Industrial Revolution and Urbanization: towns and factories, 1750-1850

Antunes, Cátia

Industrial Revolution and Urbanization: towns and factories, 1750-1850.*

Cátia Antunes

Historians have seen the Industrial Revolution as a benchmark in the history of humanity. Industrialisation has often been situated in an urban environment because increasing industry meant expanding cities. However, contrary to what contemporaries might have thought and opposite to our own experience, when we look at industrialised areas today, industrial and urban development did not always go hand in hand. In fact, different phases of industrialisation are associated with different phases of urbanisation.

In general terms, we can say that the rise of capital and industrial cities in Western Europe was a consequence of the strengthening of the idea of the nation state and of the general industrialising process that developed unevenly, but irreversibly. The general figures on population growth show clearly how important these types of cities had become by the end of the eighteenth century.

Table 1. – Fastest growing European cities, 1500-1800.

1500-1600	**1600-1750**	**1750-1800**
Amsterdam	Amsterdam	Glasgow
Berlin	Berlin	Liverpool
London	London	Barcelona
Madrid	Madrid	Bath
Paris	Paris	Belfast
Turin	Turin	Birmingham
Augsburg	Brest	Dundee
Bordeaux	Bristol	Graz
Catania	Cadiz	Hull
Haarlem	Clermond-Ferrand	Leeds
Hamburg	Copenhagen	Limerick
Lecce	Cork	Magdeburg
Lisbon	Dresden	Manchester

* This article aims solely at summarizing the most recent findings in urban studies connecting industrialisation and urbanisation. Urban scholars will be forever indebted to those who gathered the sources that are here used in tables and graphics.

Magdeburg	Dublin	Nottingham
Messina	Glasgow	Plymouth
Middleburg	The Hague	Portsmouth
Seville	Leipzig	Sheffield

Source: J. de Vries, *European urbanization, 1500-1800* (London 1984) 140.

As table 1 shows, urban population growth shifted away from capital cities to industrial centres in the second half of the eighteenth century. However, to state that there was a correlation between industrialisation and urbanisation solely based on these population figures is unsatisfactory. To establish how factories and cities grew together we need to make a more thorough analysis of the general developments during the late eighteenth and early nineteenth century. We will divide this analysis in three parts. The first part will establish the correlation between the phases of industrialisation and the corresponding phases of urbanisation. We will position them in a theoretical framework that may explain the relative importance of cities and the way they related to each other during the industrializing period. The second part of this article will show to what extent these general trends were applicable to cities in England. In this we will make distinctions in the development of cities according to their function. Finally, we will sum up our main arguments by confronting the theory with the case studies.

Theoretical Approach

When considering the growth of cities, there are two basic theoretical frameworks that one needs to keep in mind: the central place theory and the network theory. Walter Christaller developed the central place theory during the 1930s. It was the first attempt to explain the importance of cities and the way they relate to their surroundings. As a geographer, Christaller saw this relationship in a strictly spatial context, often leaving out important factors, such as human movement, geographical change or economic drive.[1]

Christaller's central place theory sees towns as centres for consumption and commercialisation of products coming from the

[1] W. Christaller, *Central places in Southern Germany*, trans. C.W. Baskin (reprint: Englewood Cliffs, New Jersey 1966).

surrounding countryside. These towns would not only serve as commercial markets, but also as service providers. The variety and efficiency of these services would mainly depend on their size. The theory states that small towns with close links to the surrounding agricultural area are placed below the higher level of services provided by larger towns, which in their turn would be the base for the development of regional cities, whose efficiency and diversity of available services would surpass the larger and smaller towns.[2]

The hierarchical system built by Christaller presents an immediate problem. If one subdivides the services provided by small towns, larger towns and regional cities, we can see that local hierarchies depend on the type of services provided. For example, smaller towns can easily be more important than a larger town regarding the provision of a commercial agricultural market, but they hardly ever supply financial services, usually provided by larger towns or regional cities. So, if one considers a range of services, one can organise several hierarchies each depending on the specific service under analysis. This also applies to economic factors, such as labour or markets, to administrative factors, such as law enforcement, public administration or tax collection, or even cultural factors, such as schooling systems, religious networks or theatre productions.

