At the origin of the industrial district: Alfred Marshall and the Cambridge school

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This paper investigates the origin and evolution of the concept of the industrial district. The idea of industrial district is quite widespread in modern industrial economics and in business studies, with a variety of meanings and typologies. Indeed the real original conceptualisation dates back to Alfred Marshall and the economists of the so-called Cambridge school. Quite often the concept of industrial district is considered as synonymous with agglomeration, localisation and clustering. But, according to the meaning given originally by Marshall, these processes of industry ‘territorialisation’ are quite different from the more ‘compound localisation’ that is the Marshallian industrial district. Therefore, the aim of our contribution is focused on disentangling its original meaning from other subsequent interpretations, referring particularly to the debate on this subject that arose among the economists of the Cambridge School.

Key words: Industrial district, Cambridge school, External economies, Agglomeration

JEL classifications: B0, L11, R12, O14, O18

1. Introduction

Alfred Marshall is the founder of the Cambridge School of Economics. He attained the Chair of Political Economy in 1885. From his arrival at Cambridge, his main aim was ‘to raise the status of economic studies within Cambridge (... ) by giving it a Tripos of its own’ (Groenewegen, 2006, p.6). Marshall achieved his aim in 1903 when he established the Economics and Political Sciences Tripos as distinct from the Moral Sciences Tripos after a long battle in the Academia (Groenewegen, 1995). Economics became an important part of Cambridge intellectual life and for many decades the ‘Cambridge School of Economics’ played a dominant part in the decisions of economic policy in Britain (Hutchison, 1981) and in Academic debates (Harcourt, 1972).

In truth, as rightly underlined by Becattini (1990), we should distinguish between two different Cambridge Schools of Economics.

The first is the more widely known and is the one born around J. M. Keynes. Among those belonging to this school we find Richard Kahn, Joan Robinson, Gerald Shove, Nicholas Kaldor, Austin Robinson and also Piero Sraffa (Becattini, 1990, p. 275).

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The second is far less known and is the one born around Alfred Marshall. Among those belonging to this school we find: A. C. Pigou, D. H. Robertson, Arthur L. Bowley; Sydney Chapman, D. H. MacGregor, Charles Sanger, Ch. R. Fay, Philip Sargant Florence and many others (see Becattini, 1990). Becattini calls the latter school ‘the Old Cambridge School’ in order to distinguish it clearly from the other, which developed later. The two schools are very different (Becattini, 1990, p. 275–7).

In particular the Old Cambridge School comprises those pupils of Marshall who studied and developed the research fields dear to Marshall and according to a peculiar methodological approach. Among the various areas of interest the most important is industrial economics considered in a wide sense: the detailed and painstaking study of the organisation of labour, firms, industry and trade, especially international trade (Becattini, 1990, p. 305). As we know, Marshall is also the ‘father’ of the modern concept of ‘Industrial District’.

Alfred Marshall ‘discovered’ the existence of industrial districts quite early, probably in his ‘Wanderjahre among factories’,¹ and dealt with them from his first approach to economic science. Significant references to industrial districts are made, for instance, in The Pure Theory of Domestic Value, a work that can be dated between 1873–77 (see Whitaker, 1975, II, p. 3–236).

Industrial districts were the key element that, according to Marshall, could rescue the British economy. Accordingly, the study of industrial districts has been one of the legacies Marshall left at Cambridge, to his pupils, as we shall see in the following paragraphs.

The paper is structured as follows: Section 2 inquires into the main features of the Marshallian industrial district as originally formulated; Section 3 highlights the subsequent developments of the concept of industrial district and the changes made by Marshall’s pupils; Section 4 focuses on the peculiar way in which Sargant Florence deals with and develops the original concept of the Marshallian district and anticipates further modern developments of local agglomeration; Section 5 draws some final conclusions.

2. Alfred Marshall and industrial districts

2.1 The Marshallian industrial district: a matter of time

Although the Marshallian industrial district is now recognised as an important part of modern industrial economics (Amin, Brusco, Piore, Pyke, Sabel, Sengenberger) and as a chief element of Marshall’s thought (Becattini, Loasby, Martin, Raffaelli), we think it useful to recall its main characteristics in order to better understand its further developments made by the Old Cambridge School. ‘Industrial district’ means an area where a concentration of firms has settled down; but, it is not simply a localised industry, as Marshall clarifies well, especially in his Principles of Economics.

A localised industry is ‘an industry concentrated in certain localities’ (Marshall, 1920, p. 268). The reasons for a geographical concentration of firms may be various: first, the needs of the manufacturers to be close to the resources on which they depend. Localisation is particularly related to physical conditions (such as climate, soil, mines, quarries, access to land or water) and characterises the origin of many English districts like Staffordshire, Bedfordshire and Buckinghamshire. Second, ‘the patronage of a court’ that produces a ‘demand for goods of specially high quality’ (1920, p. 269). Third, the presence of a town: ‘almost every industrial district has been focussed in one or more large cities (...).”

[But] after a time factories, requiring more space than was easily to be had where ground values were high, tended to the outskirts of the city; and new factories grew up increasingly in surrounding rural districts and small towns’ (Marshall, 1919, p. 285).

This ‘primitive’ localisation, if it lasts long enough, becomes a ‘more compound’ localisation, that is, it is transformed into an industrial district. The passing of time allows firms concentrated in a particular area to gather a number of advantages:

1) **Hereditary skill.** In a concentrated area ‘the mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously’ (1920, p. 271). Special capabilities are thus transmitted from one generation to another and become the characteristic qualification of that area.

2) **The growth of subsidiary trades.** When a number of firms are established in a particular area, it is likely that subsidiary firms ‘grow up in the neighbourhood, supplying it with implements and materials, organizing its traffic, and in many ways conducing to the economy of its material’ (1920, p. 271).

3) **The use of highly specialised machinery.** This advantage comes from the high division of labour and specialisation that characterises a district ‘in which there is a large aggregate of production of the same kind, even though no individual capital employed in the trade be very large’ (1920, p. 271).

4) **Local market for special skill.** A localised industry offers ‘a constant market for skill’ (1920, p. 271) so that employers do not have any problem when they are looking for workers. On the contrary, ‘an isolated factory’ may have problems finding workers.

To these advantages listed by Marshall, we may add another two, inferred from his various writings:

5) **Industrial leadership.** This aspect ‘derives from an industrial atmosphere’ in which firms are immersed that stimulates ‘more vitality than might have seemed probable in view of the incessant change of techniques’ (1919, p. 287).

6) **Introduction of novelties** into the production process. As Marshall argues, good ideas are promptly adopted, because they are in the ‘air’ of the district, embedded into the social local networks: ‘if one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus it becomes the source of further new ideas’ (1920, p. 271).

