

REFERENCES IN LE CORBUSIER'S REORGANIZATION OF RURAL HABITAT

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Abstract. Projects for the Reorganization of the Rural Habitat designed by Le Corbusier during the '30s posed a territorial model from a radically new vision. The *Ferme Radieuse*, the *Village Radieux* and its implementation as the *Unité d'Exploitation Agricole* within his theory of *Les Trois Établissements Humains*, form a complex theory of agricultural land use with an innovative character. However, in these studies some historical and vernacular references can also be found. They significantly influenced the overall approach and the results.

Thanks to his relationship with the rural activist Norbert Bézard and a direct contact with farmers in the region of Sarthe, in central France, Le Corbusier began to understand their problems, needs and ways of working. He approached, at the same time, to some theoretical reflections from French rural historians and geographers, such as Roupnel and Ramuz. Influence from writers like Ritter or politicians like Giradoux, together with its own interests, marked his later designs. Besides the accepted functionalist scheme, we can also find in this Reorganization of the Rural Habitat some interesting historical connections as well as a nostalgic attempt to recover past and vernacular models.

Keywords: *Ferme Radieuse*, *Village Radieux*, *Les Trois Établissements Humains*, farming, rural, vernacular.

Introduction

Land management projects by Le Corbusier during the '30s rose as a radically new model. The *Ferme Radieuse*¹, the *Village Radieux*² and subsequent implementation of both as the *Unité d'Exploitation Agricole* within his theory of *Les Trois Établissements Humains* (Le Corbusier 1945, 1959, 1981), can be understood as a real proposal to reorganize the rural habitat. The focus of this "Agrarian Urbanism" projects was essentially functionalist. Proper distribution of human activities in the territory would allow for a better society. Agriculture was clearly present in them, being the key element of these projects.

This article aims to go beyond previous works (see García-Germán 2008; McLeod 2004; Ragot 2013),

understanding that Le Corbusier's projects included a complex analysis of the situation of the agricultural world and the territorial development. They directly connected functionality, cultural and landscape values, in order to relate them with contemporary life. The approach has been done through the study of the original plans, published by the author himself, along with documentation from its foundation, revisions and new editions of these works.

These documents reveals interesting historical and vernacular references that influenced significantly the results obtained. References from different areas that were joined by Le Corbusier to his own interests, in order to develop an agricultural cooperative model. This article will finally show how he implemented an interesting connection with the soil and a biological work for the designed equipments. A set of territorial tools, technologically advanced, that nevertheless did not forget to connect with farmers' needs and physical possibilities of the territory.

¹ The Radiant Farm project was developed between 1933 and 1934. File at the Fondation Le Corbusier: (FLC) H3-16 and L3-20.

² The Radiant Village project was developed between 1934 and 1937, see: FLC H3-16 and L3-20.

References and influences

The development of these projects for a Reorganization of the Rural Habitat was held during the 30's of the twentieth century. A period in Le Corbusier's work that is difficult to catalogue while during these years, despite maintaining a close technological determinist attitude, his interest in landscape and biological design was already present and so it is reflected in these projects.

Concerns about countryside and connection with territory will be a key element of his projects in the mature phase. In previous decades we could highlight a set of literary references that allowed Le Corbusier to confront these concerns that, in the second half of the decade of the 30's, became important.

It is worth noting the accurate reflection by Juan Calatrava Escobar (2012) on the relationship between Le Corbusier and most texts. As this author states, the use of literature in Le Corbusier is primarily "internal" and has a "fragmentary, partial and selective character" (Calatrava Escobar 2012: 129). The architect was looking for arguments to reaffirm the guidance of his thoughts. He was able to detect parallelisms between his own interests and what others reflected in their works.

This interest in rural and peasant life was opened by the work of the Swiss writer William Ritter, who was present at Le Corbusier's thought almost since his childhood. Up to five copies of Ritter's works could be found in the architect's library (Calatrava Escobar 2012: 131). In *L'Entêtement slovaque*, 1910, Ritter made an exaltation of the pure life in Central Europe, where peasantry was still not completely corrupted by modern urban life. This interest in local values also appeared in other authors works present in his library. The aristocratic and literary researcher Gonzague de Reynold defended in his works the values of Swiss native culture over northern countries and the Mediterranean (Reynold 1909, 1912). As well as the possibility to create an authoritarian corporate state, as Jean Giraudoux later proposed.

Since 1933 Le Corbusier started showing interest in territorial, geographic and cultural singularities. After his travels and projects in South America and North Africa he was establishing an organic order in his architecture. This new order would be achieved through protecting the natural environment and the biological universal rights of the real man (*homme réel*), as he wrote in the *Ville Radieuse*:

"(...) The sun on the residence, the sky through the windows of the house, the trees under the eyes (...) they deeply touch the physio-

logical and psychological being. They put us in harmony with our deep natural destiny" (Le Corbusier 1935: 14).

In 1934 he included the following observation in his *Œuvre Complète*:

"It is not possible to think of modern cities being develop if we do not develop the countryside. Some of the inhabitants of the city will return to the fields. But if it remains as it is today, nobody will want to return. For this purpose the rearrangement of the land is required, as well as building cooperation settlements and a new type of farm, using the machinery of modern culture" (Le Corbusier 1934a: 186).