One of the problems with the central place theory, especially when applied to the nineteenth century, is that the increasing mobility due to the transport revolution greatly affected the relationship between smaller towns, larger towns and regional cities. The development of good roads, new canals, and later on trains presented new challenges to the smaller and larger towns in particular, as it allowed people to obtain services closer to the source in regional centres. This is one of the major reasons why Christaller's central place theory cannot be used in isolation, and makes it necessary to supplement it with other theories. It seems that the best of those theories has been fully developed by Hohenberg and Lees[3]. In their survey of Europe's urbanization, they systematically combined a network theory with a central place system, and thus brought the concept of urban interaction a step further.

---

[2] The discussion about the importance of services on the definition of a town's position in the central place theory has been further discussed by J.B. Parr, 'Frequency distributions of central places in Southern Germany: a further analysis', *Economic Geography* 56-2 (1980) 141-154.

[3] P.M. Hohenberg and L.H. Lees, *The making of urban Europe, 1000-1994* (2nd edition Cambridge, MA and London 1995).

Hohenberg and Lees present the network theory as a complement of the central place theory. Instead of looking at the smaller towns, larger towns, and regional cities simply as central places, they consider them as gatherers of specific services. Because of this specialisation there must be a certain degree of cooperation between towns at the lower and middle levels of the central place hierarchy. So, instead of seeing the urban centres as the mirror of their geographic positioning in the hierarchy, Hohenberg and Lees argue that towns and cities need to be considered according to their function. Those functions are defined not only by geographical location, but also by their connections to the outside world. This means that nineteenth-century cities, which were closer to transport routes such as rivers, roads, railways or seaports, were in a better position to provide other urban centres in the area with services. This provision of diversity meant that these cities could attract the best products, services, and workforce from the surrounding areas. And the more they drew from their surroundings, the larger the area under their sway, the more potential there was for urban interconnectedness.

One of the consequences of this network theory is that urban connections and interdependencies increased with the growth of the network. This close relationship made the dispersion of various things easier. Initially, this concerned material goods, such as products, money, and people, but soon subjective issues like ideas, technological development and information travelled faster and deeper than ever before within the urban world.

The question is to which extend these theories provide a deeper insight in the levels of urbanization reached during the Industrial Revolution. The fact that the central place theory stipulates a direct link between urban growth, urban dimension and central role meant that the theory was unable to explain the developments of the industrial age. In fact, the combination of commercial agriculture and improved means of transport meant that large numbers of small towns, and even some of the larger towns lost their functions. This inability of the theory to explain reality showed the importance of the network theory. The latter describes the slow replacement, at certain levels, of hierarchies by interdependent links, which in the long run will allow for a much more flexible system. The

growth of the system's flexibility, in turn, allows us to include all the cities born out of the industrial process.[4]

It is now time to turn our attention from a theoretical approach to the more practical link between urbanisation and industrialisation. By the end of the eighteenth and the beginning of the nineteenth century, many villages became towns and existing towns reinforced their centrality based on the services they could provide to the villages. This was possible due to the development of commercial agriculture that liberated labour from the land, which was now able to pursue other activities such as rural or semi-rural manufactures. Small settlements developed into villages, where both agricultural and proto-industrial products were gathered and sent to the surrounding towns. After serving the local demand, these products were sent to larger regional centres, which would act as gateway routes for a regional, national or international market.[5] However, it is difficult to consider these gateways as central places. They slowly became crossroads in the landscape, whose functions are better understood if we look at them within the network theory. Basically, they connected the lower scales of the central place hierarchical structure with the outside world.

