

WORKERS' VILLAGES A DISTINCTIVE LANDSCAPE

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ABSTRACT

Working class housing, an offspring of centuries of industry, belongs to our landscape. Being such a customary sight means that it is mostly underestimated in its nature and importance. It could have emerged from the ground up as a result of entrepreneurs' building policies. But also, it came into being because of philanthropists, lower middle class landlords in search of speculation, and even of workers themselves. In some instances, town districts or villages may have been occupied by workers and converted into working class homes. Occasionally, mixed styles became the rule; otherwise, architectural uniformity sometimes defined the appearance of an area. Characterized by many different features, working class housing was also a fundamental indicator of industrialisation, to the extent that it developed as soon as the eighteenth century, because of new economical constraints. A genuine testing ground for commonplace industry, it merged with social housing even before the great wave of deindustrialization. Besides, working class housing can be studied as an historical object, a focus of everyday life changes, and a heritage.

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I. INTRODUCTION

Industrialisation developed with the establishment of factories, specific production sites belonging to a new social category, manufacturers. Factories, in which engineers allocated work and foremen supervised it, were run by a new kind of employees, operatives. But our argument would be lacking and flawed if another settlement was not spelt out: the housing of industrial populations, be it workers, executives and factory owners. This housing acquired various guises, among which workers' villages, my current topic here, constituted one of the most striking.¹

Workers' villages did not materialise with industry, far from it. Archaeological excavations have led to the discovery of ancient times workers' villages, in the modern sense of the word. They were mostly linked to mines, quarries or building sites, sometimes even to mass export production, e.g. Roman sigillated ceramics. The daily life of a workers' village in Pharaonic times (Della Monica, 1980), close to Deir el Medinah, was documented some time ago. In Northern Spain, Roman era workers' villages have been excavated near the Las Médulas goldmines (Della Monica, 1980) and so on. In more recent times, the Fuggerei,² though not a

workers' village, was truly a family social housing complex displaying emblematic features in accordance with our subject, in particular social regulations. These were isolated cases, considering the number and types of workers' villages. A workers' village was an illustrative and functional unit, which was characterised by: its shape – a housing complex located near a factory, in the vicinity of a locality but within walking distance-; its uniform population – a varying fraction of the workforce, executives generally non-permanent residents –; its varying social services and facilities initiated by the owners. Did this differ to a great extent from industrial neighbourhoods, especially when one employer was involved, or from a factory town, made up of a cluster of plants producing the same goods or taking part in their output? What about the scale of this phenomenon? Above all, what about the increasing complexity determined by village sizes?

The fundamental difference between an industrial workers' village and what predated it, was the global system, industrial in this case, suggesting specific zones and a particular timeline. In terms of areas, Europe came first. A mid-nineteenth century world map would clearly show the highest industrial densities in Central and Northern Europe. Italy, and to a greater extent Spain, resembled the periphery, which was probably one of the reasons why industry failed to take off in Calabria and in Andalusia (Jordi, 1972). On the Eastern edge of Europe, the Urals were a major industrial area, but it was too remote and began to face competition from the Russian coalfields. The United States had quickly taken in the new production methods but was still mired in its national feud. Europe

1. Accordingly, all policies aimed at providing housing to workers, which are necessary steps to understand the global process, will not be taken into account. The bibliography is vast. Likewise, coal mining towns are left aside. When they formed large built up areas, they do not exactly fit in with the concept of company town, uniform and clustered.

2. Founded in 1521 to provide help for the needy citizens of Augsburg, this was an establishment made by Fugger, Charles V's famous banker.

held sway over the world and exported its means and production methods. Simultaneously, it relocated the workers' village or the factory town that, under different latitudes, retained particular features related to climate, vegetation or country habits. A similar map at the turn of the century would show the whole world roughly divided between European powers, quickly to be superseded by the United States in the next century. This spatial pattern must be acknowledged, whilst a real global outlook of industrial heritage, other than a mere listing,³ is yet to be found. However, a comparison process leading to a global analysis is the only explanatory way to be pursued in further research.

This spatial vision, underlined by chronology, leads to separate outlying or scattered worker houses from clustered houses. Dispersed worker homes, in the late seventeenth century and the establishment of manufactories, would sometimes characterise some sizeable urban districts, e.g. harbours (Del Salle, 2004), textile towns or high-value added production centres (Lassaux, 2005; Dorel-Ferré, *Les châteaux-usines de Sedan*, 2005; Delsalle, 2006). But, at the time, big companies in remote sites, e.g. glassworks or foundries, housed, in the best-case scenario, specialists or maintenance workers (Hamon, 1993; Clement, 1989). Rural businesses, such as the toolmaker at Nans-sous-Sainte-Anne, in the Jura region, operated in the same fashion, even during the twentieth century (Brelot & Mayaud, 1962). Con-

3. A list of the main textile heritage sites is accessible on TICCIH's website. One can measure the efforts made and at the same time, the difficulties in having a balanced and broad outlook on the topic.

versely, in the case when employer funded workers' housing materialised, the factory hands, even living in isolated settlements, were by no means housed all together, except perhaps in female company boarding houses⁴ and in the Atacama desert *campamentos*. The former constitutes a research topic in its own right; one can barely imagine that the latter, given living conditions, could not have done otherwise.⁵ There has never been a specific study about how many workers were indeed lodged. However, this explains the recurring labour protests that, from the beginning, punctuated workers' villages' history. Not only did the old ruling class have misgivings about the arrival of a new force on their doorsteps, but workers would not put up, in their midst, with a group considered as privileged, and in some cases, outrageously so.⁶

However, the nineteenth century did not witness the greatest number and quality of creations. They increased in the first half of the twentieth century. In Western Europe, the Athens charter (Corbusier, 1943),⁷ now

4. This topic, hardly researched in France, is now in the hands of la Mission départementale d'inventaire et de valorisation des soieries Bonnet (Jujurieux in the Ain department). Ongoing study should enable to highlight the issue and consider a typology.

5. In the vast bibliography on the subject, it is worth reading (González, 2002).

6. See below the Familistère (Guise) paradigmatic case, created by Jean-Baptiste André Godin.

7. The author restates the conclusions from the fourth international architectural Congress held in Athens in 1933. Le Corbusier will release what is called the Athens Charter in an arranged way, several times between 1941 and 1957. The Charter remained the reference text for the second half of the twentieth century.

endorsing the erection of residential blocks to house the masses, brought everything to a standstill. The 1950's and 1960's saw these buildings proliferate. Eastern Europe followed suit two decades later. What is happening today remains to be seen.