These characteristics are the keynote of industrial districts that can be considered in this first approximation to be the result of long-lasting localisation. Through the passing of time and the development of the aspects enumerated above, the district acquires what Marshall calls a special atmosphere: it is this special atmosphere that gives the various advantages to the firms gathered together in a particular area. In *The Pure Theory of Domestic Value* (1873–7), in *Economics of Industry* (1879) and in *Principles* ([1890], 1920), with regard to the characteristic aspects of industrial districts, Marshall underlines the widespread knowledge and information that are ‘in the air’ (Whitaker, 1975, II, p. 197). In *Industry and Trade* ‘air’ is replaced by ‘atmosphere’, a broader term, in order to mean a ‘milieu’ (or a ‘creative milieu’: Becattini, 1991), characterised by the six advantages mentioned above and a source of important innovations.

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1 Marshall recognises that ‘localised’ industries also have some disadvantages. The most serious problem is that in a district the demand for only one kind of labour may become too extensive. This problem can indeed be solved if industries of a supplementary character can grow in the same area.
Firms collected in an industrial district develop very close connections and therefore can greatly further the division of labour among them:

‘the local market of highly specialized skills becomes large enough to justify firms which devote themselves to a very small part of the process of production, and even to the employment of machinery which is both very expensive and dedicated to a particular use; and services of all kinds, including education, product design, transport, and finance, can be tailored to the specific needs of local firms (. . .). Vertical integration is therefore not necessary to ensure the alignment of closely complementary activities; and by avoiding it firms at each stage of the production process are better able to preserve the distinctive outlook of their separate trades (. . .) (Loasby, 1998, pp. 74–75).

According to Marshall, small and medium firms collected in a district can compete with large vertically integrated firms. The strength of small and medium firms in a district is provided by external economies1 that ‘depend on the general organisation of the trade, on the growth of the knowledge and appliances common to the trade, on the development of subsidiary industries, and so on’ (Marshall, 1898, p. 50). External economies are opposed to internal economies that characterise large firms. The division of labour that increases productivity and efficiency is not considered by Marshall as a feature of only large firms2 but also of small and medium size firms.

2.2 The competitive and cooperative nature of industrial district

Marshallian industrial districts are characterised by a peculiar combination of competition and cooperation. In districts, firms specialise in particular phases of the productive process: each phase is not isolated from, but, rather, is functional to, the others. The district comes to be not only competitive owing to the presence of many firms but also, and moreover, cooperative where parts interact in an exchange process. According to Marshall:

The broadest and in some respects most efficient forms of cooperation are seen in a great industrial district where numerous specialized branches of industry have been welded almost automatically into an organic whole (1919, p. 599).

Each firm, specialised in its own activity and coordinated with the other firms, is as an ‘organism’3 whose vital parts (employer and employees) continuously interact with one another. This is the characteristic aspect of industrial districts with its peculiar relationship between competition and cooperation.

1 In time, however, Marshall raised some doubts on the power of external economies compared with that of internal economies (Marshall, 1919, pp. 167–8).

2 As he points out in The Pure Theory of Domestic Values: ‘The customary method of treating the advantages of division of labour appears to me defective, inasmuch as it takes but little account of this fact. For the manner in which these advantages are discussed in most Economic treatises is such as to imply that the most important of them can as a rule be obtained only by the concentration of large masses of workmen in vast establishments’ (Whitaker, 1975, vol. II, p. 195).

3 Like any organism, firms, but also any other economic systems, as, for example, industrial districts, are characterised by what Loasby calls ‘Marshall’s general rule’, which is the principle of differentiation combined with integration that is typical of living organisms (see Loasby, 1998, 1999). In the words of Marshall: ‘Each part gets to be less and less self-sufficient, to depend for its wellbeing more and more on other parts, so that any disorder in any part of a highly-developed organism will affect other parts also. This increased subdivision of functions, or “differentiation”, as it is called, manifests itself with regard to industry in such forms as the division of labour, and the development of specialized skill, knowledge and machinery: while “integration”, that is, a growing intimacy and firmness of the connections between the separate parts of the industrial organism, shows itself in such forms as the increase of security of commercial credit, and of the means and habits of communication by sea and road, by railway and telegraph, by post and printing-press’ (1920, p. 241).
According to Marshall, cooperation may be conscious and intentional or unconscious and automatic. The latter, he says, works especially in industrial districts and is the most efficient form of cooperation. Nonetheless, Marshall dedicates to the other form of cooperation a certain amount of attention. As we have seen, in *Industry and Trade*, Marshall explains in detail how English entrepreneurs tried to go beyond the limits of small–medium size especially with regard to marketing problems. Small and medium firms, especially when collected in a district, can compete with the large due to the presence of external economies but they are at a disadvantage with regard to marketing activities, as pointed out by Marshall:

> nearly the maximum economy of production can often be attained by a well organized business of moderate size: but (...) the task of marketing efficiently over a large area makes demand for almost unlimited capitalistic resources (1919, p. 511).

Nonetheless, this problem can be overcome if small and medium firms ‘cooperate’. It is not by chance that the most common system used by English firms was cooperation or, as Marshall calls it, ‘associated action’ among firms in the same district.

In the Lancashire industrial district the general marketing demand produced, for instance, the Manchester Cotton Association, formed in 1894 with the following aims (Chapman, 1904, p. 115):

- to frame suitable and authoritative forms of contract, and to make rules and regulations for the proper conduct of the trade
- to supervise and facilitate the delivery of the importations of cotton at the Manchester Docks of the various consignees
- to provide and maintain trustworthy standards of classification
- to procure and disseminate useful information on all subjects pertaining to the trade
- to act in concert with Chambers of Commerce and other bodies throughout the world for mutual protection
- to establish a market for cotton at Manchester

But in England there were many other examples, as explained by Marshall. For instance, the British Pottery Manufacturers’ Association that has among its purposes:

- to deal with quality, supply, purchase, and control of raw materials and stores, where desirable, in the interests of the members; to deal with all questions relative to cost and question of transport; to consider means of facilitating the extension of export trade; to bring about closer cooperation with the technical art, and designs sections of the pottery schools; to promote general propaganda, and to undertake advertising in connexion with the industry; (...) to deal with all matters connected with more economical production, including costing (...) (Marshall, 1919, p. 604).

In truth, notes Marshall, this kind of cooperation does not require a centralised control but, he warns:

> it must be admitted that the greater part of such action derives its chief coherent force from a cash nexus, in the form either of association for the regulation of prices or of consolidated ownership. And yet mere associations for the regulation of prices seldom have much constructive influence: their main energies are given to preventing sales of certain classes of goods at prices which they regard unsatisfactory; and they work, not so much for an increase of national wealth as for a distribution of it specially favourable to themselves (1919, p. 604–5).

An example of cooperation with a centralised control is given by The Bradford Dyers’ Association. This association dyed on commission the products of the Lancashire textile
industries, so its policy was not troubled by marketing problems. Each of its members had a certain degree of freedom and responsibility in the management of details; but the association reserved a strong power for organising the whole and for directing the broad policy of each branch. With regard to technical matters, the Association delegated all difficult questions to a competent scientific staff but, moreover, it gave a uniform system of costing for all the branches and bought in large quantities cheaply by means of a strong special staff. The Bradford Dyers’ Association may be taken—Marshall says—‘as a fair representative of the methods of industrial associations whose main purpose is constructive’ (1919, p. 605).