Soon after these proto-industrial settlements developed, technological progress and demand for new sources of energy became the prime factors shaping the urban landscape. This was particularly prominent in coalmining areas. Technological development created a high demand for coal to serve engines and factories, and therefore coalmining regions expanded greatly. They attracted many workers, whose permanent presence in a certain area demanded new dwellings, shops and general infrastructure.

Some of the coalmining regions happened to be situated in the areas that had already seen the first wave of proto-industrial development. Therefore, the first workers to feel attracted by the mining wages were the ones whose skills had been shaped in the local proto-industries. However, they were too few to fully supply the demands for a workforce by the

[4] This idea of joining together the best of both theories to provide a broader vision on urban development has been raised in direct response to the works by J.E. Vance, who has tried to show how unacceptable the central place theory model is. See the works by Vance: J.E. Vance, *The merchant's world: the geography of wholesaling* (New Jersey 1970). See also: J.E. Vance, 'Cities of external trade in a feudal countryside', *Journal of Urban History* 1 (1972) 484-488.

[5] Different historical debates have ensued in and around the concept of gateway city. For further information see: A.F. Burghart, 'A hypothesis about gateway cities', *Annals of the Association of American Geographers* 61 (1971) 269-285; J. Bird, *Centrality and cities* (London 1977).

mines, and soon migrants from further away started to arrive at these mines. Labour migration from the proto-industrial areas and beyond brought high numbers of workers to the same place. Local excess labour was supplemented by regional and trans-regional migration. Rapidly, what initially had been a coalmine became a space for more or less permanent settlement. Thereafter the stability of the settlement would mainly depend on the availability of waged labour.

The new settlements around the coal areas soon became villages and towns. They did not compete directly with the proto-industrial areas, but the drainage of the labour force and the speedy development of the new towns were a warning that the central place functions of the proto-industrial villages and the smaller and larger towns were soon to shift to the new settlements. However, both urban structures co-existed for some time, before the latter partially took over the formers functions and predominance in the landscape. Typical examples of this slow take-over were the areas of the Ruhr in Germany or the Black Country in England.

The rapid expansion of coal-mining areas did not imply the total disappearance of proto-industrial regions. Sometimes they existed side-by-side, as happened in the Alpine region where energy sourcing and proto-industrial production complemented each other. Neither did the new mining settlements threaten the position of the regional centres of the central place system. In fact, it took a long time before urban services became available in the new housing developments, and therefore the regional centres still held their role as markets, financial services providers or junction in a regional, national or international transport network.

The question is to what extent the new coalmining settlements contributed to the decline of the proto-industrial areas. For long, this has been the general assumption, but new studies have made clear that rural industry in Western France and South-western England was already declining before the boom in coalmining. The creation and expansion of the factory system only accelerated a process that had already begun. The last blow to the proto-industrial areas was the increasing level of mechanization, which rapidly extended to the most remote areas.[6]

We could argue that the growing levels of urbanization caused by the extraction of new forms of energy or the production of innovative technology, corresponded with high levels of de-urbanization at the lower levels of the central place system. The few services provided by villages and

[6] P. Hohenberg and L.H. Lees, *The making of Urban Europe*, 186.

smaller towns were gradually taken over by the larger towns and the regional centres. But that did not mean that regional centres were becoming more industrialized, they only saw their range of services multiply dramatically.

Let us take the example of Lancashire. The coal-mining activities in the area drew the cotton production from Yorkshire to the areas around Manchester.[7] The development of the area in and around Manchester had a higher impact at the regional level than most studies show. By 1851, 24% of the urban population of Manchester was directly involved in the textile industry,[8] but the vast majority was involved in subsidiary activities. So, Manchester's name for being a textile producer did not refer to the city itself, but to its hinterland, to places like Blackburn, Burnley, Stockport or Bolton.