The greatest influence for Le Corbusier to get closer to rural facts was due to the contact with agrarian intellectuals and activists of the regional trade unionism. It was a broad political movement in which Le Corbusier participated as an editor and author of articles. Some of them appeared in the pages of *Plans* (1931–1932), *Prélude* (1933–1936) and *L'Homme Réel* (1934) advocating for a technical decentralization of the government. Jeanne Walter, Philippe Lamour, Hubert Lagardelle, along with Le Corbusier and others, participated in these publications. They showed a deeply anti-liberal corporatist ideology, where social planning was to be run by technocrats (Ragot 2013). Facing the downtime and inability of democratic institutions, they preferred an authority that proceeded from technical training (Lourau 1980: 164), a direct action against capitalism through economic intervention and the gradual decentralization of government (Ragot 2013).

The final aim was the full development of human beings, a *homme réel* in an organic society. One of the highlights of its policy proposals was the land reform. It should result from the scientific application of technical and social innovations. Work was understood in an anthropological way, as an exchange with nature, a man's control over the media (Hilpert 2004: 23).

The meeting with Norbert Bézard, a farmer and union activist from Sarthe region, happened within this group. Dr. Peter Winter and Philippe Lamour helped Bézard to contact the architect (Ragot 2013). A postal correspondence was the germ of these rural projects. In his 1933 letter, Bézard asked the Swiss architect:

"Le Corbusier, do not stay in the city; Do you think we read with indifferent eyes descriptions of your Radiant City? Do you want to take some care of us? Do not forget our land, our farms, our fields, our people (...) Corbusier [sic],

give us the Radiant Farm, the Radiant Village” (Le Corbusier 1964: 186).

Bézar introduced Le Corbusier in the rural world through “a long, patient and meticulous assimilation” (Le Corbusier 1964: 324). During his visits in 1933 to Sarthe, and after some meetings with farmers³, Le Corbusier noticed a generally poor organization and a backlog in housing and infrastructure for farmers, what he would intend to finish with his projects.

The contact with the intellectual and politician Jean Girardoux⁴ brought Le Corbusier some more ideological elements: the assessment of the Mediterranean landscape, the idea of “vital harmony” between people, history and environment, or the pride of being in contact with the soil. It all had to be developed through a reassessment of the agriculture, not only economically but also morally (Calatrava Escobar 2012: 141). The fundamental concern of Jean Girardoux, founder with Raoul Dautry in 1928 of the *Ligue Urbaine* (see Baudoi, Lucan 1987: 168–69), was to reunite the French historical fate of “builder people”. A task that must pass through a modern assimilation of the French “classical spirit” in which it was important to achieve a physical well being of citizens, what perfectly tuned with Le Corbusier’s idea of radiant citizens (Calatrava Escobar 2012: 143).

This new interest in contacting with nature and rural world encouraged him to read geographers and historians who had analysed rural development processes in France. Mainly *L’Histoire de la Campagne Française* by Gaston Ruopnel, *La Terre au paysan* by Henri Pitaud and Charles Ferdinand Ramuz’s *Questions* (McLeod 2004: 136).

The work of Gaston Ruopnel, professor at the University of Dijon, was present in the personal library of Le Corbusier. His research, “more intuitive than scientific” (Pitte 1983: 166), represented a defence of historical values of the French countryside. He advocated for the recovery of the cooperative agricultural work through collective farms. According to the author, the best way to give life back to the French countryside would be establishing a cooperative system. A system that would not change the original ownership of the plots but that would join forces for modernization. It paradoxically remind historical moments, when everyone were at the service of others. The architect was specially interested in Ruopnel’s work, and so included

some excerpts from his 1932 work in the first version of *Les Trois Établissements Humains*:

“(…) Without modifying the distribution of property (...) there is a way to adjust our current fields to new operating procedures (...) it is enough that the operation would be unique, that is to say, machines and workforce to serve the community. The village tends to become an association of farmers and a production cooperative. We would return to the times of collective farming; we would return to the original time when everyone was in the service of all (Ruopnel 1932: 27).

Another rural geographer who influenced Le Corbusier’s thoughts was Charles Ferdinand Ramuz, with whom he collaborated in the trade unionists publications. His book *Questions* (Ramuz 1936) was thoroughly studied by the architect, according to the notes that plagued his copy (McLeod 2015: 104). Ramuz stated that “being a farmer is not a job but a way of life” (see Wright 1964), a statement that came in line with the ideas of the architect at this time.

First-hand knowledge of the situation, both practical and theoretical, made Le Corbusier questioned how to export the ideas of functionalism to rural world. At this time, agrarian reforms projects were being imposed in several countries. They were all extensive farming oriented, large-scale and government managed, but Le Corbusier’s idea was the modernization of family agricultural production, improving their competitiveness and social conditions without losing the natural values.

