The ‘Proto-Industrialization’ Debate:

Agriculture, Rural Handicraft Industries in Early Modern Europe, and the Transition to Modern Urban Industrialization

READINGS:

Within each of the following sections, readings are listed in the chronological order of original publication, when that can be ascertained, except for some collections of reprinted essays and articles. The asterisks (*) indicate the more important readings.

A. The Proto-Industrialization Debate:

I. The Elaboration of the Mendels Thesis:

with contributions also by Tilly, Medick, Kriedte, and Schlumbohm, in chronological order of original publication.


* 5. Peter Kriedte, Hans Medick, and Jurgen Schlumbohm, Industrialisierung vor


(f) Peter Kriedte, ‘Proto-industrialization between industrialization and de-industrialization’, pp. 135 - 60.


To date, the major and most controversial study, or collection of essays, on proto-industrialization.


   f) L.A. Clarkson, ‘Ireland, 1841: Pre-Industrial or Proto-Industrial; Industrializing or De-Industrializing’, pp. 67-84.

II. The Debate Between Supporters and Critics of the Mendels Thesis, including the Main Precursors of the Debate: in chronological order of publication.


Notes:

(1) Important, but not readily available, is:


(2) A major intellectual source for the proto-industrialization thesis, especially in Marxian form, can be found in:

(3) Fundamentally important for the proto-industrialization debate is nature of demographic and agrarian change from the 16th century (and family structures), handled in tutorial topics Nos. 3, 13, and 14. Some of the more relevant studies are listed in the following section B.

B. Agriculture, Demography, Family Structures, and Industrialization:

Essays written independently of the proto-industrialization debate, but very relevant to it: in chronological order of publication.


C. Industry and Industrial Growth in Early-Modern Europe: General Studies:

I. Europe in General: Chiefly Continental Europe


(b) Gerhard Adelmann, ‘Structural Change in the Rhenish Linen and Cotton Trades at the Outset of Industrialization’, pp. 82-97. [Original German version published in Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte, 53 (July 1956)].


** 13. Herman Van der Wee, ed., The Rise and Decline of Urban Industries in Italy and in the Low Countries: Late Middle Ages - Early Modern Times (Leuven: Leuven University Press, 1988).

See especially chapter 15: Herman Van der Wee, ‘Industrial Dynamics and the Process of
Urbanization and De-Urbanization in the Low Countries from the Late Middle Ages to the Eighteenth Century: A Synthesis’, pp. 307 - 81.


25. Pierre Claude Reynard, ‘Manufacturing Quality in the Pre-Industrial Age: Finding Value in


II. **England**


   - Vol. II, Chapter I, ‘Industry’, pp. 1 - 183 (on textiles, coal and iron);


7. Astrid Friis, *Alderman Cockayne's Project and the Cloth Trade* (Copenhagen, 1927).


29. Herbert Heaton, The Yorkshire Woollen and Worsted Industries from the Earliest Times to the Industrial Revolution, 2nd edn. (Oxford, 1965), Chapters 1-3. [The first edition was published in 1920; but this edition has so substantially revised the original that there is no point citing it.]


41. N.B. Harte and K.G. Ponting, eds., Textile History and Economic History: Essays in Honour of Miss Julia de Lacy Mann (Manchester University Press, 1973). In particular:


67. Grant McCracken, ‘Textile History and the Consumer Epidemic: An Anthropological


   a) Patrick Chorley, ‘The Evolution of the Woollen, 1300 - 1700’, pp. 7-34


* 98. David Jenkins, ed., The Cambridge History of Western Textiles, 2 vols. (Cambridge and New York: Cambridge University Press, 2003): see also the following chapters, indicated by their number


110. Thomas M. Izbicki, ‘Forbidden Colors in the Regulation of Clerical Dress from the Fourth Lateran Council (1215) to the Time of Nicholas of Cusa (d. 1464)’, Medieval Clothing and Textiles, 1 (2005), 105-14.