Although Manchester had acquired a significant position at the service level in the central place system, its geographical position was not suitable for a role as gateway for the new industrial system. Therefore, Manchester had to share its regional centrality with another city: Liverpool. Liverpool was still less industrialised than Manchester, and due to the latter's inability to transport the hinterland's output to the right markets, it became the perfect gateway for all Lancashire's industrial production. Soon, Liverpool became the bridge between Lancashire, Europe and the world, using of course the cooperation of the other regional centre, which was closer to the producing areas: Manchester. Similar lines of cooperation were established between Leeds and Bradford, in the West Riding, and Nottingham and Leicester, in the Midlands.

We can therefore conclude, that by the 1880s industrialization and urbanization went hand in hand. Different types of industrialisation produced different urban environments. The new urban industrial world reflected both the old and the new age. Proto-industrialisation favoured the villages and smaller towns, whose services and entrepreneurial skills helped

[7] For further information about Lancashire see: H.B. Rodgers, 'The Lancashire cotton industry in 1840', in: A.R.H. Baker, J.D. Hamshere, and J. Langton eds., *Geographical interpretations of historical sources* (London 1970) 337-358; J.R. Harris, 'Trends in the industrialisation of Merseyside, 1750-1850', in: P. Léon, F. Crouzet, and R. Gascon eds., *L'industrialisation en Europe au XIXe siècle* (Paris 1972) 57-69; A.E. Musson, *The growth of British industry* (New York 1978); J.B. Sharpless, 'Intercity development and dependency: Liverpool and Manchester', in: J.D. Wirthe and R.L. Jones, *Manchester and São Paulo: problems of rapid urban growth* (Stanford, CA 1978) 131-156.

[8] J.B. Sharpless, 'Intercity development and dependency', 131-156.

to develop this first stage of industrial expansion. But soon, the villages and towns were surpassed by new settlements, whose growth owed much to mining activities, which were essentially due to the technological advances. These new settlements did not immediately acquire the status of village or town, but some of these became important producing centres, whose capacity to deliver services to a large hinterland promoted them to regional cities.

The changes provoked by proto-industrialisation and the energy seeking settlements had a strong impact on the central place system, as we have pointed out above. But the new, or newly restored, regional cities were bound to change the way the network system operated. Incapable of acting independently, some regional industrial centres sought symbiotic relations with other regional centres. Usually these were cities that had a natural access to transport systems like roads, ports, rivers and later on railways. The combination of a regional centre and a so-called gateway city could boost the total output of the region immensely. These gateway cities became the vital link between regional centres and their hinterlands and the outside world, i.e., gateway cities became the perfect space where the central place system and the network system met and worked together to achieve perfection, which in this case meant the ability to reach the nation, Europe and the world in general.

English towns and factories

The growth of the English urban network between 1750 and 1850 was astonishing. Not only the national capital and the regional centres grew, but ports and small towns also contributed to this general development. As we explained in the theoretical discussion, English cities and towns experienced a rapid population growth. This growth was mainly induced by labour migration. Inter-regional labour migration had one important cause: industrialisation. Industry offered both jobs and technological novelties, which improved the transport system and the general mechanisation of the English society from the second half of the eighteenth century onwards.[9]

It has been made clear above that the impact of proto-industrialisation was felt at the lower ranks of the central place system,

[9] M. Reed, 'The transformation of urban space, 1700-1840', in: P. Clark ed., *The Cambridge Urban History of Britain*, vol. II, 1540-1840 (Cambridge 2000) 615.

especially in villages, and smaller and larger towns. By the beginning of the eighteenth century, these small urban units had lost their function as a market for agricultural products. They had slowly but steadily developed into small service centres, where some expertise and wholesale activities were permanently available. The development of proto-industry in the mid-eighteenth century meant that some towns, which were able to keep their position in the system as proto-industrial producers and market places, grew extraordinarily, while others, which kept their roots linked to the agricultural world, were unable to adapt and soon declined.

Table 2. – Population distribution of English small towns c.1670, c.1811, and c.1851, in percentage.