Ferme Radieuse

The rural organization proposed by Le Corbusier started from the reorganization of family and cooperative work on farms. That is the reason why the first project to be developed was a new model of farm: the *Ferme Radieuse*. It first appeared in number 14 of the magazine *Prélude* in November 1934 (Le Corbusier 1934a). Shortly after, it was published under a slightly changed name in the magazine *L’Homme Reel* (Le Corbusier 1934b) and the year later it was taken up in Chapter 7 of the *Ville Radieuse* (Le Corbusier 1964) (Fig. 1).

Ferme Radieuse is a 20 ha farm run by one family who lives in the property. Therefore, it consists of a residence and a series of buildings that house the different uses required for farming, as well as growing fields. Size and structure of the farm was the result of adapting the project to the area of Piacé, where Bézar came from. This influence can be noticed by the choice of a medium size exploitation, what suits to an area of

³ For example, the one conducted with fifty farmers in the French city of Le Mans (McLeod 2013: 188).

⁴ Girardoux works in Le Corbusier’s library: *Combat avec l’Ange*, Paris: Grasset 1934 (FLC J 362); *Ondine*, Paris: Grasset 1939 (FLC J 383); *Pleins pouvoirs*, Paris: Gallimard 1939 (FLC J 54); *Siegfried et le Limousin*, Paris: Grasset 1939 (FLC J 382); *Suzanne et le Pacifique*, Paris: Grasset 1939 (FLC J 361).

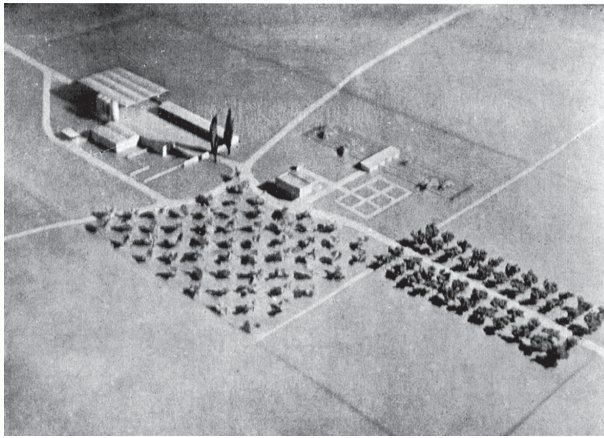


Fig. 1. Model of the *Ferme Radieuse* (Le Corbusier 1935: 188)

bocage (Le Corbusier 1964: 322). So is known in France the landscape with gentle slopes, divided into small agricultural plots, where pastures and forests alternate. Despite the site chosen, the radiant farm was a theoretical model and, according to the author, it should be adapted to different climate regimes and topographic conditions where implemented.

Family dwelling is placed in a separate building in the heart of the farm (Figs 2, 3a, 3b). Its central position, raised on piles, allows visual monitoring of the extensive crops for animal feeding, the orchard, the barns, etc. Using piles prevents moisture in the housing (Le Corbusier 1964: 325) and facilitates direct contact from the ground floor, open to the vegetable garden next to

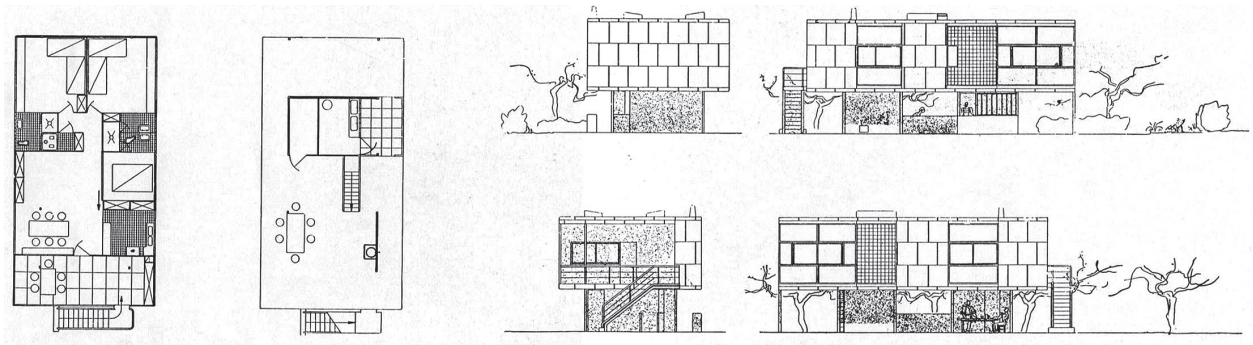


Fig. 2. House planning (Le Corbusier 1935: 187)

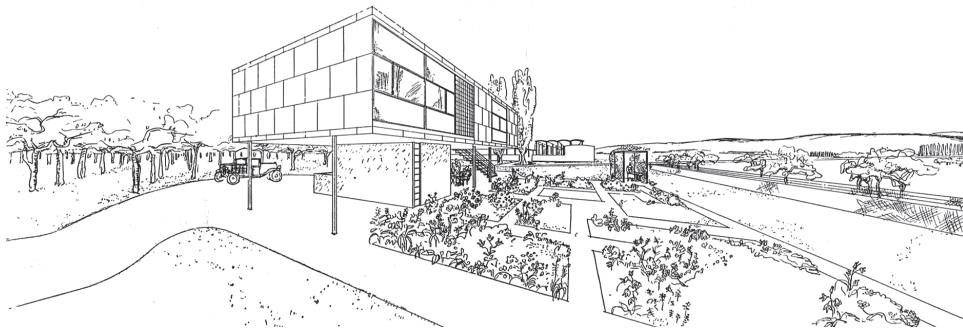


Fig. 3a. Outside view of the house (Le Corbusier 1935: 191)

