

19th Century Urban Planning

Hausmann, Cerda, Olmsted, Howard

Introduction to Architectural History

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Spring 2020, 7:15 – 8:30pm

Remote Instruction



Georges-Eugène Haussmann
French, 1809 - 1891



Ildefons Cerdà
Spanish, 1815 - 1876



Frederick Law Olmsted
American, 1822 - 1903



Ebenezer Howard
British, 1850 - 1928

- 4 key figures when discussing 19th century urban planning



Georges-Eugène Haussmann
French, 1809 - 1891

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- French official who quickly climbed the ranks, and hand-picked by Emperor Napoleon III



BOULEVARDS

FAÇADE / STREETS CAPES

4

- 2 Key ideas you have to be familiar with, and should always be associated with Haussmann



- 17 years to complete (1853 – 1870)
- By mandate of Napoleon III
- Demolished 12,000 buildings
- Integration of new boulevards
- Clearing around prominent buildings
- Uniform façade appearance
- Complex sewage system
- Gas lamps for safety

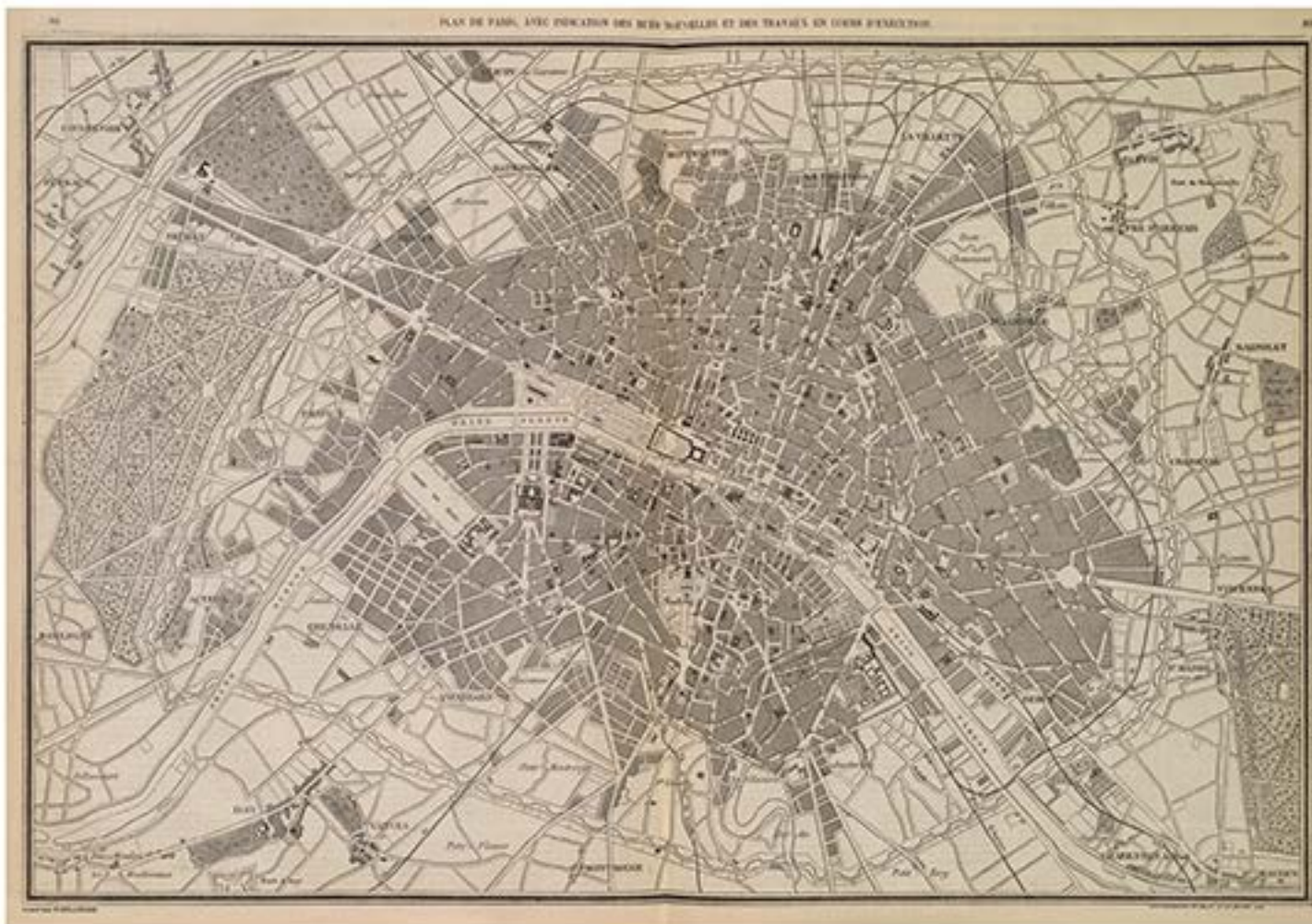


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- Condition of France before Haussmann's intervention







Pre-Hausmann Paris (1853)

- Indication of the work that was to be done on Paris
- What we don't see, complex sewage system



Boulevard

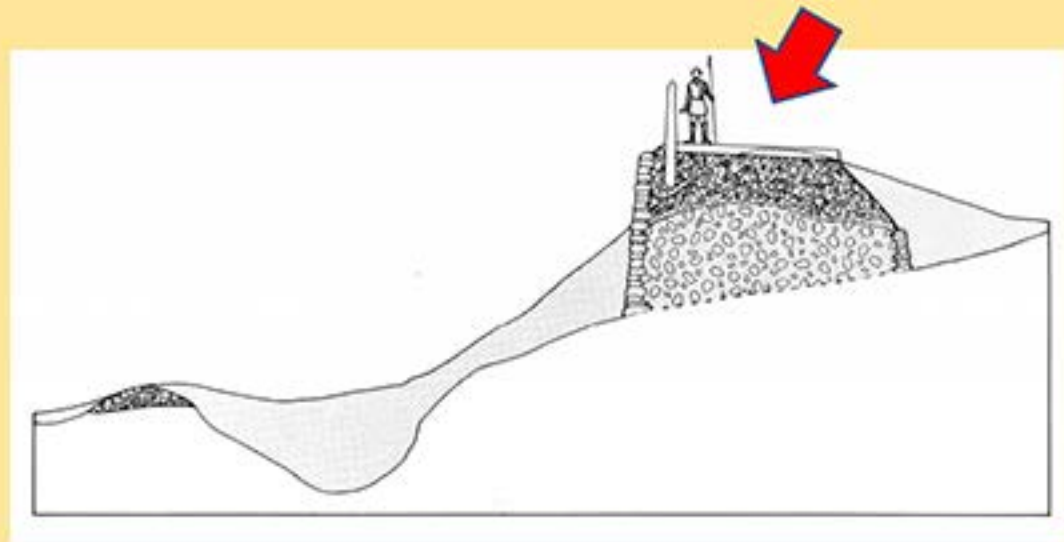
Broad street or promenade
with rows of trees