The system was centralised and the various firms, albeit with a certain degree of freedom, composed a kind of large cooperative business. But, as we can guess, this system was not without problems.

As noted by Marshall, the Bradford Dyers’ Association, along with many other similar associations, had to face a difficult dilemma: on the one hand, with the whole earnings of the various firms, to pay fixed salaries to the staff of each business; but, in this case, employees ‘may be found lacking in energetic enterprise’ (1919, p. 606); on the other hand, to take into consideration the profits made by each firm and to pay salaries that are variable in accordance with those profits; in this case the problem was that ‘no direct incentive is given to energetic cooperation for the efficiency and prosperity of the whole’ (Marshall, 1919).

A possible solution to this dilemma was found by the Calico Printers’ Association: to give the commission or other bonus to each business not on the basis of the net profit of the firm itself only but also in accordance with ‘the net profit of the Association as a whole’ (1919, p. 606). According to Marshall, this system aims at encouraging alert enterprise, while discouraging any policy of a branch that might be detrimental to other branches. In addition, uniform costing accounts ‘can be made a means of indicating relative inefficiency, and stimulating enterprise, especially when several businesses in the Association are engaged on the same kind of work’ (1919, p. 606).

Through this kind of association, then, moderate size businesses could overcome the disadvantages of their ‘being scattered in a district’. As is well recognised, ‘an association is an admirable agent for the dissemination of knowledge of technique, and even for its advancement, in so far as that can be done by team-work’ (Marshall, 1919, p. 607). But we are also advised that ‘the spread of Associations over a country might dry up many of the sources of truly original invention’ (1919, p. 607).1

This danger could be partly avoided, as in the case of the Cable Makers’ Association: any member who makes a distinct improvement in technique is allowed to have the exclusive benefit of it for a time; or, alternatively, other members (but only of the association) are permitted to use it on terms advantageous to the inventor. This was the way also adopted by the Sheffield Cutlery Trades’ Technical Society.

2.3 Marshall and the English industrial districts

Marshall considered theory and practice inseparable, both being necessary for the economist who aimed at understanding the complex connections of the real world. Accordingly, ‘Marshall the theoretician’ was used to ‘dirtying his hands’ by visiting, investigating, observing the various industrial organisations in England and America. He

1 This is actually what happened to many English districts.
visited several factories, making notes of the technological features of productive processes and of the kinds of organisation, interviewing employees and employers, trying to understand the weak and strong points that characterised each firm.

While American industry was more and more characterised by an increase in the size of firms (thank to the extreme standardisation and division of labour), in England the more typical form of industrial organisation was the industrial district. The most important industries for the national economy were gathered in the same area: cotton, woollen goods, pottery were all localised industries. This aspect attracted Marshall’s attention and he tried to understand if and how the industrial organisation of the district could compete with the large integrated firms typical of the American economy. Especially in *Industry and Trade* (1919), Marshall contrasts the two systems in order to find the possible means for escaping the more and more menacing foreign competition.

Also in England there were, of course, large businesses but Marshall thought that an important component for economic progress lay in small–medium firms of localised-districtualised industries (Caldari, 2007).

Indeed, according to Marshall, industrial reality should be made of large, small and medium size businesses, each with a *raison d’être* and peculiar advantages and disadvantages. But, especially in international competition, the trump card for restoring the economic supremacy of England was in the populous districts of manufacturing production.

One of the most important English industries is recognised to be textiles. The textile industry was the first to pioneer the ‘modern methods of massive manufacture’ (1919, p. 600) for wool products. Curiously, the methods of massive manufacture did not involve the large size of businesses; rather they developed in the multitude of small and medium firms.

The Lancashire industry was ‘the best present instance of concentrated organization mainly automatic’ (1919, p. 601). Lancashire had all the important features for a district: good access to the sea, coal and iron; a climate remarkably suited to the great cotton industry; and moreover the character of the population fitted them to develop the engineering industries. In Lancashire the demand for various sorts of the same class of product was so parcelled out that ‘each business can specialize its plant on a narrow range of work, and yet keep it running with but little interruption’ (Marshall, 1919). This extreme specialisation is gained especially in those branches of the industry ‘which are in the hand of a multitude of independent business of moderate size. As is well known, fine spinning, coarse spinning, and weaving are localized separately. Individual firms frequently specialize on a narrow range of counts of spinning. Blackburn, Preston, Nelson and Oldham are centres of four different classes of staple cotton cloths, and so on’ (Marshall, 1919).

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1 Business size is connected with internal economies and large size can be achieved through vertical or horizontal integration: ‘Whenever a business expands into a stage higher or lower than with which it was originally occupied, its expansion is *vertical*. (…) On the other hand, a business may proceed gradually and tentatively when extending its operations *horizontally* in the same stage’ (1919, pp. 215–16). The choice between one or the other depends on the kind of products and on the productive process. With vertical expansion, firms abandon the specialisation in one product, whereas with horizontal expansion firms become multi-plant ‘without altering the character’ (1919, p. 216) of their productive process. Vertical integration is suitable for heavy industries since ‘the central task of the heavy steel industries is the handling of great volumes of homogeneous fluid steel, ready to be worked up into an infinite variety of products large and small’ (1919, p. 218). On the contrary, horizontal integration is typical of textile industries that ‘offer the best instances of the coexistence of numerous establishments, repeating one another’ (1919, p. 218).
As just noted, the strength of textiles was the automatic organisation through which ‘British cotton industry has surpassed all its rivals in efficiency. In fact, in those finer goods, which owe most to skill and admit of the highest rates of remuneration to labour, it is without a rival’ (1919, pp. 602–3). But almost the same applied to the woollen and worsted industries of Yorkshire, even though they had very strong rivals. According to Marshall: ‘The high automatic organization of these industries (…) is in great measure due to the fact that their plant is made in their own districts, with constant intercommunication of ideas between machine makers and machine users’ (1919, p. 601).

Firms gathered in a district can gain a number of advantages that allow them to compete with large businesses, as Marshall reminds us: ‘small factories, whatever their numbers, will be at great disadvantage relatively to large unless many of them are collected together in the same district’ (Marshall and Paley Marshall, 1879, p. 53).

Nonetheless, large size businesses have the following great advantage over small and medium ones: facilities for marketing. However, in one passage Marshall notes that ‘much of the most highly organized and effective marketing in the world is an almost automatic result of the work of a multitude of producers, with only moderate capitals, but aided by merchants and other dealers of various sorts’ (1919, p. 603), such as could be observed in Manchester. But, perhaps, it would not be enough for him to dedicate a number of pages to the possible methods of solving this problem.

In Industry and Trade (1919), Marshall thoroughly analyses the various forms of industrial organisation focusing on the status of the British industries and on the comparison between them and those of the rest of the world. When reading the 1919 book, one may think that Marshall is proving his own pride and trust in British economic power. Only a few references are, in fact, made to some possible or potential problems and difficulties.