Region	**c.1670**			**c.1811**			
	0-900	**901-1800**	**1801-2750**	**0-1650**	**1650-3300**	**3301-5000**	**5001+**
East Anglia	58.0	37.7	4.3	54.4	38.0	6.3	1.3
Midlands							
East	54.2	34.7	11.1	39.1	32.2	11.5	17.2
West	56.1	40.9	3.0	21.4	30.0	20.0	28.6
North							
Northern	63.4	33.3	3.3	26.9	19.2	19.2	34.7
North-West	69.4	20.4	10.2	0.0	20.4	12.2	67.4
Yorkshire	64.6	29.2	6.2	16.4	28.4	16.4	38.8
South-East	64.4	29.9	5.7	33.0	40.0	17.0	10.0
South-West	76.9	18.8	4.3	39.9	39.4	12.2	8.5

Region	**c.1851**			
	0-1650	**1650-3300**	**3301-5000**	**5001+**
East Anglia	38.0	31.6	20.3	10.1
Midlands				
East	24.1	25.3	16.1	34.5
West	7.0	28.2	22.5	42.3
North				
Northern	18.9	16.9	5.7	58.5
North-West	0.0	11.5	13.5	75.0
Yorkshire	21.7	14.3	23.8	49.2
South-East	14.0	33.5	22.5	30.0
South-West	26.8	33.3	20.8	19.1

Source: P. Clark, 'Small towns, 1700-1840', in: Idem ed., *The Cambridge Urban History of Britain*, vol. II, 1540-1840 (Cambridge 2000) 738, 740, 741.

Table 2 shows two main features. First, seventeenth-century small towns generally had very few inhabitants. This was not the case in the nineteenth century, where even the smallest towns had up to 1650 inhabitants. Second, the geographical differences in the population distribution of small towns throughout England are striking in the three periods under analysis. East Anglia's towns, traditionally closer to their agricultural hinterland, remained in the bottom of the table, the majority of them always belonging to the lower ranks. In the Midlands there was an inter-regional difference between East and West. The former followed the example of East Anglia, and by mid-nineteenth century showed a fair degree of de-urbanisation. The latter was always more progressive and economically more developed. During the

eighteenth century, the Western towns acquired some share of the market for proto-manufactures and this is clear by the demographic boost of the nineteenth century.

The development of the North is the most striking movement at town level. Although Yorkshire towns were already in the top ranks in the seventeenth century, the Northwest had very few prominent towns. However, by 1851 Yorkshire had had a similar demographic boost as the West Midlands, and the whole of the North and Northwest had taken advantage of the development of manufactures and other proto-industrial activities. By the mid-nineteenth century the economic power and output had rapidly shifted northwards. The South remained an area where towns were small and mainly focused on the local agricultural markets. They hardly ever participated in the general proto-industrial movement of the Georgian era, and by the nineteenth century had dearly suffered due to their proximity to London.[10]

The regional development of small towns in England confirms the suggested rapid rise in the importance of these urban settlements during the eighteenth century. However, the ones unable to follow the general proto-industrial trend remained small and almost disappeared. Furthermore, even the ones that thrived were hampered by their dependency on the regional centres as the receptacles of their output.

[10] P. Clark, 'Small towns, 1700-1840', in: idem ed., *The Cambridge Urban History of Britain*, vol. II, 1540-1840 (Cambridge 2000) 740.

Table 3. – Largest English provincial towns, 1700-1841.[11]