Boulevard

Broad street or promenade
with rows of trees

*From Middle-Dutch, 'bolwere'
French lacked a 'w' in their
alphabet*



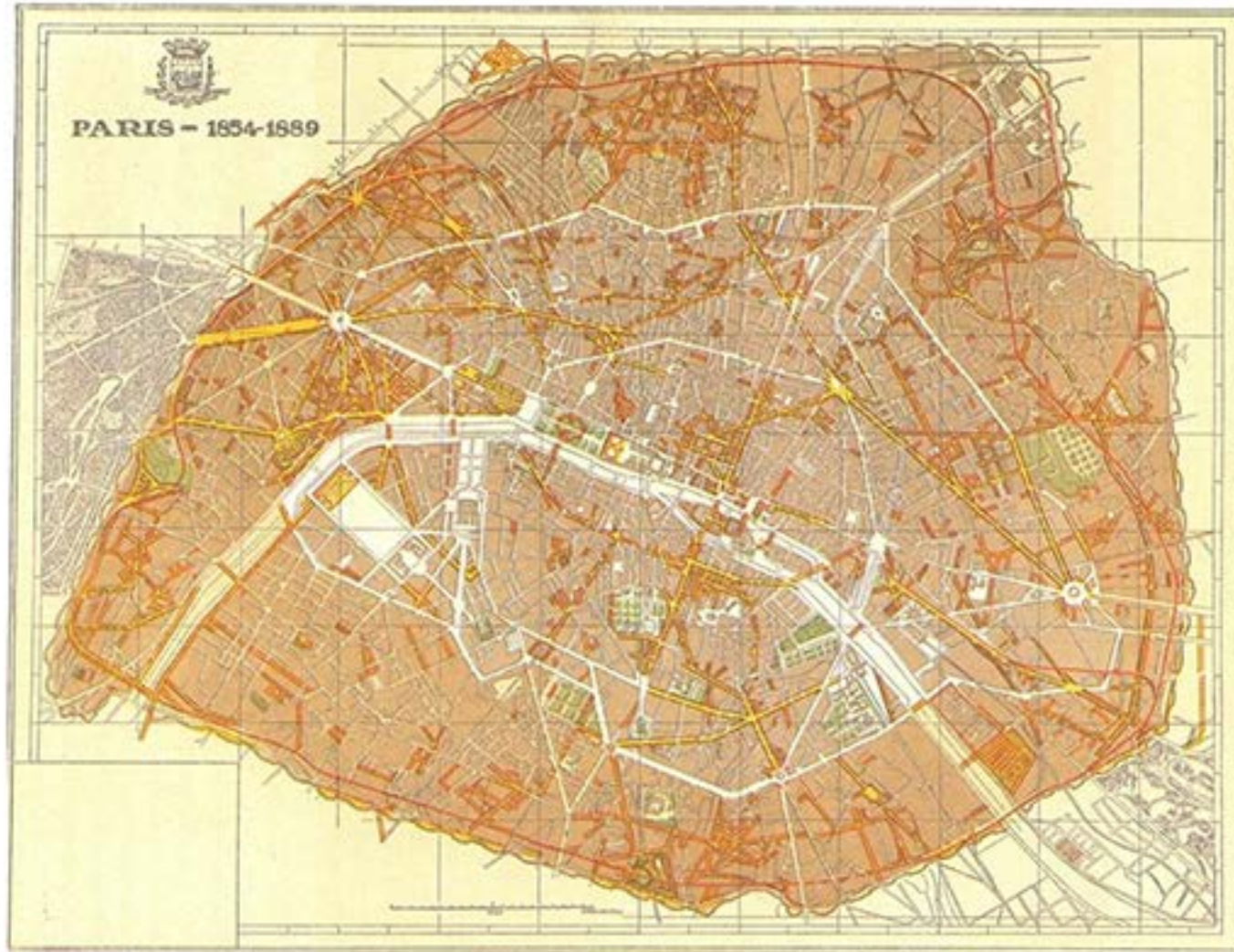


Camille Pissarro, *Boulevard Montmartre* (1897)

- Typical image of Paris – owed to Haussmann's urban project



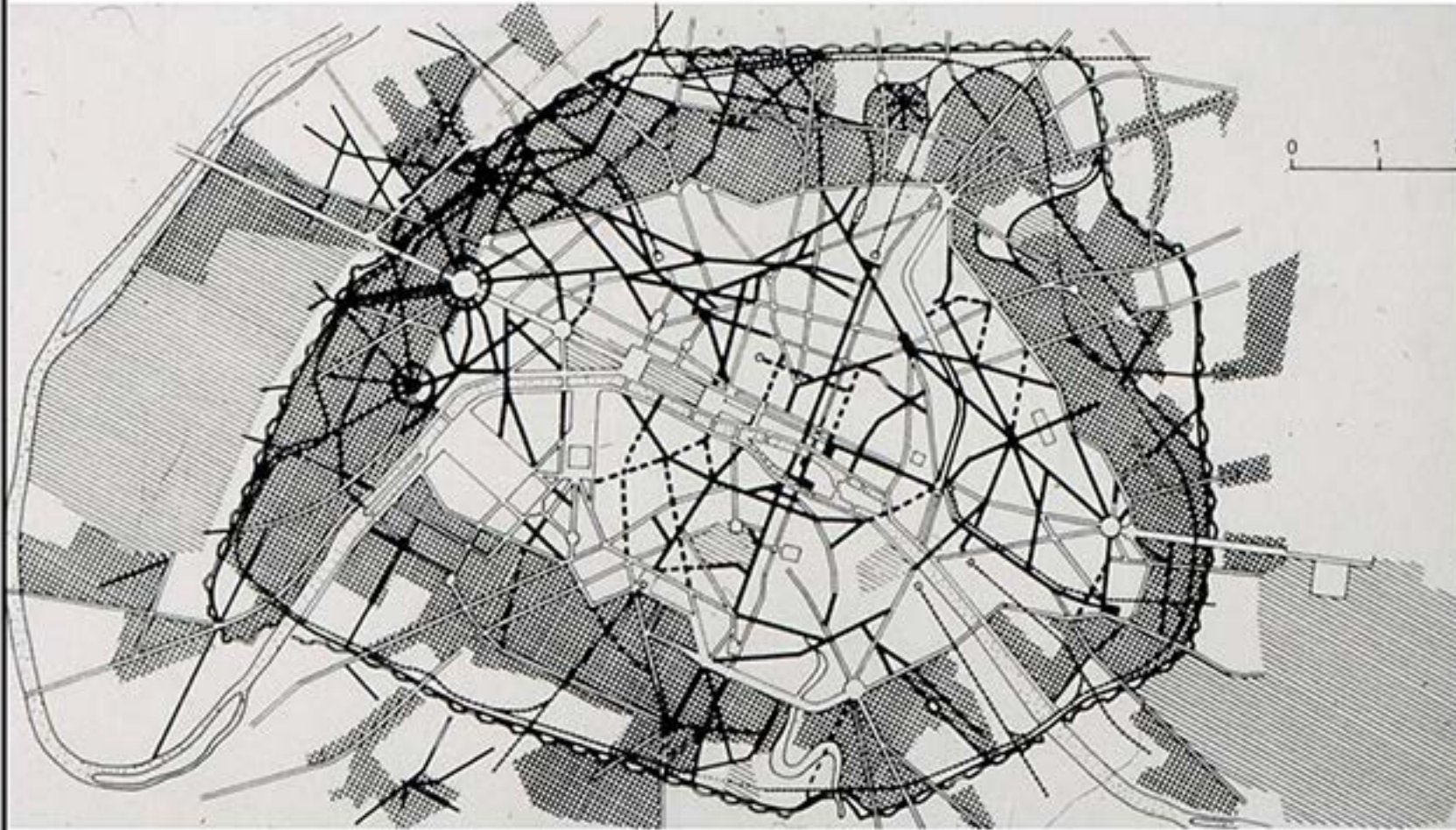
Paris before Haussmann (of 1550)