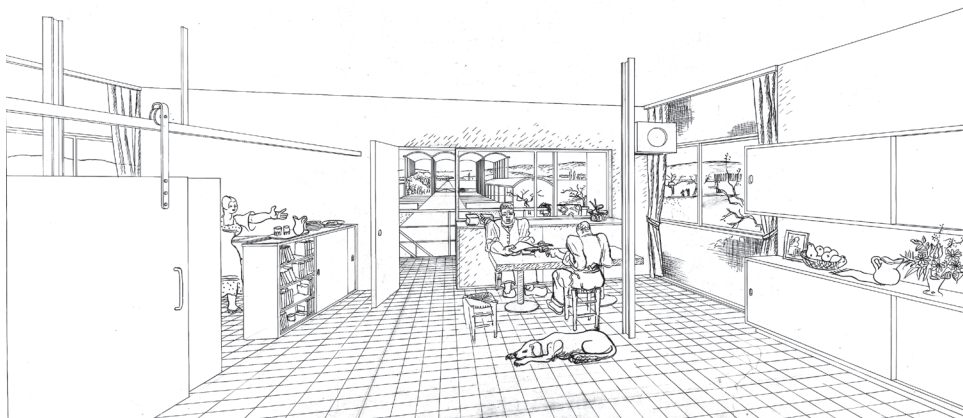


Fig. 3b. Inside view of the house, *Ferme Radieuse* (Fondation Le Corbusier Archive: FLC 28619A)

the residence. The upper floor is organized around a large room that houses the kitchen and lounge, together with three bedrooms and two bathrooms. The building uses a metal structure, large windows, cladding panels and flat roof covered with local soil.

In this project there were not a new housing model design from scratch, but it was a reuse of *Maisons Loucheur* (Le Corbusier 1934c: 199). The project rose within the framework of the *Loi Loucheur* (see Benton 1987), a law enacted to massive construction of affordable housing at the end of the 20's decade. Therefore it had to be an economic construction, prefabricated, quick to assemble, that followed current trends regarding minimum housing. Unlike *Maisons Loucheur* (Fig. 4), the house in the *Ferme Radieuse* was not paired, so the dividing wall of stone was removed. It became an independent house to be built entirely from dry prefabricated elements.

The labour yard is located down the main road. It is organized as an open space defined by outer walls, using a concrete floor to evacuate water and protect workers from moisture and mud. Around the patio a number of steel frames make six-metre modules supporting prefabricated concrete vaults, protected with a blanket of local soil. These frames organize a storage area for materials, one for the barn and another for animals. The movement of grain and animal feed is produced by a suspended railroad mechanical system. It aims to optimize the work of separation, sorting and storage of grain as well as the removal of manure to return it to the fields. From the rear side of the barn a path allows direct entry of agricultural products and manure output.

Throughout the project it is possible to detect an interest in generating an organism, a group of functional circuits that connect human activities, animals and nature. A human, industrial and technological artefact, which aims to optimize energy exchanges between land, animals and people; a sort of biological functionalism that seeks harmony between all components.

Once the design was published in various media, Le Corbusier sought to materialize it, but the dissolution of the unionist group did not make it easy. Nevertheless he tried to build it from 1934 to 1942, even in other countries, such as Italy. During his visits to this country and its attempts to meet Mussolini (Mariani 1989: 290–292), Le Corbusier was interested in agricultural recovery proposals in the area of the Pontine Marshes. He stated that Sabaudia was made with taste and full of good intentions but was merely “an artistic imitation of the prettiest villages anywhere” (Le Corbusier 1964: 336). Unlike his radiant farm, that was “pure, effective,

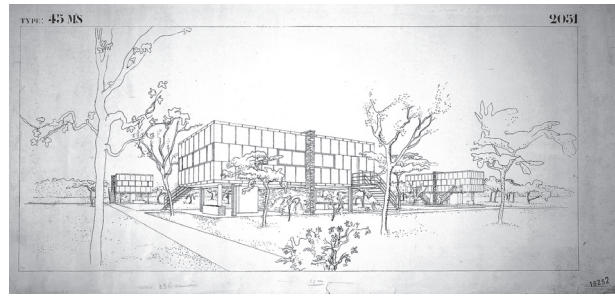


Fig. 4. Outside view of the project for the *Maisons Loucheur*. Fondation Le Corbusier Archive: FLC 18252

necessary and sufficient, with a rigorous and useful tool function” (Le Corbusier 1964: 336). Therefore he mailed the *Duce* to build 1400 radiant farms in the agricultural area recovered in the Pontine Marshes (McLeod 2013: 190). These projects, however, were not suitable for that territory, completely flat and extensively farmed; totally different from the territory of *bocage* in the French Sarthe.