Until recently, a major constraint was to house male and female workers, as close as possible to the workplace, as labour was scarce and kept on migrating. To a large extent, this explains why workers' villages appeared next to the exploited raw material or the energy sources necessary to power machinery.

Who would be housed? And how? An industrial society encountered three choices: housing a male or a female employee, housing families, housing families by supervising all their daily activities. Implementing the first entailed differing methods. In the Belgian Congo mines, engineers who believed in hiring single men quickly realised that it was impossible to get from this kind of population sufficient dependability in and out of work. They gave up and enabled stable families to settle (Van Der Hulst, 1992). Working class towns and villages often lodged single men in special hostels, without their being secluded. In regard to young women, the situation was more complicated. A self-reliant female workforce was quickly considered as a threat to social stability. Factory owners and workers alike wanted to keep an eye on them. In this respect, Lowell did become a social laboratory, other cases will be mentioned later. Industrialists' preferences went largely to family dwellings, a guarantee of stability and reliability. To do so, not a self-evident answer at first, housing policies were implemented,

which, over time, showed their benefits.⁸ However, employers were blamed for taking a slice off wages with rents and pressuring workers with the provision of conditional housing (Frederick, 1873). Nevertheless, this scheme proved convenient. Factory owners became, by necessity, involved in the demanding programme of managing the worker community, by regulating time inside and outside the workplace. Highly complex, this system went far beyond the basic issue of paternalism. Many kinds of social engineering strategies⁹ encompassed home management, education, health care, culture; all leading to production profits (Gueslin, 1992).¹⁰ Clearly, a large isolated plant would give more authority to the owner; with the help of a priest and a trusted stand-in. Workers were able to express themselves in a counter-culture in towns and metropolitan areas, although, here and there, case examples might qualify the assessment. Finally, one must not overlook the fact that many employers expressed philanthropic values, overriding clearly understood human resource management in the company.¹¹ But in order to measure behaviours, a process would have to be devised to assess

8. One would have to resort to the extensive data produced by the 1867 World Fair, initiated by Napoleon III. Accessible on the Paris Conservatoire de Arts et Métiers website, <http://www.cnam.cnum>

9. This is an *ex post facto* term, but not an anachronism. It completely fits in this complex and varying behaviour.

10. The article contains a bibliography.

11. The most important among them, Robert Owen, wrote extensively on the question. See, *inter alia*: (Owen, 1818). Also, Robert Owen selected writings: http://robert-owen-museum.org.uk/ro_writings

dispositions and beliefs. Actually, analysing heritage is one approach, as paternalism and philanthropy were exhibited in a site and its buildings, noticeably in workers' villages.¹²

Therefore, the history of working class dwellings is a long and difficult debate that involved individuals and societies, with changes depending on time periods, space and the prevailing system. Some subject! The commissioned work was about company towns. What follows deals with the forms taken by workers' houses gathered in isolated sites, regardless of national borders, with a caveat to our finite experience. Resorting to History enables to understand how workers' villages developed in a remarkable way and which necessities they brought a solution to.

II. MANUFACTORIES AND MILLS, PREDATING FACTORIES: COMPANY TOWNS?

Factories, before factories, did not house all the labour force. However, the question of whether or not to house workers was posed in the turning point of the eighteenth century. In a Christian Europe, an individual is unconceivable outside his family. Already, scattered manufacturing sites involved the whole family, following a long-standing

12. Studies have recently increased on the issue of social engineering, especially referring to workers' villages funded by factory owners. Consider the late exhibition staged by the Marne department archives, organised by the Local Council. The exhibition panels, accessed online, demonstrate a new interest and also the immensity of a subject, until now only known by one or two acclaimed cases (Warmeriville, Léon Harmel, "the good father's" village or the Chemin Vert, the model garden city, more of which later). See website http://archives.marne.fr/id=40_41

practice. There were however very different situations. Records only provide glimpses on particular aspects. For want of sufficient or specific data, one must tread carefully (Rebérioux & Pauly, 1983).

The question will arise about the presence, or not, of housing and its significance, more than about challenging and novel architecture. Manufacturing sites can be classified in the eighteenth century, from urban manufactories to converted barns up to utopias with no future. The place of workers' housing varied: help provided by heritage remains in manufacturing sites is therefore valuable. Was there, or not, any workers' housing? What significance did it have in terms of more or less distinguishable allotted space? What was the dwelling space? For a small number or the majority of the workers? What services were provided? These are significant indicators.

In towns, no problems arose with workers' housing. The only people to reside in manufactories, like in textile or tobacco ones, were those in charge of production. Owners lived on the spot, in a dwelling contained in the building, but seldom apart, as was the case in the renowned Dijonval complex in Sedan (Gérard, 1998).

In the countryside, things could differ. Manorial forges displayed rural architecture well known today.¹³ Usually connected to a feudal estate (belonging to a member of old or recent nobility), a manorial forge, occasionally limited to a fine house and its

13. The French case has been extensively studied. See the publications of *Cahiers de l'Inventaire*, by the Ministry of Culture. Among them: (Belhoste, Maheux, Loire., & Loire-Atlantique., 1984). (Alves de Almeida, 1995). In (Laon, 1995).

outbuildings, expanded its constructions, never sizeable, close to river water, for energy purposes, and near wood and iron resources. Ground plans sometimes showed workers' houses. Buffon, the famous naturalist, constructed a metal works, next to his estate in Burgundy (Laissus, Rignault, Benoit, & Grinevald, 1988). Half a dozen houses still remain, though perhaps temporary lodgings. They consisted of a single room, with an entrance and a window, under which a sink was used to flush water outdoors. By contrast, in Waldstein Castle (Bohemia), the castle became the production centre and workers lived in indistinctive cottages.¹⁴ A forthcoming PhD provides interesting information about the workforce in the Royal Saltworks of Arc-et-Senans, famous for its architect, Claude-Nicolas Ledoux. (Scachetti, 2009). Workers came from neighbouring villages. Despite the place's beauty, they endured exhausting work in the heat, the dampness and the fieriness of salt. Only those in charge of maintenance were housed: boilers,¹⁵ blacksmiths and carpenters. They were offered small bedrooms, shared communal kitchens and benefitted from gardens, which Ledoux considered to be very restful. Did they live with their families? There is nothing to prove or disprove it. Moreover, Arc-et-Senans, in spite of its exceptional architecture superimposed on the Franche-Comté countryside, was an Ancien Regime Royal manufactory. This does not lessen, by any means, the significance of Ledoux's reflections compiled, a quarter of a century after the erection of

the salt works, in his great-unfinished book (Ledoux, 1804).