E. The Nef Thesis: The ‘Industrial Revolution of 1540-1640’


** 2. John U. Nef, ‘The Progress of Technology and the Growth of Large Scale Industry in Great Britain, 1540-1640’, Economic History Review, 1st ser. 5 (1934), reprinted in both:


* 4. John Nef, ‘Prices and Industrial Capitalism in France and England, 1540-1640’, Economic History Review, 1st. 7 (1937), reprinted in both:


F. Coal and Iron Industries: Critics and Supporters of the Nef Thesis


* 25. Brinley Thomas, ‘Escaping from Constraints: The Industrial Revolution in a Malthusian


F. Documents


See also his *Dictionary of English Weights and Measures from Anglo-Saxon Times to the Nineteenth Century* (Madison, Wisc., 1968).
QUESTIONS for reading, discussion, and essays.

1. What does the term ‘proto-industrialization’ mean -- particularly in relation to the post-1750 ‘Industrial Revolution’, and to the processes of modern urban industrialization? Is the term an apt one, in referring to rural handicraft industries in the 17th and 18th centuries; or does it unfairly neglect the significance of prior industrial developments, both urban and rural?

2. What do the proto-industrialization thesis and debate focus upon? Who are the chief proponents and critics of this thesis -- and what are their principal arguments pro and con? Discuss and debate the views, in particular, of Franklin Mendels and Donald Coleman.

3. What is the significance of the proto-industrialization debate in the context of Marxian theses and debates about the ‘transition from feudalism to capitalism.’ In particular, why did the Marxist economic historian Eric Hobsbawm argue that rural ‘putting-out’ industries were ‘a most effective dissolver of the traditional [feudal] agrarian structure’?

4. In terms of the proto-industrialization debate, discuss and debate the role of rural, market-oriented handicraft manufacturing industries in:
   (a) the economic development of early-modern Europe, and
   (b) the transition to modern urban industrialization.

5. Discuss the nature, organization, and markets for these rural handicraft industries. What was the nature and organization of the ‘putting-out’ system of production; and to how many of these industries did that system pertain? To what extent did textile manufacturing (woollens, worsteds, linens, fustians, etc.) dominate rural -- and urban -- industry in early-modern Europe? Why did the modern Industrial Revolution in fact begin with textiles?

6. To what extent were rural industries in early-modern Europe genuinely peasant handicraft industries; and to what extent were such industries really more a part of the traditional agricultural sector than of a separate industrial sector? In your answer distinguish between and among various industries found in the countryside.

7. What were the principal determinants of industrial location in early-modern Europe, in terms principally of urban vs. rural locations? Discuss in terms of raw material locations (including fuels), labour supplies, markets, transportation, etc. To what extent was the location and distribution of industrial centres in early-modern Europe more the result of ‘regional economics’ than of national or political considerations?

8. What role did population growth and inheritance patterns/family structures (partible vs. impartible inheritance) play in the development of rural industries in early-modern Europe? Discuss how the proto-industrialization debate has considered such demographic factors.

9. In what areas and regions of Europe did rural industries develop or evolve into modern forms of urban industrialization -- and in what areas did they fail to do so?

10. What industries, urban and rural, had become essentially capitalistic in structure before the 18th century, and why? See the ‘Nef Thesis’.
Table 1:


Mean value of 1530-9 = base 100

<table>
<thead>
<tr>
<th>Decade</th>
<th>Charcoal (Cambridge)</th>
<th>Timber (National)</th>
<th>Industrial Products (Average)</th>
<th>Grains (Wheat, Rye, Oats, Barley)</th>
<th>Basket of Consumables Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1530-9</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<td>335</td>
<td>233</td>
<td>348</td>
<td>306</td>
</tr>
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<td>359</td>
<td>397</td>
<td>249</td>
<td>407</td>
<td>341</td>
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<tr>
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<td>450</td>
<td>240</td>
<td>399</td>
<td>333</td>
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<tr>
<td>1630-9</td>
<td>378</td>
<td>475</td>
<td>255</td>
<td>491</td>
<td>397</td>
</tr>
<tr>
<td>1640-9</td>
<td>535</td>
<td>524</td>
<td>278</td>
<td>488</td>
<td>398</td>
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</table>

Sources:


Table 2:
Prices and Price-Relatives of Wood-Charcoal and Coal at Cambridge, and the Phelps-Brown & Hopkins ‘Basket of Consumables’ Price Index, 1580-9 to 1690-9