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New boulevards and streets under Haussmann's program

- Showing streets that were reconstructed from 1854 – 1889, under Haussmann's masterplan
- New boulevards and streets are shown in yellow outline with red





- What we see today – boulevards cutting right the way through



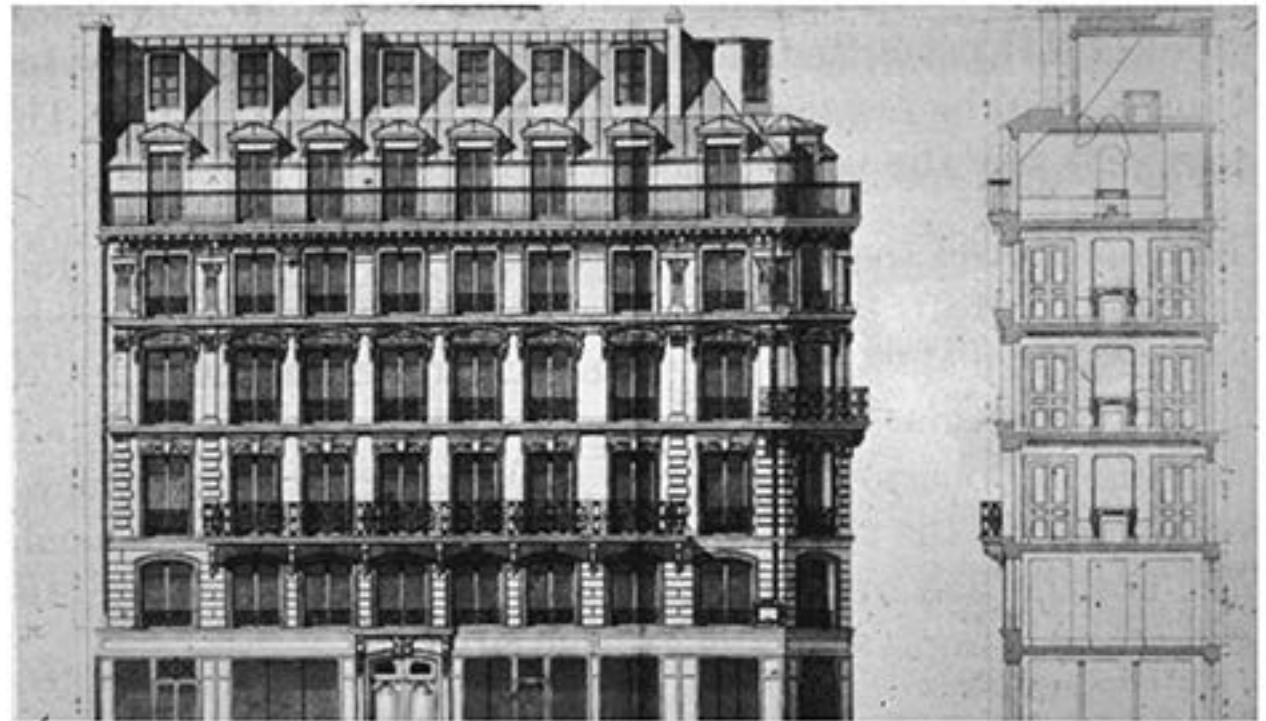
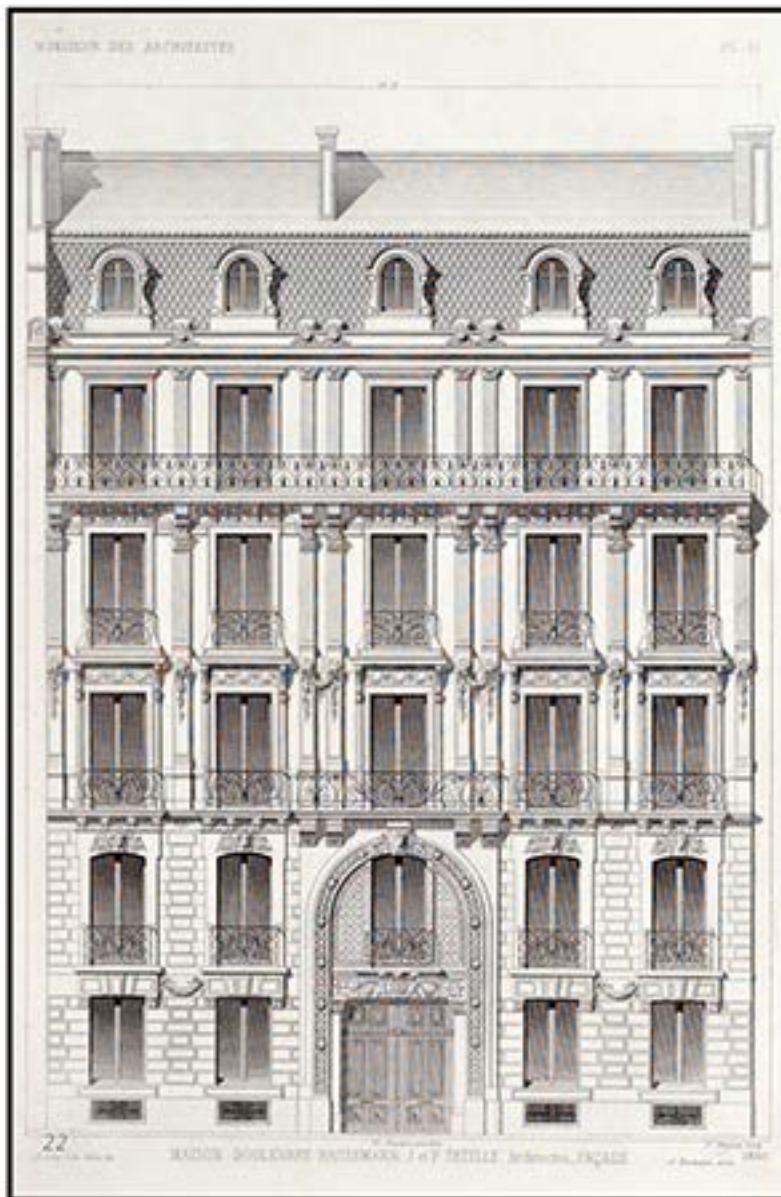


Avenue des Champs-Élysées





des Champs-Élysées



Rue de Rivoli, Paris

- More than 40,000 homes built in this period (in part because so much was taken down!)
- Created uniform look to Parisian facades



ELEMENTS OF HAUSSMANNIAN FACADE

- Clear delineation of the *piano nobile* (*étage noble*)
 - Usually double-height
 - Balcony
 - Elaborate window frames
- Typically 6-7 stories
- 'Mansard Roofs':
 - 45 degrees (or steeper pitch)
 - Dormer windows
 - Regular (repetitive windows)
 - For servants quarters
- 3rd/4th floor more conventional, 'simpler window frames'
- Second balcony on upper floor (4th/5th), for aesthetic balance