It seems that the Jesuit mission was a model that spread (Dorel-Ferre, 2006). At least, two examples can be identified: Nuevo Baztán in Castile and Villeneuve in Languedoc. In the former case, the kinship was obvious, as the developer had close ties with the congregation, whereas information is lacking for the latter. But the scrutiny of the manufactory's plan leaves little room for doubt. In both cases, following a geometric plan, the buildings representing economic and religious authorities commanded the public square. Regularly spaced, workers' dwellings lined another side. Specialised craftsmen worked in Nuevo Baztán and weavers, brought exclusively from Holland, stayed in Villeneuve. Living spaces were noticeably small, as in the previous case of the contemporary Buffon forges.

Developments in Spain and in Italy were far more interesting. The Bourbon kings supported the erection of royal manufactories. The great architect, Juvara, was hosted in Madrid and taught pupils. Did they work at San Fernando de Henares? The comparison between this site and the plan of Stupinigi palace near Turin is quite suggestive. In any event, it would seem that the huge fabric manufactory, erected from 1750, was supposed to house the whole workforce. The factory was spread out on a square plan, and overlooked another square yard. The workers' housing estate, just next to it, was to be laid out on a vast circumference, which, apart from the houses, included a church, a theatre and retail stores. There were plans showing a genuine consideration about what workers' dwellings should look like.

14. Special thanks to the late Gérard Gayot for his information and data.

15. *Berniers* would collect salt being evaporated in the buildings in large pans called *bernes*.

For unknown reasons, San Fernando became deserted. The current Town hall occupies the factory, the yard still intact. A wide plaza replaces what should have been the workers' housing estate. The whole was on a grand scale. This huge size may have been this manufactory's doom, before its completion. Machinery was relocated in another baffling manufactory being constructed, Brihuega (Rubino, 2012). Here was a circular architecture, introduced by a kind of triumphal avenue, starting with the church and the director's pavilion. The worker population was housed in a large building on the extension. Nothing is ascertained about Brihuega's beginnings. One is lost in educated guesswork about this undeniably utopian architecture, a quarter of a century before Arc-et-Senans. Some years later, Charles III decreed a scheme to exploit Las Alpujarras in Andalusia, a mountainous barrier with incredible resources in silver, lead, copper and so on.

Among impressive manufactories in Andalusia, Alcorà, a hamlet near Canjayar, needs to be mentioned for its remarkable state of preservation. The front gates, flanked by sentry boxes for wardens, lead to the church on the right and the director's pavilion on the left. Beyond, after the workshops and warehouses, two ovens in excellent condition are reached. To the rear, the ore-crushing mill, using nearby lead, was unfortunately totally destroyed and anything worth scavenging vanished. Around the property, some houses, perhaps where miners and metalworkers lived, are scarce. However, the site inventory ignored extremely important elements, namely, a whole neighbourhood made up of dwellings standing around a big regularly

shaped place, facing the entrance but on the other side of the road. If an archaeological dig and possible archival resources could validate what visual observation suggests, then, Canjayar would have been a genuine workers' village, erected with some architectural character.

San Leucio (Rino, 1986), close to Caserta, is a different social matter in terms of ultimate modernity, as well as being the swan song of royal manufactories. A hunting lodge was converted into a silk mill, meant by the king to protect a troubled emblematic industry. It was provided with a workers' housing estate, of which the regulations, published in 1789, spelt out rights and duties. What can be remembered from this unfinished story was the quality of the workers' dwellings and related services (free coeducational school, mutual assistance, retirement) not omitting equal wages for male and female workers. Although subjected to rigid discipline, the operatives were seen as the actors of a new economy and honoured as such.

However, a classification would not be complete without taking into account manufactories in the Urals (Alexeev & Alexeva, 2010). Established by Peter the Great, they were an outstanding case of production linked to a countryside type housing. Peasants registered to the *corvée* found it difficult to adjust to their workers' conditions and remained fond of the popular *izbas*. The Urals were abundantly endowed with mineral and energy resources, much needed by Russia. Well known in Western Europe, the iron ore-wood-river water formula was used by the metal industry, well supplied in the area. Within a few decades, Russia, once dependent on Swedish iron,

became Europe's main iron producer in the eighteenth century. This happened thanks to large factories harnessing hydraulic power from huge rivers, regularly dammed by technologically amazing enormous wooden constructions, and by forcing an unwilling workforce to settle on lands where Muslim Bashkir nomads roamed, with long and harsh winters and persistently frozen rivers (Portal, 1950). Up to the early twentieth century, the Ural workers' dwellings were log built izbas, each with a Russian oven inside and a yard to store tools and the sled. Living next to the factory and in its complete sway, workers experienced a strong sense of belonging. Arguably, this explained why they did not support Pugachev's rebellion, when the "usurper" wanted them to revolt against Catherine II (Pascal, 1973). Compared to the utilitarian and plain architecture, which prevailed in Western Europe, the quality of the Ural metalworking plants was startling. During the first half of the nineteenth century, they displayed a neo-classical style, said to have been vaguely inspired by Ledoux's works. The workers remained faithful to the izba. As the question of available space did not arise, houses were scattered around the dam focal point. Besides, the generic term *factory* in Russian is *zavod*, meaning behind water, to the rear of the dam. Among all the examples studied, only the Ural manufactory attained posterity, spread over the nineteenth and twentieth centuries, to become a factory town, where the plant, unlike the civic life building, was the centre of power (administrative, religious, economical, social and political). Its landscape, the only one of its kind in the world, would deserve to be added to the World Heritage Sites list.

In the early nineteenth century, establishments, each involving a more or less complex production site, increased. Remote sites brought the housing of supervisors first, then the rest of the workforce. At that time, the company-town designation is anachronistic but it gives a vantage point on workers' villages and factory towns about to emerge during the period.¹⁶

III. THE WORKERS' VILLAGE AND THE FACTORY TOWN UNTIL 1870

Nothing good came out of factory owners' sponsored housing, Engels confessed in his work on the housing issue.¹⁷ One can only concur while reading reports for the 1867 Paris World Fair: the mediocrity and scantiness of submitted projects were alarming, given the increasing working class populations and the unsanitary dwellings growing likewise. Clearly, the examples provided by the World Fair belonged to philanthropy. Unquestionably, the factory owners did not seek to house the labour force, except when production actually required it. The handful of examples that follow enables to cover quite a large field of experiences dating from the first half of the nineteenth century.