Index Base: Average of 1580-9 = 100

<table>
<thead>
<tr>
<th>Decade</th>
<th>Charcoal: Shillings per Load</th>
<th>Index</th>
<th>Coal: Shillings per Chaldron</th>
<th>Basket of Consumables Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1580-9</td>
<td>19.52s.</td>
<td>100.0</td>
<td>13.22s.</td>
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<td>118.8</td>
<td>15.19</td>
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<td>13.88</td>
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<td>23.71</td>
<td>179.3</td>
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<td>162.5</td>
</tr>
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<td>--</td>
<td>19.28</td>
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</tr>
<tr>
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<td>n.a.</td>
<td>--</td>
<td>24.07</td>
<td>182.1</td>
</tr>
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</table>

Table 3:

The Early Modern English Iron Industry:

Charcoal Prices, Pig Iron Output, and Bar Iron Imports

Selected Decades, 1580 - 1740

<table>
<thead>
<tr>
<th>DECADE</th>
<th>CHARCOAL PRICE at Westminster (£ per load)</th>
<th>PIG IRON OUTPUTS (tons)</th>
<th>BAR IRON IMPORTS (tons)</th>
<th>PRICE INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>1580-9</td>
<td>£1.00</td>
<td>15,200</td>
<td>1,700</td>
<td>357</td>
</tr>
<tr>
<td>1630-9</td>
<td>£1.40</td>
<td>20,000</td>
<td>3,700</td>
<td>616</td>
</tr>
<tr>
<td>1680-9</td>
<td>£2.60</td>
<td>21,000</td>
<td>23,000</td>
<td>577</td>
</tr>
<tr>
<td>1730-9</td>
<td>£3.00</td>
<td>27,500</td>
<td>34,600</td>
<td>553</td>
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</tbody>
</table>

Table 4:

OCCUPIED BLAST FURNACE SITES, BY DECADES

<table>
<thead>
<tr>
<th>Decade</th>
<th>Total Furnace Sites</th>
<th>Index 1600-09 = 100</th>
<th>Weald Furnace Sites</th>
<th>Index 1600-09 = 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1530-9</td>
<td>6</td>
<td>6.7</td>
<td>6</td>
<td>11.5</td>
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<td>1550-9</td>
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<td>29.2</td>
<td>26</td>
<td>50.0</td>
</tr>
<tr>
<td>1560-9</td>
<td>44</td>
<td>49.4</td>
<td>36</td>
<td>69.2</td>
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<td>1570-9</td>
<td>67</td>
<td>75.3</td>
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<td>100.0</td>
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<tr>
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<td>76</td>
<td>85.4</td>
<td>54</td>
<td>103.8</td>
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<tr>
<td>1590-9</td>
<td>82</td>
<td>92.0</td>
<td>50</td>
<td>96.2</td>
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<td>52</td>
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<td>88.8</td>
<td>47</td>
<td>90.4</td>
</tr>
<tr>
<td>1620-9</td>
<td>82</td>
<td>92.1</td>
<td>46</td>
<td>88.5</td>
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<td>79</td>
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<tr>
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<td>82</td>
<td>92.1</td>
<td>43</td>
<td>82.7</td>
</tr>
<tr>
<td>1650-9</td>
<td>86</td>
<td>96.6</td>
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<td>80.8</td>
</tr>
<tr>
<td>1660-9</td>
<td>81</td>
<td>91.0</td>
<td>37</td>
<td>71.2</td>
</tr>
<tr>
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<td>71</td>
<td>79.8</td>
<td>24</td>
<td>46.2</td>
</tr>
<tr>
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<td>68</td>
<td>76.4</td>
<td>22</td>
<td>42.3</td>
</tr>
<tr>
<td>1690-9</td>
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<td>1710-9</td>
<td>82</td>
<td>92.1</td>
<td>21</td>
<td>40.4</td>
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<tr>
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<td>60</td>
<td>67.4</td>
<td>13</td>
<td>25.0</td>
</tr>
<tr>
<td>1730-9</td>
<td>55</td>
<td>61.8</td>
<td>12</td>
<td>23.1</td>
</tr>
<tr>
<td>1740-9</td>
<td>49</td>
<td>55.1</td>
<td>12</td>
<td>23.1</td>
</tr>
</tbody>
</table>

