The gestation of the project for the Eixample ("expansion") district

Cerdà was commissioned by the Spanish Ministry of Development to draw up a topographic map of the broad Barcelona plain where building had been banned for strategic reasons. At the same time, on his own initiative, he wrote a study of the working class (*Monografía de la clase obrera*, 1856), a painstaking and exhaustive statistical analysis of living conditions in the walled city from the social, economic and nutritional point of view. He reached a very precise diagnosis: the city was "miserly" in size and unsuited to "the new civilization" marked by the use of steam to power industry and land and sea transport. Cerdà saw "mobility and (tele)communicativity" as the hallmarks of this new civilization (the optical telegraph being the other key invention).

The new paradigm called for a new type of city and, though no commission was yet forthcoming, Cerdà began sorting out the ideas he would set out systematically many years later in his great work *Teoría General de la Urbanización* (1867). One major feature of his proposals, which earned him an outstanding place in the



Original project for the remodelling and expansion of Barcelona (1859)

Perspective from the 1863 revised version of the original (1859) project for the expansion of Barcelona



history of urban planning, was his quest for coherence to reconcile the contradictory needs of a complex agglomeration. Leaving partial visions behind (those aiming at a Utopian, cultural, monumental or rationalistic city, etc.), he set out in search of the overall city.

The "Proyecto de Reforma y Ensanche" ('project for the remodelling and expansion') of Barcelona. 1859

The United States Declaration of Independence, the leading theories of the French Revolution, and the various Utopian movements all left their mark on Cerdà's ideas. The criteria and objectives of his project for Barcelona—both explicit and implicit—are totally imbued with humanism, while his praxis is founded essentially on equality, liberty (in the sense of privacy) and social cohesion. In short, his goal is a (wholly) "egalitarian" city. He also seeks to strike a balance between the values of the city and the advantages of the countryside: "Ruralize the urban, urbanize the rural" is the opening message of his *Teoría General*.

Cerdà strives in other words, to give the "contents" (the people) priority over the "container" (the stones or gardens). Form is a mere tool, albeit a very important one, whereas in most plans it is veritable obsession and often plays an over-decisive and even preponderant role. Cerdà's magic consists in conceiving a city on the basis of its dwellings. The privacy of the home is an overriding consideration, though in an age of large family units (three generations) it might be considered Utopian to aim at freedom for each family member. To Cerdà the ideal dwelling is the detached house in the countryside. However, the enormous advantages of the city make it necessary to achieve compactness—the essence of the urban phenomenon—by designing housing that fits into tall, multi-family buildings. Such housing, moreover, needs a carefully planned layout featuring a twofold system of ventilation, from the street and the courtyard in the centre of the block. And each unit must enjoy the gentle warmth of the sun.

Cerdà's primary classification of land into *vies* (thoroughfares) and *intervies* (the blocks or areas lying between them) is his second great contribution. The thoroughfares are the public spaces for mobility and encounter. Utility distribution networks (water, sewers, gas, etc.), trees (over 100,000 trees in the streets), lighting and urban furniture are also located there. The blocks (100x100 m) are the spaces for private life, with two rows of multi-family housing overlooking an inner courtyard from which all (without exception) receive sun, daylight, ventilation and *joie de vivre*, as the hygienist movements demanded.