The century began with a major achievement that will stand as a permanent reference

16. A reminder: the term 'company town' applies to workers' villages, availing of services and infrastructure necessary for everyday life. Apart from some exceptions in the nineteenth century, it was a factory owner's organisation typical of the first three decades of the twentieth century. One must be careful in extending the terminology to all workers' villages and factory towns established by entrepreneurs.

17. See note 11.

point.¹⁸ New Lanark (Scotland) established itself as a new model community. Far from being, as in the Bourbon manufactories, a place where the worker was favoured, a remnant from the workshop-manufactory era, the factory had, in the meantime, become a place where machinery oppressed the assembled workforce. The new process was imposed with its lot of woes. In and out of the factory, living conditions were punishing.

When Robert Owen, a young mill manager from Manchester, took over one of Richard Dale's (his father-in-law) mills, New Lanark gathered about two thousand people. Three quarters were impoverished Highland families and the last quarter, children from Edinburgh poorhouses. The harsh climatic environment, the gruelling working conditions made Dale build a workers' village, although some in the labour force would walk to work from nearby Lanark. Dwellings were confined, especially for large families. In all likelihood, Robert Owen devised the Hurley beds and the consumers' co-operative: money was not legal tender, but a token system. What set Robert Owen apart was his ambition to socialise the labour force by moralizing its behaviour, within a new framework, the Institute for the Formation of Character: night school was attended, talks were listened to, and prayers could be said, according to one's denomination. The Infant's school was a showcase in active apprenticeship. Famed in Europe, visitors crowded to watch children frolic. A few years back, the same situation was to be found in San Leucio: it is not anecdotal to note that children would dance for visitors. This was a way to show another society in the offing,

18. See website <http://www.newlanark.org>

looking for models in a class about to originate, differing from the one it succeeded to. However, Robert Owen's socialisation experiment ended in failure. Robert Owen left New Lanark in 1825, overruled by the board. The factory system regained the upper hand (Dupuis, 1991).

In the coalfields close to Mons (Belgium), two other sites are worth considering, being in close proximity, but associated with a different workers' estate concept. At Grand-Hornu, rows of terraced housing surrounded De Gorge's factory. However, the dwellings were spacious, each room had a specific use, and hot water from the factory. Each had a kitchen garden. 175 one-storied houses were numbered in 1825 and six rooms were built. More than 400 were built by 1832. Space delineated power: the owner's pavilion axis crossed the offices and the factory, the De Gorge family mausoleum precisely located at a perpendicular angle. In this site, housing framed the plant and the four pits, now gone. With its pioneering architecture, it was a reminder that De Gorge had bought their concessions from the peasants-coal miners. In a territory totally devoid of any industrial building, De Gorge's establishment imposed itself as the standard of a new productive system (Watelet, 1993). A few kilometres away, another contemporary mining and metalwork company was to choose another answer to workers' housing. These were the Bois-du-Luc quads, an original design of terraced houses enclosing gardens, the whole standing between the pits, on one side, and the hospital and owner's pavilion, on the other (Haoudy, 2009).¹⁹

These were not unique examples but, quite the opposite, known and commented 19. She is the current museum curator.

in periodicals and newspapers. Sometimes, inspiration was explicit. In North America, there were no second thoughts, from 1800: Boston's hinterland was dotted with workers' villages and factory towns, the likes of which were similar to those some English defectors, like Slater,²⁰ had seen for themselves in their native land, only this time on a massive scale. As regards the workforce, Bostonian entrepreneurs, mostly Quakers, applied a well-proven experiment in Europe, female company boarding houses. Girls, hailing from the countryside, were hired in textile mills and lodged in boarding houses, where, under rigid discipline, they were fed, housed and got an education. Many, except Dickens (1842) who saw in the mill girls a form of enhanced exploitation, praised their fate. Nevertheless, it must be noted that communal living units were one kind of accommodation for the worker population. In France, some good examples are Mazet (silk mill in the Cévennes), (Durand, Wienin, & Merian, 1991) Jujurieux (Bonnet silk company²¹ in the Lyons area), or the clothing silk flowers mill in Orges (Dorel-Ferré, 2005, 16-17), close to Colombey-les-Deux-Eglises. Lowell, the mill city, is now a museum and national historical park, where the Mill Girls and Immigrants Boardinghouse can be visited:

20. In 1790, Slater, a former Arkwright mechanic, left England with plans of a hydraulic spinning machine, hidden in his coat's lining. This production device was quickly adopted, marking the New England's industrialisation debuts. Big hydraulic mills increased along the many rivers, combined with factory towns and workers' villages.

21. See <http://www.ain.fr/collectionsbonnetjujurieux/historique.html>

four girls sharing a cramped bedroom; the dining room, where tables are set, depending on the types of menus served; proposed cultural courses (geography, history, literature...). The girls had only a street to cross to go to work. Every New England mill town followed this spatial pattern: the river water, the mill, and the boarding house (Dublin, 1993). In 1834 and 1836, the first to go on strike were the mill girls.

The housing issue remained unsolved. An 1850 cross section would show few achievements in terms of company towns. By 1870, some prestigious British projects can be listed as company towns. Erected by a factory owner for a specific population, he intended to cosset it in exchange for their labour, e.g., Saltaire (Titus Salt), Port Sunlight (Lever) and Bournville (Cadbury). These three splendid schemes were built in the second half of the nineteenth century.²² Like the previously mentioned cases, these were unmatched and had no successors. A basic pattern emerged: a different, occasionally monumental, always fine, architecture breaking away from what was usually available to workers; a package of very comprehensive services, some outstanding like the art gallery in Sunlight, aiming to offer the worker a middle class cultural framework; a subordinate social status however, as the resident in these attractive neighbourhoods had, in any event, to go to work daily in the factory. One could call this the gilded cage analogy.