In Industry and Trade the reader is reassured that ‘nearly the whole of it [machinery for various industries] is of British invention, and sought for by rival industries in other countries’ (1919, p. 603) and that ‘British cotton industry has surpassed all its rivals in size and in efficiency’ (1919, p. 602–3). Nonetheless, Marshall’s insistence on the comparison between the British economy and the rest of world, especially of those countries that were rapidly developing at that time, hides a more serious backdrop. Marshall was worried about the future of the British economy, heavily threatened by the new ‘emerging’ countries. His concern is apparent from pages of his correspondence as, for instance, in this letter to Westcott (1901):

Fifty years ago (…) America had few specialities, and so had France (…) We owed our leadership partly to accidental advantages, most of which have now passed away. But we owed it mainly to the fact that we worked much harder than any continental nation. Now, on the average, we work less long and not more vigorously than our fathers did: and, meanwhile, the average amount of thoughtful work done by Germany has nearly doubled; and a similar less marked improvement is to be seen in other countries. Americans and Germans jeer at the way in which many of our business men give their energies to pleasure, and play with their work; and they say, truly as I believe, ‘unless you completely shake off the habits that have grown on you in the last thirty years, you will join Spain’ (Whitaker, 1996, II, pp. 292–3).

Marshall clearly felt that England was losing more and more economic power.

In this letter, Marshall depicts the British economy as weak and openly in crisis. The main cause of the crisis is clearly stated in a letter to E. Caird dated 1897:

1 Interestingly, this point was very much developed during the 1980s, within innovation and management studies, by Lundvall (1985) and Kline and Rosenberg (1986).
the apathy of many employers and their contentment with inferior methods, until driven out of the field or threatened severely, at least, by more enterprising foreigners (Whitaker 1996, II, p. 214).

In his accurate analysis of the status of British industries, Marshall envisaged also the remedy in order to overcome these difficulties:

Our industrial future is far from being assured & unless we properly use our own brains or import them there will not be enough vitality in these islands to permit them to remain the head of an empire (letter to Caird, 1902, in Whitaker II, pp. 380–1).

Vitality, capacity of being in step with changes but also of innovations, widespread knowledge: all these and many other features are what in the end characterise industrial districts. So for instance, in a district, ‘each man profits by the ideas of his neighbours: he is stimulated by contact with those who are interested in his own pursuit to make new experiments; and each successful invention, whether it be a new machine, a new process, or a new way of organizing the business is likely when once started to spread and to be improved upon’ (Marshall and Paley Marshall, 1879, p. 53).

Thanks to these features, districts keep on living:

Thus although even a little obstinacy or inertia may ruin an old home of industry whose conditions are changing; and although the opening out of new sources of supply or new markets for sale may quickly overbear the strength which old districts have inherited from past conditions: yet history shows that a strong centre of specialized industry often attracts much new shrewd energy to supplement that of native origin, and is thus able to expand and maintain its lead (1919, p. 287).

But the working of these elements must not be taken for granted. History shows many examples in which a number of obstacles face ‘vitality’, changes and innovations. Marshall mentions the case of Sheffield. Sheffield was famous for its ‘scissors and blades of knives, forged by hand’, one of the best British products. At a certain point, ‘German products made of steel shapes, pressed into moulds by powerful machines have yielded almost as satisfactory results as (...) [Sheffield] hand-forged products’. Against German improvement in the production of steel products, Sheffield did not change its process of production, and for a while it ‘was unwilling to adopt (...) the new method’. After a period of time, when ‘fully convinced of its efficiency’ Sheffield decided to adopt the new method but, by then, it was ‘striving vigorously to regain the ground lost by her delay’ (Marshall, 1919, p. 213 n.).

3. The use of the Marshallian industrial district: the ‘Cambridge School’

As we have seen, according to Marshall the most important features that characterise and identify an industrial district are: the presence of a special ‘atmosphere’; its settlement for a long period of time (more than one generation); a division of labour among the (small and medium) firms collected in the district; the presence of an ‘automatic organisation’, that is a high degree of technological complementarities; a continuous interplay between competition and cooperation.

Not all of these aspects have been underlined by the economists that in Cambridge have dealt with the concept of industrial district, as explained in the following paragraphs.

3.1 ‘Time in’ and ‘time out’ in the concept of industrial district

Sydney Chapman is one of the best pupils of Alfred Marshall. His main interest is in industrial economics and, as we shall see below, his main contribution is given in The
Localisation is one of the various aspects of the Cotton Industry investigated by Chapman. Localisation (or ‘centralisation’ as he also calls it) does not characterise any kind of industry: some others are, on the contrary, characterised by ‘dispersion’. Accordingly, we find that iron and steel industries are localised in a few places, engineering is less localised, and the textile industry is concentrated in one district only.

He underlines only one important cause of localisation, the geographical one: ‘the natural advantages offered by different places’ as, for instance, natural resources, sources of power, climate. In some cases, localisation is due to ‘no particular reason’, as for the Lancashire industry (1904, p. 154).

Localisation is decisive for two main important economies: ‘specialisation of businesses’ and ‘the proximity of subsidiary industries and their specialisation’ (1904, pp. 152, 155).

He does not dwell much on the characteristics of localisation; he focuses on the evolution of Lancashire industry from its early beginning to ‘modern times’. In particular he is interested in analysing ‘the close dependence of the forms of distribution on the forms of production’: that is the reason why he focuses on Trade Unions, Employers’ Associations, methods of paying wages and factory legislation.

The important role of time that in Marshall signs the passage from ‘simple localisation’ to ‘industrial district’ is not emphasised in Chapman’s analysis where, however, he seems to take it for granted when he underlines the evolution of Lancashire industry from its ‘early forms’. Together with time, other aspects of industrial districts – strictly connected with it – are rather obscured in Chapman’s analysis: the presence of an industrial atmosphere, hereditary specialisation, the role of knowledge and innovation. All these aspects are implicit in his historical excursus but perhaps are not sufficiently stressed.

On the contrary, a great relevance to the elapsing of time is given by Robertson and MacGregor. In *The Control of Industry*, Robertson recognises localisation as one of the ‘miscellaneous forces which are strongly at work in modern industry’ (1923, p. 26). Robertson underlines various causes for localisation. We can have:

- Localisation due to access to supplies of raw material;
- Localisation due to access to sources of power;
- Localisation which, whatever its cause, is continued from force of habit and from the miscellaneous but solid benefits which it confers” (Robertson, 1923).

The first cause—access to raw material—was, according to Robertson, not important any more. The development of transport and communication have allowed finished products and raw materials to be transported cheaply.

The second cause—access to power—has been the most important since the Industrial Revolution, as Robertson notes. But power—once created by coal—is now oil and electricity, easy to transfer from one place to another.

The very important cause of localisation is indeed the third one—obscure reasons of climate or history—since, in this case, localisation ‘often perpetuates itself by reason of other advantages which it brings in its train’ (1923, p. 29). Whether climate or history, the most important form of localisation is connected with ‘time’:

Once a trade has become firmly established in some particular spot, generations of skilled workmen are brought up to practise it from an early age: firms work up its by-products or make
the machinery which it needs spring up in the neighbourhood: its problems become the common
topic of conversation and saturate the atmosphere (Robertson, 1923, p. 29).