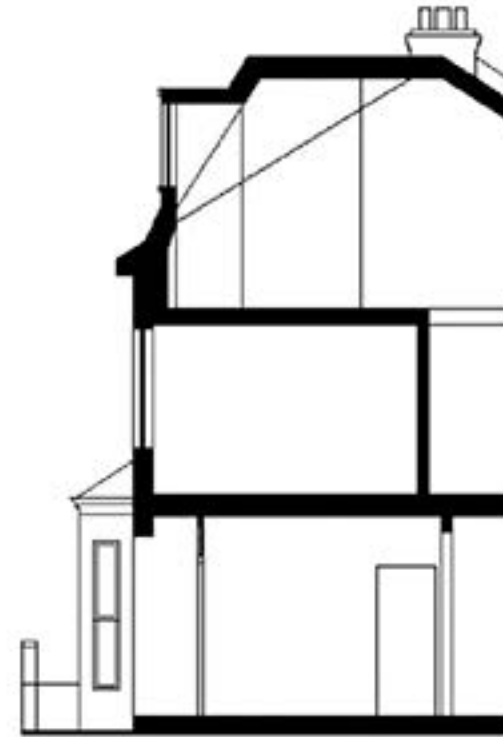


Dormer Window

A window that projects from a roof's principal surface.

In addition to allowing light into an attic/upper floor, they also increase usable floor area.





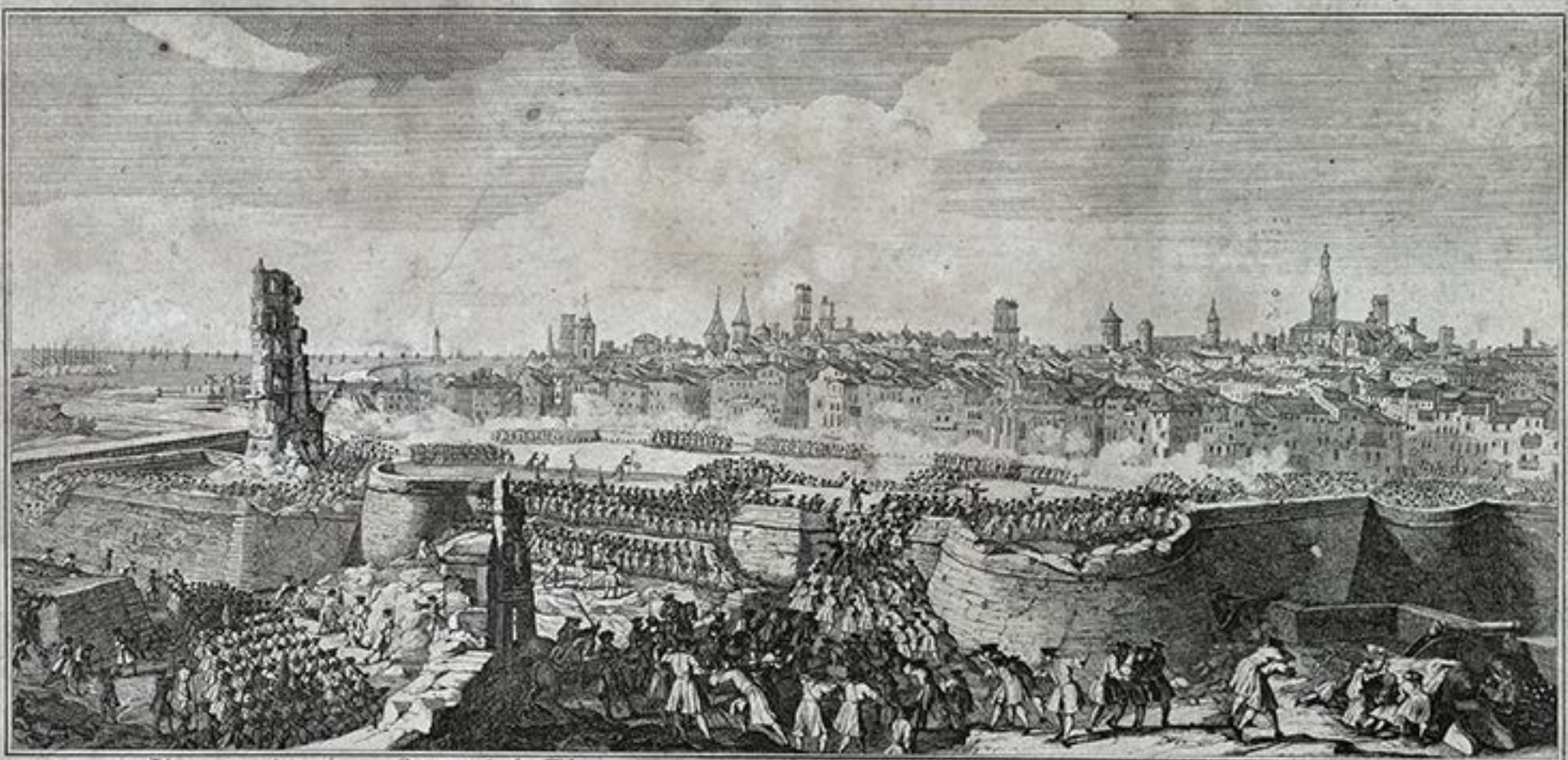




Ildefons Cerdà
Spanish, 1815 - 1876

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- Up to mid 19th century, Barcelona was a congested city, supported by its thriving port
 - Had grown quickly following the industrial revolution (first – 1760 – 1840)



L'assaut donné au Corps de la Place.

Les Bastions étant pris, les Sapper poussés au pied du mur qui ferme la gorge des bastions, ou les bords faibles, à Coup de Canon, ou bien les mines étant chargées, on fait sauter les alicattes de rendre la place, et au cas de refus on fait monter à L'assaut, on attaque en même tems la Courtine. Et on pousse les ennemis jusqu'au grand retranchement qui couvre le dedans de la Place, on L'attaque en plusieurs endroits tout à la fois et on fait effort pour gagner les remparts, on fait remplacer les troupes à mesure qu'elles avancent en sorte qu'il y ait toujours des bataillons qui occupent les brèches les faibles, et le logement du chemin, & d'ailleurs, et lorsque l'on ne peut forcer le grand retranchement, on se loge sur les remparts ou du moins sur les brèches.

