

The diverse growth of 18th-century Catalonia: Proto-industrialisation?

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ABSTRACT

The concept of proto-industrialisation was useful for examining economic activities in many areas prior to the onset of industrialisation. In Catalonia, it was used to spotlight the wool industry and other activities and to separate it from what was believed to be a more modern economic activity, the manufacture of calico. The economic activities found all over a country are the ones that indicate its ability to make the most of the opportunities that were emerging and show that industrialisation based on the cotton industry – as well as on other outputs – was nothing more than the seizing of an opportunity by a land that was poised to do so. The article reflects on the roots of this ability.

KEYWORDS: proto-industrialisation, calico, crafts, artisans, guilds

For many years, studies on industrialisation and modernisation moved in an extraordinarily simplistic and ahistorical realm: since Marxism, history was written, and feudalism was succeeded by capitalism and later socialism, following inexorable, clearly determined laws. Studying a society was tantamount to simply knowing at what stage it was in order to guess what its next stage would be. Rostow's work appeared as an alternative to this discourse which defined the stages that a society went through in order to reach modernisation: societies were "traditional" until the take-off came that gradually ushered them into modernity.¹ The true historiographic interest revolved around how the take-off appeared; before it, there had only been a uniform, backwards world, and there was little interest in studying it.

As research made inroads, the time came when this approach could no longer be sustained. The indicators of growth in Great Britain, studies on changes in agriculture and research into activities prior to industrialisation² all pointed to the fact that before the take-off there had been quite a bit of life, that we could not merely focus on economic growth and that industrialisation could only be explained based on what had come before it. The analyses gradually became more historical and less theoretical, and it is within this context that the concept of proto-industrialisation appeared.*

PROTO-INDUSTRIALISATION AND THE REHABILITATION OF "TRADITIONAL SOCIETY"

The Industrial Revolution cannot be grasped without considering the changes in "traditional societies". Specific studies were unyielding and showed the economic life in the 18th century, before the onset of industrialisation, as much richer and more nuanced than what general theory assumed. That was no discovery: earlier, Marx had stressed manufacturing as a point of departure for the division of labour which would give rise to the capitalist factory. Dobb³ had described the ways in which rural industry was organised which could become the engine of economic change, and there are many studies that observed and described the importance of rural industry.⁴

It was in 1972 when Mendels⁵ suggested using the concept of proto-industrialisation for the first time to describe the period of preparation for the Industrial Revolution and to revive the debate on the role of rural industry. This industry, viewed as domestic non-agricultural production, had always existed, and working at home was also frequent and was known as the domestic system. The concept of proto-industrialisation did not refer to these industries but to the phenomenon that had four essential characteristics and was the *sine qua non* condition for the leap to industrialisation to take place:

- a) It entailed the appearance and expansion of a kind of industry in which the end output was meant to be exported to a market located outside the region.
- b) It entailed the farmers' participation in the production for additional income, taking advantage of the seasonal nature of agricultural production. The domestic

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networks tended to be coordinated from the city, where the finishing phases were completed.

c) A proto-industrial region had to contain a group of well-off farmers who produced agricultural surpluses that could be commercialised, along with another group of farmers with insufficient land who needed additional resources. The proto-industrial activities took place in areas that were poor in agriculture.

d) Proto-industrialisation was a regional phenomenon and should be studied at this level. By region we mean an articulated country/city system, an area of good croplands and an area of poor-quality croplands. In this sense, the term 'region' has no political meaning.

This definition of proto-industry resulted in the formulation of six hypotheses to explain the changes that led to the Industrial Revolution:

1. Proto-industrialisation broke with the late marriage system which until then had adjusted the natural population growth to the supply of rural farms and subsistence levels. With higher incomes, young people could get married earlier, which had repercussions on the fertility rates. The issue of the family in the transition process has been extensively re-examined in light of this consideration.⁶

2. The expansion of cottage industry brought about problems of gathering and quality control, which exerted pressure towards the centralisation of part of the workforce in mechanised workshops.

3. The capital necessary to transform the local networks into workshops and to purchase machinery had been accumulated thanks to the profits that proto-industrial activity had provided to merchants and landowners.

4. The proto-industrial networks had provided those who controlled them with business experience and knowledge of techniques.

5. This made it possible for a specialised workforce to emerge.

6. Proto-industrialisation developed a capitalistic agricultural sector in the region and prepared this sector for the effort needed at the time of urbanisation, producing agricultural products at reasonable prices which were supposed to sustain the growth.⁷

The new concept became a model, and based on those early studies the research only multiplied in the 1980s.⁸ Historians set out to study the early phase of industrialisation, seeking to discover whether or not the proto-industrial model that Mendels had described had indeed materialised. The results provided a great deal of information on the period, yet also widespread disappointment, since each study was an exception to the model or to some of its assumptions.

Houston and Snell made a scathing critique⁹ when they analysed the exceptions to each general claim proposition by proposition. While the theory stated that proto-industrialisation took place in areas poor in agriculture with an inherited tradition of egalitarianism, Houston and Snell's study provided examples that were contrary to this idea; while it claimed that proto-industrialisation had effects on

population growth and boosted the population density, they demonstrated that there were proto-industrial zones where late marriage remained common; while low salaries drove individuals to marry and have children in order to have more bodies working, they demonstrated how the opposite effect occurred in England; while it was believed that the rise in the number of illegitimate children was due to the increase in women's independence because they had access to a salary outside the family, Houston and Snell demonstrate how this illegitimacy rate rose in both proto-industrial and rural areas; while the seasonality of baptisms tended to drop, they demonstrated how the phenomenon was widespread, and not solely due to proto-industrialisation; while the sexual division of labour rose through the influx of women into the labour market, they demonstrated that women worked in many different trades. There were so many exceptions that they stripped the proto-industrialisation proposition of all value.

The criticisms could be categorised into the three major groups: a) there were so many exceptions to the general model that they invalidated the model itself; b) proto-industrialisation did not lead to industrialisation, since there were regions that took this qualitative step forward while others that later became de-industrialised; therefore, it was not an explanatory scheme for this phenomenon; and c) there were other ways of organising industrial production.¹⁰

Houston and Snell¹¹ drew the following conclusion in their critical study: "Many of the points provided on the agricultural origins of industry are not new. They have served as a stimulus for research, but they far from theoretically explain the transition from the agrarian to the industrial world. For this reason, the theory of proto-industrialisation should be abandoned and replaced by a less schematic and limited theory and an approach that focuses more on *the diversity of the social and economic development of Europe in the shift towards industrialisation*" [italics added]. The concept failed when there were attempts to turn it into a universal explanatory model of industrialisation as a first, necessary phase. The error was simple: all models are defined by a handful of variables that are combined to yield the desired results, while the historical reality of an area and a society is influenced by infinite variables whose priority varies for local reasons and, when they are combined, no result is expected. In each place, the change took place differently, if indeed there was change.

THE CONCEPT OF PROTO-INDUSTRIALISATION IN CATALAN HISTORIOGRAPHY

In Spain, the concept of proto-industrialisation was introduced by Aracil and Garcia Bonafé,¹² but Torras was the one who used it as a model to explain the distribution of the wool industry in Catalonia based on the logic of poor agricultural zones where the wool industry was lo-

cated and specialised agricultural zones where it did not develop.¹³ This concept was later used by a pair of researchers working in the woollen cloth zone of Sabadell¹⁴ and in Olesa and Esparreguera, in an attempt to confirm the validity of the general theory.¹⁵ There are hardly any subsequent studies that use this terminology.¹⁶

The scant importance of the concept in practice does not correspond with the change in perspective prompted by studies of the 18th century, as the rural industries (rural in a broad sense, not in Barcelona) and everything derived from their development began to arouse interest. That was when an inland Catalonia that was highly economically active was discovered, along with the fact that the mechanisms of accumulation and growth that emerged from local initiatives were in no way inferior to the calico factories of Barcelona.