Almost at the same time, an initiative went ahead, which would this time serve as an example for the future: the building

22. Only Saltaire is a World Heritage Site. For the others, consider the extensive data provided in their website pages.

of the Dollfus-Mieg housing estate in Mulhouse. The French term *cité* , though handy (but is it translatable?), indicates that it was actually not a workers' village or a factory town, although it may have been used in this sense. In this case, it was a planned worker community, resulting from a lengthy decision process on the housing issue and also the workers' dwellings' legal status. Time was spent to decide whether they should be sold or rented. After a trial run with two houses built in 1852, a Mulhouse Workers' Housing Development Company (*Société Mulhousienne des Cités Ouvrières, SOMCO*) to implement the grand plan, was established. In a first phase, 320 dwellings were built, then 660 before the Franco-Prussian war. 383 housing units completed the total, during German administration. The estate was designed on a grid-plan. Although of different varieties, each house consisted of two floors, a cellar, and an attic. The little houses were semi-detached or four terraced. Despite being not that big, each had a kitchen garden. The developers promoted a feeling of being at home, by preserving some privacy. It is also known that a share of middle class people was attracted by this kind of development (Jonas, 2003). The presentation of what had been achieved was the highlight of the 1867 World Fair. This method will be widely followed in villages as varied as Noisiel (Valentin, 1994), near Paris or Crespi d'Adda,²³ near Bergamo.

23. See <http://www.villaggiocrespi.it>

IV. THE FAMILISTÈRE IN GUISE

The Familistère was conspicuously absent from the 1867 Paris World Fair. Godin, who had not completely finalised his project at the time, withheld the presentation of his work, not to mention, so to speak, that he was not in the friendliest terms with the regime. Having made a fortune in cast iron stoves, the meticulous patents under his safeguard, Godin made his youth years' project come true at Guise on the banks of the river Oise. He wanted to build workers' housing worthy of the resident community. His Social Palace was more like an original piece of work, made by a handicraftsman who escaped his condition of unassuming blacksmith, than an exceptional success story applied to housing and grabbing the limelight. Through Marie Moret's pen, Godin amplified his ideas on the topic, though perhaps not giving enough credit to his sources of inspiration, which were not primarily derived from Fourier's ideas.²⁴

The Social Palace made of three blocks joined at the corners and enclosing central courts, contained apartments on four floors. The flats were adjustable, open both in and outdoors, well lit and ventilated. The rooms, a minimum of two, were quite spacious. Large staircases provided access to each floor

24. His cousin, secretary and soon to be his wife, Marie Moret, was the guardian of the Temple. A little known person who probably took a greater part than acknowledged in her husband's work, and especially in its written form. There has not been to this day a serious comparative study of Godin's ideas with those of the great utopians of his time, which he had obviously heard of. See (Lallement, 2009; Dorel-Ferré, 2002).

as well as to the cellars and attics, supplied with each flat. On every floor, a water-pump, privies and a trapdoor for sweepings could have been the envy of the most exclusive Parisian flat.

The Familistère, as the Social Palace was called, cannot be understood without its cornerstone, the Co-operative Society. In fact, to be a Familistère member meant access to the management board and taking a share in the profits. However generously intended the system may have been it resulted in the creation of a worker aristocracy, pusillanimous and selfish, detached from the majority of the workers. Indeed, some five hundred families lived in the Familistère, and some more in the Cambrai and Landrecies Familistères erected in the 1880s. Now, by that date, the plant employed almost three thousand workers! This working-class division was the major criticism levelled at Godin. Today, his work, beautifully restored, deletes this aspect to emphasise the outstanding career of a modest craftsman who became a factory owner in his century.²⁵

V. THE WORKERS' VILLAGES AND THE FACTORY TOWNS UNTIL THE FIRST WORLD WAR.

Although not the most numerous, workers' villages, built by factory owners, would increase during the three last decades of the century. They paralleled economic and industrial growth and increased needs for labour. They were located where industries relied on mineral or energy resources. They went along with the formation of major industrial areas. They were completely ma-

25. See <http://www.familistere.com>

naged by the owners, in the name of imprescriptible private property rights, and because no means of control existed. They can then be designated as company towns, as soon as it became clear that these owners' projects were built separately, or in sufficiently confined areas, that towns were impacted. These were sites expressing an assertive philanthropy, not shying away from showmanship or ostentatiousness, and geographically displaying the hierarchical power structure and situations. However, all these industrial transplants were at odds with their environment, even when the factory owners became mayors or regional councillors, as was the case with Godin. These establishments, however exemplary as they may have been, were seldom formed in labour peacetime and they generated severe antagonism, only allayed over time (Dorel-Ferré, 1994, 24-25).

The workers' village was the vital component of countryside factories, often located on a riverfront. Its existence meant taking into account the education and socialisation issues. It was based on stable families, even if there were hostels for single workers and female boarding houses as well. Le Creusot comes to mind, as it offered a wide spectrum of all kinds of dwellings: e.g. residential streets, a housing estate, including the single men's "barracks" (Bergeron, 2001).

Industrial colonies in Catalonia, quite documented, were, in this respect, a genuine laboratory in social engineering regarding the labour force (Dorel-Ferré, 1992). Next to the workers' dwellings, owners' pavilions, churches and varied services stood alongside. Even if the architecture was nondescript, the generally neo-gothic styled church and the generally modernist styled *amo's* (owner) pa-

vilion always stood out from a distance. The parish priest, also schoolmaster, administered life outside the workplace. Little eluded his attention.

These industrial colonies, with origins clearly determined by the availability of water, were often seen as places of social stability. This was not initially the case, but, with the course of time, they became so, to the extent that they inspired the very special establishment of Bustiello in Asturias. Bustiello was the creation of the marquis of Comillas, one of the most powerful and influential actors in the Spanish economy of the late nineteenth century. His father had made a huge fortune in the slave trade. Confronted with the strong opposition from the small-scale coal miners in the valley who refused to be hired in industry, he created this model village for deserving workers. Between the church and the “casino” on one side, and the hospital on the other, the village expanded its Mulhouse inspired plan. Only the doctor and engineer’s pavilions disturbed the orderliness. But the Marquis went further. The previously mentioned significance of control by the parish priest- schoolmaster led the Marquis, following in his father’s footsteps, to erect, just across his Sobrellano palace in Comillas, a seminary to educate priests about to minister specially in industrial villages. To do so, he commissioned Catalan artists and architects, among whom the renowned Domènech I Muntaner. Gaudi had already erected, in the Sobrellano Park, his “El Capricho” (Rodrigo Alharilla, 2000).