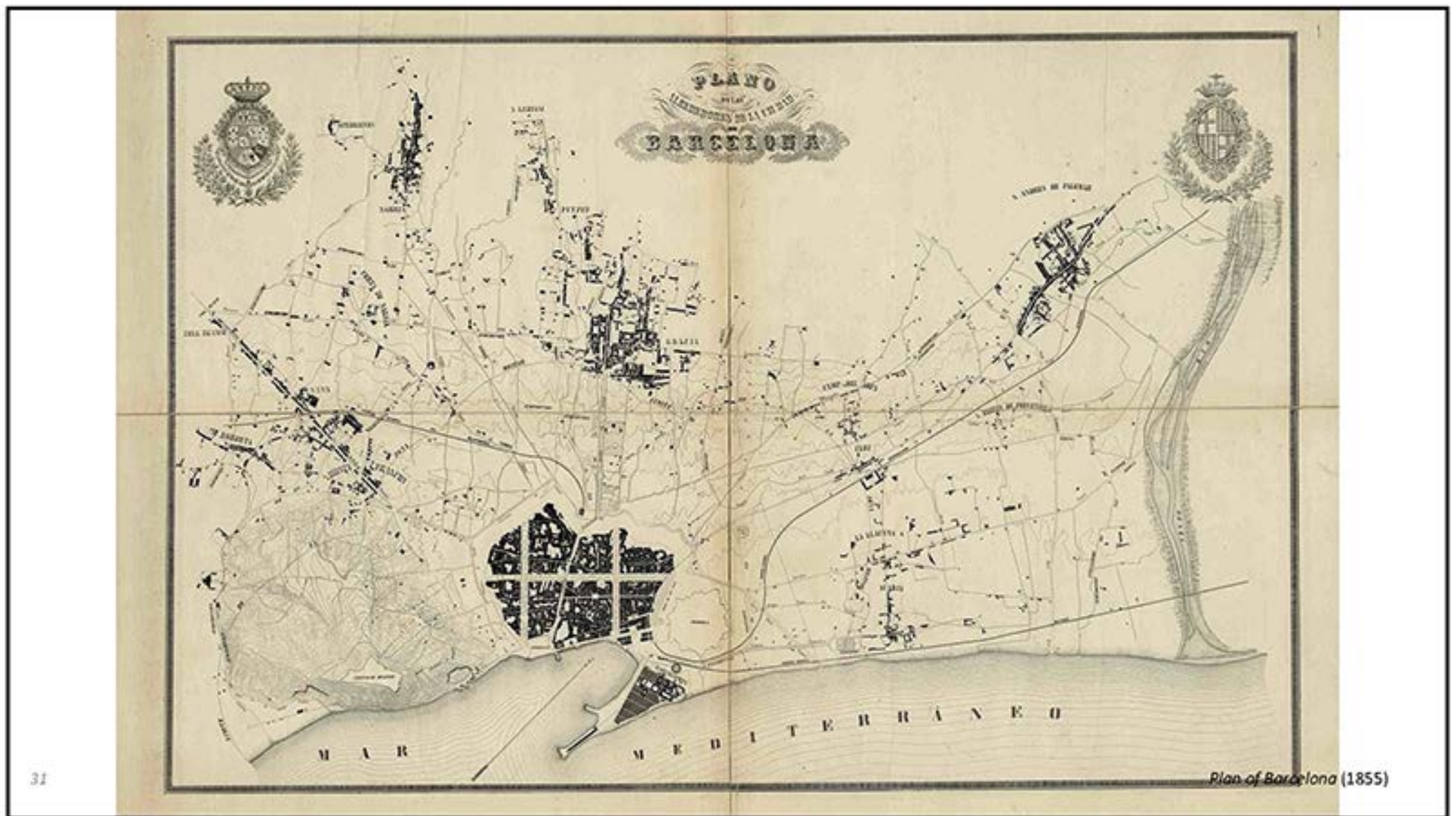
Der Sturm auf den Haupt-Ort der Festung.

Wenn man die Gallerien erobert und die Untergrubungen unten an der Mauer welche die Alichatten der Bastionen vollständig getrieben sein und die Brüche entweder durch die Canonen oder die Mienen gemacht ist, so ist man die Schanzen aufzubrechen die Festung zu übergeben. Sobald sie man sich über ab, so ist man an zu übergeben. Man greift nicht zu gleicher Zeit die Courtine an, oder die Mauer zwischen den Bastionen durch den Feind hier in die große Schanze, welche das in umschlossene Festung bedeckt, diese fällt man an vielen Orten zu gleicher Zeit, und man bemühet sich auf die Wälle zu kommen. Man ersetzt allmählich die Truppen, nach dem derselben, avancieren wieder und andern, so daß allezeit die Brücken, & d'ailleurs, und die Eingebungen der besten Plätze von denen Truppen besetzt sein und wenn man die große Schanze nicht bekommen, so legt man sich auf den Wällen oder wenigstens an denen Brücken feste.

- Image of Barcelona towards very beginning of 18th century



- Medieval walls defined the city limit up until the 18th century



- Plan of Barcelona in 1855

PLANO
ENSANCHE Y MEJORA
de la Ciudad de
BARCELONA.

E



Francesc Saler i Gloria, Second place entry



LA CIUDAD DE
BARCELONA
SU PLAN DE EDIFICACION
Y
PROYECTO DE ENSANCHE

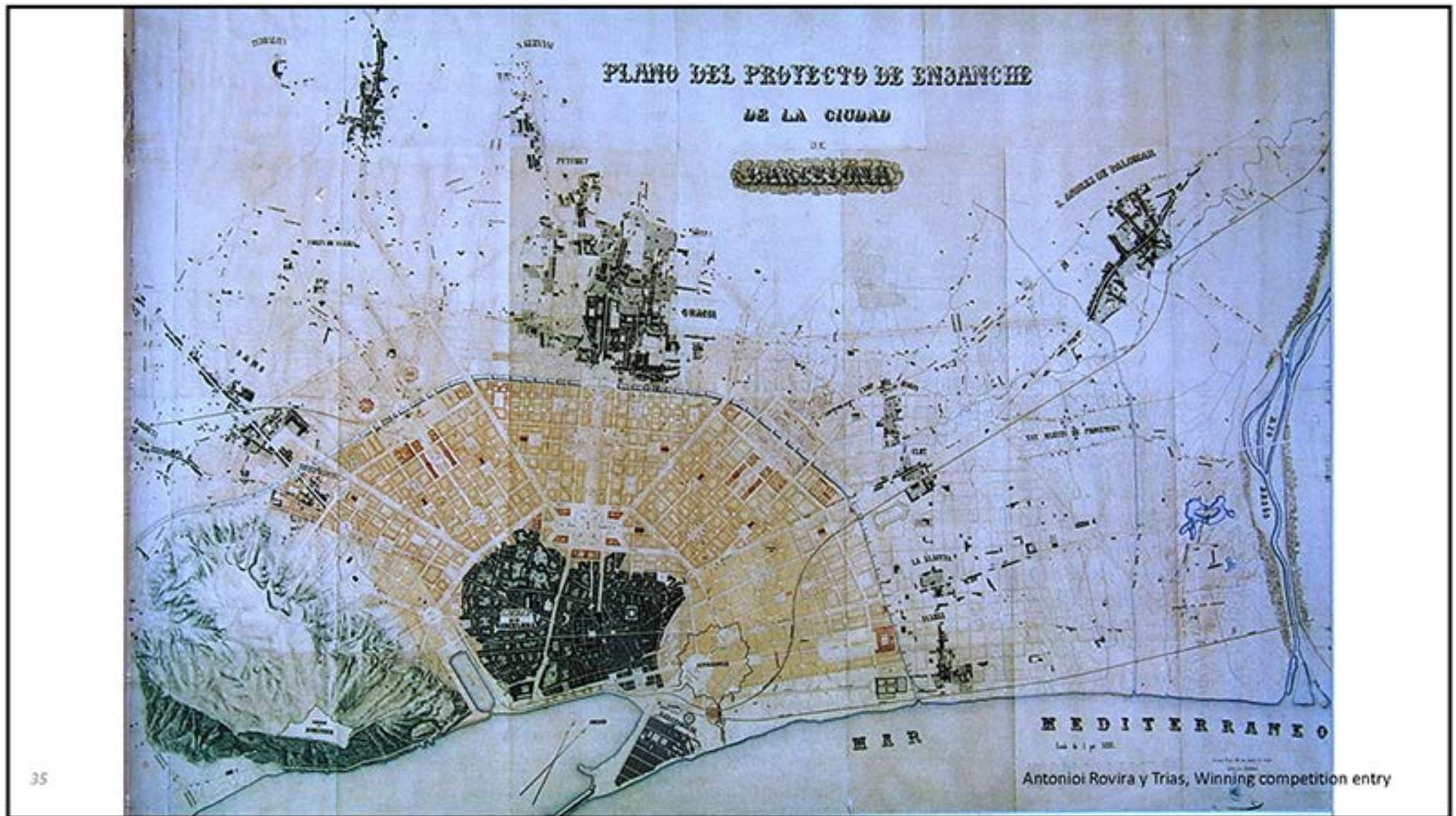
Josep Fontserè i Mestre, Third place entry

BARCELONA
PROYECTO DE ENSANCHE

“No destruir para edificar, sino conservar para rectificar y edificar para agrandar.”