THE KEY TO ECONOMIC DEVELOPMENT: CALICO

The development of the calico factories in the 18th century in Barcelona became the indicator of Catalonia's eco-

nomie modernisation, its pathway to industrialisation. It was not difficult to view them as the stepping stone prior to the textile factories that emerged in the 19th century. The genealogy of Catalan industrialisation was thus established¹⁷ in that Catalonia was early to industrialise. Yet where was Rostow's purported take-off? In reality, linking the two things led to a gradualist vision of industrialisation which did not reflect what was happening at that time.

For this reason, calico was reinterpreted. The theoretical analysis was facile: to become industrialised, a market was needed, and the Spanish market was poor and meagre, incapable of generating any demand, so the production of calico was explained by the outlet to colonial trade. The calico was sold abroad; if the colonial market failed – as it did in the early 19th century – the industry would disappear.¹⁸ According to this thesis, calico would have contributed little to the process of modernisation. This interpretation was reinforced with studies that indicated that in many factories the real specialisation was printing linen cloth manufactured abroad, not manufacturing cotton.¹⁹ Therefore, calico was not related to 19th century

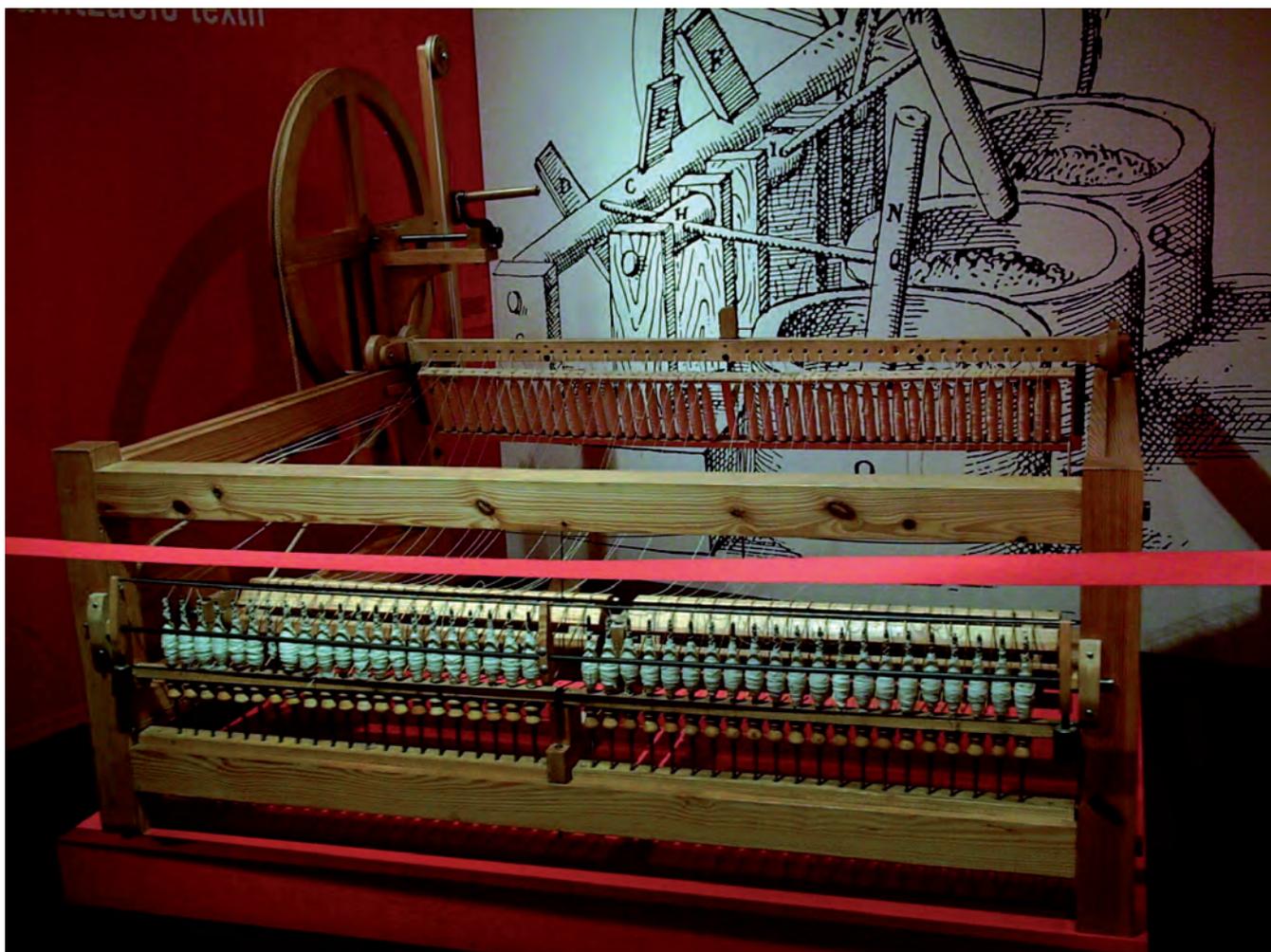


Figure 1. The Berguedana, cotton-spinning machine invented by the woodworker Ramon Farguell in 1790. The name of the machine comes from the county in which the town of Berga is located. With its 130 teeth, it held advantages over the 40 found on Hargreaves' Spinning Jenny. Museu de la Ciència i de la Tècnica de Catalunya, Terrassa.

industrialisation. The take-off came in around 1840 with the introduction of steam machinery in Barcelona, as was fitting.

In fact, in this study we are not interested in industrialisation. The calico factories should not distract us from other economic phenomena, yet nonetheless they introduced productive and organisational changes in the economic activity of 18th century Catalonia, such as: a) the calico activity had nothing to do with the guilds' ways of organising production; they were true factories that concentrated the processes of weaving and printing using complex machinery; b) they were developed through the association of partners in companies that shared capital, a common, widespread practice in many other activities; c) the activity took place primarily in Barcelona despite a handful of somewhat unsuccessful experiments elsewhere; and d) they introduced and standardised a new fibre, cotton, and their development was the driving force behind the spinning of this fibre, which ended up spreading around many areas in inland Catalonia.

Despite the doubt cast on whether they caused industrialisation or not, it is clear that the phenomenon of the calico factories generated another cliché in historiography: economic modernisation came from these factories, and more importantly, the new "modernity" arose in Barcelona and spread from there around a backwards inland Catalonia. It took some time to unravel these clichés and show quite a different picture.²⁰

In fact, Delgado²¹ debunked colonial trade by showing that both the calico manufacturers and the manufacturers involved in other industrial activities had existed in the inland market for many years. However, he stated something even more important:

"It would be incorrect to extend the example of Catalonia's cotton fabrics to the rest of the industrial output there. Naval construction; canvas painting; the paper, hosiery, hat, silk and tannery industries; the manufacture of lace and knit fabrics; metal; and agro-industry generated a significant added value thanks to their exports to the American market [...]. Even though these industrial sectors lacked the capacity to transform and pull the others along with them [...], they did favour the development of dense, diversified industry that was capable of bringing revenues from transformation, work and business initiative to the new opportunities that arose in the following century and was prepared to withstand the impact of economic slumps."

With this analysis, he discredited the idea that the calico factories were linked to colonial trade and contributed another important factor: the Catalan economy in the 18th century included not solely calico but also much more varied and diversified goods all over the region.

NO TO SIMPLIFICATION: PRODUCING MANY THINGS. SPECIALISATIONS AND AGRICULTURE AND LIVESTOCK ACTIVITIES

We historians have often painted a picture of farms oriented at self-subsistence. If different crops were cultivated, it was to have a diversity of products, and so there was no trade. Today this thesis is difficult to uphold: the countryside was the producer not only of food but also of many of the raw materials needed to be transformed by the network of artisans who produced a vast array of goods and services (wood, wicker, reeds, clay, lime, gypsum, charcoal, etc.). The farmers produced for the market by force, either on their own farms if they had them or as day labourers if they had little land.

Likewise, we have often painted a picture of agriculture based on the cultivation of just wheat, grapes and olive trees, as if there were no other crops, some of them clearly grown for the market. It is true that we know neither the volume nor the proportion consumed locally, but all indications seem to point to a much more lively market than what we used to think.