Meanwhile, other industrialists expressed their social concerns through architectural forms, as was the case in the Colònia Vidal, a textile workers’ village in the Llobregat

valley of Catalonia. Two buildings typified the ideas of the era. On one hand, a male area, located at the colony’s entrance, was carefully staged in front of the church: the café-meeting place, the boys school and the vocational school. In one of the wings, the theatre was reputed to have been a scaled-down copy of the famous Barcelona Liceu. On the other, the female area, standing in the rear, showed a more decorated façade made of glazed tiles. Called “la casa de la dona”, it consisted of the nursery, the girls school emphasising home economics, the female boarding house and also the hospital. The supervision was thorough in a non-egalitarian concept of society. Public places were the men’s preserve, while women, from an early age, were taught to be in charge of the domestic sphere, independently from the set time devoted to work in the textile mill, in which they were the majority and always the less paid (Dorel-Ferré, 2011, 38).

Turning to Northern and Eastern Europe, the access to the huge Russian market was a boon for factory owners and financiers. Lodz, now in Poland, was a true factory-town, with an outpouring of factories, owner’s pavilions, and graveyards in which the hierarchy of fortune was consistently displayed. Amidst owner creations, the Parish Priest’s Mill was a particularly successful achievement with a stark architecture. It was a workers’ housing estate standing at the foot of the factory, with the owner’s pavilion close by. The dwellings were dull but spacious. Comprehensive services were available to the residents. Facing the plant, the monumental school, hemmed in the estate. In Tampere (Finland), the working-class neighbourhood, erected by the owners in a single piece during the 1880s,

was cleared. A rectangular block of houses remains, where worker dwellings have been reconstituted. Every rectangle enclosed a courtyard with little houses, each divided into four rooms and a collective kitchen. One room was allocated to each family. A particularly well laid out museology describes the different careers and the step-by-step access to more everyday comfort between the late nineteenth century and the 1970s.

In Hungary, Diósgyőr (Olajos, 1998), an ironworks city, had for a long time the biggest worker housing estate in Central Europe, numbering 2,000 inhabitants. It comprised a great deal of equipment: schools, hospitals, up to three churches to tend to different denominations. Erected in the last decade of the nineteenth century, it had practically acquired its present form in the early twentieth century.

This brief overview can improve our typology. Outside Western Europe and far from conventional models, there have been, to different degrees and at varying scales, creations of workers' villages and factory towns, all addressing the same goal: to supervise a workforce that the exploitation of resources and the availability of an energy source had settled within reach of a factory, generally at a distance from any urban area. Pullman, in the United States, ought to be mentioned yet again. One should refer to the huge workers' villages in Central Mexico, or those in Brazil, with the railway town of Paranapiacaba (Figuereido Bello, 2012), erected by the British ca. 1860 for coffee exports. In the Far East, times were also changing when the first silk mill was created in Tomioka (Polak, 2002) in 1872, the beginning of the Meiji era. Another theme must accompany the study of workers' housing: networks and trade

were not only based on industrial progress, but also on social reform, in a mutual relationship with local customs and practices. Female boarding houses were well suited to non-egalitarian societies like in Japan and the Far East. In Hong-Kong and the rest of China, it is today a common practice.

VI. UNDER THE PRESSURE OF EVENTS (LATE NINETEENTH CENTURY-1930S)

Compared to the needs felt by the worker population, it was obvious that all these creations, however interesting, were a drop in the ocean. It is remarkable to observe that some of the Paris Communards' demands in 1871 were night-school and what was then called "People's soup kitchens", which would be the equivalent today of company restaurants. This put aside, other considerations, such as new planning issues due to urban growth, emerged. Ebenezer Howard submitted his project to alleviate urban congestion: garden cities. They would quickly veer off course, becoming gardening cities,²⁶ as will be seen later (Dorrel-Ferre, 2001). Simultaneously, new banking establishments, e.g. the *Crédit Immobilier* in France, provided facilities to developers. This provided the context in which the Pre-War creations developed: the Letchworth garden cities near London (1903), Margarethenhöhe in Essen (Krupp) from 1908, and finally, the incredible blueprint by the Marquis de Polignac in Reims (1913).

26. In data about the town of Schio, an exceptional document of an 1872 project was a true forerunner of the garden city: (Fontana G. L., 1986). Document 564 shows Caregaro Negrin's third project (1872). However English influences can be determined by comparing with: (Bourgoing, 2011).

Was this still the company town concept? Entrepreneur interventions were less absolute. The advent of the middle class disrupted the working class uniformity. But the workers' village was still changing. In many respects, it brought about nineteenth century hygienists' demands, open air, protection of privacy, and universal access to culture.

On the eve of World War One, the utopian Marquis de Polignac no doubt produced the most surprising work. Grandson of Madame Pommery, the founder of a famous champagne house, Melchior de Polignac was educated in Switzerland and Germany, where gymnastics and sports were favoured. He was a close friend of Pierre de Coubertin. He probably devised a global project, combining a garden city with a sports complex, unheard of in his time. The garden city seemed to have remained a draft. However, the erection of the sports park went ahead. Designed for the six hundred or more strong staff, which, because of winemaking constraints, spent most of the time in cellars, the park was then opened to the general public. It comprised equipment for every kind of sport, including swimming, and a gymnastics school (Henrion, 2012).

Right next door, just after the war and faced with the urgent need to get back to work in the champagne houses and in the neighbouring glassworks, a garden city, the Chemin Vert in Reims (Delphine, 2002), was built thanks to Georges Charbonneaux's determination. This estate, of bold design and great architectural value, revolved around three focal points. Charbonneaux commissioned his friends, the painter Maurice Denis and the glass designer René Lalique, for the church. The administrative

and cultural centre housed the library, a fine conference hall and public baths. The House of Childhood, arguably the most original conception, combined the nursery with infant health care. Within, home management was taught, and later, vocational training for girls (nurses). Also, family workers played an outstanding role for women who had given birth and admitted for two weeks. Though rather well designed, the houses were cramped for large families. The community teemed with children. Georges Charbonneaux also became a friend of another important person of his time. Dautry, an engineer from the Ecole Centrale, was the Compagnie du Nord railway company manager (Rothschild) who was later a Minister in De Gaulle's cabinet after the Second World War. While Charbonneaux was building the Chemin Vert, he was about to set up a number of railway towns, Tergnier being the most famous. (Dictionnaire de mémoire collective, 1997; L'illustration: special issue "La Maison", 1929). The layout of services and businesses around the town's central circle showed what degree of sophistication had been reached. Besides, railway towns' plans demonstrated how household technology improved. If houses for the supervisors and executives were, generally speaking, small, the bathroom and living room, each individualised, emerged. Current house plan designs originated there.