Town	**1700**	**Town**	**1801**	**Town**	**1841**
Norwich	50.000	Manchester	95.000	Manchester	311.000
Bristol	21.000	Liverpool	82.000	Liverpool	286.000
Newcastle	18.000	Birmingham	71.000	Birmingham	183.000
Exeter	14.000	Bristol	61.000	Leeds	152.000
York	12.000	Leeds	53.000	Bristol	125.000
Yarmouth	10.000	Sheffield	46.000	Sheffield	111.000
Colchester	9.000	Newcastle	42.000	Newcastle	90.000
Plymouth	9.000	Plymouth	40.000	Plymouth	70.000
Worcester	9.000	Norwich	36.000	Hull	67.000
Birmingham	8.000	Bath	33.000	Bradford	67.000
Ipswich	8.000	Portsmouth	33.000	Norwich	62.000
Manchester	8.000	Hull	30.000	Bath	53.000
Portsmouth	8.000	Nottingham	29.000	Portsmouth	53.000
Chester	7.000	Tynemouth	20.000	Nottingham	52.000
Coventry	7.000	Exeter	17.000	Leicester	51.000
Leeds	7.000	Leicester	17.000	Stockport	50.000
Shrewsbury	7.000	York	17.000	Brighton	49.000
Cambridge	6.000	Yarmouth	17.000	Oldham	48.000
Canterbury	6.000	Coventry	16.000	Blackburn	48.000
Hull	6.000	Chester	15.000	Exeter	37.000
Leicester	6.000	Oldham	15.000	Tynemouth	33.000
Liverpool	6.000	Shrewsbury	15.000	Derby	33.000
Nottingham	6.000	Stockport	15.000	Macclesfield	33.000

Source: J. Ellis, 'Regional and county centres, 1700-1840', in: P. Clark ed., *The Cambridge Urban History of Britain*, vol. II, 1540-1840 (Cambridge 2000) 679.

[11] Some of the discrepancies presented in the data by Ellis and Bairoch et. al is the result of the use of differences sources. Ellis supports his analysis fully on primary sources, while Bairoch et. al use secondary literature to publish their survey. See: P. Bairoch, J. Batou, and P. Chèvre, *La population des villes européennes. Banque de données et analyse sommaire des résultats, 800-1850. The population of European cities. Data bank and short summary of results* (Genève 1988) 32-35.

The regional centres of the central place system were the focal point for small towns, but, as shown by table 3, their development was not a uniform process. Historically, provincial cities held some power over the smaller towns because they provided a variety of socio-economic and administrative services, which would extend to a more or less broad hinterland. In the eighteenth century regional centres added to their traditional functions the role of gatherers of the proto-industrial output of a certain area. This role was both a means to enforce their previous position in the central place system, and a reason for further contacts with urban counterparts by actively participating in a regional, provincial and national urban network.[12]

The power of attraction exercised by regional centres on their hinterlands is obvious in the case of Bristol, which socio-economic services covered the whole West Country. But Bristol's power extended far beyond its direct regional hinterland. In fact, the city's influence could be felt throughout the West Midlands and some areas in South Wales.[13] Norwich shared a similar position with Bristol, its main influence spread to East Anglia's rural and semi-urban areas.[14]

Other regional cities like York and Newcastle-upon-Tyne blossomed thanks to their perfect geographical position. York held the full administrative control over significant parts of the North, while Newcastle-upon-Tyne exploited its privileged position that put the city between York, the last major English administrative centre, and the capital of Scotland, Edinburgh, connecting two countries, two cultures, and two urban networks.[15]

---

[12] C.W. Chalklin, *The provincial towns of Georgian England: a study of the building process, 1740-1820* (London 1974) 8-11; A.M. Everitt, 'Country, county and town: patterns of regional evolution in England', in: P. Borsay ed., *The eighteenth century town: a reader in English urban history, 1688-1820* (London 1990) 83-115; E.A. Wrigley, 'City and country in the past: a sharp divide or a continuum?', *Historical Research* 64 (1991) 107-120.

[13] W.E. Minchinton, 'Bristol – metropolis of the west in the eighteenth century', in: P. Clark ed., *The Early Modern Town: a reader* (London 1976) 297-313; K. Morgan, 'The economic development of Bristol, 1700-1850', in: M. Dresser and P. Ollerenshaw eds., *The making of modern Bristol* (Tiverton 1996) 63-64.

[14] P.J. Corfield, 'A provincial capital in the late seventeenth century: the case of Norwich', in: P. Clark and P. Slack eds., *Crisis and order in English towns 1500-1700* (London 1972) 263-319.