Regarding the main crops, in the late 18th century – and this is a process whose chronology we do not know – wheat was grown everywhere, but particularly on the plain of Lleida, Urgell, Osona and the Girona counties; rye predominated in the Pyrenees counties (Vall d'Aran, Pallars, Alt Urgell and Cerdanya); vineyards predominated along the coast from the Empordà to southern Tarragona and extended inland into El Penedès, El Vallès and El Bages and some counties in Lleida; oil was a major product in the Empordà counties as well as in El Segrià, Les Garrigues and the Tarragona counties; corn was plentiful in Osona, La Garrotxa and the Girona counties; potatoes were a common crop in Vall d'Aran, El Ripollès, El Berguedà and Alt Urgell; hemp was produced prolifically in El Vallès, El Segrià, El Tarragonès and its surrounding counties and El Montsià; silkworms were raised in the Baix Penedès and the western regions (Garrigues, Noguera and Segrià); hazelnuts were grown in Alt Camp and Baix Camp, La Conca de Barberà, El Priorat and La Ribera; almonds were a common crop in El Priorat, El Segrià and Urgell; carob was cultivated in the counties of El Garraf, Alt Penedès, Alt Camp and El Montsià; garlic was raised in Alt and Baix Penedès; and lemons and oranges predominated in El Maresme.²² However, in addition to these classic crops that may be found anywhere, there were other areas where natural resources were exploited: cork in La Selva and part of the Empordà; rice in the Empordà; coral and anchovies along the entire northern coast of Catalonia; salt flats in Cardona, Gerri de la Sal and the Ebro River delta; orange trees in Alella; strawberries in Vilassar de Dalt; peas throughout the entire Maresme, but especially in Teià; pine nuts in El Vallès, Santa Coloma de Farners and Sant Feliu de Codines; lumber in the entire Pyrenees region, where the timber raft transportation business was developed; apples, pears and other

fruit in La Cerdanya, Ponts, Sanaüja and Torà; weld in Palamós; chestnuts and wood for wine casks in the towns near Montseny; wild mushrooms in El Solsonès; cherries in Caldes de Montbui; chickpeas in Llançà; charcoal in Montseny and all the forests of Catalonia; iron in the Pyrenees; glue in the pine forests; lime and gypsum ovens wherever there was calcareous rock; tile and brick ovens wherever clay could be found; ice wells in Montseny, El Moianès and other places; and barilla for making soap in the Ebro River delta.²³

Livestock was important because the animals supplied energy as draft animals, were a source of food (meat, eggs) and produced raw materials like wool. The fattening and breeding of livestock extended beyond farms and was also part of the market for goods and services. Sometimes livestock has been regarded as contradictory with crop farming, but 18th century society resolved this contradiction in a different way with the aim of optimising the productive resources.

First of all, some animals were cared for within the family milieu, such as poultry and swine, which were fattened on human leftovers. Swine were fundamental to the rural diet. They were fattened, slaughtered, preserved and salted, and pork was a year-round foodstuff. Some zones specialised in raising suckling pigs, which were then sold to the small farms to be fattened. Zamora mentions La Vall d'en Bas and the environs of Barcelona: "We find large contingents of swine that come from the fairs to the Barcelona market whose trade is quite lucrative".²⁴ Secondly, there was a very clear delineation between grassland for grazing and croplands. The grasslands could be grazed when there were no crops planted. Communal and privately-owned grasslands could be sold or rented to the highest bidder to graze the livestock meant for local butchers or the herds on the country estates (*masies*) – a country estate or *mas* was a traditional farm in one part of Catalonia measuring between 80 and 100 hectares. On the *mas* was a *masia*, the farmer's residence. They had to graze when it would not harm the crops, and thus the number of livestock head was limited in the farming zones. Thirdly, raising draft animals became a true specialisation, especially in the mountain villages. Zamora's *Viajes* contains numerous references to towns that specialised in raising the animals from birth or fattening them, including L'Esquirol, Rialp, Sort, Esterrri d'Àneu, Tredòs, Viella and Arbúcies and the mountain villages of El Pallars, Vall d'Aran, La Ribagorça and L'Urgell. From there they supplied the needs of all of Catalonia through fairs. The business was as dynamic as any other proto-industrial activity.

The fourth solution to the contradiction between crops and livestock was seasonal movements. The problem was that in certain geographic or climatic conditions, the grass needed to feed the livestock grew in different places. In order to use them, the only solution was to move the livestock from one place to another: this is called transhumance, and it required organisation, a

subject which we shall not examine in detail.²⁵ Nonetheless, we should note that there were two kinds of transhumance: complete and partial. Complete transhumance meant that the herds were in constant motion. There were four primary winter grazing areas: Alt Empordà; La Selva, El Vallès Occidental and El Penedès; Les Garrigues and El Segrià; and Baix Ebre and El Montsià. The livestock grazed in these areas from November to April, when they began their march to the high mountains, where they would graze from late June until late September. The livestock in each of these areas were moved to the closest mountains (Ripollès, Cerdanya, Andorra, Pallars Sobirà and Vall d'Aran or Els Ports de Beseit).

The other kind of seasonal movement is partial, and it was practised with the livestock herds in El Ripollès, El Berguedà and El Lluçanès. In this case, the estates' herds grazed on their own grasslands during the winter and fertilised the fields through the use of cotes or corrals. When the summer came, they embarked upon the journey to the mountains in late June and stayed in the Pyrenees or pre-Pyrenees until late September, when they returned home. Hundreds of people, including livestock owners, shepherds, herders, grassland renters and butchers, along with all the leather and hide industries, participated in this business.

CRAFTS AND PROTO-INDUSTRIAL ACTIVITIES

Society was demanding other non-agricultural goods and services which had to be produced somewhere. The raw materials came from natural resources, but later certain trades that were organised into guilds or other less structured forms turned them into goods and services. There were people in every village working in non-agricultural production, but the crucial point is the time when these productions stopped being for local supply only and became targeted at a market. In the 18th century, production for the market was quite widespread, but it surely must have been in the previous centuries as well.

It is by tracking these dynamics of local production that the idea that modernisation took place in Barcelona with calico manufacturing loses all validity. The whole of Catalonia was full of specialised productions, many of them little known, which complemented each other and multiplied. The list below is not exhaustive, among other reasons because we only have bare indications of many of them. What brooks no doubt is the fact that they all provided additional income to many farming and non-farming families, which in turn raised the demand for goods and services.

The production of woollen textiles

The most widespread thesis is that there was a crisis in the wool industry in the large cities like Barcelona, Girona and Perpignan in the 16th century, as the guilds con-

strained the activity, and from there this crisis spread inland towards the villages where the wool workers were also organising themselves into guilds. We are unable to reconstruct the map of wool-working activity in Catalonia prior to the 18th century, although it had two characteristics: first, it was an activity centred mainly Old Catalonia (Vallès, Anoia, Bages, Berguedà, Osona, Ripollès) and the villages that began to grow in the 16th century, and secondly each village tended to specialise in a certain kind of cloth (if one made *draps vintisisens* they did not make another quality, and if they made serge they did not make coarse ribbed woollen cloth) (*Draps* refers to woollen cloths and *vintisisens* to the density of the weave). This specialisation in a given product would come to be a characteristic of pre-industrial production.²⁶

For the weavers to be able to weave, first the wool had to be spun, a manual activity that tended to be performed by the women. It is very difficult to ascertain how many women spun wool in Catalonia, but we do have some descriptions which point to the fact that in order for the weavers in a given town to operate, almost all the women in the surrounding villages and parishes had to spin the wool.²⁷

Leather production

The production of leather and everything this entailed in terms of the purchase of hides from the local butchers and others further afield was concentrated in Vic and Igualada, as the main production centres, and to a lesser extent in Vilafranca, Manresa (especially in the 17th century), Reus, Lleida and Olot.²⁸ In Manresa, this activity led to major accumulations of wealth.

The silk industry

Silk primarily developed in the 18th century, especially in Reus, Manresa and Mataró. It was also the reason behind the most important amassment of wealth in these cities. This activity went hand-in-hand with other minor silk items such as cord, trim and ribbon. Manresa specialised in silk.²⁹

Even though most silk came from Valencia, its production stimulated the cultivation of silkworms and plantations of mulberry trees in the regions of El Segrià (fifteen towns in 1824) and La Noguera (nine towns). This means that there were farmers who earned additional income from this product.

