

# Le Corbusier's town-planning ideas and the ideas of history

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Since Le Corbusier so forcefully propagated a new urban and architectural dispensation, there is a misconception that he disregarded history and that he conceptualised projects rationally and without preconceived ideas. Focusing on his town-planning schemes, this article provides substantiation that Le Corbusier's urban ideas are intrinsically connected to ideas essentially derived from historical sources.

**Key words:** Le Corbusier, urbanism, modernist town-planning

## **Le Corbusier se idees aangaande dorpsbeplanning en geskiedkundige idees**

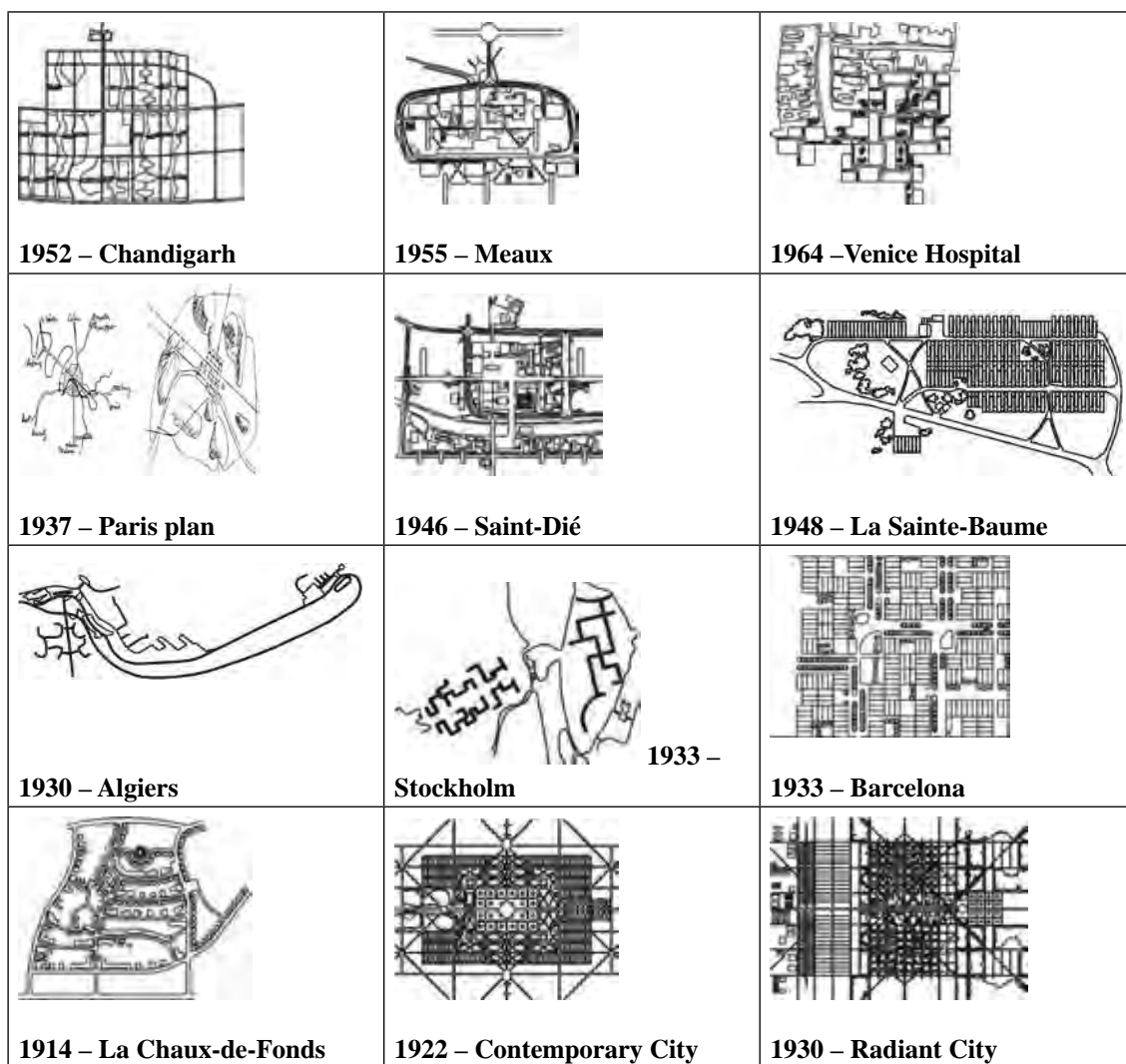
Aangesien Le Corbusier so kragdadig gepropageer het vir 'n nuwe stedelike en argitektoniese bedeling, heers daar 'n wanbegrip dat hy geskiedenis verontagsaam het en dat hy projekte sonder vooropgestelde idees rasioneel gekonseptualiseer het. Met 'n fokus op sy dorpsbeplanningskemas bied hierdie artikel staving dat Le Corbusier se stedelike idees wesenlik gekoppel is aan idees wat hoofsaaklik aan geskiedkundige bronne ontleen is.

**Slutelwoorde:** Le Corbusier, stedelikheid, modernistiese dorpsbeplanning

Le Corbusier (1887-1965) was one of the most prominent architects of the 20<sup>th</sup> century. He was also a self-proclaimed town-planner, but whereas his building designs are certainly entrenched and celebrated in architectural history and theory, his critics have been considerably less flattering in their comments on his city planning. In fact, Le Corbusier is frequently blamed for the monotonous, single use zoning and car-dependent developments immediately after the Second World War.

Baker (1996: 294, 303) writes that "the inadequacies of Le Corbusier's town-planning strategies are now well known" and speaks of his city schemes as "excruciatingly boring" and "regimental". That judgment is particularly puzzling considering the astonishing scope, diversity and volume of his urban projects and their associated architectural forms. One reason is that, whereas his buildings are being subjected to continuous rigorous assessment, evaluations of his urban projects are rare and mostly highly subjective. This could be because his buildings can be experienced in situ, while Chandigarh, his only realised city, is not a common traveller's destination. Another reason is that his critics are mostly fixated only on his early projects (Contemporary City, Plan Voisin and Radiant City).

This article hopes to contribute to the journal's editorial theme by exploring the connections between Le Corbusier's town-planning ideas and the ideas he derived from historical sources and, by implication, precedent. It focuses simplistically and narrowly on shape and form and for that purpose twelve of the most geometrically distinctive plans were selected (figure 1).



**Figure 1**

**A selection of Le Corbusier’s urban typologies (drawing by the author, not to scale).**

As the undisputed leader of the Modernist Movement there is a perception that he rejected ideas from history. His Purist work (1917-1929) especially seems to have had no historical connections, but he writes during that period that “there is no reason why we should bury Old Europe” (1929: xxvii). He makes his position quite clear (1929: 39):

So, to begin with, man [sic] needs a dwelling and a town. The dwelling and the town will result from the spirit of today, the modern spirit, this irresistible force, overflowing and uncontrollable now, but derived from the slow efforts of our forefathers.

And concludes (1929: 264): “Past history provides us with innumerable and forceful examples. Foresight and control are essential”. Both his first seminal books are testimony to his appreciation of the past. In *Towards a new architecture* (1927) he allocates 70 out of 289 pages, about 25 per cent, to historical issues, a proportion that increases to nearly 30 per cent, or 85 out of 300 pages, in *The City of Tomorrow* (1929).

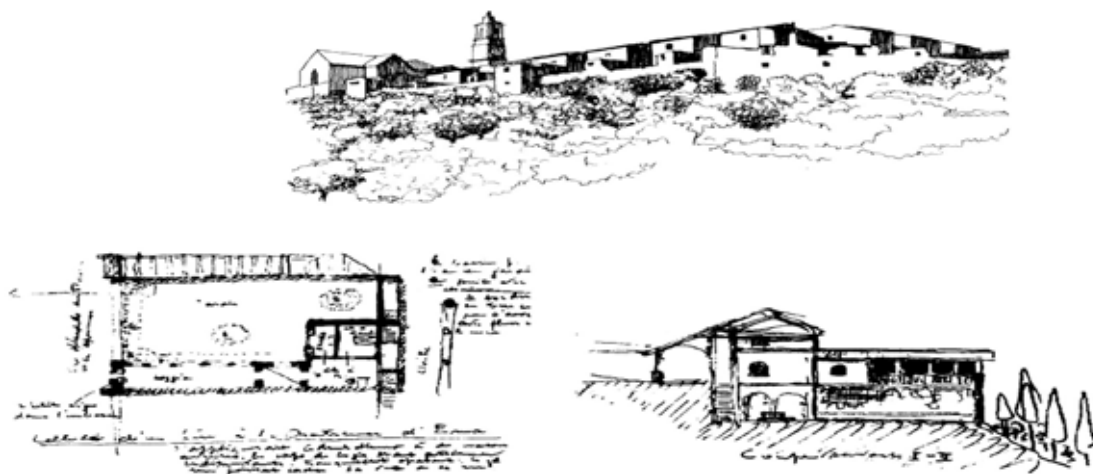
Curtis (1986: 228) suggests that “along with nature and geometry, Le Corbusier’s other great inspiration was tradition ... [trying] to penetrate to the generating principles”. Tzonis and Lefaivre (1985: 7) are blunter: “Le Corbusier plundered history and the work of his contemporaries in order to grasp, control and transform the given modern reality. He searched

constantly for those elements with which one would have to construct the appropriate urban instrument”.