“Do not destroy to build, but rather conserve to improve and build to enlarge.”

Josep Fontserè i Mestre, Third place entry



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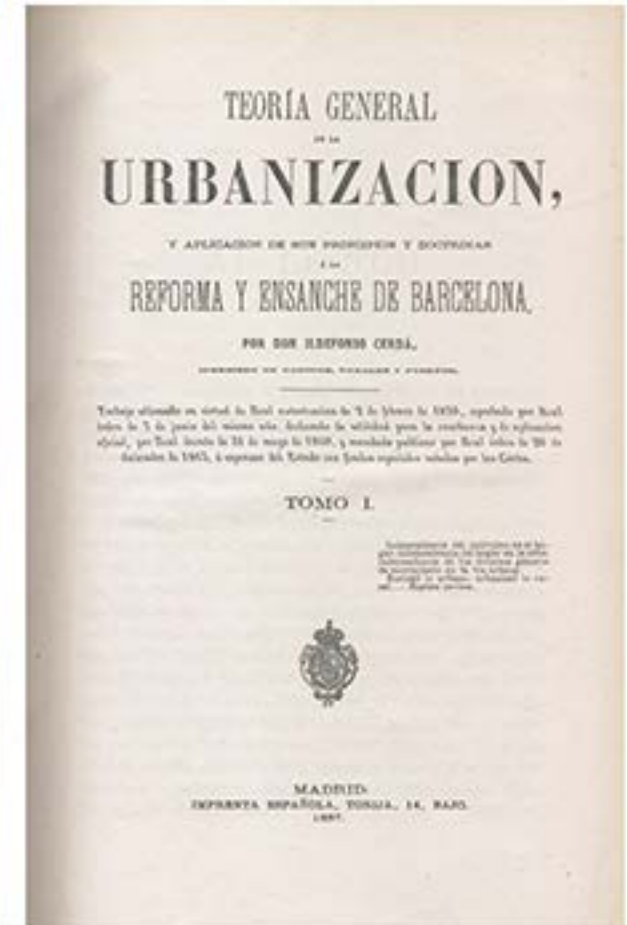
- None of these proposals went through (except for Plaza Catalunya)
- 1888, with the Universal Exposition, an impetus to reignite the urban project



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Cerda plan of Barcelona (1859)

- Cerda's proposal
- Approximately 900 blocks



Cerdá, *Teoria General de la Urbanizacion* (1867)

- Concluded that high mortality rates in the city were directly linked the densification of homes and urban functions

eixample / *ensanche*
expansion



manzana
block



- 2 Key terms
 - Eixample (Catalan)

vías

ways / lines

intervías

interways

- Cerda divided his design into two parts
 - Vias and Intervias

vías

ways / lines

- Public Spaces
- Infrastructure
- Utilities / Services
- Street Furniture

intervías

interways

- Private Spaces
- Family-Centered

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- Hierarchy
 - More public → more private

ENCrucIJADAS EN LAS CALLES DE LAS POBLACIONES.

Carretera de Calle

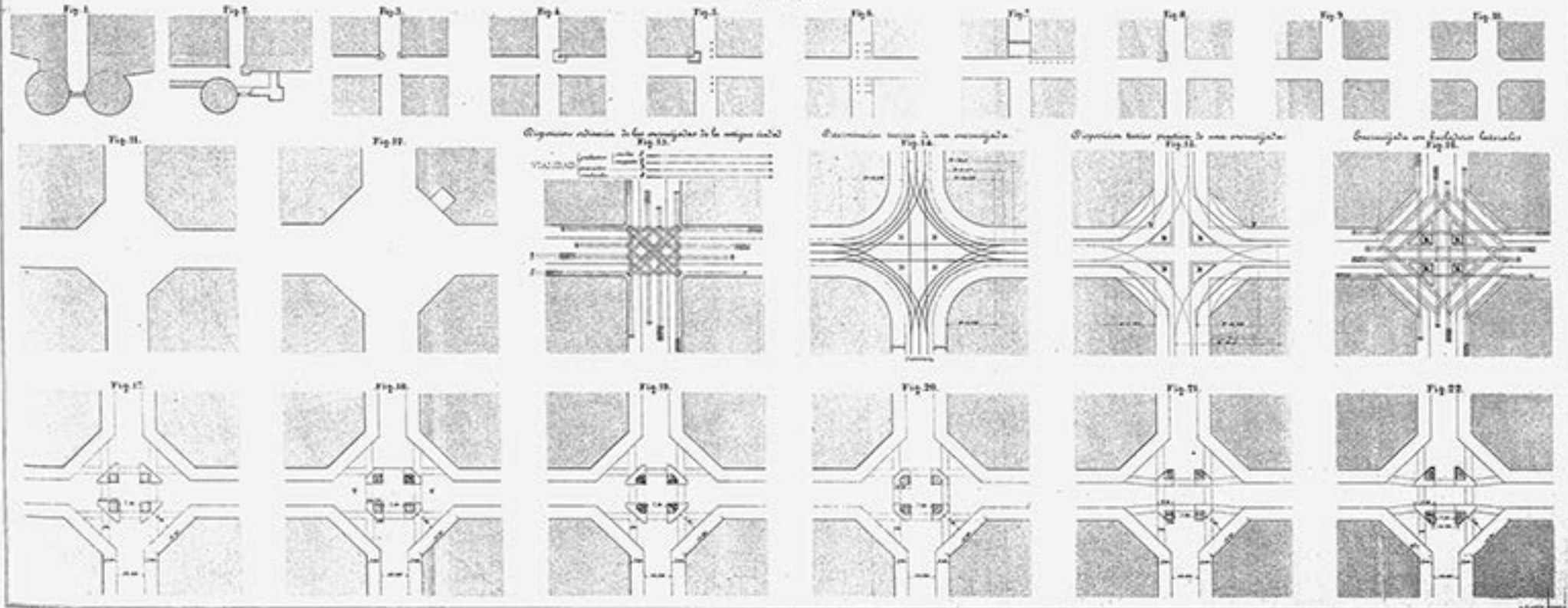
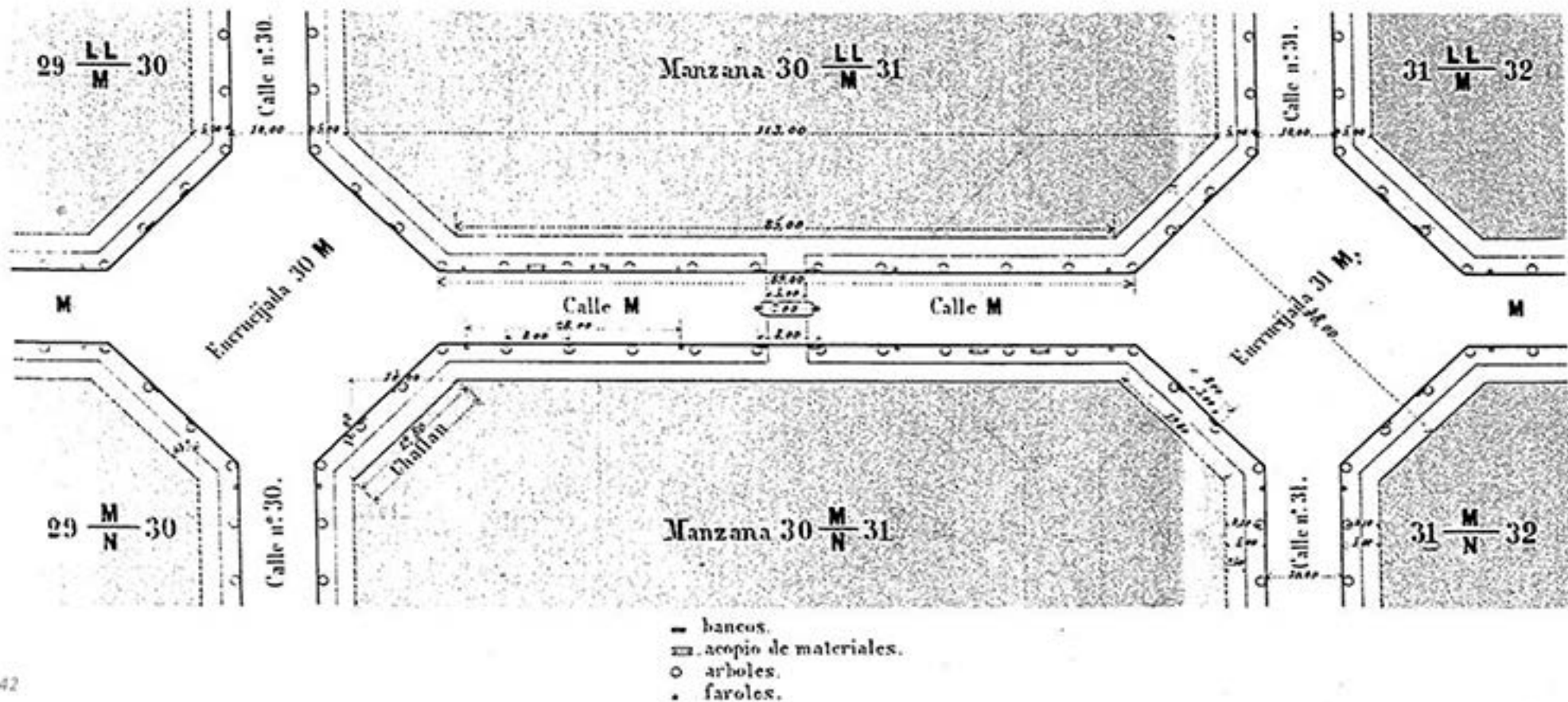