The iron industry

Seams of iron were located in the Pyrenees which led to a specialisation in iron production, with ironworks and a specific production technique.³⁰ Even though little is known about it, the iron industry was an economic activity that created specialised craftsmen and merchants who were able to amass wealth through trade. Iron also paved the way for the development of other trades, such as nail-smiths in Ripoll and Manresa and weapons manufacturers in Ripoll, which became an important way for some people working in this field to accumulate wealth.



Figure 2. Trademark from the factory owned by Ignasi Pons i Perra's company in the 18th century. Every year, dozens of thousands of silk handkerchiefs were manufactured in Manresa and then exported to America and the entire Iberian Peninsula. This was the most prominent and dynamic activity in the city during this century. Source: SOCIAS, I., *Les marques de fàbrica de Manresa. Xilografies dels segles XVIII i XIX*, Centre d'Estudis del Bages, Manresa, 1991.

The lace industry

We are not sure when this specialisation came about, but the women in all the villages in the Maresme devoted themselves to this activity, whose output was later exported all over Spain and to the Americas. The figures provided by Francisco de Zamora when he travelled through the Maresme region are astronomical: from Palafolls to Caldetes, he mentioned that 5,350 women worked in lace making, and this was an approximate calculation that did not encompass all the villages.³¹ This activity also extended as far as the Baix Llobregat and became a true specialisation that mainly employed women.

The hosiery and hat industry

Another of the industrial activities that involved certain cities' specialisation was the production of hats (specifically *barretines*, traditional Catalan caps) and hosiery, which were mainly concentrated in Olot (502 weavers), some villages near La Garrotxa (Tortellà, Besalú, Sant Esteve d'en Bas), a modest village in La Seu d'Urgell and Puigcerdà and another highly active village in the Maresme.³²

The paper industry

Paper manufacturing was another important pre-industrial activity that occurred in mills located on relatively minor rivers. The most important region was clustered around the Anoia River, followed by the mills on the Francolí-Brugent, Fluvià-Terri and Bitlles Rivers, which



Figure 3. Lookout point where the paper is spread just as it was in the 18th century and where untrimmed paper is still manufactured. Paper Museum of Capellades.

were distantly followed by the mills on the Cardener, Ter, Ripoll, Tordera, Foix and Gaià Rivers. Much of the paper produced was exported to the American market.³³

The liquor industry

One of the most lucrative businesses in 18th century Catalonia was the conversion of wine into liquor. The counties around Tarragona specialised in cultivating grapes to produce wine, which was distilled and turned into liquor to be exported to the Americas or northern Europe. Valls, Alcover, La Selva del Camp, Vilallonga, Reus, Riudoms, Cambrils and Constantí were just some of the towns to have industrial distilleries devoted to this activity.³⁴ In other counties like El Bages, the wine that was distilled was the surplus, poor-quality or rancid wine, while the remainder was commercialised as such.³⁵

The anchovy industry

Some villages in the Empordà and La Selva, including Cadaqués, L'Escala, Sant Feliu de Guíxols and Blanes,

worked in anchovy fishing, and the women cleaned and salted the fish prior to commercialisation.³⁶

The coral industry

Fishing for coral was also the speciality of some villages in the Empordà like Begur, Cadaqués and L'Escala, where they both fished for coral and prepared it for commercialisation.³⁷

The naval industry

Many of the larger coastal towns manufactured boats of varying sizes for local fishing, as well as ships for coastal transport and for journeys to the Americas.³⁸

The ice industry

The demand for ice either for medicinal uses or as a cooling agent began to spread in the second half of the 17th century. This demand for ice meant that a real ice industry developed in places near the large cities where the weather was cooler. In Montseny and the entire region of El Moianès, ice wells were built where blocks of ice were



Figure 4. A copper still used to make spirits. The manufacture and export of spirits was one of the activities performed in the 18th century, a part-time activity that complemented other outputs. This combination of enterprises was a common way of doing business.

stored in the winter to be later transported to Barcelona when the summer came. This business was extremely lucrative and served as the source of wealth for many families from Castellterçol.³⁹

The calico industry

Calico factories first appeared in Barcelona in the first third of the 18th century. They wove and then printed cotton following the new fashion for colours which imitated Indian fabrics. What was different about these factories was that the production did not take place in artisan workshops but in venues where a number of looms and printing facilities were concentrated. Even though a few calico factories were built in other cities, in reality calico manufacturing was mainly centred in Barcelona.⁴⁰ This activity based on the transformation of cotton proved crucial to the introduction of what would become a cutting-edge sector in the process of industrialisation and economic modernisation, drawing from all the traditions we are describing.

The cork industry

The cork industry developed in the 18th century in the region of La Selva and the Empordà, where cork oak trees grow. Cork harvesting was organised by the rural landowners, who then sold it to manufacturers who in turn shaped the corks into bottle stoppers.⁴¹

Other apparently local industries

In fact, there were many other local specialisations that should be considered along the same lines as the activities we have already mentioned: in Solsona the speciality was knife production; in Gironella, buttons; in Torelló, horn combs; in Tremp, Sort and Ponts, espadrilles; and in Breda and La Bisbal d'Empordà, ceramics.

It may be a stretch to use Joan Amades' *Costumari català* as a source to cite some of the villages' specialities since we know nothing about the timelines, but we shall use it because we are confident that there were vast numbers of activities that complemented the farmers'

yields in modern Catalonia. The following is a list which should be taken with a great deal of caution: Espolla specialised in the production of birdlime; Alentorn, near Artesa de Segre, specialised in forks; Tortellà specialised in spoons; many villages in Montseny manufactured spokes and fellies for wheels; villages in the Baix Llobregat, Baix Penedès, El Garraf, El Camp de Tarragona, La Ribera d'Ebre and La Terra d'Alta crafted with broom palm; Linyola manufactured powdered lime to scatter on grapevines before harvesting; and Miravet specialised in baked clay products.⁴²

Transport-related activities

While there were villages and towns that specialised in a wide array of agricultural or industrial products, others specialised in transport. Trade was in the hands of cart drivers in the 17th and 18th centuries, but when long-distance trade came into play the inhabitants of certain villages became the true experts.

We are aware of several examples of this. One of them is in Copons, in the region of L'Anoia, where the inhabitants worked in the commercialisation of diverse products for Spain as a whole.⁴³ Jaume Torras very skilfully explained the uncertainty of trade which made networks of neighbours particularly useful and, in order to work properly, they used a different idiom in order to create a trusted web in which merchandise, money and information could flow.⁴⁴ This explains why the residents of a given village, regardless of whether or not they were kin, were able to build a powerful commercial network.

Another similar case is the village of Tortellà. Zamora wrote: "There is a great deal of trade in this town by companies which always have 100 men away. Their business is in Seville, Cádiz, Murcia, Granada, Málaga and other cities in Spain outside of Castilla la Vieja."⁴⁵ Just as in the town of Copons, much of the population was away weaving the web needed for the commercial activity to flow smoothly.

One similar specialisation occurred on the coast, but instead of casting the net towards inland Spain they did so towards the Americas. This web involved men, nephews and relatives who went to America, some of whom returned while others remained. We cannot describe it as emigration; rather the natural business setting stretched as far as America and had its own tempo. People did business in America, but the point of reference remained the village they had left behind where their families still lived. Palamós, Sant Feliu de Guíxols, Lloret, Blanes and to a lesser extent the Maresme and even Vilanova and Sitges worked in this activity.⁴⁶

OTHER OPPORTUNITIES: THE LEASE OF FEUDAL REVENUES, MUNICIPAL RIGHTS, PART OF THE HARVEST OF COUNTRY ESTATES...

In the midst of this productive dynamic, there was yet another opportunity. The complex seigneurial regime

(jurisdictional realms, allodial realms, eminent or direct lords, etc.) generated incomes whose recipients leased them to the highest bidder because they were collected with minimum efficiency. Almost all the town hall revenues came from the management of certain monopolies (bread ovens, butchers, ice wells, oil measurements, wine measurements, etc.) as well as taxes on the movement of goods (four *sous* per grape harvest load, six *diners* per pound, tolls, etc.). The towns preferred to lease the management of the monopolies and tax collection to the highest bidder. Likewise, the management and yields of some of the country estates that had come to be owned by Church institutions or the bourgeoisie or petty nobility living in the city were also leased to the highest bidders.