[15] For further explorations on the role of York and Newcastle-upon-Tyne see: J. Hutchinson and D.M. Palliser, *York* (Edinburgh 1980) 55-74; J. Ellis, 'A dynamic society: social relations in Newcastle-upon-Tyne, 1660-1760', in: P. Clark ed., *The transformation of English provincial towns 1600-1800* (London 1984) 190-227.

A quick glance at table 3 indicates that some of the most important regional centres were also ports. All these ports engaged in local trade, mainly based on the output of their urban and rural hinterland, but some of them expanded their services further. They could be key participants in trans-regional supply systems and therefore vital players in the national economic dynamics. They could add further to that national capacity through contacts with Europe and the colonies. Those that could gain functions on an urban, regional, national, European and inter-continental level, can certainly be considered as major economic and cultural 'globalisers'.

Table 4. – Tonnage of shipping entering and clearing some of the major English ports in foreign trade, 1716-1841 (in thousands of tons).

Ports	**Inwards**					
	1716	**1730**	**1751**	**1772**	**1791**	**1841**
Bristol	24	29	30	39	79	75
Hull	4	12	24	44	115	342
Liverpool	17	18	32	77	268	995
Newcastle	8	14	22	22	35	299
Whitehaven	10	15	11	33	40	23

Ports	**Outwards**					
	1716	**1730**	**1751**	**1772**	**1791**	**1841**
Bristol	24	25	27	36	71	70
Hull	9	8	16	18	53	256
Liverpool	19	19	34	93	275	1029
Newcastle	40	46	58	74	100	594
Whitehaven	32	45	113	193	212	28

Source: G. Jackson, 'Ports, 1700-1840', in: P. Clark ed., *The Cambridge Urban History of Britain*, vol. II, 1540-1840 (Cambridge 2000) 709.

As we can see by the figures presented in table 4, industrialisation initially influenced the ports directly linked with a hinterland that had been involved in the first proto-industrial developments. However, as soon as mining activities, industrial production of textiles and metalworking and growing

mobility were in place, ports with harbours focused on national and international trade were the biggest beneficiaries of these general improvements.

Newcastle was one of the ports to take full advantage of its position in a coalmining area. The city added the qualities of a trans-regional port to its urban appeal as a regional centre. Newcastle supplied coal along the English and Scottish coastline, but was also able to export large amounts of this mineral to other European countries, particularly Scandinavia. Hull was a perfect example of a port that functioned as an urban, inter-regional and European import/export platform. The excellent connections with its hinterland gave Hull its hold on the European markets. The port was a prominent importer of European products such as iron, wood and dyestuffs, which in turn would be distributed to the hinterland and inter-regional developing industries.[16]

Liverpool was the largest of the regional ports engaged in urban, intra-regional, European and colonial trade. The position Liverpool enjoyed in the world urban network system was a good example of a move towards a global world. The city had a large hinterland, and was supplied at a regional level by the mining and industrial production of the other regional centre, Manchester. Together, they would extract the output of the Lancashire area and spread it throughout the world, using Liverpool as a gateway city. The port also contributed strongly to the Atlantic slave trade and to the cotton imports from America, which would supply Lancashire and beyond of enough raw materials to keep their high output in textiles.[17]

Liverpool was certainly a 'globaliser', but it was no global imperial capital. London was by far the largest port in England, Europe and the world. The city combined its functions as urban, regional, national, European and inter-continental port, with a centuries long tradition of political power and public administration. This urban concurrence of economic primacy and political dominance gave London a unique position in the financial markets and provided it with the rightful name of 'megalopolis'.[18] The immense strength of London can be better understood