We find in this quotation a clear resemblance with Marshall’s description of industrial
atmosphere, with all its most important ingredients: elapsed time (generations), the role of
men and women, the circulation of ideas.

This is the most important kind of localisation, according to Robertson, the one that
‘shows an astonishing persistence in survival’ (Robertson, 1923). Nonetheless Robertson’s
analysis of industrial districts differentiates from Marshall’s in one important aspect:
according to Robertson, contrary to Marshall, the most evident effect of localisation is an
‘increase in the size of the individual firm’ (1923, p. 30). A group of localised firms have
a wider market than an isolated firm: and the width of market ‘is the essential condition
alike for localisation and for the development of the large firm, and in giving rise to the one
it may well give rise to the other’ (1923, p. 30). In other words, according to Robertson
‘firms which are already localized are more likely to coalesce by fusion into a larger
industrial unit’ (1923, p. 30).

This is not true in all cases. Robertson recognises that some localised industries are
made of small and medium firms (as in the Lancashire industry): there localisation with all
its advantages permits the ‘survival of small firms’ (Robertson, 1923, p. 30). But, in
concluding his analysis of localisation, Robertson recognises a main trend: ‘the local
concentration of industry has been bound up with the concentration of its government into
a few powerful hands’ (1923, p. 30).

In tracing the evolution of English industry, MacGregor underlines the very local
dimension of early social and economic life in Britain (MacGregor, 1929, pp. 26–27).
Through the passing of time, industry has evolved from its early stages to its modern shape.
According to MacGregor, localisation is an outcome of the evolution of industry, the other
being what he calls ‘centralization’:

The forces of industrial evolution have made it profitable for the great industries of a country not
only to be centralized – that is to say to work in one district given over specially to the production
of certain goods; but also to be localized – that is, to work in certain districts having special
advantages for their own forms of production (1929, p. 203).

Both these two forces allow industry to acquire ‘common economies in which each
business shares’ (MacGregor, 1929, p. 203). The key variable for the evolution of industry
is ‘invention’; more precisely, ‘the evolution of industry is the history of this force’ (1929,
pp. 17–18). Through the development of invention in time, industry has evolved from its
early beginning to its modern shape. According to MacGregor, it is ‘the nature of invention
to create surpluses. An invention means that the same results are got with less outlay of
resources’ (1929, p. 31). Invention can be of two types: (i) invention of resources, with the
discovery of new products; (ii) invention of processes, the effect of which is ‘to get the same
result with smaller use of natural supplies’ (1929, pp. 20–21). In MacGregor, invention
comes from the ‘energy of persons’ (1929, p. 31) and allows the development of
‘specialization’ (1929, p. 29). It requires time to come into being and could resemble
the outcome of the Marshallian industrial atmosphere. But there is a fundamental and
important difference: while Marshall conceived creativity as a result of the proximity of
ideas that in the air could spread in the district and enrich it, in MacGregor we find
a different position. He notes that ‘a local body of people cannot have the full advantage of
industrial progress unless they share it with wider bodies of people’ (1929, p. 28) outside
the locality; or again he maintains that ‘a locality cannot get the use of inventions unless it
3.2 Competition and cooperation in industrial districts

As we have seen, among the main features of the Marshallian industrial district there is the precious combination ‘competition–cooperation’. The importance of this mix is underlined mainly by MacGregor (1929). Association (or cooperation) is, according to him, ‘a new way of organizing competition’ (1929, p. 189) rather than a challenger of competition. MacGregor recalls Mill’s position who ‘in spite of his strong sympathies toward every kind of industrial cooperation, refused to regard progress towards association as meaning the suppression of competition’ (1929, p. 189). MacGregor distinguishes between personal and industrial competition. Personal competition is advantageous since ‘it is a means whereby society as a whole shall have the power to choose its best men from any grade’ (1929, p. 192): on the contrary, industrial competition can be rather detrimental since ‘the very meaning of industrial competition’ is ‘the attempt to obtain a monopoly’ (1929, p. 196). Cooperation—or association as he calls it—has brought industrial competition ‘under constantly greater control’ (1929, p. 193). MacGregor does not distinguish between conscious and unconscious cooperation.

With industrial competition, firms fight against each other in order to gain more than the others. Indeed in modern industrial systems, this attitude is not advantageous. Industrial competition has many defects due to the ‘separateness of organization and of policy’ (MacGregor, 1929, p. 201). For instance, as MacGregor notes, ‘nothing is more infectious in an industry where many separate firms are competing than the influence upon any one producer of a local glut or over-supply’ (1929, p. 201). Association among firms might be a way to overcome these defects. Being organised, firms may face problems more easily than in isolation. Association is furthered by localisation: ‘the very fact that a number of firms are producing in the same district means that this district comes to obtain railway and shipping and public services which are worth giving because the volume of manufacture is on such a scale, and would not be worth giving to scattered firms’ (1929, p. 203). Competition in its positive meaning rests on some assumptions (perfect knowledge, perfect mobility of factors) that do not exist in the real market. They belong to the concept of ‘competition in the ideal (...) [and] do not belong to the actual competition until it is regulated by some degree of combination’ (1929, p. 205). Combination or cooperation is the necessary counterforce for making competition succeed.

Geographical proximity makes it easier for association to work but it is not a necessary condition. As for Marshall, the interwoven relationship between competition and cooperation is a necessary condition for the market to work at best, but here it is also the main feature of modern industry, not only localised industries. It is the result of the evolution of industry (1929, ch. VII).

In his historical excursus, Chapman underlines in many passages the important role of competition, especially in fostering new inventions. He refers both to foreign international competition (as for instance when we are told that ‘The mule yarns, which were finer than any cotton yarns previously produced in this country, were made up into delicate fabrics, muslins and light goods. These became extremely popular and entered into competition with such Eastern textiles as were still imported for consumption in spite of the heavy duties by which they were discouraged’: Chapman, 1904, p. 37) and to internal competition (as, for instance, that between hand and power looms). According to Chapman, it is the
competition among the firms collected in the same area that has fostered a certain degree of cooperation in textile districts: ‘When the spirit of competition had entered into the trade, and constant changes were being effected in industrial and commercial methods, combinations among weavers living in the same village naturally formed themselves’ (1904, p. 181). However, his dealing with cooperation does not go much deeper and focuses mainly on the cooperative movement due in Britain to Robert Owen and on its further experiments (as in the forms of productive and distributive cooperatives) (1904, p. 229).