### Early influences

Le Corbusier was born Charles-Edouard Jeanneret in the small Swiss town of La Chaux-de-Fonds. By 1905 he had started his architectural training under the mentorship of a local architect. He was an avid reader and a keen observer, and two years later he also became an enthusiastic and life-long traveller. His travels, especially to the Mediterranean, South America, North Africa and the United States, exercised a number of profound influences on his views of architecture and town planning. First, while touring the Mediterranean he became profoundly impressed by Greek, Roman and Turkish aesthetic and spatial ideals. Second, after visiting Brazil he adopted curvilinear, geometrically less precise forms. Third, from North Africa he learned about the rougher vernacular of the Maghreb and about Arab architecture in particular. Fourth, the United States reinforced his belief in freeways, tall buildings and larger street blocks.

The Carthusian monastery of Ema in Tuscany (figure 2) made a lasting impression on him. He would later admit that his “basic measures of urbanism, determination of the cellular [dwelling] unit, the network of roads and transportation lines” were all part of “a process of fundamental architectural organization which he had already experienced ... at the Charterhouse of Ema”, notable for its “individual freedom and collective organization” (1951: 28). He visited the monastery again in 1911.



**Figure 2**  
**Le Corbusier's sketches of the Carthusian monastery of Ema in Tuscany**  
**(source: Baker 1996: 75).**

Although his initial physical experiences were the famous sites of Greek and Roman antiquity, together with the architecture of Byzantium monasteries and that of Istanbul (then part of the Islamic Ottoman Empire), as a devoted reader, his knowledge reached much further than these venues.

In *The city of tomorrow* he notes two types of city structures. One is “a progressive growth, subject to chance, with resultant characteristics of slow accumulation and gradual rise”.

The other is “the construction of a city as the expression of a preconceived and predetermined plan embodying the then known principles of the science” (Le Corbusier 1929: 92). He evidently recognises a clear distinction between organic and planned cities. Examples of the former in his books include a few irregularly shaped medieval cities, and of the latter – which he thereafter vehemently propagated – regular planning examples such as Khorsabad, the Forbidden City in Beijing, Timgad, a French bastide, a fortified Renaissance town and Washington. He also illustrated his narrative with illustrations of monumental French buildings like the Place des Vosges, the Louvre and Versailles.

Le Corbusier worked for six months under Josef Hoffman in 1907 in Vienna, and intermittently for Auguste Perret from July 1908 to November 1909 in Lyons (where he also met Tony Garnier), as well as attending a history course at the Ecole des Beaux-Arts in Paris. He travelled extensively inside Germany in 1909 and 1910, also working for Peter Behrens for five months. During that period he met Mies van der Rohe and Walter Gropius.

### La Chaux-de-Fonds (1914)

Back in his home town Le Corbusier designed a number of houses in what can be roughly termed a tempered Classical idiom. In 1912, at age 25, he directed the courses in architecture and furniture design at the Art School of La Chaux-de-Fonds. In 1914 he designed a village of 120 freestanding and attached houses just outside La Chaux-de-Fonds. Since he admired the British garden suburbs of Letchworth and Hampstead at that stage (Baker 1996: 132-3), designed by Barry Parker and Raymond Unwin in 1902 and 1906 respectively, it is reasonable to assume he would use them as a precedent, adhering to the principles of symmetry and the central park (figure 3). But the plan form is fundamentally different, and resembles an organic vernacular village on a sloping site more than it does a planned garden city. In that regard it seems as if he, instead, adopted Ruskin’s aesthetic philosophy, with which he was familiar.

The village was never built, and it is perhaps noteworthy that Le Corbusier makes no mention of this project in his *Oeuvre complete*. It nevertheless demonstrates an early ability to interpret the unselfconscious historical building traditions of the region and an appreciation for context, rather than be seduced by the formalism of Ebenezer Howard’s diagram, which was so popular at that time.

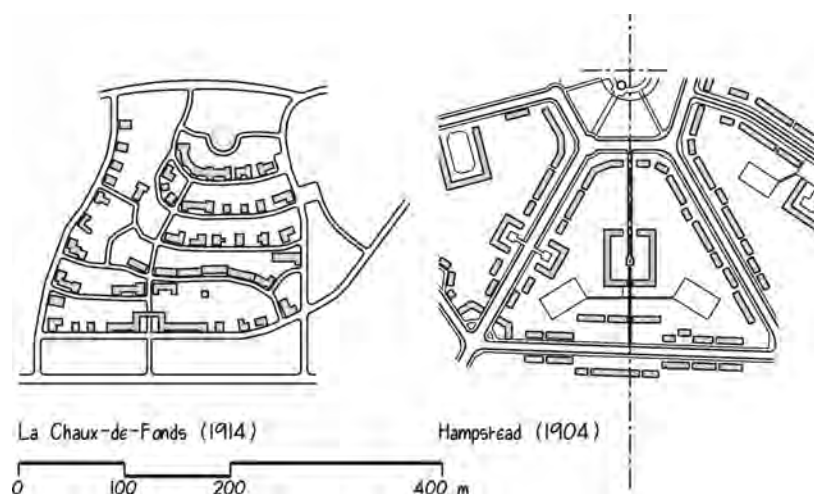


Figure 3  
La Chaux-de-Fonds compared (drawing by the author).

## Contemporary City (1922)

His admiration for Ruskin and Sitte, garden cities and medieval towns underwent a change soon after he settled in Paris in 1917. Whereas La Chaux-de-Fonds was a prosperous watch-making town in the Jura region of Switzerland, Paris – similar to most Western cities after the First World War – was obliged to face two serious issues: A severe housing shortage and an increase in the use of private vehicles in cities designed for horse-drawn traffic. Densities in Paris were as high as 1,070 persons per hectare (Rowe 1993: 50). Teige (1932: 52) describes the overcrowding which prevailed in most European cities in a particularly grim manner:

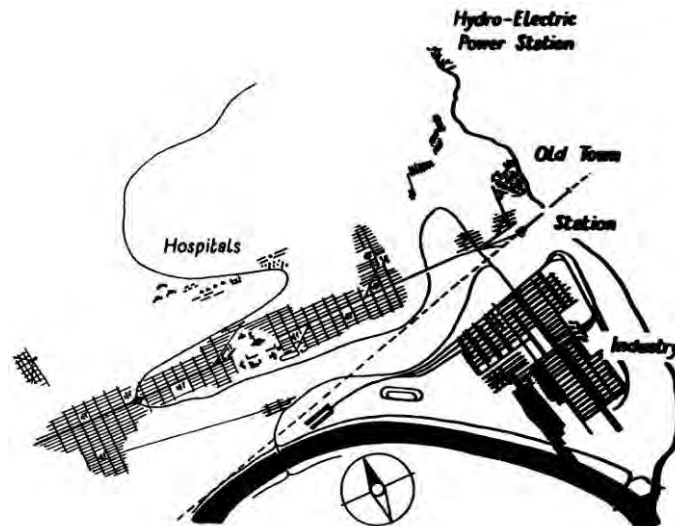
A room whose dimensions are suitable for accommodating one to two persons becomes occupied during the night by six to ten persons with children. People in these hovels sleep in two shifts just as they work two shifts in the factory, and beds crowded with two to three persons never cool down: after the night shift has left the bed, the day shift arrives to get its sleep.

Le Corbusier's response (1927: 17): "The time has therefore come to put forward the problem of the house, of the street and of the town, and to deal with both the architect and the engineer". He stresses that "modern life demands, and is waiting for, a new kind of plan both for houses and for the city" (1927: 45). Curtis (1986: 29) suggests that Paris "gave him so many of the elements of his later urbanism – classical vistas, parks with curving paths, transportation lines on different levels (figure 4). It formed his very idea of urbanity".



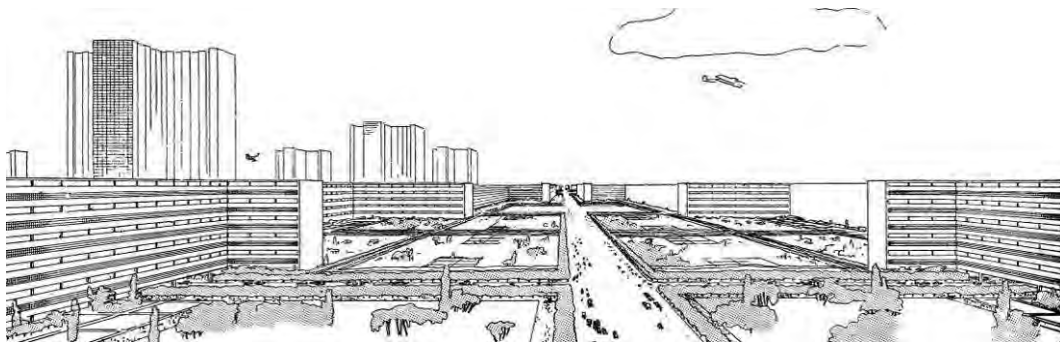
**Figure 4**  
**Elevated transport in Paris (source: Le Corbusier 1929: 50).**

Le Corbusier was obviously profoundly influenced by Tony Garnier. He describes Garnier's *Cité Industrielle* (translated as *Industrial Quarter*) as "an attempt at an ordered scheme and a fusion of utilitarian and plastic solutions" (1927: 53). He notes that the social dispensation – "not yet brought to pass" – would provide a house for each family. Since fences would not be allowed, "the town could be traversed in every direction, quite independently of the streets, which there would be no need for a pedestrian to use. The town would really be like a great park" (figure 5).