This system of seigneurial, municipal or estate leases and the amounts charged were yet another available opportunity that many landowners, tradesmen, merchants and farmers seized upon to bolster their incomes.⁴⁷

What was the articulation of this entire outpouring of goods and services which were purchased and sold in Catalonia and exported to the inland market and to the Americas and which showed spectacular dynamism in the 18th century? What can explain its emergence? What was its timeline?

EXPLANATIONS OF THE GROWTH IN THE 18TH CENTURY

In his *Catalunya dins l'Espanya moderna*, Pierre Vilar was the scholar to offer the classic explanation, namely that demographics became the engine of growth, when he noted that the population of Catalonia had doubled between 1718 and 1787.⁴⁸ Furthermore, the rise in the number of men was the engine stimulating new ground being broken, the multiplication of crops and the advent of new demands for non-agricultural products which helped to spur diverse proto-industrial activities. The imbalances between the growth in the population and in resources were resolved through economic crises or through a boost in productivity and efficiency, as happened in the late 18th century.⁴⁹ The question worth asking is why this dynamism did not occur in other places where the population rose significantly as well. Other variables most have also played a role.

Jaume Torras has offered the most interesting synthesis of what happened in the 18th century. First of all, one factor that played a crucial role is the structure of the beneficial land ownerships consolidated after the Arbitral Sentence of Guadalupe and preserved over time through a hereditary system which kept the lands in the hands of the heir and provided resources so the later-born children could explore other pathways. Likewise, through sub-establishments (fallow lands, *rabasses* [stump lands], etc.), access to land was provided to small farmers at a very reasonable price as the population rose. The population

growth could thus be absorbed in this way, although it was not the only way.

In around 1630, foreign trade underwent a change, shifting from the Mediterranean Sea to the Atlantic side of Europe. This began with the arrival of wheat via Dutch ships from the Baltic states to supply the Mediterranean cities. After that came the sale of salted fish and traditional goods from the Orient like sugar, coffee and textiles. These merchants took away high-quality wines, dried fruit (raisins and figs) and Italian silk. At this time, liquor began to be consumed; at first it was supplied by the French, but they were later shut out of the trade after the trade wars. The Mediterranean, especially Catalonia, rose to prominence. Liquor paid for the imports, especially salted fish.

Starting in 1690, less liquor began to be distilled in Catalonia. The possibility of land sub-establishments, the fact that there was no problem with distilling the wine since there was no appellation to protect, and a clearer tax framework in Catalonia led to an expansion in grape cultivation. Thus began a process of specialisation in vineyards in certain zones, which in turn stimulated the demand for other goods and services.

The vineyards expelled manufacturing, claims Jaume Torras, while other zones specialised in wheat production (lands in Lleida and Aragón) and yet others in textile manufacturing. The economic growth was a result of a regional transformation that affected the entire land, in which Barcelona played the role of the capital where the most modern sector had developed, namely cotton manufacturing. In Torras' estimation, the crux had been the changes in the division of labour on a continental scale and "the configuration of a system of property rights over the land and its output which favourably conditioned the response to these opportunities" (pp. 34-35).

In fact, we should be asking the following question: why did this development take place in Catalonia and not in other parts of the Spanish monarchy? Torras explains it via the different property rights which made the expansion of grape cultivation easier through *rabasses mortes* (stump lands),⁵⁰ via the dearth of appellations that made it difficult to distill wine, or via the fact that official liquor quotas in Castile hindered expansion. However what Jaume Torras does not accept is Capmany's explanation: "Catalans are industrious through the spirit of imitation, gathered in the village, in the national community" (p. 38). He puts it clearly: "We should not confer explanatory validity on the innovation of a nebulous collective spirit nor on the automatic cultural sedimentation of an old industrial tradition that could have become extinct, as it did elsewhere. This culture of work and business was the outcome of clearly material causes" (p. 38). So how can we explain the fact that many of these economic practices could be found far before the 17th century?

GARCIA ESPUCHE'S CONTRIBUTION: WHEN DID THIS DYNAMISM START?

Previous analyses were displaced by the book by Albert Garcia Espuche entitled *Un siglo decisivo. Barcelona y Cataluña 1550-1640*,⁵¹ a study that set out to survey the 16th and 17th centuries, which were regarded as obscure centuries of decline. The author reaches the following conclusion: "What used to be considered waning centuries [are now viewed as] a period in which things were not so bad and [we have] come to more radically assert that this stage was truly decisive in the history of Catalonia" (p. 17). The extensive research in this book was based on analyses of thousands of notary texts which revealed that Catalonia was surprisingly active everywhere, or at least in the places where the protocols had been examined. It was bustling in the sense that an economic dynamism could be detected similar to the Lilliputian activities that Vilar noted in the 18th century. The intermediate cities were the stars of this vitality at the expense of Barcelona, which was losing ground.

The thesis was clear: everything that was vigour, diversity and territorial vitality (ultimately widely accepted) in the 18th century had distant roots in period spanning 1550 and 1640, which was the time of Catalonia's economic restructuring. It was a key period:

"The word 'decisive' in the title [of my book] also harbours a great deal of conviction. This period in the history of Catalonia witnessed a series of changes, mainly qualitative ones, which were to have enormous repercussions on the future: a drop in industrial activity in Barcelona and a growth in the nearby cities; greater profit from the inland market and a shift in the direction of trade towards the Atlantic and the inland reaches of the peninsula, with activity that did not wane but instead rallied starting in 1550 through solid colonies of Catalans set up in Medina del Campo, Madrid, Seville and Cádiz and thanks to the spurring of diverse industrial productions; the reorganisation of sea transport and a notable rise in land transport; the creation of an effective system of cities centred around Barcelona in which the capital became the centre of finishing, the retail centre and especially the core that steered the entire territory [...]. Because, in fact, this decisive period ushered in economic and territorial modernity in Catalonia" (p. 23).

The Catalan commercial diaspora that Torras described for the 18th century was already underway in the 16th century; nor was the system of companies described by Pierre Vilar new.⁵² Garcia Espuche documents this dynamic economic activity in the Barcelona region and beyond with thousands of examples.

So why 1550? The arguments proffered to defend his thesis are waterproof, but why did he choose this date chosen to signal the rupture? He writes:

"Starting in 1550, give or take a few years, notable changes took place and some processes already underway sped up considerably: the transformations in the demographic hierarchy of Catalan towns, virtually nonexistent until the mid-1500s, became extremely pronounced starting mid-century; the French influx rose until reaching its peak in the late 16th and early 17th century; the change in the direction of sea journeys and in the sailors' participation on the coast near Barcelona became clear in the 1550s; the industrial growth of the towns near Barcelona took off in the second half of the 16th century" (p. 22).

Yet I do not think that these are the explanatory reasons behind the change and rupture. What would happen if we had asked the same question for the 14th century using the same methodology? We would have found an urban network and productive structures that were equally dynamic and decentralised. All we need to do is make a map of the Gothic churches built in the 14th century to realise this. Were they the forerunners of the 18th century?

This is not a criticism of Garcia Espuche; quite the contrary. His demonstration of the country's vitality is irrefutable; what is not so clear is his choice of the point of departure. It might have been any other. At some point – and here is the doubt whether it was in the 16th century or earlier – cultural attitudes and mindsets appeared in Catalonia that predisposed it to take advantage of economic opportunities, either in the country or city, in trade or in manufacturing or the crafts. From there, the economic, political, social and demographic situations, the technical innovations, the changes in supply and demand, the hereditary system, the mechanisms of social differentiation and everything else that could help to define a specific society did the rest. And there seems to be no doubt that these opportunities were seized all over Catalonia.

MAKING THE "ASSETS GROW": FROM ARTISANS TO RENTIERS AND BACK AGAIN. PROLETARIANISATION? OF WHOM?