Fig. 29.
Disposicion, Dimensiones y nomenclatura de las calles, manzanas y encrucijadas.

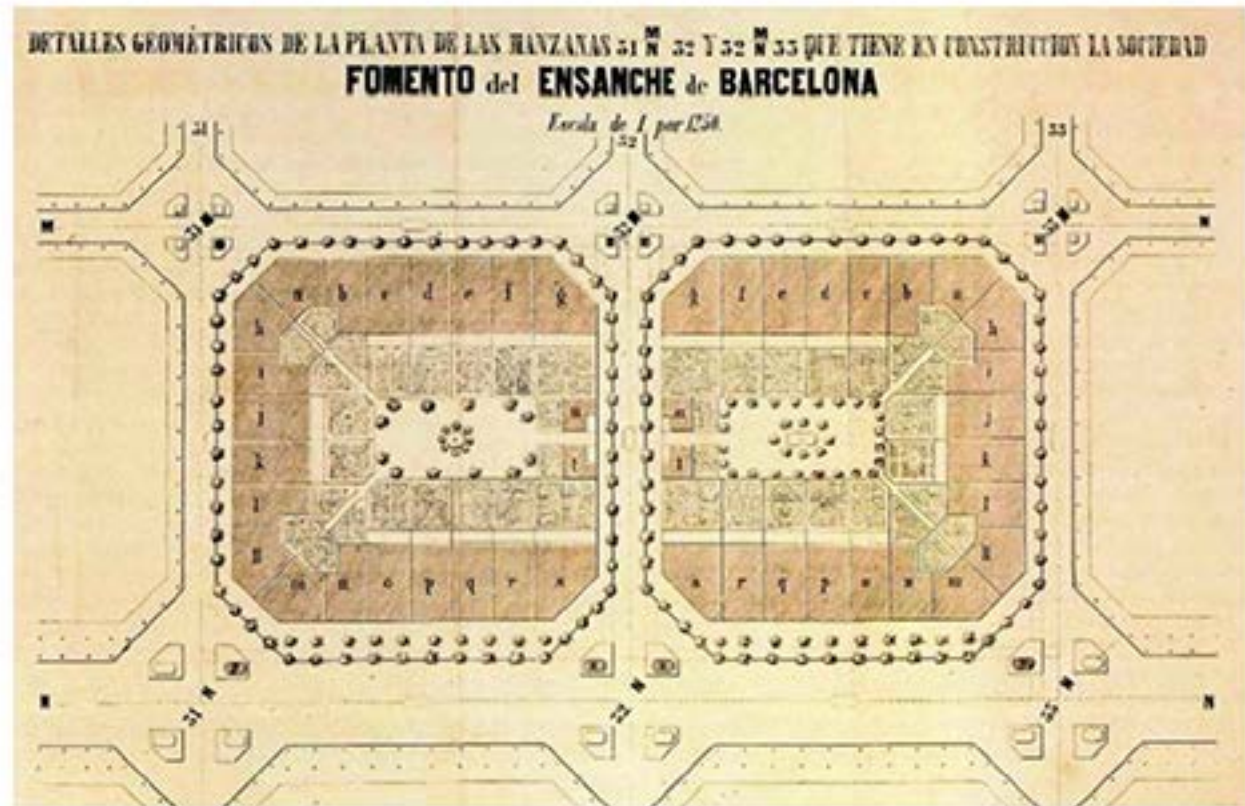


- Why CHAMFER?
 - More open blocks
 - A kind of inter-block courtyard
 - Cerda believed the tram would be everywhere
 - Parking
 - Services (communal garbage cans)

$$x = \frac{2pv - 2bd}{d} \pm \sqrt{\frac{4pv}{d^2} (pvf - 2bdf - b^2d - df^2)}$$

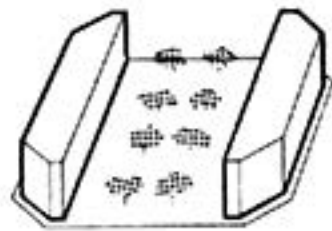
Where

x is the length of the side of the block;
 p is the number of square metres per person;
 v is the number of inhabitants per house;
 b is the width of the street;
 d is the height of the facade; and
 f is the depth of the building site.