The garden city movement rallied the whole of Europe. But, whatever their location, the twentieth century workers' villages and factory towns were characterised by many social innovations in each field. In this respect, they were in keeping with the best achievements of the previous century.

The dreadful aftermaths of World War One and the 1917 Revolution had doubtless a lot to do with State and private interventions. Thus, some creations of the Nazi and Fascist regimes or Central European and South American authoritarian regimes mirrored what could be found in European and North American democracies. Finally, there was a chronology and a density in garden cities according to each country. Germany was in the lead, and Margarethenhöhe, built by Krupp in Essen, was to be the ultimate in garden cities. Italy had few of them. The most noticeable (Dalmine, Valdagno) dated from the Fascist era (Fontana G. L., 2003). The Soviet Union deserves a special mention. Until the 1930s, in the major industrial cities, a highly original variety of Art Deco, Constructivism, expanded. Thus, the Chekist village in Yekaterinburg could easily find its counterpart in the Suresnes garden city near Paris, another landmark in the garden city movement. Each time, this is a matter of in depth thinking about what should be modern housing, supposed to help the new man in every moment of his life. This housing was inseparable from amenities and infrastructure that all enhanced health and culture, around two major components: the clinic and the library (or the cultural centre in a Socialist country). All artistic forms of expression echoed this creative trend, adjourned with the 1929 economic crisis and the toughening of policies in liberal democracies as well as in authoritarian regimes.

Let us finish this quite sketchy inquiry about garden cities. It is a pity not to speak about urban garden cities, where the State was involved, like Suresnes or a company like T.A.S.E. in Lyons. One could mention

the original garden city of Wekerle in Budapest (Nagy, 1995). It was a quality State project for workers, housing roughly 20,000 inhabitants. Though a town within the city, it was not a company town. The same could be said for the Vienna railway towns, such as the famous Karl-Marx Hof, eleven hundred metres long! (Reppe, 1993). In its time, it was the biggest single housing block with 1,382 flats. It was like a Fourier-type Phalanstère, with an unequalled number of services and amenities. During the February 1934 uprising, it was used as an entrenched camp. The Socialist government ordered it shelled and today, if the housing block is still standing and now a tourist attraction, the social management has ceased, likewise the worker population, which had made it famous.

VII. MODEL EXPORTS AND DEVELOPMENT FROM THE 1930S UNTIL TODAY

As said before, models were exported as early as the phenomenon began. However, the carving up of the world into colonies and spheres of influence brought the dominant powers to programmatic type exploitation: the colonies were to be taken advantage of, but with a knowhow. Projects, which hitherto had not been taken enough into account, were strong indicators. On one hand, these exported models gave clues about the motives and interests of developers, on a telltale timeline. On the other, one has to address the issue of how far the populations, obviously from different ethnic backgrounds than the developers', accepted it. As in the case of Thiès (Senegal) not far from Dakar's harbour, where the French wanted to create

there a big rail junction in the 1930s to connect their African possessions. After their withdrawal, the railway complex, carefully overlooked by some people in charge, became, as if by magic, idle. As for the railway town, it was assigned to families, which, disregarding regulations made it become an ordinary settlement. Once more, architecture is ineffective in creating a setting, if residents are unwilling to do so.

The 1930s were also a time of great creations in the Soviet Union, by applying garden city criteria to factory towns. So was the case of Asbest, a factory town in the Urals with the world's second biggest asbestos mine. Still marked by Soviet architectural tenets, the cultural centre, with its Corinthian columned portico, towers above the town centre. Buildings radiate from it on a crow's feet plan. At the town's entry, the huge football stadium features a monumental gate. Abutting on Yekaterinburg, Uralmash, now part of the city, displays a similar layout.²⁷ The factory-town, affiliated to one of the major arms firms, began in the late 1920s, and grew during the Second World War and ensuing industrial policies. The urban pattern dating from the Constructivist period, in line with Bauhaus, is visible and the style preserved until the 1970s. The town was organised on a grid configuration, structured on a crow's feet setting out from the large plaza at the factory.

After World War Two, Soviet involvement in Nowa Huta (Poland) was total, as it was meant to be a showcase for Communism (Coudroy de Lille, 2006, 253-270). The extensive garden city was carefully arranged, following a crow's feet plan. The restaurants

and company stores were designed with special care, with varnished ceramics ornaments. They were situated close to the apartment blocks, in planted trees areas. A church and a cultural centre added a special feel to this new town of an advanced type. With deindustrialisation and the regime change, Nowa Huta was falling into unconcerned neglect. Then, the Poles decided to take on this past and renovate the town. Today, a special kind of tourism brings it to life.

In other areas in the world, the company town was going through specific developments. Thus, in South Africa, even today, different types of garden cities surround the platinum and gold mines. Engineers and executives live in them, following a rigid hierarchy. As for the workers, they are confined in long buildings at a distance, made up of kennels placed on top of each other on either side of a central passageway. Each kennel is allotted to a worker, occasionally with his family. No piped water, no electricity, no sanitation. This sort of housing has not been, till now, publicised.²⁸

At the other end of the earth, in the planet's most hostile desert, Atacama in Chile constituted a social laboratory example. Known since the Inca era, the exploitation of saltpetre²⁹ became an industry in the last three decades of the nineteenth century, when rapidly changing European agriculture required fertiliser and mines did not have enough explosives. Nitrates were to supply both. After having kindled the War of the

28. Direct observation.

29. Besides the UNESCO website page in the World Heritage Sites, it is worth considering the following works: (Garcés Feliú & Sabella, 1988); (Soto Cárdenas, 1998); (Pinto Vallejos, 1998); (Deves, 1997); (Artaza Barrios, 1998); (Burgos & Ojeda, 2003).