Village Radieux

The radiant farm work was subsequently submitted to George Monnet, socialist minister of agriculture, who did not consider it but at least allowed to show it in the agriculture section of the *Pavillon des Temps Nouveaux* at the International Exhibition in Paris in 1937. To the original title *Logis et Loisirs*, Le Corbusier added the subtitle *Villes et Campagnes*, as he understood that the issue went beyond the city limits, covering the overall development of the territory. He even claimed: “(...) cities are the corollary of the countryside (and not vice versa). Consequently it is impossible to think about urban planning without planning for the countryside” (Le Corbusier 1938b: 6).

In this context, and with the title of *Reforme Agraire*, Le Corbusier showed the radiant farm along with a co-operative centre or *Village Radieux* through drawings, models and texts (Le Corbusier 1939a: 104–110). In its panels he exposed:

“Agricultural reorganization, rural planning to return to land, no development for cities without development for the fields, industry will bring the equipment.

It is the land (soil type and seasons) that decides, not the people. Generalization in agriculture is a recipe for failure: regions must be first defined.

A rural municipality should be created: family farms the land, the town as a community of shared services, a cooperative venture work.

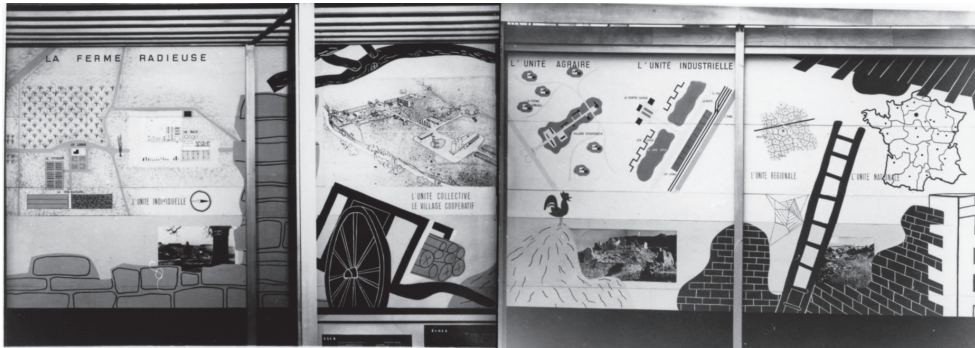


Fig. 5. Display over the *Reforme Agricole* at the *Pavillon des temps nouveaux*, Paris 1937 Exhibition. FLC L2(13)148

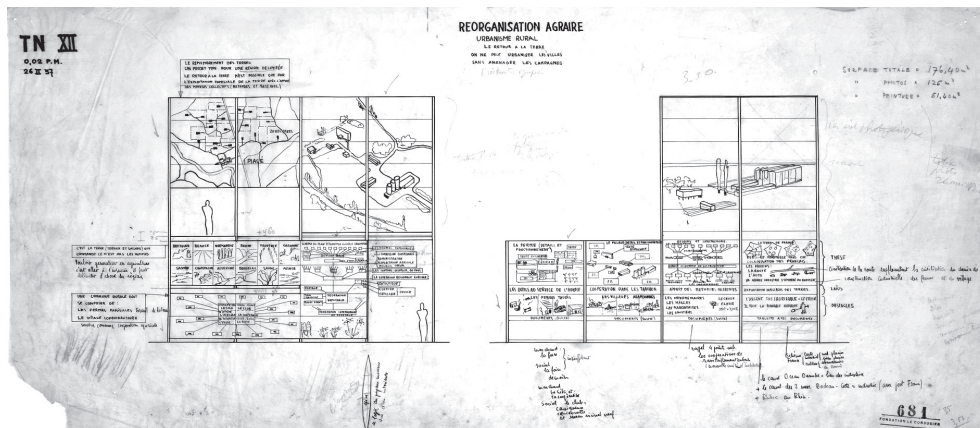


Fig. 6. Sketch of the panel to be displayed at the *Pavillon des temps nouveaux*, Paris 1937 Exhibition. FLC 00681

Field consolidation project for a clearly defined region: Return to the fields is only possible through family farms helped by collective resources (equipment and methods)” (Cohen *et al.* 2014: 311) (Figs 5, 6).

This exhibition showed an elaborate version of the radiant town for the first time⁵. Previous publications showed schemes that were merely sketches, inspired by the ideas of Bézard. Le Corbusier came to a final design in 1937, it was located in a theoretically flat and easily accessible place. It was based on a similar organization of the farm, so a backbone connected the activities with a high capacity highway. The desire to incorporate rural life to socioeconomic urban conditions clearly appears.

According to this model, radiant farms would be associated in a common production society, whose centre would be the *Village Radieux*. It would have an open display, with functions ranging from the purely agricultural ones, to others for social contact, industrial

activities and services. A number of buildings scattered in a green environment, materialized by prefabricated steel structures, covered with concrete vaults. Interiors and final details would not be prefabricated but made by local workers using vernacular techniques.