**Figure 5**  
**1904 – Toni Garnier’s Cité Industrielle for 35,000 (source: Calthorpe 1986: 201).**

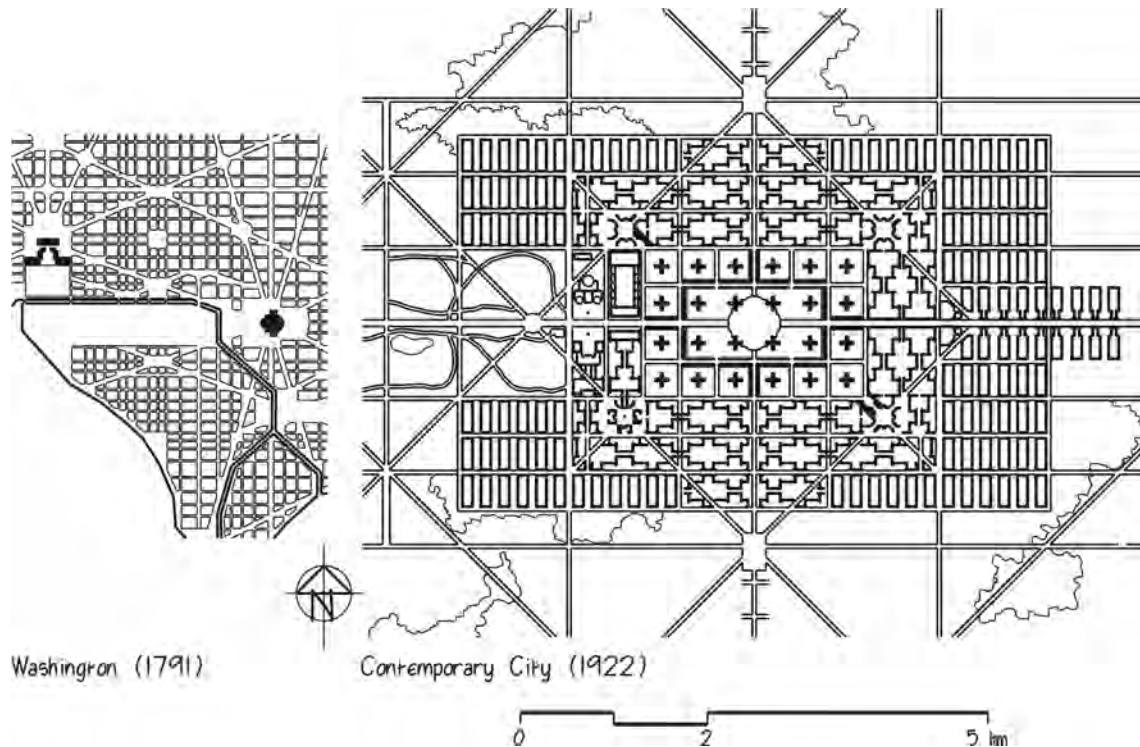
Against this background Le Corbusier exhibited his project for *Ville Contemporaine* (a Contemporary City of Three Million Inhabitants) in 1922 (figure 6), complete with a regional framework. It was certainly a polemical manifesto as Moughtin (2003: vii) suggests, but also a marketing scheme – at that stage Le Corbusier was unknown and struggling. He admitted that his solution was “a rough one and completely uncompromising” (1929: 163). It was nevertheless worked out in considerable detail: a monocentric city with a symmetrical Baroque street layout. Interestingly, the city itself was planned for 600,000 inhabitants, while two million or more were to be housed in surrounding garden cities, serviced by an extensive suburban railway network.



**Figure 6**  
**1922 – Le Corbusier’s panoramic view of the Contemporary City (source: Le Corbusier 1960: 64).**

The Contemporary City of 1922 clearly fuses Garnier’s zoning with the Baroque town plan of Pierre L’Enfant of Washington in 1791 (figure 7), which was in turn inspired by the “self-centring” of Versailles (Morris 1994: 354). The perimeter blocks were intended to emulate the great squares of Paris, while the indented blocks show a conceptual similarity to Fourier’s “phalanstery” (figure 8). Furthermore, the typical L-shaped apartment unit, of which a prototypical version

was showcased as the Pavillon de L'Esprit-Nouveau at the international exposition in 1925 in Paris, was clearly inspired by a monk's quarters in the Carthusian monastery of Ema. Hence, it seems as if at least four distinctly different historical sources provided ideas that informed the basic design.



**Figure 7**  
**Contemporary City compared with Washington**  
 (drawing by the author).

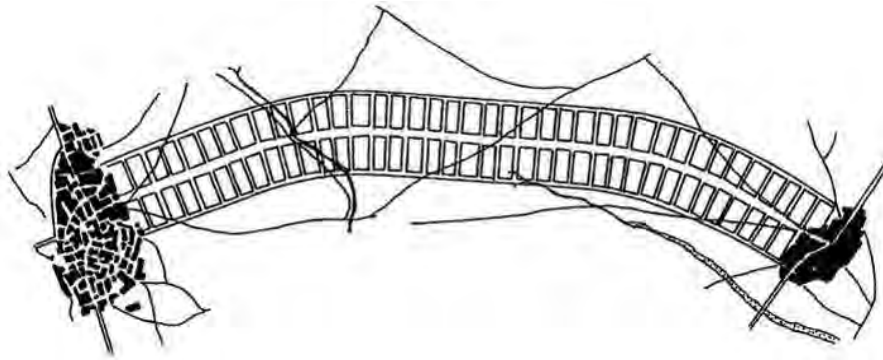


**Figure 8**  
 1848 – Francois Fourier's proposed new town for 1, 600 people (source: Calthorpe 1986: 192).

### **Radiant City (1930)**

Risebero (1997: 241) states that from 1917 to 1932 “Russian artistic ideas were among the foremost in the world”. Many new towns were built to support industrialisation, with most following Garnier's principles of zoning. The most prominent planning theorist of the time, however, was Nicolai Miliutin (1889-1942), whose proposals for the expansion of Magnitogorsk (1929), Stalingrad and Gorki were based on a linear scheme that evolved from Soria y Mata's work.

The Spanish transport engineer, Arturo Soria y Mata, had proposed his Ciudad Lineal in 1882, “a continuous pattern of urban growth stretching through the countryside on either side of a rapid-transit spine route, incorporating both old and new urban centres” (figure 9).



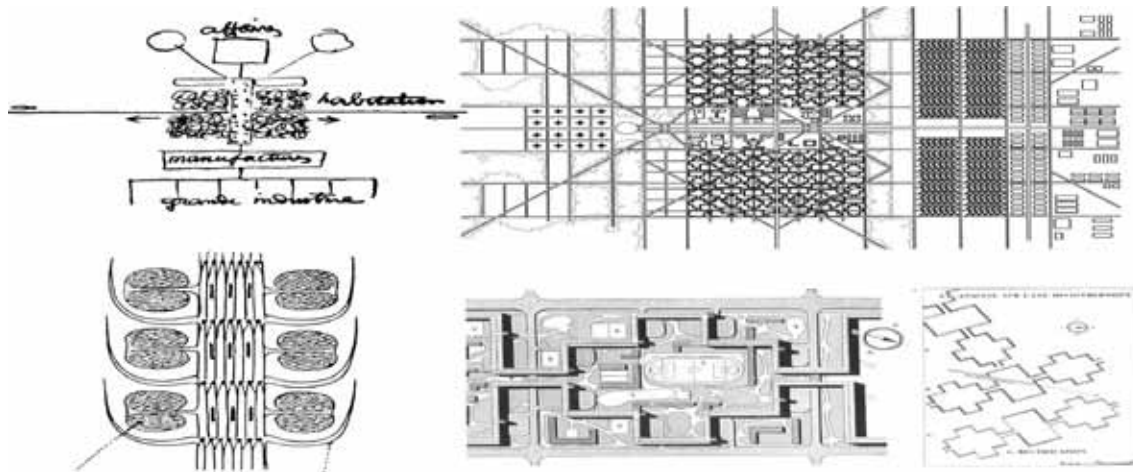
**Figure 9**  
**1882 – Linear city by Soria y Mata (source: Moughtin 2003: 198).**

Miliutin’s concept consisted of “narrow, parallel strips of land running through the countryside, incorporating the old town centres where they occurred: a railway zone, a factory, workshop and technical college zone, a green belt with a main highway, a residential zone, a park and sports area, and a wide belt of farmland” (Risebero 1997: 241). Not only Miliutin’s plan, but also the envisaged social system of collectivism and egalitarianism became entrenched in avant-garde European schemes as well. As Teige (1932: 320) writes: “The linear city ... has no centre and no business district. The linear city supersedes the concentric form of the capitalist city. It represents a new, higher type of city”.

Towards the end of the 1920s, Le Corbusier had extensive contact with other planners – especially in Germany and the Soviet Union – mainly through congresses and the *Congrès Internationaux de l’Architecture Moderne* (CIAM) founded by Le Corbusier, Sigfried Gideon, Walter Gropius and others in 1928. While the Radiant City was presented at a CIAM congress focusing on middle- and high-density housing, a number of authors have suggested that the actual purpose of the scheme was to solicit work in the Soviet Union, as many of his contemporaries were doing at that time.