Robertson in his *Control of Industry* deals with the ‘confusing’ (p. 104) term of cooperation and investigates Agricultural Cooperation (p. 54), Banking Cooperative (p. 81) and Consumers’ Cooperation (pp. 105–110). No reference is made to the important mix ‘cooperation–competition’ underlined by Marshall, nor to automatic cooperation that characterises (or should characterise) industrial districts. Nonetheless, Robertson’s analysis goes close to Marshall’s view when marketing activity is taken into account. Robertson notes that ‘the integration of marketing processes can be performed by a single firm if it is large enough and enterprising enough: but it is more commonly due to the combined action of several firms, and the desire to achieve it is the most powerful motive towards the formation of at least some of the types of industrial combination’ (p. 49). Marketing activities raise the urgency for small and medium firms to merge together. That is Marshall’s opinion, but the conclusions reached by Robertson are rather different. Robertson distinguishes three possible types of ‘combination’: (i) ‘Each individual producer is left perfectly free to dispose of his own output’ (p. 50); (ii) there is a ‘definite interference with the individual firm’s liberty of disposing its own output’ (p. 51); (iii) ‘a separate concern is organized to take over absolutely and dispose of the output of the associated firms’ (p. 52). The latter is considered ‘the most highly developed form of association’ (p. 51) and coincides, for instance, with the German Cartel Westphalian Coal Syndicate, the British American Tobacco Company and so forth. This kind of combination, seen as the natural outcome of inter-firms agreement is:

in theory a somewhat democratic form of organization, involving a wide diffusion of the powers of industrial government. For whereas with unfettered competition or complete amalgamation the small firm disappears altogether, in the syndicate each firm, however small and weak, receives its ‘participation’, or allotted quota of the output, and maintains its own separate existence. In practice, however, things do not always work out this way, for the stronger firms are apt sooner or later to buy up the participations of the weaker.

Moreover, he points out: ‘the syndicate form encourages the practice of vertical integration’ (p. 53). Robertson’s conclusions are clearly highly divergent from Marshall’s: in Marshall, ‘associate action’ (in its various possible forms) is the way in which (small and medium) firms can overcome the disadvantages due to their size; in Robertson, association—created for the same reasons—leads to the disappearance of small size businesses. As he firmly maintains: ‘there can be no doubt that the integration of marketing increases the concentration of industrial power in the hands of few persons’ (p. 54).

### 3.3 Further studies on English industrial districts

The most investigated English industrial district is Lancashire. Almost all of Marshall’s pupils dealt in their writings with this important economic geographic area. The first to be mentioned is Sydney Chapman. He wrote the first important monograph on the Lancashire industrial district in 1904, which is also the first industrial district case study
ever published: more than 300 closely printed pages covering the origin of the district, its historical development, its pattern of technological development and its triggering events. This work is also an analytical tool for understanding, more generally, the passage to the first industrial revolution, because it all started in the North of England in the textile industry. Chapman, who wrote this book under Marshall’s supervision, does not limit himself to being an industrial economist; he is also interested in the evolution of social institutions and the social and political consequences of the introduction of the factory system. In the course of his investigation he deals with: (i) the district’s origin and the advent of the factory system, (ii) the development of local industries from hand-loom weavers to cotton spinning, (iii) the invention of new machinery, and (iv) the development of some modern problems of organisation, related to the concentration of firm management (joint-stock enterprise and combinations), which characterised the district in the first years of the nineteenth century.

Chapman’s volume on the Lancashire district also deals with the analysis of local trade unions and employers’ associations. It is the first account and analysis of an industrial district in economic history, and therefore also documents the first revolutionary changes of industry as a whole.

Other economists in Cambridge have incorporated notes on the Lancashire industrial district in their works: Robertson (1923), for instance, refers to the district in dealing with the wider theme of localisation; Sargant Florence (1953) studies the movements of industry among the Manchester and Lancashire textile districts. In his essay written for the Cobden Prize, Layton (1907) analyses ‘Changes in the relative wages of Miners, Textile workers, Iron and Steel workers, Agricultural Labourers etc’ and particular attention is given to the textile industry of Lancashire.

In these writings Lancashire and other English industrial districts are mainly described as an important and efficient source for British economy, but there are also some signs of concern. Dennis Robertson, for instance, having recognised the strength of the firms collected in a district, warns: ‘yet once again there are powerful forces at work tending to undermine it’ (Robertson, 1923, p. 29). Among these ‘powerful forces’ Robertson underlines the improvements in transportation, communication of information, spread of knowledge: this kind of progress allows any country to play an active part in the world economy more easily than before and consequently, ‘the traditional leadership of many of the favoured manufacturing districts of the world would seem therefore to be somewhat precarious’ (1923, p. 29). Old advantages can now be easily shared by many countries.

Actually, many industrial districts suffered a deep crisis and eventually disappeared. Among them we find the Lancashire textile district.

In order to understand what happened to industrial districts, Shadwell’s *International Competitiveness* (1999 [1906]), seems very helpful. In the book one of the most comprehensive descriptions of a variety of localised industries (which he calls industrial districts) in different countries (England, Germany and the USA) is given. Shadwell describes the main features of the local districts and provides specific analysis of the prevailing cultural habits. An interesting aspect of the working of industrial districts is the social community and the emerged rules, or informal institutions, which guide business behaviour.

It is interesting to report here some comments that Shadwell collects in interviewing businessmen in the various districts analysed.

A surprising aspect evidenced by Shadwell is related to the lack of cooperative behaviour in Great Britain and in her industrial districts. It is the ‘suspicious’ character of the English
workmen that prevents ‘doing business with his neighbours’ (Shadwell, 1999, p. 7). As confirmation, Shadwell also quotes an article published in the *Times* (20 December 1904), where even within public structures like hospitals, ‘people cannot be got to cooperate in this country, because each is jealous of his neighbour knowing how he conducts his affairs’ (1999, p. 8). The lack of cooperation is a rather interesting aspect since, as we may note, it clearly differs from Marshall’s characterisation of industrial districts. As we have seen, cooperation is a fundamental aspect of industrial districts: cooperation together with a certain degree of competition make the milieu of industrial districts evolutionary and progressive. When Marshall was writing, England was no longer the only world economic ruler; other ‘new’ and powerful countries were emerging. This trend deeply worried Marshall who tried to find those paths to be followed in order to rescue the economic supremacy of Great Britain. According to him, to promote productiveness, creativity and innovation were the required remedy. We now know from some of Marshall’s early philosophical studies (Raffaelli, 1994, 2003) that creativity requires a delicate equilibrium between competition and cooperation and why, for him, progress was fostered by small firms, ‘the best educators of the initiative and versatility, which are the chief sources of industrial progress’ (Marshall, 1919, p. 249). We can therefore guess that the important role given to the interplay of competition and cooperation was not what he was noting in the districts but rather what he wished to take place. The relevance given to conscious and intentional cooperation (‘associate action’) could be a proof of what we maintain.

A second relevant comment points to the national qualities of British entrepreneurs. They seem to lack the slow but deliberate, careful, methodical and thorough abilities in which Germans excel, neither are they alert, inventive, ingenious and adventurous like Americans. According to Shadwell, England ‘lies in the middle between these great competitors whose merits and methods are diametrically opposite’ (Shadwell, 1999, p. 14).