Along the central axis we could find: the cooperative silo, which is the “belly” of the project (Le Corbusier 1981: 80); some facilities for industrial activities; a warehouse for distribution and sale of agricultural products; and the cooperative store. The postal service, an apartment block, a school and some entertainment services in the club completed the settlement. The club was inspired in the Soviet model and Le Corbusier called it the “head” of the town, because it was the focal point for community meeting. The scheme was chaired by the administrative building at the end of the central line (Fig. 7).

Le Corbusier understood the settlement as a “technical device that would bring safety and hope to the rural world” (Le Corbusier 1981: 80). It would make community change from its immediate universe, run at 4 km/h, to the open and unknown world, run at 50–100 km/h. And it would also solve the three basic

⁵ The project was published the following year in (Le Corbusier 1938c: 114–137).

starting problems: “circulation, storage and manipulation” (Le Corbusier 1964: 327). In addition, another of his concerns was materialized, the harmony between the individual and the collective, between the cell and the organism. A cooperative model would manage the settlement and it would ensure a harmony through some uses (club, school, workshops, offices) considered as extensions of the habitat, what was essential both in town and country residences.

The project had a low acceptance in the Congress of Paris, what did not prevent Le Corbusier from continuing maturing these ideas. This is reflected in the references he made to them in 1939, both in the journal *Sillons* (Le Corbusier 1939b) and in the manuscript *Sour les 4 Routes* (Le Corbusier 1941); or the comments he included in the *Maison des Hommes* (Le Corbusier and Pierrefeu 1942). In 1940, himself and Bézard produced another manuscript entitled *La Ferme Radieuse et le Centre Coopératif. Reorganisation agraire. Programme de la grande industrie* (Le Corbusier and Bézard 2015), changing the name from “village” to “centre” and from “radieux” to “coopératif”, thus emphasizing the management scheme. Later, Le Corbusier tried to move these projects to the government of Vichy and even collected proposals for implementation in the United States (Bacon 2001). It happened to have some political impact on social housing in the west of the country, especially through the San Francisco Office of the Farm Security Administration⁶.

Unité d'Exploitation Agricole

The foundation of the group ASCORAL in 1942 allowed Le Corbusier to have a team to address projects at regional level. Aujame, Hanning, Dubreuil, Bézard and others collaborated in a research that was collected in the publication *Les Trois Établissements Humains* in 1945. It can be considered his last major territorial scale proposal, which he will defend until the end of his life.

The “farm unit”, together with the “linear industrial city” and the “radio-centric town for exchanges”, would create a triad of functional settlements that constitute the territorial scheme. It was therefore a higher level in his work for the reorganization of the rural habitat that ended in a complete theory of town and country planning (Fig. 8).

In this model, a network of linear industrial cities would embrace a mesh of polygonal farm units, maximizing the use of natural resources. This territo-

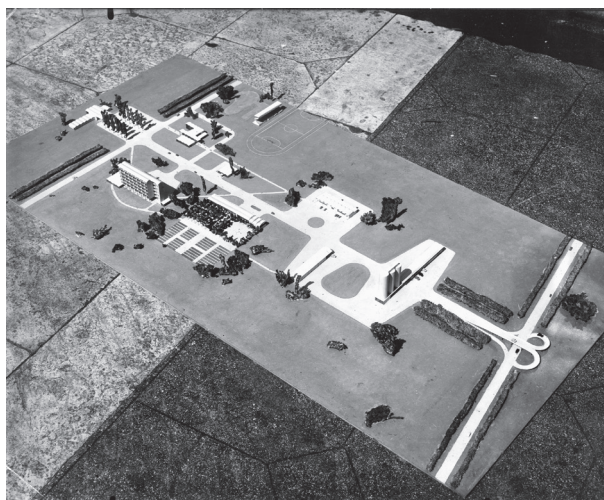


Fig. 7. Photograph of the model for the *Village Radieux*. FLC L3(20)61



Fig. 8. Sketch of *Les Trois Établissements Humains* (Le Corbusier 1959: 75)

rial structure was quite similar to the one proposed by Walter Christaller (Christaller 1968) in 1933 for an agricultural area in southern Germany, which Le Corbusier could have known at some point (Frampton 2001: 111). In the design of each polygonal farm unit, Le Corbusier used the model shown in the previous decade, but evolved it from its isolated position to a rural context.

The functionalist planning starts in a theoretical placement with some existing villages. The cooperative village is located close to the regional communication system. Attached to it, vegetables and fruit fields are placed. In a second ring, together with radiant farms,

⁶ For more information view Woodville Rural Community and Agricultural Workers' Community in Chandler, collected on Mock (1945).