Both Mata and Miliutin’s ideas could have served as precedents for Le Corbusier’s basic concept for the Radiant City, and an unmistakable anthropomorphic analogy was then superimposed to refine the layout (figure 10). The final plan is deceptively simple, but Le Corbusier’s writing confirms the vast body of empirical research that underpins it.

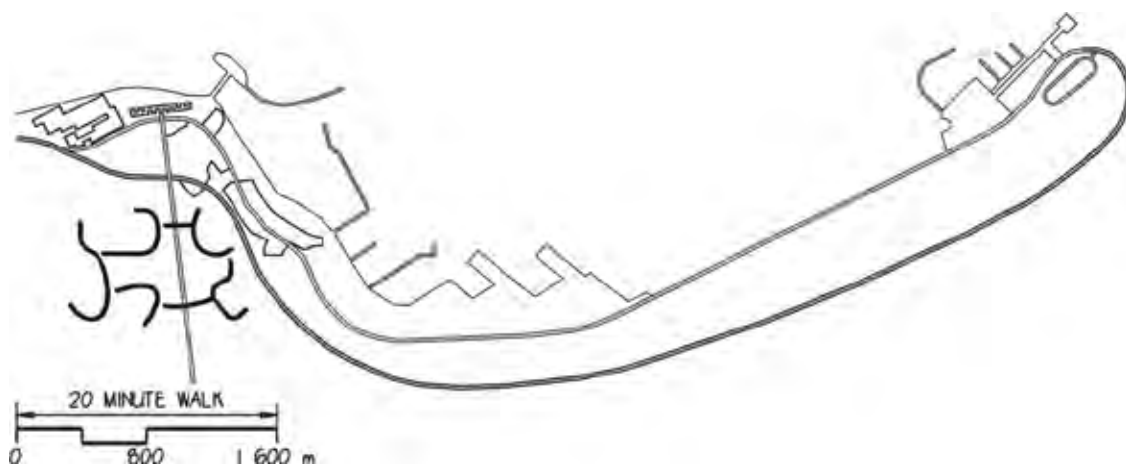




**Figure 10**  
1930 – Radiant City. Diagram by Le Corbusier and the city plan (redrawn by the author).

### Algiers (1930)

That same year, he visited Algiers for the first time. In Le Corbusier’s own words, he devoted 12 years to “uninterrupted study of Algiers and its future” (1960: 50), which produced “seven great plans” for the city, which he claims “are well known in professional circles in every country” (1960: 102). These were each called Plan Obus (an explosive shell) and given a number. Plan A proposed a new business district in an area designated for demolition and a new residential quarter on rocky, unused land. The two were linked by an elevated road about 100 metres high with dwellings for 180,000 people below (Boesiger et al. 1967: 327). Jencks (2000: 202) suggests that Obus A was “by far the most idealistic”. It was also the most refined of Le Corbusier’s building-aqueduct-highway designs (figure 11).



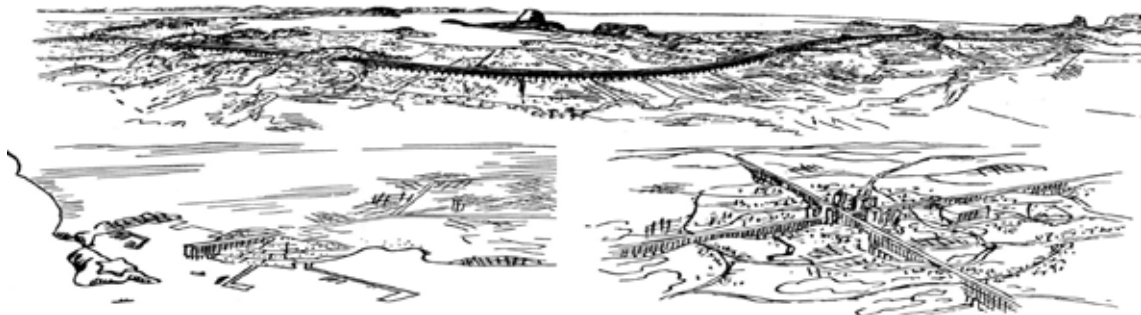
**Figure 11**  
1930 – Plan Obus A (drawing by the author, after *Oeuvre complète* 2: 140).



**Figure 12**  
 A close-up view of the 23-storey apartments underneath the elevated roadway  
 (source: Le Corbusier 1964: 247).

The building-aqueduct-highway typology first emerged in 1929 when Le Corbusier published sketches of what Curtis calls “quixotic urbanistic studies” for some existing South American cities, including Buenos Aires, São Paulo, Montevideo, and Rio de Janeiro (figure 13). The common concept was “based on linear viaducts treated as vast landscape sculptures” (Curtis 1986: 108, 120). These would provide “large automobile routes in the inextricable cities, while creating a considerable amount of building cubage for habitation” (Boesiger et al. 1967: 324). Besides the housing beneath the elevated highway, one of Le Corbusier’s sketches of Rio also shows a number of Cartesian skyscrapers for the first time. He claimed that his proposal for Rio was “something completely radical” (1960: 124):

A second town of unprecedented form, carried on pilotis [nearly 40 metres] high with the lower groups of existing buildings radiating from each bay and passing beneath. And, [90 metres] up, a level motorway [25 metres] wide, linking all the hill tops, and creating order in the plan and townscape of Rio.



**Figure 13**  
 1929 – Rio de Janeiro. Sketch by Le Corbusier (source : *Oeuvre complète 2*: 138).

Not only the layered transport lines of Paris, but also the elevated highways of American cities such as New York and the Roman aqueducts of antiquity inspired Le Corbusier to imagine linearity in a totally innovative urban form (figure 14). As expected the imagery is bold – after all, of the Roman aqueduct at Valens he writes (1929: 67): “An immense horizontal running through the surrounding country and forming a rigid backbone along the Seven Hills”.



**Figure 14**

**Top: An elevated highway in New York (source: Le Corbusier 1929: xiii).**

**Bottom: Le Corbusier's sketch of the Roman aqueduct in Valens (source: Le Corbusier 1929: 63).**

In the case of Algiers, Zeynep Çelik (1997: 33-4) offers a more direct relationship, arguing that a boulevard on the waterfront in Algiers, designed by French architect Charles-Frédéric Chassériau and completed in 1866, was actually the precedent (figure 15). The boulevard formed the upper level of an arcade at embankment level, supported by high arches.



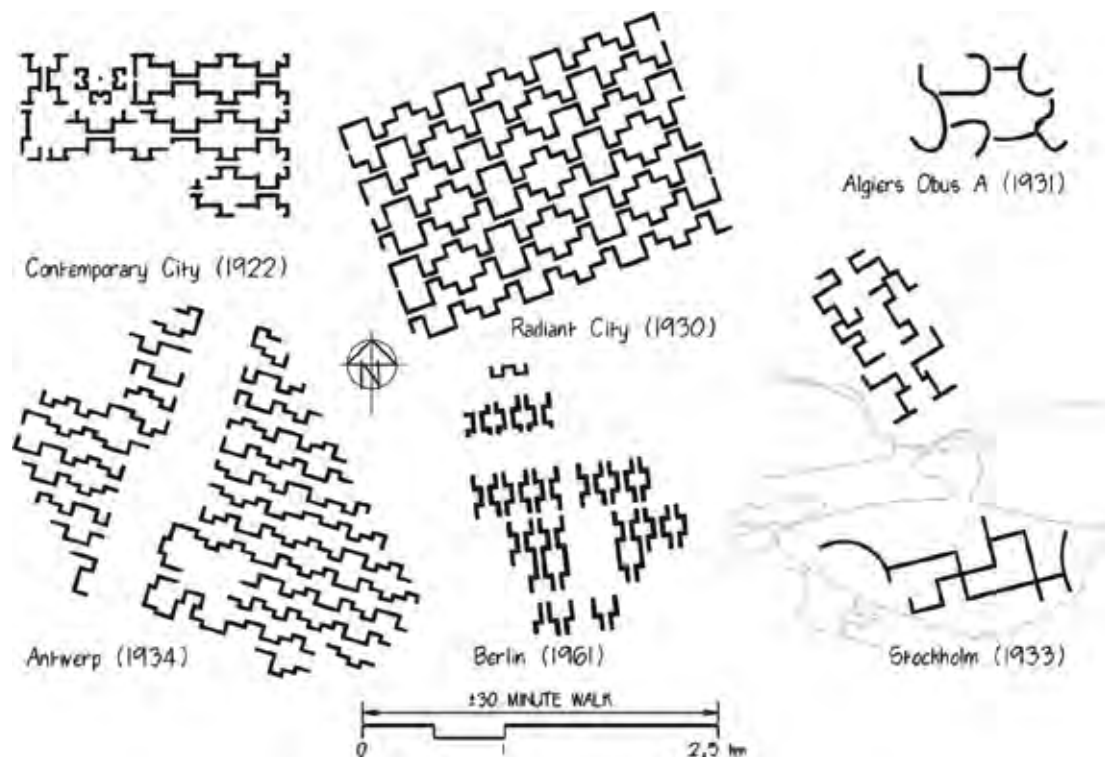
**Figure 15**

**Chassériau's viaduct-like boulevard on the Algiers waterfront (source: Cresti 1985: 59).**

## Stockholm – 1933

The indented residential blocks, sometimes referred to as buildings with setbacks (or *Lotissements à redents* in French), which remind one so much of Fourier’s “phalanstery” of 1848, were present in both the Contemporary City and Plan Voisin. In Obus A the type became free-form and sculptural in plan. Three years later Le Corbusier’s plan for Stockholm would explore the *redent* typology fully, with irregular and curved forms. Le Corbusier envisaged accommodating 170,000 inhabitants in the northern part and 110,000 in the southern at a density of 1,000 per hectare in 50 metre high *redents* on columns, with all units facing “extensive” parks (Le Corbusier 1964: 297-9).