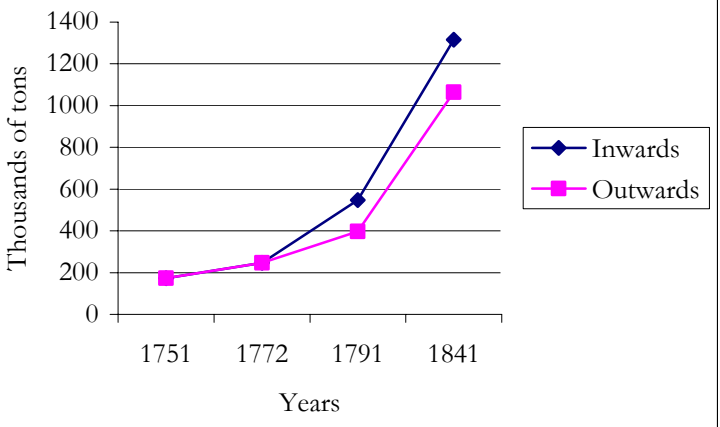
[16] G. Jackson, *Hull in the eighteenth century: a study in economic and social history* (Oxford 1972) chapters 1 and 2.

[17] F.E. Hyde, *Liverpool and the Mersey* (New Abbot 1971) chapter 3; S. Marriner, *The economic and social development of Merseyside* (Liverpool 1982) chapter 2.

[18] T.C. Barker, 'London: a unique megalopolis', in: T.C. Barker and A. Sutcliffe eds., *Megalopolis: the giant city in history* (London 1993) 43-60.

if we look at its role as major English importer and exporter during the eighteenth and nineteenth century (see graph 1).

Graph 1. - Tonnage of shipping entering and clearing London in foreign trade, 1751-1841



Source: G. Jackson, 'Ports, 1700-1840', in: P. Clark ed., *The Cambridge Urban History of Britain*, vol. II, 1540-1840 (Cambridge 2000) 709.

Last but not least, there are the towns and cities that developed as a direct result of industrialisation. The examples are plentiful, but the cases of Birmingham and Sheffield seem striking. Both cities profited from an extensive hinterland and soon dominated part of the regional output of mining products. Instead of exporting the wealth acquired through mining, they sponsored the development of their own manufacturing industries. They were both known for their metalworking and they both sponsored the production of textiles and other manufactures, a common feature in nineteenth century industrial life.[19]

[19] For further information on Sheffield and Birmingham see: D. Hey, *The fiery blades of Hallamshire: Sheffield and its neighbourhood, 1660-1740* (Leicester 1991); M. Berg, 'Technological

Conclusions

We were able to show that urbanisation and industrialisation did not always go hand in hand, but they were certainly related to each other. Technological, energetic and transport developments strongly influenced the functions of villages, towns and cities and the way they related to each other. Villages and towns kept much of their early-modern role: as markets for the production of their hinterlands, but as soon as proto-industry developed they fully participated in this new activity. This participation gave them a stronger position in the central place system due to a newly acquired multi-functionality, but those towns located in more agricultural regions were not able to move beyond their specialisation as agricultural markets and, in fact, lost their urban character.

Regional centres, which could be provincial cities or coastal ports, dominated the top ranks of the central place system. These were the ones responsible for the speedy transference of products, people, novelties and information throughout the country. They enjoyed a privileged position in the central place system, which was the direct consequence of their multi-functionality and urban diversity, characteristic of network junctions. They provided the means and the will for villages, towns, and regional cities to conquer the world.

There are two final conclusions we need to emphasize. First, industrial cities developed on their own merit, but they were not the only ones to profit from the process of industrialisation. The fact that their survival depended on this new activity meant that they had to aim at efficiency. That was the only way to reach the top echelons of the local central place system and be able to influence the development of the urban network. Second, different processes of industrialisation helped to create new processes of urbanisation, and vice versa. However, that does not mean that those processes followed each other chronologically. They were often simultaneous and interdependent. The most striking example is what happened to the English small towns. While a large group prospered due to their alliance with the new proto-industrial developments, another large group lost its urban character because it was not able to keep the pace, either because they refused to join the new activity or by regional incapacity to incorporate proto-industry.

change in Birmingham and Sheffield in the eighteenth century', in: P. Clark and P. Corfield eds., *Industry and urbanisation in eighteenth century England* (Leicester 1994) 20- 32.