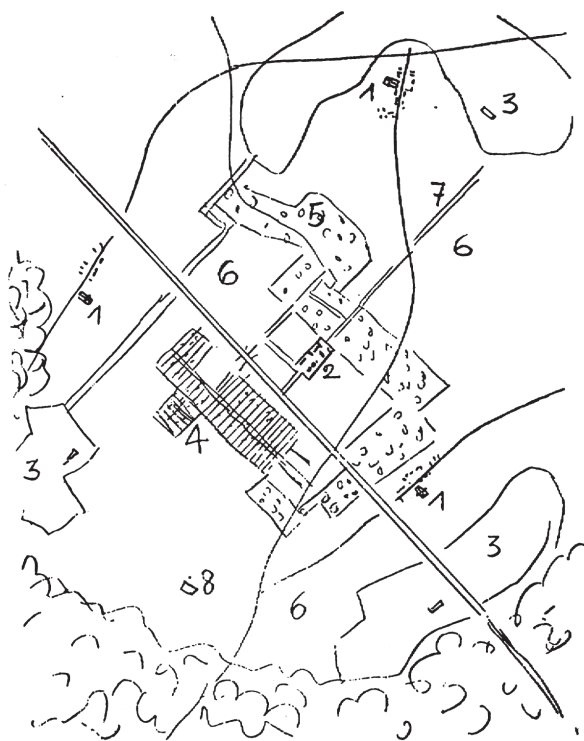


Fig. 9. Sketch of *Unité d'Exploitation Agricole* (Le Corbusier 1959: 77)

it can be found some crops fields, tubers and vines, as well as space for breeding livestock. Existing roads are reinforced and some new ones are built, allowing connectivity between villages, the cooperative centre, farms and growing areas. The project includes a detailed definition of the cooperative village, repeating the one designed in 1937, with slight modifications such as the location of the club and the display of the radiant farm (Fig. 9).

The modernization of the rural environment would not only benefit the harvest, but also some specific activities, such as manufacturing of vegetables and fruits, dairy, logging, hunting, etc. An industry that could become “bright and optimistic, full of intensity and beauty” (Dubois 1957) thanks to its connection with the rest of human settlements. “Linear industrial cities” improve and protect the countryside because they assure farmers to be developed in specific places and not invade the territory uncontrollably. In addition, they allow agricultural areas to connect the economic and cultural flows, dignifying and enhancing the agricultural world without losing its essence.

Despite the conviction of the Swiss architect, no government launched its territorial model. After World War II, in 1956, he proposed the idea to a former member of the magazine *Prélude*, Philippe Lamour, as he was development manager of the Lower Rhone-Languedoc region (McLeod 2013: 191). As happened

in Italy, differences with the landscape that had been used as a study model, made the implementation impossible. But the idea remained in the mind of Le Corbusier to the end. In his last theoretical work, *Mise au Point* (Le Corbusier 2014), this model of territorial reorganization took an important part of his speech, showing continuity in Le Corbusier's thought, who never left an idea behind but worked refining projects to the extreme.

Vernacular relationship

After the study of the main references in Le Corbusier's thought in relation to rural areas, and the analysis of his drawing plans, we can highlight three areas of work through which the architect approached vernacular models.

The cooperative proposal has to be highlighted. Land reform model was not designed up on state ownership of the land, but on farm-owner cooperatives that served as intermediaries for community management of resources and products. A mix between individual and society that is completely different from the anti-urban individualism in Wright's theoretical proposals (2008, 1958, 1945), or the state intervention in Soviet *disurbanists* projects (Ginzburg, Barshch 1930).

This system would also allow them to reach facilities and services, both tangible and intangible, that other way it would be impossible for them. A collaborative work from a modern functionalism, that aims to improve former models of self-management in the French countryside (Le Corbusier 1945: 77–78). Le Corbusier's proposals did not require expropriation or dissolution of private property for an administrative land management, but property and decisions remained within the peasant cooperatives. Setting an important difference to those collective farms (*kolkhoz*) that appeared in the USSR from 1928 on (Davies 1980), and those in the republican band during the Spanish Civil War, 1936–1939 (Sánchez Jiménez 1989).

Cooperative work would be managed by farmers' unions, as advocated in the pages of *Prelude*. Agencies for political action that should have a regional understanding. For this new system of rural habitat it would be necessary to reorganize administrative units: borders would be drawn based on natural criteria, defined by climate, topography, language or race. A model was represented in pictures under the title of “natural regions”.

The second line for vernacular values recovery was the connection with local landscape. According to Le Corbusier, the French territory was too “wonderfully varied for a totally theoretical answer” (see