It is significant that he envisaged *redents* for most of his city plans, from the very first to the last (reconstruction of Berlin centre in 1961). During this time he experimented with every conceivable kind of modulation and counterpoint – all conceivably with the intention of enhancing urban aesthetics by a highly varied streetscape (figure 16). This is one instance where a historical idea remained incredibly resilient and guided Le Corbusier for nearly forty years.

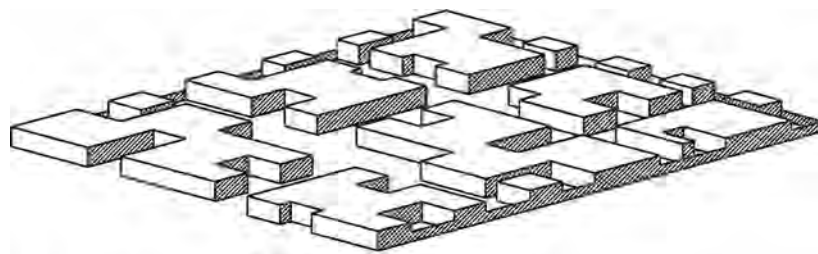


**Figure 16**  
Indented building patterns compared (drawing by the author).

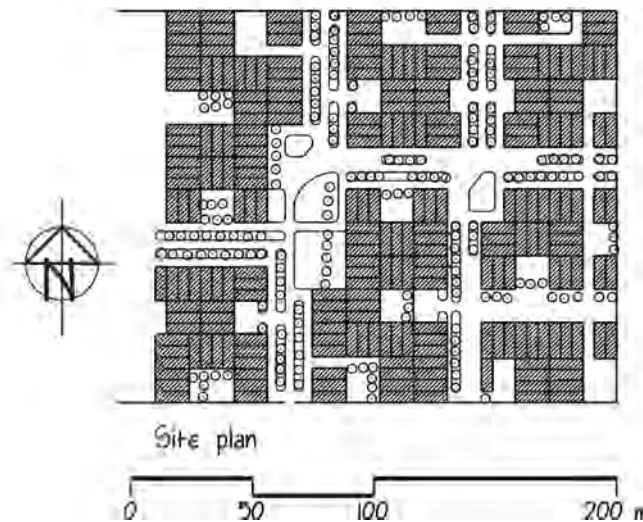
## Barcelona (1933)

In 1932 Le Corbusier designed a master plan for the redevelopment of Barcelona. He proposed transforming Ildefons Cerdà, “Spanish square” as Le Corbusier (1964: 306) called the 113 x 113 streetblock, into a 400 x 400 street grid. Fortunately that remained unexecuted, but regrettably also the terrace housing he designed for workers (figure 17).

In this low-cost housing scheme he “organised his dwellings as a tight-knit modern version of a Kasbah, and treated the facades to moveable louvers, the roofs to thick turf protection” (Curtis 1986: 116). Le Corbusier (1964: 306) writes that each house “constitutes living conditions similar to those in the country” and each should have a tree in front: “The quarter would then become a delightful oasis of refreshing greenery” (1960: 110). At that stage Le Corbusier was totally enthralled with Arab architecture, and the site layout, while making provision for vehicles, certainly has all the characteristics of a vernacular Arab settlement, complete with a meandering pattern and dead-end lanes (figure 18). The housing units reflect Arab custom with a vertical privacy gradient. The courtyard is now on the roof, with small balconies behind the louvers reminiscent of the *musharabiya* (screened bay windows) found in North Africa and the Middle East. With a huge part of Spain having been occupied by Muslims from North Africa for centuries, deriving this idea from traditional Islamic architecture is not wholly inappropriate. In any case, he reworked it until the Arab inspiration is barely recognisable.



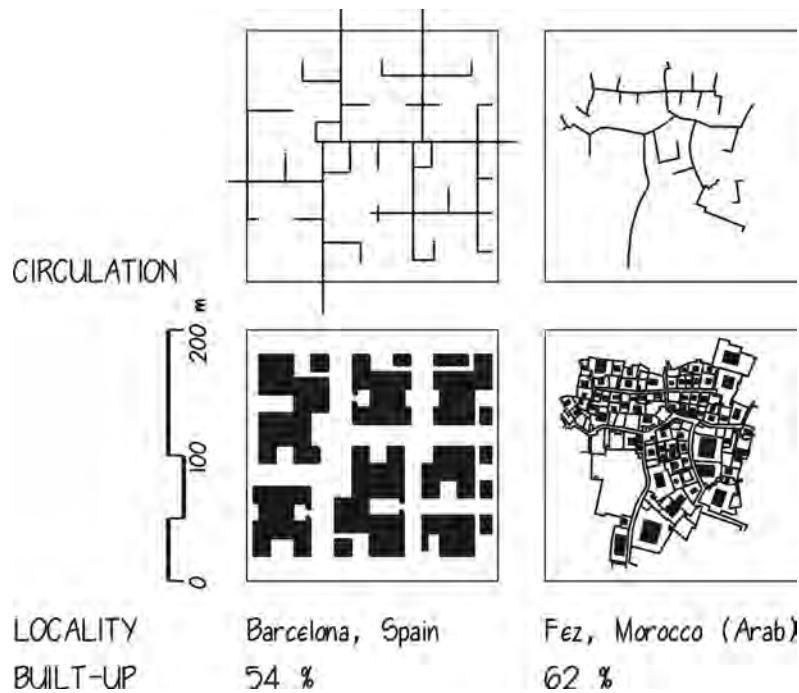
Isometric view of Barcelona workers' quarter



Site plan

Figure 17

1933 – Site plan and isometric view showing massing (drawing by the author).



**Figure 18**  
Barcelona quarter analysed (drawing by the author).

### Paris plan (1935)

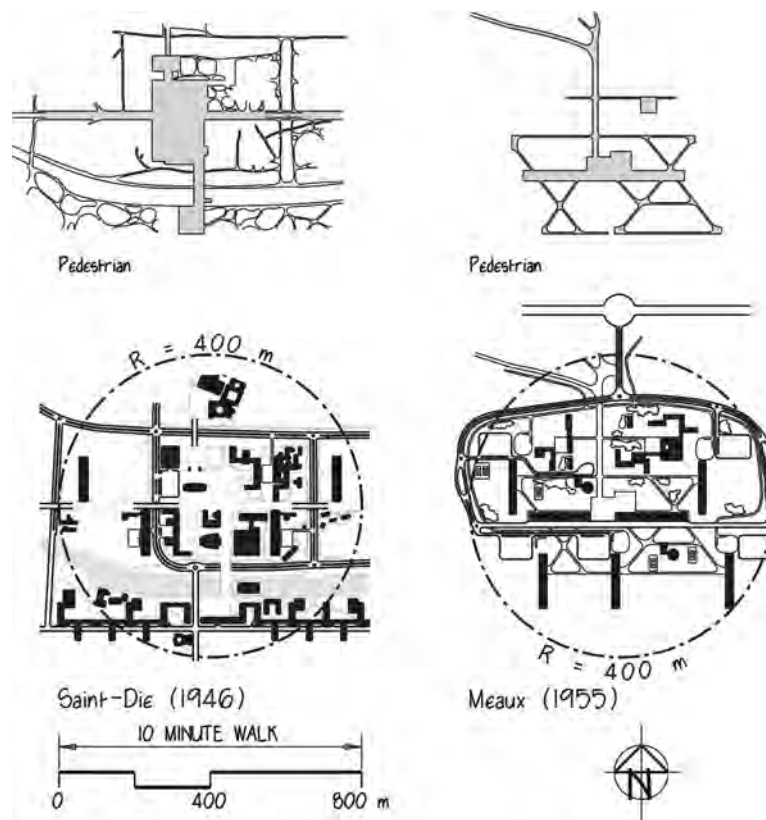
It is perhaps significant that Le Corbusier makes no reference to Plan Voisin in *My Work* (1960), but instead illustrates his Paris Plan 1937 (1960: 130-131). This plan is also mentioned in the very first sentence of his chapter entitled Urbanism in *The Modulor* (1951). Rather than the finned high-rise office buildings, first seen in the Contemporary City, he now proposes just four Cartesian skyscrapers, the retention of major streets and links with the existing, surrounding fabric, demonstrating respect for and responsiveness to the history of the site (figure 19).