27. On Uralmash, see: <http://www.corncreek-studio.wordpress.com/185-2/uralmash-district-ekaterinburg-aug-2011/>

Pacific to remove the most sizeable saltpetre deposit from the unwilling Peruvians to the more accommodating Chileans, the British resolutely exploited the desert. Handled in inhuman conditions, nitrates were shipped by rail to the port of embarkation. Living conditions were no better. Secluded in the desert, workers were at the mercy of a terrifying climate, sweltering in daytime, shivering at night, and swept by daily strong winds. They lived in shacks without any hygiene or medical care. All their wages were spent at the shop where prices were unregulated. Fierce rebellions, like the Iquique massacre in 1909,³⁰ and competition from nitric acid invented by the Germans during World War One, forced the owners to consider building *campamentos*, large workers' villages with many services, during the 1930s.

The *campamentos* had a grid layout and a neat construction. They were closed off from the workplace by a sentry box whence comings and goings were monitored. The cool houses were built in saltpetre waste, which constituted a sort of concrete. Houses were of a simple design, the bedrooms and kitchens at least separate. There were services: a market, a company shop, a school, a village hall, a church, and even sports facilities which brought *campinos* together after work.

Derelict around the 1950s, all the *campamentos* were demolished by the companies, as well as the railways connected to them. Everything was sold out, down to the last nail. There remain, in the First region, the site of Humberstone, which has preserved the town mostly built in the 1930s and Santa

30. Which started the Chilean Trade Union movement.

Laura, which still has its *maquina*, i.e. industrial equipment. Both were added to the World Heritage Site list in 2002. Every year, during feast days, former *pampinos* come back to where they lived and look after their houses until the next year. In the Second region, some sites remain, e.g. Chabuco, famous for its prison camp under Pinochet's regime, which, perhaps for this reason, has stood the test of time. The last remaining *salitrera* still in recent operation, Maria Elena, one of the few built by North Americans, would be restored and rehabilitated by the owner company.³¹ Today, if no *salitrera* is operating, nitrates are still exploited for their chemical properties. The *salitreras*, genuine workers' villages insofar as distances and remoteness made them necessary and mining made them similar, have died.

Another resource, this time still mined, generated other company towns. Its most famous, Sewell, a copper town named after its founder, is on the World Heritage Site list.³² Then again, this ore was known since the Inca era, but mining conditions were beyond the capabilities of a preindustrial society. The underground mines, the world's biggest, situated south of Santiago, are located deep within the Andes cordillera, at more than 2,200 m. North American capital invested by William Braden³³ enabled the site

31. In charge of the Correa 3 architectural firm. See <http://www.correa3.com>

32. Its real name is El Teniente. On Sewell, a PhD: (Baros Mansilla, 1995).

33. The lack of capital forced the Chilean mine owners (especially the Concha y Toro family, wealthy winegrowers of Bordeaux extraction) to attract North Americans on the site. Braden went into partnership with W. Nash and Barton Sewell to establish the Bradden Copper Com-

to be exploited: mining infrastructure, roads, railways, and obviously on site, a “camp”, a workers’ town. Astride the mountain slope, it was built in Oregon pine timber with a stairways system. At the time, timber was carried on incoming ships, which docked to load nitrates and copper. The clapboard architecture was typically North American. Several stories high, the constructions were painted in various colours. Segregation was the rule: both communities, North American and Chilean, did not intermingle. Services and infrastructure were segregated, except the bowling alleys, which they seemed to share. Whilst in operation, Sewell provided an array of services (a hospital, schools, a theatre, a church, an American club). From the 1950s onwards, it had become unprofitable to look after an important population living on the mountainside. The workers were steadily moved to Rancagua, sixty kilometres away. The site is vacant since 1968. The former vocational school, for tourism purposes, became the Copper museum. The site is very consistent and significant. Important restoration campaigns have made it recover its shine. Whatever happens in the future, Sewell is an exceptional testimony of an imported model that blended into the host community.

Most of the industrial villages, even in less problematic situations than Sewell, have followed the same course in the last three decades of the twentieth century: they have simply ceased to exist as such. Thanks to mobility given by cars and buses, entrepreneurs were only too happy to drop a system, which had previously supplied them with pany in 1904. The company was nationalised in 1971.

labour, but was now seen as nothing but an annoyance. The changes in workers’ housing in Chile were emblematic: there are no more *campamentos*. Workers move by shifts in the mine hostels, like those built by the Correa 3 Company all over the country. Families live in housing rented by the firm or sold at a low price. The company does not feel any particular obligation towards this population. The company town era has come to an end.

VIII. CONCLUDING REMARKS

This submitted research is far from being comprehensive, but it highlights the subject’s scale. I merely opened up paths for further work. However, some aspects must be borne in mind right now.

Workers’ villages are part of a much larger issue involving housing conditions in societies subjected to industrialisation. Gathered accounts have shown a considerable change in the development of housing. From a simple place to live in, housing became a complex structure made of individualised spaces responding to different needs for families of different configurations. When housing resulted from factory owners’ actions, it acquired distinctive features, following owners’ and workers’ cultures. A whole range of creations, from the most elementary to the most refined, then materialised. However, in most cases, this kind of housing was low cost, with a utilitarian architecture of a basic nature. Only a few cases in kind, e.g. railway towns, showed greater ambition and more diversity. But in a little over than a century, one has seen a transition from different rooms (kitchen, parents’ bedroom, children’s bedroom) to front entrances protecting one’s

privacy, lavatories, and bathrooms. Finally, other than extreme examples, the workers' village seldom housed the entire working population. The housed population varied, but fluctuated around 30 per cent of the total workforce, which occasionally caused conflicts of interest.

The workers' village community formed a family. This often quoted expression spelt out a place to live and a common and well-known lifestyle. A witness, asked to describe everyday life in the industrial village of Colònia Sedó, near Barcelona, stated: "We had in common piecework and the shop allowing credit". A rather good summary of what components shaped this sense of belonging. But there was more. Factory owners helped in fashioning a common culture by referring to lower middle class status, an ideal to attain. In every worker's household, from the Atlantic coast to the Urals, there were two appliances, imperative in the 1930s: the wireless set and the sewing machine. They testified to a new standard of living, a new place for relationships, as well as a new society, educated, better cared for and more informed. Everybody wished to leave the company town to put some distance between themselves and the owner's authority, hardly personally shown but specially passed down by butlers and workshop managers. Tensions and inequalities have not ceased: in the Chilean copper mines, Indians are still those going down to the bottom. But, at home, the miner enjoys a not so different house from his neighbour's, an office worker or a small shop owner. It is no exaggeration to say that workers' housing, especially in company towns, was the area in which modern society originated.

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