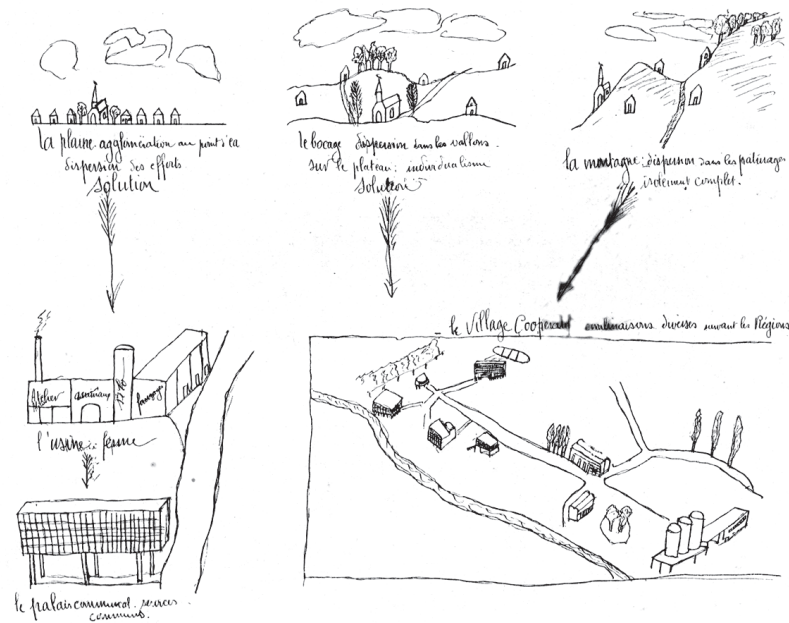


Fig. 10. Norbert Bézard's sketches on the landscape of Piacé and the proper cooperative village (Bézard 1939: 1)

McLeod 2013: 187). Therefore, the model is intended for a specific landscape, the *bocage*, the one existing in the environment of Piacé in Sarthe region. The family farm, a 10–20 ha property managed by one family, was the working base unit, as it was common in the territorial structure of Sarthe (Fig. 10).

The farm was understood as a tool to modify the territory, so it should be complemented with farmers' experience, without whose wisdom it would be impossible to integrate the farm in local environment. This "almost unbreakable relationship between the farmer and the soil" (Le Corbusier 1935: 191) would be the best way to advance the design and effectiveness of the model. It was not intended to be used as a literal solution, but as a prototype that should be adapted to different areas by vernacular knowledge. We could say that this proposal moves away from those more abstract and universalistic interventions that prevailed in the first half of the architect's work. Although the truth is that in three decades the original project was never adapted or modified, which probably would have happened in the case of its materialization.

Finally, Le Corbusier included a set of elements that have a biological functioning. A metabolism that would act according to the territory, just as local properties had been doing throughout history. He was aware of the progressive distortion of human life: "Modern society has abandoned the natural environment, it lives on an artificial device (...) It is necessary to restore

natural conditions" (Le Corbusier 1957). A claim for both biological and spiritual human needs that reflects a new kind of subjectivity, which will dominate last decades of Corbusian thought.

Far from falling into a peasant romanticism, Le Corbusier planned a modern and functional look, but trying to get the biological integrity of farmers:

"A farm is not an architectural fantasy. It is similar to a natural event, something like a humanized vision of the soil: a kind of geometric display so closely linked to the landscape as a tree or a hill, and as representative of human presence as furniture or machines" (Le Corbusier 1964: 322).

All project decisions were therefore designed to create a single body with a consistent internal metabolism. In addition to its internal operations, the radiant farm would enhance exchanges with the environment, closing the loop between natural, anthropic and industrial worlds. Environmental conditions would shape the functioning of the agricultural unit, and its activities would be linked to the landscape through close ecological relationship (García-Germán 2008: 202). It would be a tool with an internal metabolism connected to the natural conditions of the placement: "The type of contemporary farm: A biology, an organism, a being. (...) It includes soil, landscape, nature and human labour. It's alive!" (Le Corbusier 1964: 325).

Conclusions

Radiant farm and village emerged as solutions to the problem of an isolated rural society. Industrial progress had caused a tremendous disconnection between urban and rural, which were in different worlds. Against this, the farm unit, along with the other models of human settlement, would try to maximize productivity and facilitate connectivity, reducing existing regional imbalances.

Specific design of farms was made as first class human settlements, with similar activities and services to those enjoyed in urban areas. In addition to the communication with regional networks, community services would provide encounter and exchange, and materials, techniques and contemporary comfort standards would be used. In short, Le Corbusier sought to achieve optimum comfort at the residence, efficiency and productivity at work and interesting leisure and culture activities that would break current marginalization of the rural world.

To this functionality and modernity layers we must add another one, yet less visible, an attempt to understand the functioning of agricultural territories. An interest that had hardly appeared in former architect's work but that will be basic to Le Corbusier's mature projects. We have seen a model of cooperative work that stayed away from the rest of government land reforms that were been developed at the time. A system that attempted to recover and renew the existing model of collaborative works in French countryside along the history.

We have also highlighted a respect to local conditions of the territory in which these rural tools would be installed. Connection with the soil shows a respect to the peasant life style, which had to be modernized through some responses that would not delete its essence. The need to adapt the project to the placement through peasant's knowledge, make us understand the proposal as a base tool, with a modern and universal character, but open to be adapted to local conditions, culture, history and traditions.

If we place Le Corbusier's projects in context, we understand that they are connected to contemporary proposals such as Taut's (1919, 1920, 1963), Hilberseimer's (1949), Wright's (1945, 1958, 2008) or Ginzburg's (1930). They were all innovative approaches to rural world, and designed agricultural models perfectly connected with the rest of the economic sectors, materialized through contemporary architecture. However, we have seen how Le Corbusier's direct contact with farmers, the lecture of rural historians and the influence of some individuals made that some vernacular and historical aspects appear. Ideas such as the importance of farmer's work

to improve the exploitation, a cooperative farm management or the adaptation and connection with the territory, were added here to the functionalist agenda to create an innovative proposal for the reorganization of rural habitat.

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