**Figure 19**  
The Paris Plan of 1937 (source: Le Corbusier 1960: 131).

## Saint-Dié (1946) and Meaux (1955)

Saint-Dié was a bomb-damaged small town in the east of France. Here, in 1946, Le Corbusier proposed five initial Unités flanking a civic centre, tourist facilities, restaurants, cafés and cultural institutions (figure 20). It was never built, but it was planned to accommodate about 10,500 people. Each Unité would house 1,600, and the balance would occupy single-family houses along the approach roads. Across the river were “Green factories” along a 1,200 metre spine (Boesiger et al. 1967: 338). Circulation was separated into roads for fast-moving vehicular traffic, local vehicular access and in the town centre, promenades and footpaths for pedestrians (Boesiger et al. 1967: 339). The project gave Le Corbusier the opportunity to explore “urban monumentality and enclosed civic spaces, two issues that had been underplayed in the Charter of Athens” (Curtis 1986: 163). Le Corbusier describes his design as “sheer architectural music in that mountain landscape” and “all in all, a truly modern plan” (1960: 148). Jencks (2000: 245) describes Saint-Dié as “Le Corbusier’s first and most influential plan for reconstruction” in the Post-Second World War period.



**Figure 20**  
Saint-Dié and Meaux compared, showing pedestrian realms separately  
(drawing by the author).

Le Corbusier worked on the unbuilt design of Meaux from 1955 to 1960 (1960: 188). Very much like Saint-Dié a decade earlier, it was designed as a small town for 10,000 people, with five Unités but also with two tower blocks, one for single people and the other a hotel. Apart from rooftop facilities such as crèches and gyms, and shops half-way up each Unité, the town centre would have provided extensive recreational, educational and administrative

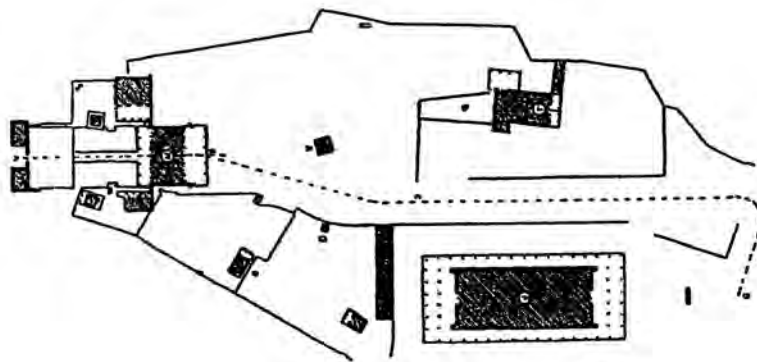
services. Cars and pedestrians are separated, with both networks connected to an envisaged “Linear Industrial Centre” (Le Corbusier 1960: 188).

It seems reasonable to assume that the concept for the “urban monumentality and enclosed civic spaces” is inspired by the Acropolis (figure 22). In *Towards a new architecture* (1927) he discusses the Acropolis extensively – more than any other building in any of his books – illustrated with nine drawings and eighteen photographs. As Le Corbusier (1927: 43) writes:

The whole thing being out of square, provides richly varied vistas of a subtle kind; the different masses of the buildings, being asymmetrically arranged, create an intense rhythm. The whole composition is massive, elastic, living, terribly sharp and keen and domineering.

Further on he (1927: 54) quips that “The apparent lack of order could only deceive the unlearned”. The Acropolis gave him the ideas for achieving the desired spatiality, massing, views, sense of place and enclosure in an irregular, asymmetrical but controlled way.

It is ironic that although Le Corbusier rejected Sitte and his picturesque towns, both architects shared an appreciation for the Acropolis. Actually, many of Le Corbusier’s ideas for composing plazas (and public spaces in general) seem to be sourced from Sitte (1889).



**Figure 22**  
**The Acropolis in Athens (source: Le Corbusier 1927: 52).**

### **La Sainte-Baume (1948)**

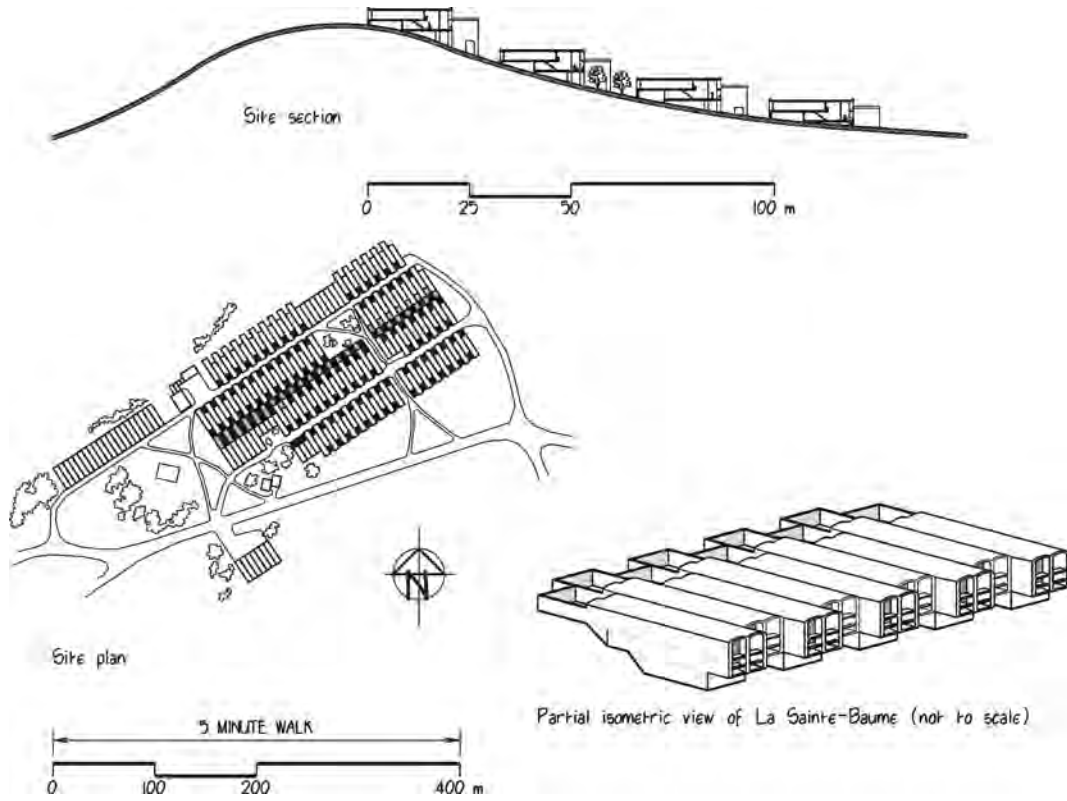
Another scheme that embraces both architecture and urbanism is a 188-unit housing project on the French Coast at a pilgrimage site called La Sainte-Baume (“Holy Cave”) in Provence, about 17 kilometres inland (figure 23). Here he fused European open-plan unit layouts with forms and circulation patterns that remind one of North Africa.

The form is essentially the same 2:1 (section profile) deep, narrow module used in the Unités while the barrel vaulted roofs are the same as in the Monol housing of 1919 and the Weekend House of 1934, employing the same planted roof and rough exterior finishes as the latter.

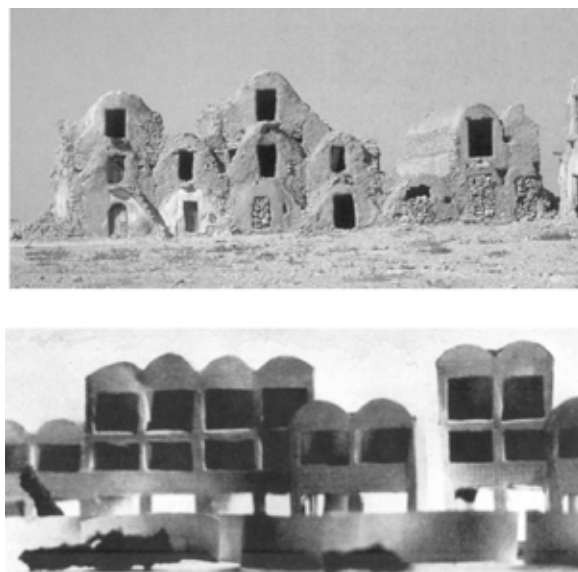
In its specific context, on the shore of the Mediterranean, the concepts gleaned from the historical vernacular are more obvious. The morphology resembles not only Tunisian ghorfas



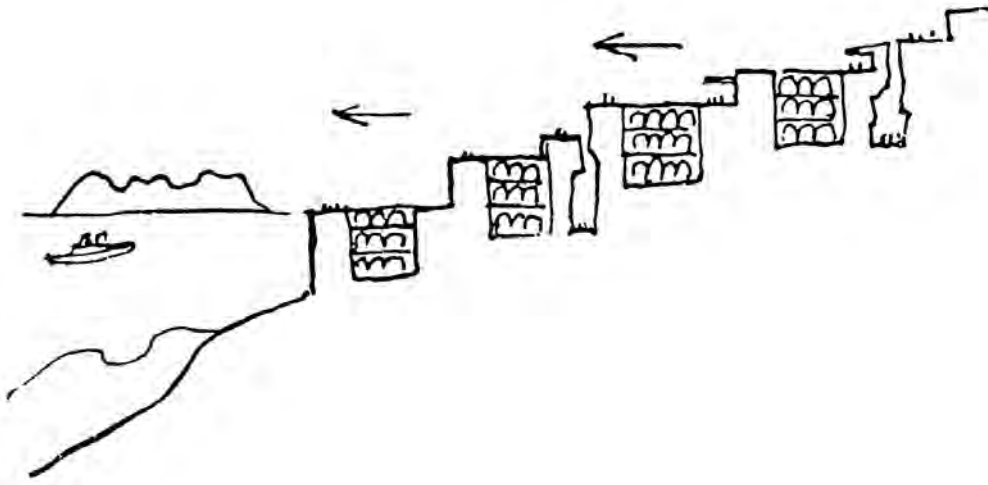
(figure 24) and houses with vaulted roofs on the Greek coast, but the narrow lanes which also access lanes parallel to the shore, the units stepping up the slope and incorporating courtyards are all designs from the Casbah in Algiers (figure 25).