Albert Garcia Espuche's book questions whether economic opportunities are seized when they appear or whether a mental attitude is needed to interpret these opportunities. Let it stand clear that no mental attitude is a given; they all originate in experience accumulated either individually or collectively. However, it is difficult to interpret the economic evolution of Catalonia solely based on the convergence of material variables without assuming that there were individuals capable of interpreting them as opportunities and transforming them into activity and economic growth. We are not thinking of Capmany or Vicens Vives; there is obviously no innate Catalan soul. However, historical experience had led an attitude to take shape that explains many of the phenomena in modern Catalonia.

Certainly the expression the best defines it is “making the assets grow” and that every now and then it can be found in the documentation itself. And this affects not just large capitalists or merchants but also simple, humble folk who did things individually or collectively. Pierre Vilar realised this when he spoke about “Lilliputian” businesses, that is, businesses with modest capital that invested in anything that they thought might have opportunities or that they discovered did have opportunities. The productive diversity of the 18th century which we have described above would fit within this model, and Garcia Espuche found exactly the same thing in the 16th century in the thousands and thousands of examples that he cites. At some point, the country’s general culture had assimilated as a philosophy that “making the assets grow” was a vital objective, and this had repercussions on the overall growth of the society. Within this context, the production of liquor or wool textiles or paper or anything else found that that pathway to development was already paved. From then on, the material variables would lead this progress to move in one direction or another.

Who took advantage of these opportunities? Sometimes the emphasis has been placed on the heir system developed in Catalonia in the Middle Ages. The male primogenitor kept the family assets with the obligation to care for his parents and place his siblings as optimally as possible. The later-born sons received what they were legally due and left the house to live in the city. They were the ones who were poised to seize on the new opportunities. In fact, the word for later-born son in Catalan, *caballer*, has to do with the word *cabals* (assets) and with *acabalar* (to accumulate), that is, to perform productive activities before leaving home with the goal of increasing the family wealth (caring for a herd, cultivating a piece of land, ploughing, etc.). Today we know that while some later-born sons did leave home, they were the sons of the least wealthy farmers since the wealthier ones served the Church or remained single at home, meaning that they contributed little to the productive system.⁵³

The sons of poor families were the ones who left home and had to earn a living in the trades or activities that were performed in the city. It is true that there were later-born sons who amassed considerable wealth, but did they do so because they were later born or simply because they entered into the logic of the businesses in the city? Likewise, others who were not later-born sons of country families in the strict sense also amassed wealth.

Today we are a little more knowledgeable about the social structures of many Catalan cities. There is increasing proof that the petty nobility and wealthy classes in the 18th century originated in the artisan trades in the 16th and 17th centuries. We entitled one study in which we tried to describe the processes of social mobility in Catalan society “D’artesans a rendistes i tornar a començar” (From Craftsmen to Rentiers and Back Again).⁵⁴ In effect, the most common pathway was from families who

specialised in a trade; for their sons, the opportunity lay in commercialising what was produced, first one’s own goods, and then those manufactured by other people. The artisan merchant starts the process of growth and accumulation of wealth. As his income rises, he invests part of it into real estate, which becomes a kind of insurance for the activity itself. The next step is for the heir to become an apothecary or lawyer, that is, to join the category of professionals.⁵⁵ He thus abandons commerce and gradually begins to live on the income from the lands, taxes and income from his profession. One aspires to have the title of honourable citizen, that is, to become a member of the petty nobility. This pathway was followed by wool-workers, cart drivers, tanners, knife makers, nailsmiths and others.

Once they reached this point, the problems for this new social group began. Their income was squandered and was not sufficient to maintain the social level of these rentier groups. Then they developed strategies to try to stave off crisis such as placing their second children in the Church or convent and seeking marital unions to improve their income levels. Indebtedness led some families to ruin, and they ended up disappearing while their assets returned to the market. However, the most interesting point was that other craftsmen began the process once again, following the same cycle: manufacturing in a workshop, commercialising alone or forming a kind of company while still manufacturing, raising the proportion of trade and speculative activities, investing in land and the process of ennoblement, then decline and beginning once again. We can detect at least four cycles similar to this since the 16th century.

This process leads us to another question. If the artisans worked for themselves but also had other artisans work for them in order to engage in commerce, did this mean that a process of proletarianisation was underway in which some people’s growth led to others’ ruin? It has often been surmised that the proletariat would stem from this process, but the research into these trade workshops has demonstrated that people could work for someone else yet remain independent. This statement is quite important: the growth of some did not ruin others; rather it even consolidated or reaffirmed their independence, and, indeed, some of them would be the ones who would later rise to prominence.

We have pinpointed and detected these mechanisms since the 16th century. They were the individuals whom Garcia Espuche found in most of the cities in Catalonia.

What opportunities were they seizing? Usually, one’s name was followed by the trade in which they worked: silk weaver, nailsmith, wool worker.⁵⁶ This was their main activity, but they may have also owned lands which yielded products for their subsistence or for commercialisation (such as wine). They may have also owned a still for distilling some months of the year, they could sell wine wholesale; they might have participated in a municipal or seigniorial lease; and they were able to commercialise all

kinds of products when they went to the fairs to sell. A person may have belonged to a guild and had a trade, but any opportunity could be seized to invest money in the most diverse spheres. This leads us to the concept of pluriactivity, which is valid for not only the rural world but also the urban world.⁵⁷ Doing a bit of everything so that the risk was diversified: one activity may not be faring well, but there was always another one. With this dynamic, any new opportunity could be explored without excess risk and added to the catalogue of economic activities performed.

Any area of Catalonia could serve as an example, but I shall refer to the experience in the city of Manresa. In the 16th and 17th centuries, the leading specialisation in the city was the leather industry, but there was also significant activity related to the nail industry (nailsmiths), the commercialisation of draft animals and specialised cart drivers. The people in these guilds also commercialised wool, which came from the wool-making networks in the region. The city's honorary citizens came from the ranks of the leather tanners. When the 18th century arrived, the leather industry was replaced with the production of silk scarves, and silk-weaving became the predominant trade. The tanners easily became silk weavers, and many silk weavers started the process described above. Another activity was the production of ribbons; trim and passementerie makers were also highly active in this period and accumulated major assets. Then, in the early 19th century, a new opportunity related to cotton appeared. It was not exactly the same, since it needed more fixed assets and a new technology that transformed the organisation of labour. Silk scarves started to decline after the crisis in the American market, but this did not mean that blended fabrics and trim did not remain the foundation of new ribbon makers who took over from the great silk weavers of the 18th century and became cotton industrialists. The new spinning machines (either the spinning jenny or the continuous spinning machine) spread like wildfire around Catalonia simply because it had a productive system open to innovations that improved the profit from opportunities.⁵⁸

THE FINANCING OF THE PRODUCTIVE ACTIVITY

How could a modest silk weaver enter these production and commercialisation networks? Post-mortem analyses of the inventories of some of these artisans show us how these networks operated. The silk weaver – or an artisan of any other trade – had very little cash at home; in fact, the inventories only include the list of money pending payment and receipt. Back then it was understood that the entire production chain financed the process: the silk weaver owed money to the person who had sold him the silk, but he was owed money from the buyers of the silk scarves. These buyers, in turn, owed the silk weaver for



Figure 5. Trademark of “El Pino” paper manufactured in Capel·lades and sold on the island of Cuba. Paper manufacturing was another dynamic activity in the 18th century which was primarily located along the basins of the Anoia, Riudebitlles, Francolí and Brugent Rivers. Source: Miquel Gutiérrez Poch, *Full a full. La indústria paperera de l’Anoia (1700-1998): continuïtat i modernitat*. Publicacions de l’Abadia de Montserrat, Barcelona, 1999.

the scarves they had bought, but were awaiting payment from the suppliers further afield to whom they had sold the silk scarves. Once the product reached the end of the path, the money began its journey back: the broker, the merchant, the silk weaver and the silk supplier all got paid. Added value, which was actually the profit, was generated along this entire pathway. In times of expansion, the circulating capital rotated more quickly, while in times of crisis the process was much slower, and perhaps the capital was never earned back. Sometimes the entire added value was lost, yet other times payment was simply delayed.