The third point highlighted is related to the ‘vitality’ of British entrepreneurs. The lack of creative entrepreneurs lies behind the collapse of the British Lancashire district in the 1920s. The international diffusion of technology threatened the evolution of the Marshallian districts. Once new technologies spread internationally and other countries were able to capture the extraordinary inventions in machinery, initially covered by industrial secrets, but subsequently openly commercialised, and skills were no longer territorially immobile, because they became embodied in footloose human capital, British districts began to decline, having rested on their laurels for a century. The ‘justification for the pride of English manufactures and workmen is based on solidity, durability, and finish, and at the same time they have been great pioneers, the greatest’ (Shadwell, 1999, p. 27). Shadwell clearly perceives the fundamental problem of British manufacture and of its industrial districts: local entrepreneurs are no longer such inventive people. The British ‘fail in the application of their power(…), while the others have gone ahead’ (1999, p. 28). Shadwell sees Great Britain as ‘a spent force’, not ‘in the possession as in the application of qualities’ (1999, p. 29). The detailed descriptions of Shadwell regarding the British, German and American districts allow us to sum up the causes of the downfall of the English districts in three points:

(i) The gradual acquisition of skills in other countries [in particular through the immigration to the US of competent spinners (Shadwell, 1999, pp. 118, 259, 278, 315; Meyer, 1998, p. 36); the knowledge diffused by the Lancashire makers who taught at technical schools in the US; the immigrants from other countries who went to England to work].
The invention of new tools by competitors [as, for instance, the mechanical sprinklers by Germany, which could artificially imitate the climatic condition (damp) of the North of England: Shadwell, 1999, p. 72], and the improvements of American machinery producers over the original British inventions, not to mention the rising Fordism, with the application of large-scale production in America, which in textiles meant large factories enjoying scale economies through the combination of spinning and weaving under one roof (however, alternative methods were used in Germany where this method of large scale in the textile industry was not much applied in the German districts: 1999, p. 73).

The conservative attitude of the British entrepreneurs of small district factories. This was related both to the tendency of over-using the existing capital stock, and to delay in adopting modern machinery; British textile entrepreneurs did not want ‘scrapping machinery which does its work well, merely because it is old’ (Shadwell, 1999, p. 88), and a long cultural tradition was negatively influencing the acquisition of new state-of-the-art technology in district factories; as reported by Shadwell, entrepreneurs were not willing to experiment new work methods or new automatic machinery because they feared the strong opposition of their workforces (a detailed case is discussed as regards the automatic loom adoption in Blackburn, Shadwell, 1999, p. 96).

At the time of Shadwell writing, the Lancashire district, for instance, was still the most important textile area in the world, Great Britain being the largest employer of textile workers, but many clouds were approaching in the blue sky. In 1903, in Great Britain were located 530,000 working units against the 307,000 working units of the USA, the 350,000 working units of Germany, and the 355,000 working units of Russia (Shadwell, 1999, p. 64). However, the downfall of British districts was anticipated by Shadwell with cruel accuracy. He observed that the supremacy of Great Britain was still more marked in spinning than in weaving, but that the ‘general course of competition in newly developed manufacturing countries is to begin with the simpler and cheaper products and gradually to work up to the finer’ (1999, p. 73). Once competitors are ready to develop their textile industry, ‘machinery work grows up’ (1999, p. 64). So, in Lancashire not only the textile trade is at risk but also the machinery business. Once they become self-sufficient, competitors will shut out both ‘English machinery as well as English goods’ (1999, p. 65).

4. Between ubiquitous and localised industries: the studies of Sargant Florence

The visible traces of Marshall’s discovery regarding the concept of the industrial district, and the special characteristics belonging to the ‘localised industries’—even if in a kind of diluted form—are prolonged up to the 1950s, with the contributions of Sargant Florence. The works by Sargant Florence point out the passage from the analysis of the industrial district as a specific and idiosyncratic form of agglomeration, historically embedded in a given territorial system, to the analysis of the industrial district as a pure abstract territorial entity, with loose boundaries (often selected in relation to the existing statistical or administrative sources), individuated only through the ‘specialisation index’ criterion. Long before the upheaval of the American regional studies school (Isard, 1960), Florence developed numerous methods for studying the industrial location patterns through the location quotient, the coefficient of localisation, and the comparison among different industry rankings. Large cities, districts, and localised industries appear to Florence to
benefit from ‘external economies’ (Florence, 1964, p. xviii). They offer economic advantages of access to transport, communication, and large markets, opportunities of linkage with other industries, of access to pools of labour, management and finance skills, and, in the long run, for intercommunication between designers and inventors. Disadvantages are shortages of land, congestion, costly commuting and distance from raw materials. When many small firms coexist in a place, often large plants are upstream or downstream in the productive chain. He observes that the localisation of industry follows urban concentration but many industries are neither near to their market, nor to their material.

Why do highly localised industries exist? First he quotes the pool of expert labour, second, the division of labour between plants in linked processes, products and services industries:

The advantage of full use of specialist plants can be combined with proximity. [They] may have much the same economy of a large plant (Florence, 1957, 2nd edn, p. 85).

Here Florence adds some thoughtful explanations:

What has not been valued at its true importance in a large localisation of an industry is the possibilities of division of labour between plants in ‘linked’ processes, products and services industries ... The characteristic of highly concentrated industries based on the small size is the existence of plant disintegration but local integration (p. 92).

Other advantages of the local concentration of plants (apart from any natural advantages of the locality) are the reputation that certain goods derive from production in certain places. Besides, the concentration of a given industry allows specialised experts and purchasers to shop around. Juxtaposition allows lower transportation costs and, above all, lower communication costs between: (i) the suppliers and consumers of materials or products and (ii) specialised producers and auxiliary services (Florence, 1948, p. 52–53).

His analysis is still very Marshallian, but is no longer focused on the description of real industrial districts like those cited by Marshall.

Florence’s interpretation of the industrial district is, in fact, mainly based on the consideration of the colocation parameter. For this reason he argues that ‘a precise demarcation of distinct districts is of course impossible, as many of the districts are contiguous and basic industries of contiguous districts most frequently overlap in their location near the margin of the areas’. However, particularisation and sub-division of manufacturing districts could be continued ad infinitum (Wensley and Florence, 1940, p. 141). The districts defined by Florence are very close to the concept of industrial regions or, as admitted by the author, they may claim the title of ‘conurbation’ (Wensley and Florence, 1940, p. 140). And conurbations, or megalopoli, are created by the existence of several different types of industry; they are not characterised by the dominance of a specialised sector. Florence’s main intellectual effort is limited by the identification of the geographical specialisation of large urban areas. The largest industrial districts mentioned by Florence and his collaborators are large UK regions like Greater London (8,303,000 inhabitants), Birmingham and District (2,190,000), Manchester and Cotton District (3,741,000), and so on (Wensley and Florence, 1940, p. 146).

In Florence this new ‘meso perspective’ is adopted in comparing industrial districts and localised industries within national industrial systems (like his study on US and British industry), and their statistical regularities related to ubiquitous (dispersed) and spot (localised) industries (Florence, 1953, p. 39).
In his approach ‘the growth of each district is ...dependent on its “basic industry”, rather than upon the development of industries new to the district’ (Wensley and Florence, 1940, p. 158). For this reason, the destiny of highly localised areas depends on the course of national events.