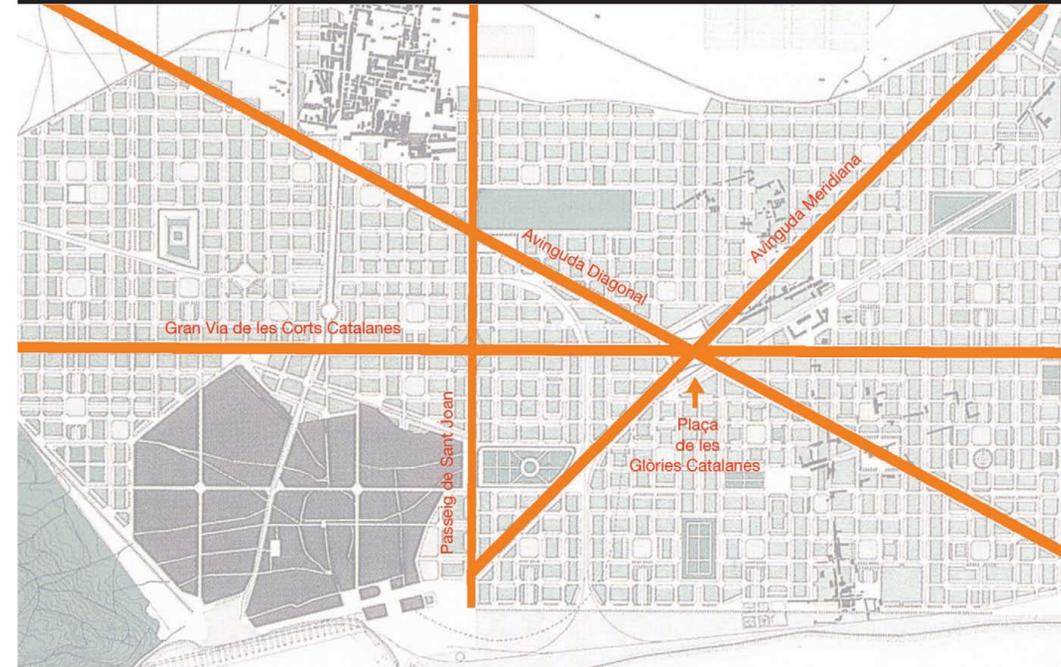
Circulation is organized on the basis of a homogeneous, orthogonal street system which creates a deliberately egalitarian and functionally efficient city. Cerdà did not invent the gridiron plan, which is the Eixample's identifying trait. He did rationalize it, however, in an attempt to prevent the effects of land speculation or the ignorance of the settlers. To consider the regular street layout as his sole or most important contribution is more than an error: it is an insult. His street system creates a cohesive, well articulated, homogeneous city. It provides a stable framework to a variety of buildings of different heights and depths. The Catalan writer Josep Pla defined the Eixample as "chaos on a chessboard" and it is precisely this interface between chaos and order which generates and maintains life (and freedom).

Though this is not the place for a detailed historical account, 34% of the Eixample was to be taken up by streets (forty years before the invention of the automobile) as against 17% of the walled city. The streets of the Eixample were to be at least 20



Aerial view of the stretch of the Eixample adjoining the Old City

Ideal outline of the "transcendental thoroughfares" which were to link the city to the outside world, as shown on Cerdà's original project



CERDÀ

TURISME

Generalitat de Catalunya



metres wide and the "transcendental thoroughfares" (Gran Via, Avinguda Diagonal and Avinguda Meridiana) were to link Barcelona to the "worldwide highway system" (140 years before "globalization"). More interesting and surprising is the fact that the streets are shared equally between pedestrians (two pavements 5 m wide) and carriages (a roadway 10 m wide). To facilitate manoeuvres at intersections, the road surface is doubled by spacious "chamfered corners" achieved by beveling the corners of the square blocks and making them octagonal. Nowadays one thousand two hundred square-like crossroads permit loading and unloading without impeding the flow of traffic.

Underground railway tracks reach the city centre, linking the stations to one another and to the port. It was in fact the railway that sparked off the idea of a large "expansion" district (six times the size of the old city) to meet the challenges of growth triggered by industry and made possible by mechanized transport.

To round off the egalitarian configuration of the city and the humanistic spirit of the proposals, community services (hospitals, schools, markets, churches, etc.), squares and green spaces were evenly spread throughout the area. Two great parks were located at either end and each "district" (10x10 blocks) had a city park.

Cerdà also contributed decisively to the realization of his project by proposing the legal and financial bases and then personally seeing to their implementation. The German technique of re-allocating the land into plots made it possible to fund the plan, convert properties that were part of an aleatory rural layout into urban development sites, and replace ancient pathways by a regular street network which has remained highly efficient for both pedestrians and vehicles down to the present day.

From criticism and stumbling blocks to recognition

The first stumbling block arose over a question of jurisdiction. Since the plan affected five different boroughs, it could not be approved by the Barcelona city council. Under the legislation then in force, only the central government could take the necessary steps. The council reacted to what it considered political interference and in 1859, the same year in which Cerdà's plan was initially approved in Madrid, it organized a contest of its own covering the much smaller area within the municipal boundaries. The winning project, by Antoni Rovira Trias, was much less ambitious and innovative in all respects than Cerdà's plan. The Spanish government, undeterred, reasserted its position in 1860 and gave final approval to Cerdà's plan, laying down certain guidelines which Cerdà himself incorporated into a revised project (1863).

But the harshest criticism was aimed at the form and ignored the plan's social and functional aspects. For many years (and still today) Cerdà's plan was accused of being "monotonous". He defended himself by arguing that diversity and form were a matter for the architects, a view corroborated by the fact that some of Barcelona's finest architecture is in the Eixample. The foremost examples – built in the heyday of Modernism – include the Pedrera, the Sagrada Família and Casa Batlló by Antoni Gaudí, which are part of the UNESCO World Heritage, the Fundació Antoni Tàpies by Domènech i Montaner, and Casa de les Punxes and Casa Amatller by Puig i Cadafalch.