**Figure 23**  
Site development (drawing by the author).



**Figure 24**  
A Sainte-Baume model compared with Tunisian ghorfas (source: Goldfinger 1993: 18, 159).



**Figure 25**  
Section through Algiers' historic Casbah (source: Le Corbusier 1971: 122).

### **Chandigarh (1952)**

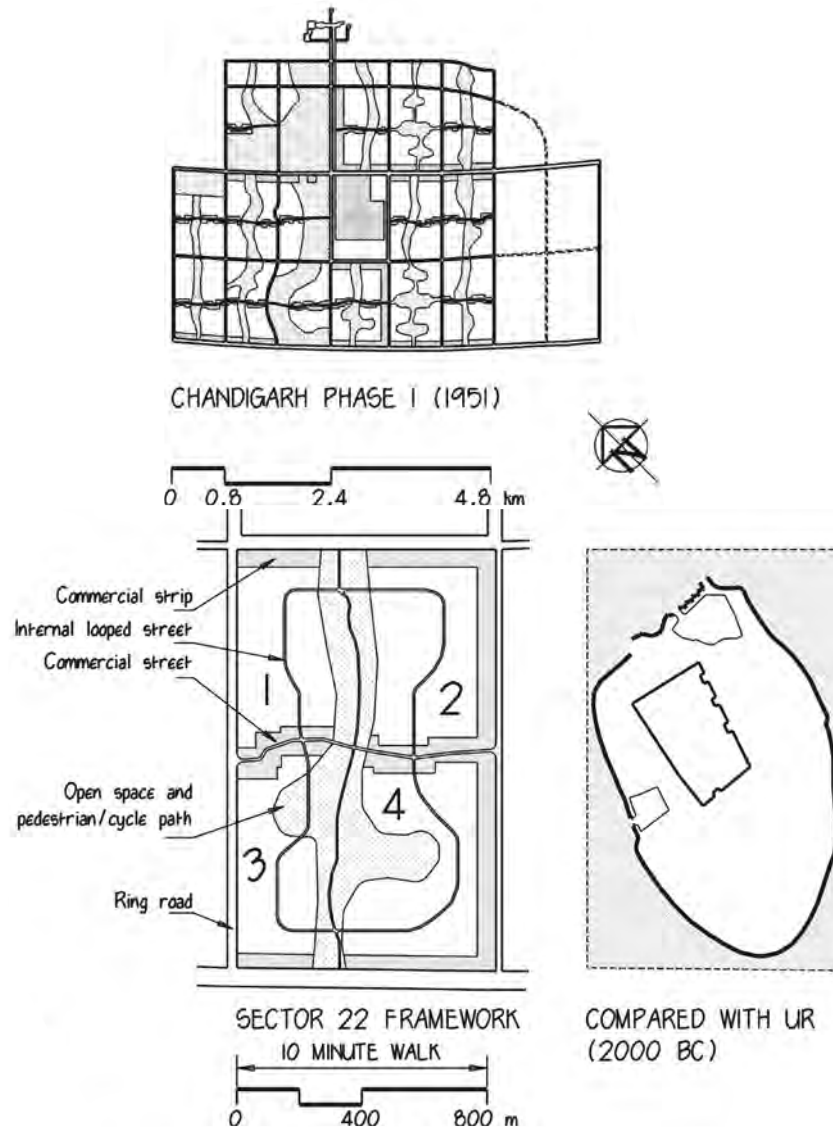
Chandigarh is located northwest of Delhi, just south of the Shivalik Mountains, foothills of the Himalayas. Matthew Nowicki and Albert Mayer designed the initial masterplan, a sensitive response to topography and climate. Le Corbusier was invited to participate after Nowicki died in a plane crash in 1950 and was appointed in 1951. His collaborators were Maxwell Fry, Jane Drew and Corbusier's cousin, Pierre Jeanneret, as well as a number of young Indian architects and planners.

It is true that Le Corbusier retained some key aspects of the Nowicki-Mayer leaf-shaped plan, especially spatial relationships between key elements (government, city centre, university and industries) and the superblock principle, but fundamentally his town planning was based on an unbuilt proposal for Bogota he executed in the previous year (Le Corbusier 1958: 210). There he again, as in Barcelona, consolidated the "Spanish Square" into larger superblocks, this time measuring 1,200 x 800 metres. But instead of a different geometrical pattern for pedestrians, he simply conceived a similarly dimensioned superimposed grid and shifted it half a module relative to the vehicular grid (figure 26).

It is clear that each residential sector was envisaged as a relatively self-contained urban village, consisting of four neighbourhood-sized quarters (24 ha) each bordering on a green strip with pedestrian paths running north-south, and a market street east-west. It offers the potential of accommodating different architectural and urban morphologies within a compact framework, offering all the diversity and neighbourhood interaction, overlap and connectivity considered desirable today. He allocated nearly 30 per cent of the city to parks and recreational areas.

Le Corbusier was certainly familiar with the first cities of the Fertile Crescent. Perhaps his choice of a 1,200 x 800 module, rather than his more usual 400 x 400 grid, was not coincidental, but an idea inspired by those first, compact, walkable cities!

**Figure 26**

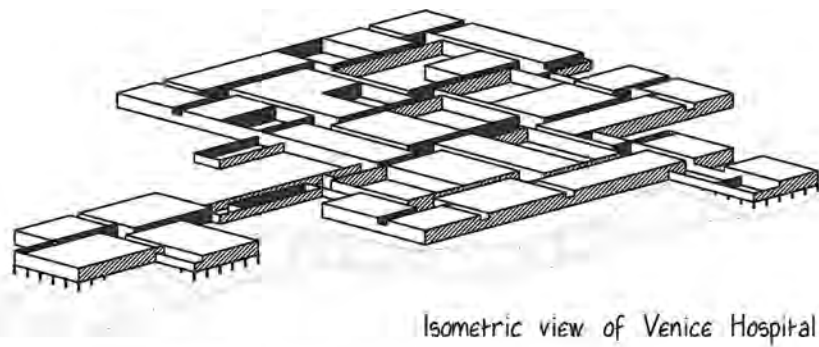


**Top: Chandigarh Phase 1.**  
**Bottom: Sector 22 as plan and compared with Ur**  
**(drawings by the author).**

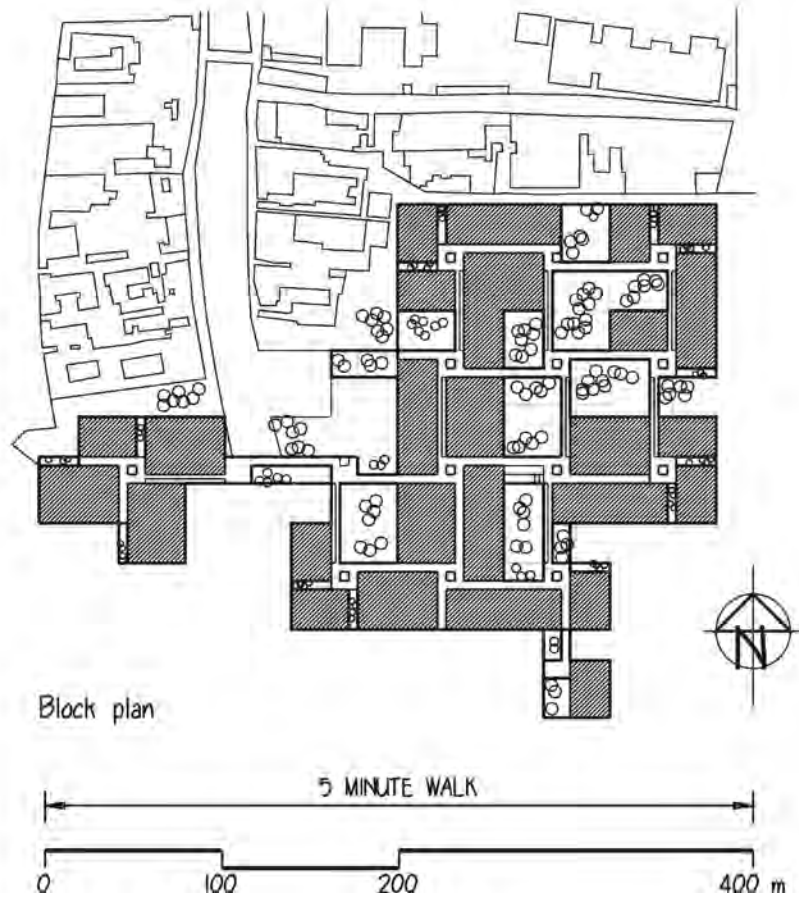
### Venice Hospital (1964)

Finally, one of his “strongest ideas” was that for the Venice Hospital of 1964 (figure 27). Here he “respected the skyline of the city, conceiving the building as a series of low boxes matted together in a complex pattern of overlapping walkways, platforms and spaces, extending over the water on piers” (Curtis 1986: 214).