Florence came to study the phenomenon of spatial agglomeration not so much from individual case studies of industrial districts (the only exception is the case of Birmingham) but from his long-lasting inquiry into the nature of the industrial structure. The unit of analysis is, for him, the individual plant and the firm: the unit of governance under capitalism. His main aim is to study the logic of aggregation into:

- *industry*, which is not just the additive sum of firms and plants, because industries are formed by organisations, which are added up starting from plants (a firm may have plants that operate in different industries), and not randomly assembled plants, because they perform specific transactions that are easily distinguishable by the type of work or activity done, and characterised by a progressive specialisation; and
- ‘localised’ congregation of factories and workers, which make up industrial centres. The local concentration of plants (apart from any natural advantages of the locality) appears to Florence to offer an economic advantage ‘in certain places’. This element is related to the local synergies that are connected to the localisation of the district *filière*.

Highly localised industries are typically populated by small firms and for this reason they greatly favour the births of new firms. The existence of profit-incentives is more extended in a decentralised system than in a hierarchical organisation where there is only one subject representing the interest of the shareowners. Within districts workers can satisfy their sense of achievement by becoming entrepreneurs through new firm start-ups. As Florence argues,

> It is easy where there is a pool of skilled labour for foremen or any others with ambitions to break away from the old firm and set up on their own with hired labour. Few firms survive, but this ease of entry into the trade does enable many to try (...). Those who survive among the small men are presumably the more ‘fit’ and they are presumably also trained at least by experience (Florence, 1948, p. 80).

And again:

> a given scale of production by several small firms will undoubtedly offer more points where the powerful profit incentive is applied than a large plant with a salaried servant of a joint stock company in charge (Florence, 1948, p. 80).

In this last passage, Florence clearly identifies the trade-off between scale economies, on one side, and internal governance costs, on the other; profit-seeking individuals tend to perform better than foremen of a large factory with a limited autonomy and prescriptive rules to follow. One is dealing here with an important Marshallian theme, centred on the advantages of the market disciplines (later on also developed by Hayek against the planned economy) that brought him to manifest a non-soothed scepticism towards scientific management.

‘Highly localised industries’ for Sargant Florence are not necessarily specific individual districts. If specialisation in several different types of industry is added, the area is liable to become a conurbation or megalopolis. Large conurbations and towns ‘are extremely important factors in the development of industrial techniques’ (Florence, 1961, p. 15). It is clear from his analysis that we no longer encounter the Marshallian industrial ‘atmosphere’
where knowledge and information spread quickly in the local community, but an anticipation of Jacobs's understanding of how economically healthy and diverse urban areas are essential for creating dynamic economies, through diversification rather than specialisation.

A vivid picture emerges from his writings (Florence, 1964), but his analysis, in comparison with Marshallian articulation, is mainly limited to the study of the parameter of the specialisation of industry at local level. So, we find that the Detroit area is specialised in motor vehicles (with a 7.58 location quotient); in Pittsburgh there is a concentration of blast furnaces and steel mills, in New York of garment factories (4.95 location quotient), and of medical instruments (5.00), etc. Certain service industries and services tend to localise in a country's largest conurbation, such as London, Paris or New York, in which financial activities, scientific research, publishing, arts, applied design, entertainment and business services are found.

His research is static and lacks an evolutionary approach, through which we see the local systems studied changing dynamically over time as a result of endogenous and exogenous causes.

What is the mechanism that causes the localisation of small firms? And why do localised industries decline? Shifting from a true Marshallian evolutionary approach, where in each industrial district an atmosphere is created through a high degree of technological development, knowledge diffusion and competition, and constructive cooperation is built concretely, and where opportunities and constraints are well delineated, Florence advocates 'immobile external economies'.

Where high localisations of industry exist and survive it is not, in most cases, because of low transportation costs in procurement of materials or distribution of products, but due to some other economy or set of economies. The stability of patterns of localisation of highly localised industries is explained by what, nowadays, we call 'agglomeration' economies, and these economies are mainly based on the labour factor. The pool of expert labour is, for a localised industry, an asset just as a pool of semi-skilled labour in any big city is an asset to industry in general. Most of the economist's external economies are economies of localisation (Florence, 1961, p. 85).

The articles by Florence do not help the reader to dwell on the process of de-industrialisation which infected the British industrial districts from the 1920s. This economist takes the 'obsolescence' of some 'localised industries' as 'a natural phenomenon' and the main cause of the decline of localisation patterns. In all Florence's writings the reference to the Marshallian perspective is clear, but it lacks an 'evolutionary flavour', and thus a time-constraining dimension.

6. Conclusions

In this article we have presented the conceptualisation of the industrial district in Marshall's writings and in the works of his pupils, which we have included in the so-called Old Cambridge School. As we have seen, many of the features of the Marshallian industrial districts (atmosphere, external economies, the competition–cooperation mix) have been preserved by the further developments made by the economists of the Old Cambridge School. But there has also been a progressive detachment from the original concept that eventually justifies the manifold meanings given nowadays to the modern concept of industrial district.
The ‘original’ industrial district is mainly characterised by some time-dependent social and economic endogenous forces of growth where a particular atmosphere is recognised as the main productive force. Subsequent theorisations on the phenomenon of local agglomeration lack many features of the industrial districts. Already, in Sargant Florence, we have noted that some important aspects are missing (no emphasis given to the ‘atmosphere’; confusion between localisation and district and so forth). In more recent times, the popular notion of cluster (Porter, 1990) is based on an ample geographical and functional indeterminacy of what is on the scrutiny of research. Porter’s aim is, in fact, the study of synergies built between groups of firms and public or private research institutions. So it appears difficult to estimate the existence of objective elements of territorially embedded ‘increasing returns’. Not to mention that very different territorial systems are included under the ‘umbrella’ of clusters. Again, the difference that we have drawn between industrial districts and localised industries (in the case of the Porterian cluster we deal with local industries-cum-institutions) could be of some significance in interpreting the various forms of agglomeration and the evolution of local systems.

Why did the Lancashire district and other British districts decline so rapidly during the 1920s? As we have stressed in the previous section the local industrial atmosphere degraded, and so did the capabilities of local firms to absorb external technical change. Industrial secrecy and cut-through competition took place. The automatic organisation and the district division of labour were suffocated by organisations that were too pulverised and avid short-sighted Manchester merchants who, to contrast the decline of the markets and to gain competitiveness, cut the size of individual orders above a certain level of profitability. The centralisation that took place in the 1930s through the creation of administratively large firms did not avoid the transactional costs of task administration and coordination and implicit conflicts. The exhaustion of the original conditions, and the ill-conceived Victorian heredity of believing themselves technically superior to any international competitor, meant that local entrepreneurs missed the radical change of global competitive conditions whose consequence, in the absence of any positive reaction, was the unceasing collapse of the Lancashire district and of many British industrial districts.

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1 This aspect has been well underlined by Loasby (1998, pp. 80–83).
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