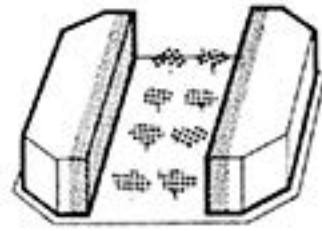


- Championed the consequent creation of public green spaces
 - Essential in original plan
- Cerda arrived at his blocks and streets
 - Blocks: 113.3 meter square (1,200ft²)
 - Streets: 20 – 30 meter wide (65 – 100 ft)

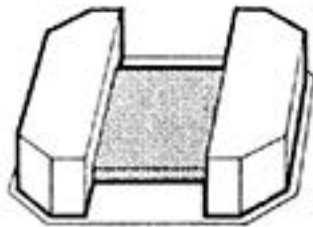




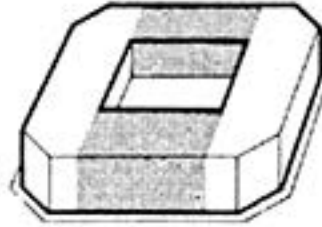
67,200 m³



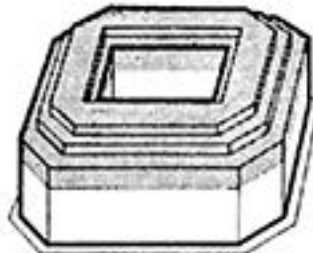
+ 29,440 m³



+ 18,944.41 m³



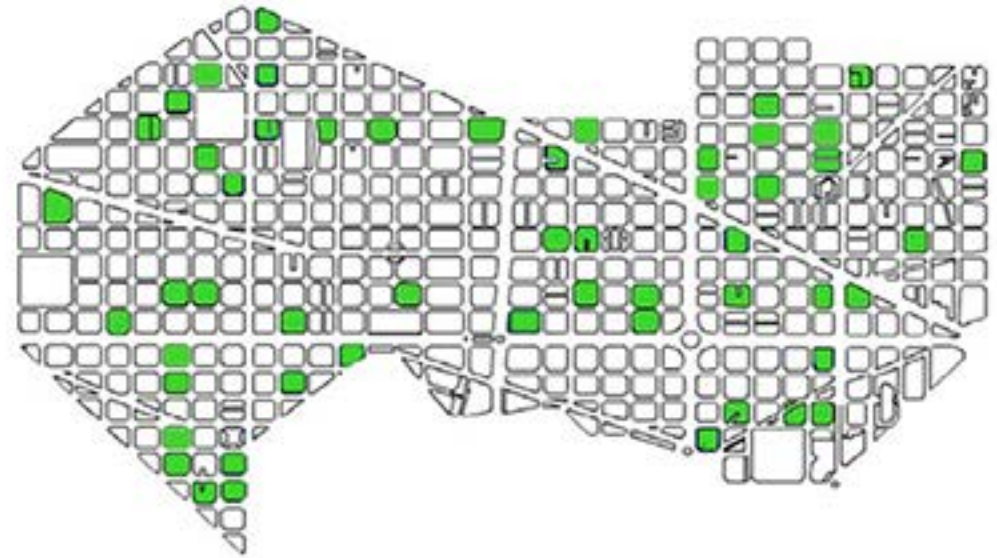
+ 52,864 m³



+ 126,323.20 m³



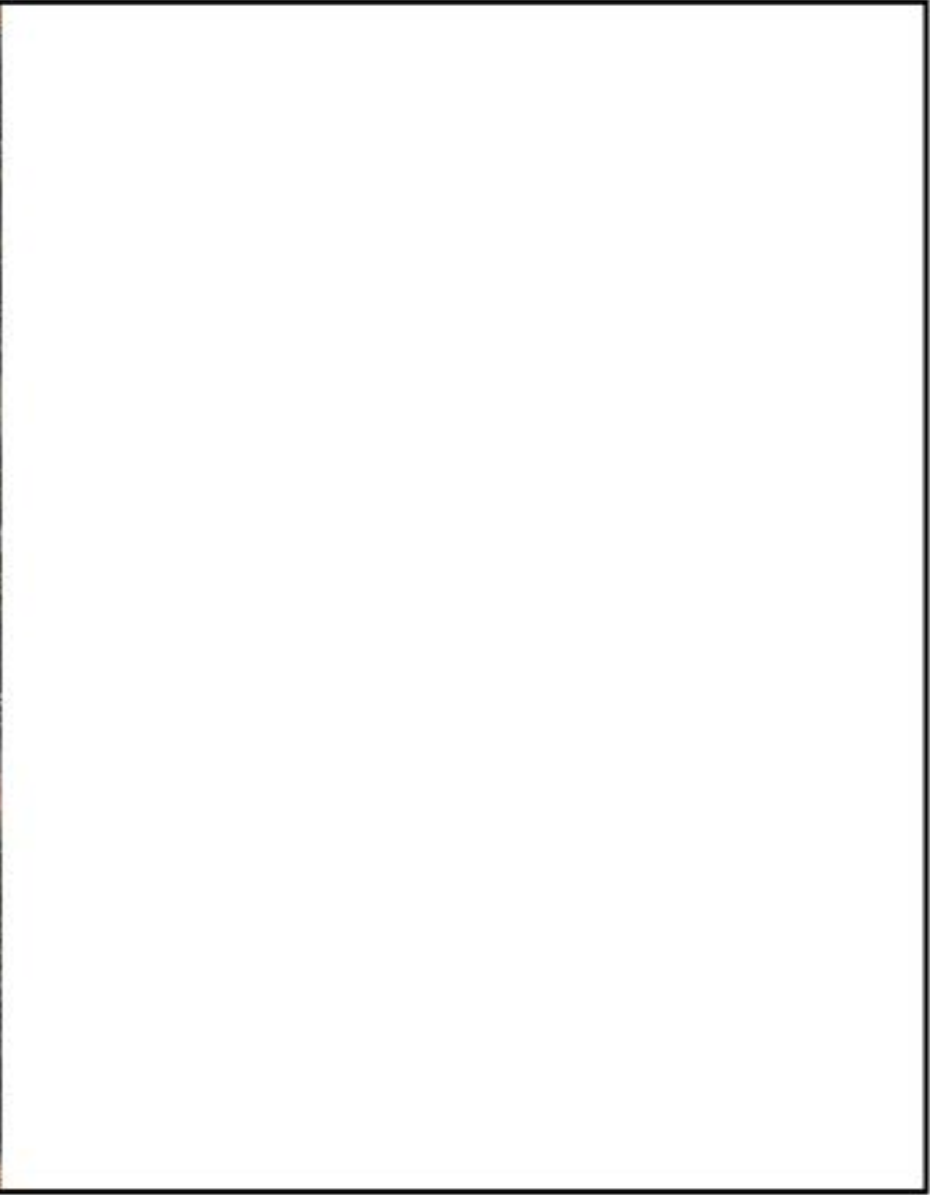
= 294,771.61 m³



*Devolution of Cerda's original blocks
Right: 'Pro-Example' plan for increased green space*









Antoni Gaudí, *Casa Milà* (1906 – 12)







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- View of an interior courtyard
 - Originally intended as a green space, but now filled in with more building
 - Must be low roof line, otherwise natural light occlusion



Jardin de la Torres de les Aigues

- Recent example of trying to 're-green' Cerda's blocks