Curtis (1986: 214) writes that “both Venice Hospital and the Roq and Rob [morphologically very similar and contemporaneous with La Sainte-Baume] schemes were based on the readings of underlying typologies in existing towns in terms of both buildings and spaces between. These patterns of adaptation and memory were then translated into standardised modern systems of construction, arranged in a cellular fashion to evoke growth and change, as in the vernacular, or in the patterns of nature. Charles Jencks (2000: 325) asserts that the scheme for the Venice hospital, on which Le Corbusier was working when he died, “has many of the complex, urban aspects which his critics were asking for”.



Isometric view of Venice Hospital



Block plan

5 MINUTE WALK

0 100 200 400 m

**Figure 27**  
**Venice hospital (drawing by the author).**

Like the Barcelona Quarter and La Sainte-Baume, the Venice Hospital is an example of Critical Regionalism in every sense. It is a modern interpretation informed by the history of the place and the fabric. In this case a major inspiration could have been derived from the Roman garrison town of Timgad (first century AD). The 60 x 60 metre grid is exactly double that of Timgad (figure 28). What is even more intriguing is that the offset, pinwheel configuration at the nodes where corridors and ramps connect is described by Sitte, referring to piazzas in Ravenna, Pistoia, Mantua and Brescia, as an “ingenious system” (quoted in Collins et al. 1986: 172-173).

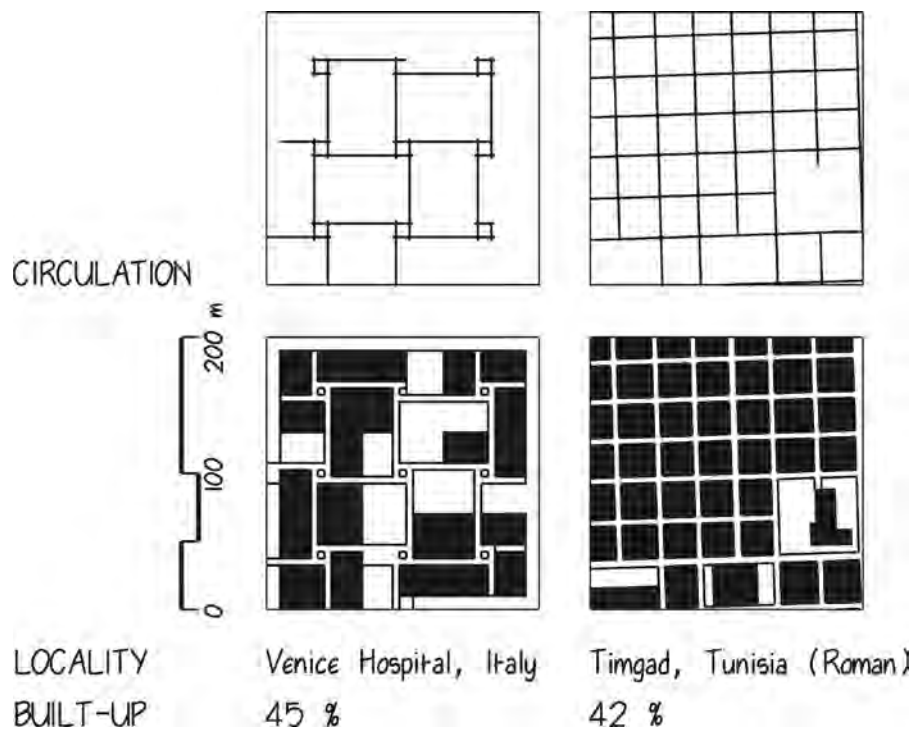


Figure 28  
Venice hospital analysed (drawing by the author).

### Creativity, synthesis of ideas and representation

Le Corbusier, except for a part-time course in history at the Ecole des Beaux-Arts in Paris, received no formal architectural or town-planning training at all. Garnier on the other hand, a major influence on 20<sup>th</sup> century town-planning, spent three years at the Lyon Ecole, ten at the Ecole des Beaux-Arts in Paris and a further four at the Academy in Rome (Anderson 1985: 3). Le Corbusier (1951: 29) declared that he “had always fled from formal teaching. He therefore had no knowledge of the canonical laws, the principles codified and dictated by the Academics. Being free from the academic spirit, he had an open mind and an alert eye”. Clearly this also means receptiveness to the ideas of history.

The result was a remarkable and increasingly sophisticated body of theory and an oeuvre of urban designs – frequently of a pioneering, responsive and innovative nature. His urban concepts were embedded in a number of successive core ideas spanning four periods, although there is considerable overlap. In the beginning (up to 1916) he practised Regional Classicism and garden city picturesqueness. After moving to Paris (1917) he developed Purism, and conceived the Contemporary City as a Baroque-type grid. Then, just as Modernism became the International Style, Le Corbusier abandoned Purism and started to explore hybrid and vernacular architectural forms. During this period (1929-1945) he also abandoned the symmetrical grid after releasing Radiant City, and explored a large number of urban typologies during the next 15 years. These included juxtaposed nets with different geometries for vehicles and pedestrians, often based on curvilinear and trigonometric forms. Thereafter, in the post-war years until his death (1946-1965) his buildings reflected a Mediterranean vernacular and were mostly heavy, monumental and sculptural. His urbanism of that period focussed on the Unités in a number of urban settings, as well as Chandigarh, Berlin and Venice Hospital. His peers, including Hilberseimer and others, never developed residential typologies beyond simple slabs and towers, and urban typologies beyond CIAM urbanism (figure 29).

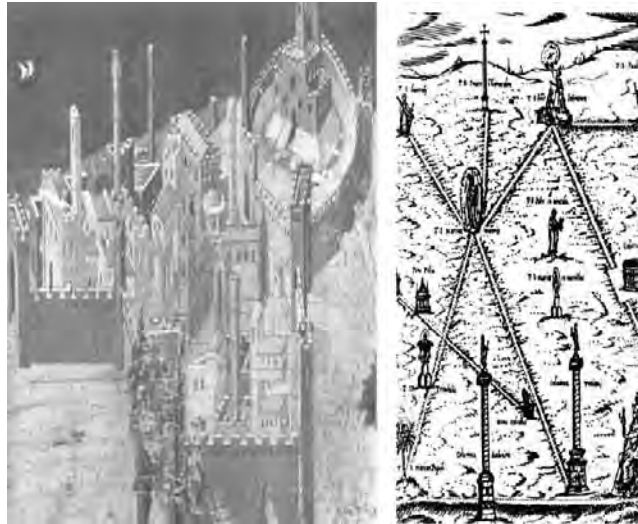


**Figure 29**  
**Ludwig Hilberseimer, Vertical City, 1924 (source: Van Lent 2008).**

Le Corbusier (1927: 51-52) insists that “The plan carries in itself the very essence of sensation.” Fawcett (2003: 20) reminds us that the true meaning was lost in translation from French and that “the three-dimensional organisation is the generator” would have been more realistic. Besset (1992: 174) also points out that Le Corbusier’s town-planning went beyond the purely functional, embracing, like Sitte, the “art of building towns”. He clearly considered a town not as a two-dimensional plan, but as a site and a landscape organised in three dimensions. Regarding the integration of architecture and town-planning Le Corbusier (1927: 51-52) is quite adamant: “Towns must be conceived and planned throughout their entire extent in the same way as were planned the temples of the East and as the Invalides or the Versailles of Louis XIV were laid out.”

Today, most commentators would experience difficulties with that statement. Jencks (2000: 326) for instance observes: “As to his city planning, it was undoubtedly flawed in ... the assumption that a city is a total work of art and not a piecemeal growth responding to countless economic forces and decisions”.

Edmund Bacon (1968: 79) found that towns in medieval times were generally perceived as organic entities. Guido Francescato (2001) believes that this approach, propagated during the Renaissance by Leon Battista Alberti (1404-1472), saw the city as a large building. Cynically, Francescato states furthermore that the Albertian model was adopted by architects towards the end of the 19<sup>th</sup> century, because they began “to claim jurisdiction over the entire built environment, not just over the individual buildings and urban fragments that traditionally had been the focus of their work”! Le Corbusier, like most of his peers for that matter, was simply continuing a long tradition of representing the city.



**Figure 30**

**Hill town in Tuscany, painted by Ambrogia Lorenzetti in ca. 1340 (source: Bacon 1968: 79).**

## Conclusion

Whereas Le Corbusier's architectural models are well-defined and generally accepted, his urban ideas have not been so neatly packaged and defy chronological delineation, simply because there is so much overlap. We find that ideas were not only transferred between urban typologies, but also between the three streams of urbanism, neighbourhoods and building complexes, and individual buildings. Throughout his career these streams variously diverged, converged and crossed. There is a very clear trajectory of seminal ideas that were conceived in one of these streams and then transferred to another, as well as of a leapfrogging of concepts. It is also obvious that Le Corbusier modified and continuously refined a number of particularly robust conceptual ideas.

From his very first writings Le Corbusier readily shared his ideas and steadily expanded on his body of theory by means of guidelines, principles, hypotheses, polemic and manifestos. Reading reveals that a complex universe of ideas from fields as disparate as history, biology, geometry, arithmetic, nature, politics and the *Zeitgeist* variously influenced his designs. This article, however, postulates that – once the exigencies of a project have been identified – history and precedent were often the main sources of ideas for Le Corbusier's core urban concepts, and that the other fields provided ideas for shaping and refining them.

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