* Data on total furnace site do not necessarily mean that all of these furnaces were in operation, or full time operation, over the entire decade indicated.
Table 5:

English Pig Iron Production, 1530-1750

Occupied Blast Furnaces (Smelters) Average Output per Furnace, and Estimated Annual Average Output in Tons, per Decade, 1530-9 to 1740-9

<table>
<thead>
<tr>
<th>Decade</th>
<th>No. of Blast Furnaces Occupied</th>
<th>Average Output per Furnace - Smelter in tons</th>
<th>Average Annual iron output in tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1530-9</td>
<td>6</td>
<td>200</td>
<td>1,200</td>
</tr>
<tr>
<td>1540-9</td>
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<td>5,200</td>
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<td>44</td>
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<tr>
<td>1740-9</td>
<td>71</td>
<td>375</td>
<td>26,500</td>
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</tbody>
</table>
Sources:


Table 6
Charcoal-Smelted Pig Iron: Production Costs ca. 1720-21

To Produce 360 Tons of Pig Iron per year

<table>
<thead>
<tr>
<th>Production Input</th>
<th>Total Costs per year</th>
<th>Percentage of Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Charcoal</td>
<td>£1,459</td>
<td>71.0%</td>
</tr>
<tr>
<td>(2) Iron Ore</td>
<td>313</td>
<td>15.2%</td>
</tr>
<tr>
<td>(3) Furnace Labour</td>
<td>61</td>
<td>3.0%</td>
</tr>
<tr>
<td>(4) Clerical salaries</td>
<td>40</td>
<td>1.9%</td>
</tr>
<tr>
<td>(5) Rent</td>
<td>40</td>
<td>1.9%</td>
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<tr>
<td>(6) Repairs and Maintenance</td>
<td>63</td>
<td>3.1%</td>
</tr>
<tr>
<td>(7) Other Costs</td>
<td>78</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

TOTAL COSTS  £2,054  100.0%

Cost per ton of pig iron

= £5.70
Table 7:

English Iron Production and Imports: Average Annual Estimates per Decade of Imports and Production of Bar Iron, 1720-9 to 1740-9

<table>
<thead>
<tr>
<th>Decade</th>
<th>Bar Iron IMPORTS in tons</th>
<th>Bar Iron Domestic PRODUCTION in tons</th>
<th>Imports as Percentage of Total Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1720-9</td>
<td>19,650</td>
<td>19,700</td>
<td>50%</td>
</tr>
<tr>
<td>1730-9</td>
<td>25,650</td>
<td>19,350</td>
<td>57%</td>
</tr>
<tr>
<td>1740-9</td>
<td>22,500</td>
<td>18,650</td>
<td>55%</td>
</tr>
</tbody>
</table>

*Note:* 1 ton of bar (wrought) iron requires about 1.35 tons of pig iron; and about 5% of pig iron production was reserved for castings. Therefore bar production in England has been estimated as: 0.95/1.35 = 0.7037 tons of pig iron per ton of bar iron.

Duties Paid on a Ton of Swedish Bar Iron (Fully Refined Wrought Iron)

a) Swedish exports duties: £3.45 per ton

b) English import duties: £2.05 per ton

**TOTAL DUTIES** £5.50 per ton


N.B. Brinley Thomas (1986), in Table 3, provides even larger estimates of bar iron imports for the decade 1730-9: in absolute amounts, and as a proportion of total consumption.
Table 8

Geographical Distribution of Early Eighteenth-Century Ironworks

<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
<th>Tons of Output</th>
<th>Share of National Output (%)</th>
<th>Tons Output Per Furnace</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Furnaces (1720)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. The Weald</td>
<td>15</td>
<td>2,000</td>
<td>11.5</td>
<td>133</td>
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<td>9. Scotland</td>
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**B. Forges (1717)**

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<th>Share of National Output (%)</th>
<th>Tons Output Per Furnace</th>
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**Average or Total** | 116 | 13,330 | 115