How could the artisan family withstand this? The artisan family most likely had a vegetable garden or vineyards which served as the basis of their subsistence or even provided additional income. If business was going badly, they temporarily stopped making silk scarves, awaiting better times. The productive system could contract, ap-

parently disappear and emerge once again as if nothing had happened. The productive units were aware of these fluctuations and thus removed the added value from circulation from time to time and invested in lands, which became their insurance for when things were going badly. Capital could also be invested in other opportunities in order to diversify the risk.

In this environment, it is difficult to speak about proletarianisation. Even the silk weaver or artisan who worked wholly for others had his own workshop, his own vegetable patch and his own vineyard, and at any time he could try to commercialise part of their yields on his own. The economic dynamism of the 18th century has a great deal to do with these mechanisms.

INDUSTRIALISATION: THE COROLLARY OF ECONOMIC DYNAMISM

The dynamics we have described above lead us to detect a vast number of small enclaves in Catalonia specialised in a specific kind of product. These labour-intensive outputs benefitted from a local network that provided productive advantages by lowering the costs and thus making them more competitive. An analysis of the geography of wool textile production shows a clear specialisation by bishopric and certainly by town. Wool textiles were produced in 105 towns in 1760 and employed 2,100 weavers. Most were narrow woven fabrics and cleaning rags (two-thirds of the weavers); they used worsted wool and they were concentrated in central Catalonia (Osona, Bages, Berguedà, Ripollès) and a small part of El Vallès. Benaud reports on the clear specialisation of these towns, as 26 villages from this region produced 100% of the pieces of a given kind of fabric.⁵⁹ The remaining weavers used combed wool, which was used to produce fine cleaning cloths and rags, and there was also a regional specialisation in L'Anoia (Igualada), near Montserrat (Monistrol de Montserrat, Olesa, Esparreguera), in the Vallès Occidental (Terrassa and Sabadell) and from the valley of Camprodon to Maçanet.

There is also a map of silk production around Barcelona, Manresa, Tortosa and Reus. The paper industry was concentrated in the counties of L'Anoia, Alt and Alt Camp, with three main districts (Capellades, Sant Pere de Riudebitlles and La Riba) which were the homes to the majority of the paper mills. The residents of Copons, Tortellà, Calaf and Santpedor specialised in transport. And we could continue thus with the production hosiery and knit fabrics also in the Maresme, hats in La Garrotxa, leather in Igualada, iron in the ironworks in the Pyrenees, liquor, the naval industry and so on. They were all organised around nuclei where natural resources, access to raw materials or connections with the market justified their location, yet their dynamism was due to the human capital, the productive history of the zone and the drop in costs that came from sharing technology

and knowledge. The sum of these enclaves or industrial districts, which were often connected with active foreign trade and articulated regionally, was a living, dynamic body that took advantage of the opportunities, was able to bounce back in after slumps, could adopt technological improvements with extreme ease and could change products if necessary.⁶⁰

In order to grasp the evolution towards industrialisation in the 19th century, it is extremely important to analyse how these 18th century enclaves or districts evolved and how they responded to the changes that kept coming. The wool or silk textile districts found themselves pressured by the expansion of a new fibre, cotton, and at the same time by the incorporation of new technologies that needed more fixed capital and new sources of energy. This process of transformation would continue, which kept the dynamism of each district constantly on edge in the 19th century.

Cotton was a new opportunity. While in the 18th century it was merely the characteristic fibre of the industrial district in the city of Barcelona, where the majority of calico factories were located, other enclaves gradually added it and turned it into their main product, very swiftly appropriating the new technologies such as the spinning jenny, continuous spinning machines and the mule jenny.⁶¹ In fact, all they did was what they had always done: if cotton was an opportunity, the human network we have described throughout this article was ready to seize on it, just as much of Catalonia did.⁶²

Textile factories are the most emblematic feature of economic change, but not the only one. This web of artisans, medium-sized farmers from villages and country estates who seized upon all kinds of productive opportunities in the 18th century went on to enter the 19th century as part of a "middle" class that sent their children to study the new liberal professions, placed them in factories as foremen, stewards or managers, and instigated the transformation of many other economic opportunities. They form a little-known social group, yet the configuration of modern Catalonia has a great deal to do with their social and political initiatives, and they were clearly a continuation of the productive experiences from the 18th century.