In this patently hostile atmosphere, the execution of the plan proved slow and difficult. The landowners felt that the space for community services was over-generous and were reluctant to bear the financial burden of developing a previously uninhabited area. A battle against their proposed modifications got underway, with Cerdà in the front line. Certain changes were achieved more subtly



through municipal bylaws which did not affect the plans themselves. One widespread option was to close all four sides of the blocks while preserving the inner courtyard as green space. Later a single storey could be built in the courtyard provided the "hollows" inside the blocks (50x50 metres) remained. Today these still constitute 1,200 invisible squares providing the dwellings with light and ventilation. Slowly but surely, however, in the course of a century, further debasement was permitted, until the building ratio reached ten times the level authorized at the outset.

Recovery

The recovery of the Eixample got underway in the 1970s. First the addition of penthouse apartments was banned. Then more radical steps were taken under the Metropolitan General Plan (1976) which is still in force: the building ratio was cut from ten times to six times Cerdà's figure, many areas for community facilities were repossessed, and the legal limit on urban density was significantly lowered.

Semiotics teach us that the subliminal signals given out by Cerdà's Eixample were capable of shaping a more cohesive, more egalitarian Catalan society, endowed with greater vitality to compete with the great capitals of the world. The 1888 Universal Exposition, the 1929 International Exposition, the 1992 summer Olympics and other events have put Barcelona on the map and led to a growing influx of visitors. Besides admiring the new achievements, these visitors discover in the Eixample a city with fewer contradictions and a better quality of life than many others which boast more historic buildings or greater opulence.

What aspects of the Eixample should not be missed?

It is superfluous to note the square blocks, which are immediately obvious. However some of their features do warrant attention, in urban planning terms: the balance between areas for pedestrians and automobiles; the generously tree-lined pavements; the crisscross pattern of the one-way streets; the broad "transcendental" avenues and promenades; the chamfered corners to permit loading and unloading without disrupting "continuity of movement" and facilitate visibility; the squares; the parks; the wide array of façades and balconies; the doors, with their frequently extraordinary designs, which are located in the middle of the buildings, between the ground floor shops; the aerial views from the tops of Montjuïc, the Tibidabo or certain "unusual buildings" (Barcelona has no skyscrapers, in the strict sense of the term, since they would have caused the building ratios to oscillate too sharply). A visit to the "invisible" squares within the blocks is especially recommended – those inner courtyards, untroubled by the noise of motorized traffic, which have been recovered and are gradually reverting to the community.

© Generalitat de Catalunya
Turisme de Catalunya
Departament de Comerç, Turisme i Consum
Prepared by: Servei d'Informació, Difusió i Publicacions
Text: Albert Serratos, curator of the exhibition "Cerdà. Urbis i Territori"
Graphic design: Francesc Guitart – EIX
Photographs: Francesc Guitart, Pere Vivas – Triangle Postals, TAVISA, Institut d'Estudis Territorials

We are grateful to Eleana Vieira and the Institut d'Estudis Territorials (www.ieatcat.org - Cerdà) for their efficient collaboration.
Printed in Gràfiques Cusco, S.A. D.L.: B-51342-2004
Printed in EU

Bibliography
SEVERAL AUTHORS, *Cerdà. Urbis i Territori* [exhibition catalogue], Editorial Electa España, Madrid 1994. (versions in Catalan, Spanish and English)
SERRATOSA, Albert, *et alii*, *Semiòtica de l'Eixample Cerdà*, Editorial Proa, Barcelona 1999.
SORIA Y PUIG, Arturo (compiler), *Cerdà. Las cinco bases de la Teoría General de la Urbanización*, Sociedad Editorial Electa España, Madrid 1996. (versions in Spanish and English) www.proeixample.com