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- [13] Actually, the RHE article was the outcome of a paper delivered at a congress on economic history held in 1981. See J. TORRAS ELIAS. "Especialización agrícola e industria rural en Cataluña en el siglo XVIII". *Revista de Historia Económica*, no. II (1984), pp. 113-128.
- [14] J. M. MUÑOZ LLORET. "La contribució de la indústria rural a la industrialització moderna i les discussions a l'entorn de la proto-industrialització: el cas de Sabadell i Terrassa al segle XVIII". In: *I Congrés d'Història Moderna de Catalunya*. Department of Modern History at the University of Barcelona, Barcelona 1984, pp. 399-409.
- [15] A. MUSET PONS. "Protoindustria e industria dispersa en la Cataluña del siglo XVIII. La pañería de Esparraguera y Olesa de Montserrat". *Revista de Historia Económica*, no. VII (1989), pp. 45-68.
- [16] It has recently been used by Julie Marfany to study the case of Igualada: J. MARFANY. "Is it still helpful to talk about protoindustrialization? Some suggestions from a Catalan case study". *The Economic History Review*, no. 63 (2010), pp. 942-973. The author defends the use of this concept for explaining the process of industrialisation in Catalonia.
- [17] R. GRAU and M. LÓPEZ. "Empresari i capitalista a la manufactura catalana del segle XVIII. Introducció a l'estudi de les fàbriques d'indianes". *Recerques*, no. 4 (1974), pp. 19-57.
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- Ariel, Barcelona 1973; C. MARTÍNEZ SHAW. *Cataluña en la carrera de Indias*. Crítica, Barcelona 1981; C. MARTÍNEZ SHAW. "La Catalunya del siglo XVIII bajo el signo de la expansion". In: R. E. FERNÁNDEZ. *España en el siglo XVII-II*. Crítica, Barcelona 1985, pp. 55-131.
- [19] J. NADAL. "Sobre l'entitat de la indianeria barcelonina del set-cents". *Recerques*, no. 24 (1991), pp. 181-188; A. SÁNCHEZ SUÁREZ. "La indianeria catalana: ¿mito o realidad?" *Revista de Historia Industrial*, no. 1 (1992), pp. 213-232.
- [20] The studies by J. K. Thomson have reconsidered the relationships between calico factories and the subsequent expansion of cotton. See J. K. J. THOMSON. "Explaining the 'take off' of the Catalan cotton industry". *Economic History Review*, no. LVIII (2005), pp. 701-735.
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- [22] L. FERRER ALÒS and A. SEGURA MAS. "Organització agrària a la Catalunya del set-cents". *Pedralbes*, no. 8 (1988), pp. 511-534.
- [23] JUNTA DE COMERÇ DE BARCELONA. *Discurso sobre la agricultura, comercio e industria del Principado de Cataluña (1780)*. Altafulla and Diputació de Barcelona, Barcelona 1997; F. DE ZAMORA. *Diario de los viajes hechos en Cataluña*. Curial, Barcelona 1973.
- [24] ZAMORA. *Diario de los viajes...*
- [25] P. MESTRE BOIX. *La fira ramadera de l'Hostal del Vilar. Sant Agustí de Lluçanès*. Cossetània, Sant Agustí de Lluçanès, 1999.
- [26] X. TORRES, "Manufactura urbana i indústria rural", in various authors, *Crisi institucional i canvi social. Segles XVI-XVII. Història. Política, societat i cultura dels Països Catalans*, Fundació Enciclopèdia Catalana, Barcelona, 1997, pp. 106-124; Josep M. BENAUL. "Davallada i transformació de les indústries tradicionals". In: *Història. Política, societat i cultura dels Països Catalans*. Fundació Enciclopèdia Catalana, Barcelona 1997, pp. 142-159; J. TORRAS ELIAS. "Especialización agrícola...", *op. cit.*, pp. 113-128; J. TORRAS ELIAS. "Gremis i indústria rural a la Catalunya moderna". In: *Doctor Jordi Nadal. La industrialització i el desenvolupament econòmic d'Espanya*. University of Barcelona, Barcelona 1999, pp. 925-936.
- [27] This is the description of the situation of Centelles: "The manufacturers in this village have weavers from San Feliu de Codinas work for them; for their efforts every year one thousand pounds enter San Feliu from this village. They also have all the women in Seva, Tona, Aygyafreda, Auló, Monistrol de Calders, Estany and Figueró and almost all the houses of neighbouring farmers within a one and a half hour radius spin for them"; ZAMORA. *Diario de los viajes...*
- [28] Josep M. TORRAS RIBÉ. *Curtidores y tenerías en Cataluña: organización de un oficio preindustrial, siglos XIV-XIX*. Colomer Munmany, Vic 1991.
- [29] *El món de la seda i Catalunya*. Textile Museum of Terrassa and Provincial Council of Barcelona, Barcelona 1991; L. FERRER ALÒS. "La indústria de la seda a Manresa". In: *El món de la seda...*, pp. 199-211.
- [30] E. GRAELLS. *La indústria dels claus a Ripoll. Contribució a l'estudi de la farga catalana*. Salvador Vives Casajuana Foundation, Barcelona 1971; J. MALUQUER DE MOTES. "La producción de hierro en la farga catalane". *Revista de Historia Económica*, no. 3 (1984), pp. 83-96; P. MOLERA SOLÀ. *La farga*. Dopesa, Barcelona 1980; J. SIMON. *La farga catalana*. Societat Catalana de Tecnologia, Barcelona 1992.
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- [35] L. FERRER ALÒS. "La fabricació d'aiguardent a Manresa a la primera meitat del segle XVIII". *Miscel·lània d'Estudis Bagencs*, no. 1 (1981), pp. 107-128.
- [36] ZAMORA. *Diario de los viajes...*; JUNTA DE COMERÇ DE BARCELONA. *Discurso sobre la agricultura...*
- [37] ZAMORA. *Diario de los viajes...*
- [38] J. M. DELGADO RIBAS. "La construcció i la indústria navals a Catalunya (1750-1820)". *Recerques*, no. 13 (1983), pp. 45-64.
- [39] L. SOLÉ PERICH. "Producció de gel a les economies pageses. El pou de glaç de Vilanna". *Estudis d'Història Agrària*, no. 19 (2006), pp. 49-68; A. PLADEVALL. *Castellterçol, història de la vila i el seu terme*. Castellterçol Town Hall, Castellterçol 1991.
- [40] J. M. DELGADO. "'El algodón engaña'. Algunas reflexiones en torno al papel de la demanda americana en el desarrollo de la indianeria catalana". *Manuscrits*, no. 11 (1993), pp. 61-84; SÁNCHEZ SUÁREZ. "La indianeria catalana...", *op. cit.*, pp. 213-232; J. THOMSON. *La indústria d'indianes a la Barcelona del segle XVIII*. L'Avenç and Societat Catalana d'Estudis Històrics, Barcelona 1990; J. THOMSON. *Els orígens de la industrialització a Catalunya. El cotó a Barcelona (1728-1832)*. Edicions 62, Barcelona 1994.
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- [45] ZAMORA. *Diario de los viajes...*
- [46] C. YAÑEZ. *Sortir de casa per anar a casa. Comerç, navegació i estratègies familiars en l'emigració de Sant Feliu de Guíxols a Amèrica, en el segle XIX*. Sant Feliu de Guíxols Town Hall, Sant Feliu de Guíxols 1992.
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- [48] Lately, thanks to the massive use of parish records, we have been able to gain further insight that this growth was more modest than previous thought: L. FERRER ALÒS. "Una revisió del creixement demogràfic de Catalunya en el segle XVIII a partir de sèries parroquials". *Estudis d'Història Agrària*, no. 20 (2007), op. 17-68.
- [49] P. VILAR. "La Catalunya Industrial: reflexions sobre una arrencada i un destí". *Recerques*, no. 3 (1974), pp. 7-22.
- [50] A grape planting contract that lasted the life of the plantation with the payment of levies and harvests. This was a temporary alienation.
- [51] A. GARCIA ESPUCHE. *Un siglo decisivo. Barcelona y Catalunya (1550-1640)*. Alianza, Barcelona 1998.
- [52] I. LOBATO FRANCO. "Sociedades barcelonesas de manufacturas en la segunda mitad del siglo XVII". *Revista de Historia Industrial* (1994), pp. 119-132.
- [53] L. FERRER ALÒS. *Hereus, pubilles i cabalers. El sistema d'hereu a Catalunya*. Afers, Catarroja 2007.
- [54] L. FERRER ALÒS. "Notas sobre reemplazo social en Cataluña. De artesanos a rentistas y vuelta a empezar (siglos XVII-XIX)". In: F. CHACÓN *et al.* *Familias y poderes. Actas del VII Congreso Internacional de la ADEH*. University of Granada, Granada 2006, pp. 323-346.
- [55] Stratum or wing of professionals with degrees.
- [56] A trade devoted to the art of wool, from cleaning to combing and trimming.
- [57] J. L. MAYAUD. "La pluriactivité: un impératif ou un style de vie?". In: *La pluriactivité dans les familles agricoles*. Association des Ruralistes Français, Paris 1984; F. CAZZOLA. "La pluriattività nelle campagne italiane: alcuni problemi interpretative". *Bolletino Bibliografico del Centro Studi per la Storia*, no. 38 (1987), pp. 877-913; G. GARRIER and R. E. HUBSCHER. *Entre faucilles et marteaux. Pluriactivités et stratégies paysannes*. Presses Universitaires de Lyon, Lyon 1988; L. FONTAINE. "Family cycles, peddling and society in upper Alpine valleys in the eighteenth century". In: S. E. WOOLF. *Domestic Strategies: Work and Family in France and Italy, 1600-1800*. Cambridge University Press, Cambridge 1991, pp. 43-68; J. R. MACNEILL. *The Mountains of the Mediterranean World. An Environmental History*. Cambridge University Press, Cambridge 1992.
- [58] L. FERRER ALÒS. *Sociologia de la industrialització. De la seda al cotó a la Catalunya Central (segles XVIII-XIX)*. Fundació Noguera, Barcelona 2011.
- [59] By bishopric, we know that Manresa produced almost 100% of the *vintidosenes* cleaning rags, *dotzenes* cleaning rags, *vorettes desenes*, *vuitens* coarse ribbed woollen cloth, *cordellats setens*, *vintiquatrenes* serge and *setzenes* serge (IMHB, JC no. 81, pp. 232-233). See the studies by J. M. BENAUL, "Cambio tecnológico y estructura industrial. Los inicios del sistema de fábrica en la industria pañera catalana, 1815-1835". *Revista de Historia Económica*, no. XIII (1995), pp. 199-227.
- [60] The concepts of industrial district and *milieux innovateur* are very useful for understanding the synergies generated among all the activities in a given region which help to reproduce it and make it grow. P. D'AYDALOT. *Milieux innovateurs en Europe*. GREMI, Paris 1986; D. MAILLAT and J. C. PERRIN (ed.). *Reseaux d'innovation et milieux innovateurs: un pari pour le développement régional*. Édition économique et sociale, Neuchâtel 1992; J. MALUQUER DE MOTES. "El desenvolupament regional i la teoria dels *milieux innovateurs*: innovació tecnològica i espionatge industrial a Catalunya". In: *Doctor Jordi Nadal. La industrialització i el desenvolupament econòmic d'Espanya*. University of Barcelona, Barcelona 1999, pp. 1080-1100; J. TRULLÉN. "Caracterización de los distritos industriales". *Economía Industrial*, no. 273 (1990), pp. 151-163. Somehow, small specialised enclaves appeared in the 18th century, which remained operating and reproduced thanks to the synergies generated in the entire productive system. We have used these concepts in this sense.
- [61] L. FERRER ALÒS. "Bergadanas, continuas y mules. Tres geografías de la hilatura del algodón en Catalunya (1790-1830)". *Revista de Historia Económica*, no. XXII (2004), pp. 337-386.
- [62] How cotton shifted from the calico factories of Barcelona to the rest of the country is explained in THOMSON. *Explaining...*

BIOGRAPHICAL NOTE

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