- 1** The market of Sant Antoni (1882), by Rovira i Trias, has a characteristic iron structure and occupies an entire block of the Eixample. On Sundays it becomes a market for old books, postcards, records and comics.
- 2** An interesting water tower by J.O. Mestres (1897) rises above the gardens of the Torre de les Aigües inside one of the first courtyards of the Eixample which were recovered for public use (1985).
- 3** Casa Elizalde is a handsome Modernist mansion by Emili Sala (1888) that now houses an active civic and cultural centre. The spacious and characteristic inner courtyard has also been recovered.
- 4** The Cases Cerdà (the name has nothing to do with Ildefonso Cerdà) were the first houses built in the Eixample (1862-1864). This one, by master builder Antoni Valls i Galí, has been restored and turned into a hotel.
- 5** Casa Terrades, or "Casa de les Punxes" (1905), is a distinctive medieval-looking Modernist building by Puig i Cadafalch. It occupies one of the irregular-shaped blocks formed by Avinguda Diagonal.
- 6** The Hospital de Sant Pau, Domènech i Montaner's most important work, comprises different pavilions, located on the edge of the Eixample. Building began in 1902. The layout constitutes a departure from Cerdà's overall plan.
- 7** Casa Milà, known as "La Pedrera", is an emblematic building by Gaudí which fully exploits the possibilities of the chamfered corner. It is now a cultural centre devoted to the great architect's work.
- 8** Passatge Permanyer, lined by single-family dwellings with small front gardens, cuts through the middle of one of the blocks of the Eixample. This and other similar streets are an infringement of Cerdà's initial project.
- 9** The University of Barcelona, designed by Elies Rogent (1863-1869), occupies an area equivalent to two blocks. The beautiful gardens are now open to the public.
- 10** One of the Eixample's chamfered corners (at the intersection of Carrer de València and Carrer de Roger de Llúria) where goods can be loaded and unloaded without obstructing the traffic.
- 11** This block on Passeig de Gràcia, one of the Eixample's liveliest streets, is nicknamed "mançana de la Discòrdia" (block of discord) because of the contrasting buildings by Domènech i Montaner (Casa Lleó Morera), Puig i Cadafalch (Casa Amatller) and Gaudí (Casa Batlló) which stand there.
- 12** Aerial view of a demonstration at the spacious intersection between Passeig de Gràcia and Avinguda Diagonal where many thousands of people can gather. Palau Robert – a former mansion (1903) standing amid attractive gardens – houses the Centre d'Informació de Catalunya.
- 13** Passeig de Gràcia, one of the Eixample's main avenues, was the road from Barcelona to the town of Gràcia prior to 1859. Soon after it became the site of the city's foremost recreation facilities. It is overlooked by the finest works of Catalan Modernist architecture.
- 14** Avinguda Diagonal was designed as one of the links between the Old City, the Eixample and what at the time were the adjoining villages. It was also to be a spacious promenade and one of the main urban thoroughfares.
- 15** Passeig de Sant Joan, one of the Eixample's most distinctive streets, runs from Parc de la Ciutadella and Arc de Triomf to the former town of Gràcia.
- 16** Avinguda Gaudí cuts across the gridiron pattern of the Eixample from the Sagrada Família to the Hospital de Sant Pau.
- 17** Avinguda Mistral intersects the square blocks of the Eixample. It was once part of the road from the Old City to Hostafrancs, around Avinguda Paral·lel and Plaça d'Espanya.
- 18** Avinguda de Roma, which branches off Carrer d'Aragó, was built over the open-air railway line that ran through the Eixample until the second half of the 20th century.
- 19** The unfinished Plaça de les Glòries Catalanes, at the intersection of Avinguda Diagonal, Avinguda Meridiana and Gran Via de les Corts Catalanes, was to be the new centre of Barcelona under Cerdà's plan.
- 20** Plaça de Letamendi, at the intersection of Carrer d'Aragó and Carrer d'Enric Granados, is one of the distinctive squares designed by Cerdà.
- 21** Parc de Joan Miró (or Parc de l'Escorxador) contains a large sculpture by Miró. The municipal slaughterhouse ("escorxador") once stood on the four-block site in the Eixample now occupied by the park.
- 22** Avinguda Josep Tarradellas, at one end of the Eixample, runs from Plaça Francesc Macià to Plaça dels Països Catalans and the Sants railway station.
- 23** The Sagrada Família, a still unfinished expiatory church, is Gaudí's best known work and a veritable symbol of Barcelona. It rises between two squares which occupy the space of two Eixample blocks.
- 24** The Escola Industrial is a former textile mill, the Vapor Batlló, which occupied two blocks of the Eixample. It was converted into a technical college by Rubió i Bellver.
- 25** The Hospital Clínic (1904) and the University of Barcelona's Faculty of Medicine, both by Domènech i Estèpà, occupy two blocks of the Eixample.
- 26** The seminary of the diocese of Barcelona (Seminari Conciliar), designed by Elies Rogent (1888), has recently opened its gardens to the public.
- 27** The market of La Concepció is the oldest in the Eixample. It has a characteristic iron structure and was totally remodelled in 1998.
- 28** The old North Station, built by Pere Andrés (1864) and extensively modified later, closed down in 1972. It is now a bus station. Alongside it are the attractive gardens designed by Enric Tous and Josep M. Fargas.
- 29** The Montserrat Roig Gardens were laid out in 1992 on the former site of the Damm brewery's bottling and distribution plant.
- 30** The Rector Oliveras Gardens are located beside the Gothic church of La Concepció, which was moved stone by stone from the Old City to the Eixample when the Via Laietana was built.