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Revolution without progress

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2 **Revolution without progress**

3 **Barbara Hahn: Technology in the industrial revolution. Cambridge:**
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5 **Laurent Heyberger¹**

6
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8 This book proposes an excellent and updated approach to the history of the indus-
9 trial revolution for undergraduate students and for anyone else who wants an intel-
10 ligent introduction to this topic. On this very classic subject, Barbara Hahn proposes **AQ1**
11 to go beyond the age-old question: Why did England industrialize before France?
12 and instead to ask why did certain machines appear at specific times and places
13 rather than others. In other words, she wants to take into account local—and, of
14 course, global—contingencies within the multiple factors that explain the appear-
15 ance of machines. Thus, this is an essay whose synthetic and pedagogical value in
16 no way sacrifices the subtlety of historical reasoning.

17 Since the nineteenth century, the received wisdom concerning industrialization
18 and mechanization is quite simple: thanks to the genius of some individual inven-
19 tors, mechanization created industrialization and thus “[the] mythological version
20 of the industrial revolution is as simple as a family tree of machinery” (186). A first
21 wave of mechanization in the weaving sector (John Kay) broke the link that had
22 bound spinning and weaving activities within English—and more broadly Euro-
23 pean—rural families for centuries. The resulting technological bottleneck in the
24 weaving sector was liberated thanks to the genius of a small number of inventors in
25 the domain of spinning (Hargreaves, Arkwright, Crompton, et al.)

26 This classic vision of the industrial revolution also implies a direct and simplistic
27 link between the advent of capitalist thought (Adam Smith) and free trade on the one
28 hand and the birth of efficient steam engines (Watt) on the other, the former creating
29 the economic conditions for the introduction of the latter.

30 Questioning this vulgate inherited from the nineteenth century, which has become
31 a part of the “self-identity of Britons” (186), is the main theme of this brilliant syn-
32 thesis by Barbara Hahn. The naïve celebrations of the triumph of industry so com-
33 mon in the nineteenth century offer superficial representations, while here the author

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34 introduces the reader into the “black box” of the industrial revolution, illuminating
35 it down to the last technical detail, but always with the concern to contextualize and
36 explain technical changes by economic, social, demographic and political factors
37 (chapter 2, “Myths and Machines”). Thus, she situates her account halfway between
38 an internalist and a contextualist approach (Hughes 1983).

39 For each of the three elements of the classic definition of the industrial revolution
40 given by Landes (1969; mechanization of tasks, separation of production and
41 consumption, development of regular flows of products and standardized character-
42 istics of objects), Barbara Hahn emphasizes some particularly important points that
43 shed light on the question of the emergence of mechanization [the choice of energy
44 sources, the role of demand—see Lemire (1991), and finally the role of US cot-
45 ton plantations]. She enriches this analysis with recent advances in historiography
46 by placing it in a global context and in the “longue durée” [chapter 1, “Sugar and
47 Spice”, see Parthasarathi (2011)]. Thus, the reader is returned to the seventeenth-
48 century world of cotton (Riello 2013) before being plunged back into the techno-
49 logical black box of mechanization (chapter 2), before zooming in on “Cottonop-
50 olis” (i.e. Manchester, chapter 3). The reader then revisits the social and political
51 struggles around the question of mechanization, notably Luddism (chapter 4 “Power
52 and the People”), before ending with the appearance of “the Vertical Mill” (chap-
53 ter 5), an integrated model of production, although not the only and ultimate model
54 of production.

55 This clear and redundancy-free plan, which skillfully varies the scales of analy-
56 sis, allows us to apprehend certain fundamental historical realities. First of all, the
57 role of systems and networks in the changes that took place in British society and
58 the British economy from the 1770s to the 1840s, and the fact that mechanization
59 was initially aimed at innovation and quality, not at reducing costs or lowering the
60 prices of the textiles produced, as this was only the case with Paisley shawls at the
61 beginning of the nineteenth century. Another interesting feature of the book is how
62 it interrogates a certain number of pairs of objects or systems too often presented
63 as successive or exclusive historical entities: handlooms *versus* powerlooms, the
64 putting-out system *versus* the factory system, domestic weaving *versus* factory spin-
65 ning, voluntary labor *versus* forced recruitment, and its exploration of key terms
66 like hybridity; the hybridity of markets, hybridity of fibers used in the textile indus-
67 try, hybridity of the energy used for mechanization (water *versus* coal), etc. It is
68 also clear that, from an economic point of view, “industrialization fulfilled the old
69 dreams of mercantilism while its heralds glorified free trade” (178).

70 From a pedagogical perspective, the interest of this book lies first of all in its abil-
71 ity to explain synthetically to undergraduates a complex and multidimensional reality
72 and to make intelligible violent debates over the causes of the industrial revolution and
73 mechanization [among others, the debate over the role of the high wages of English
74 workers in the wake of mechanization, see Allen (2009) *versus* Humphries and Weis-
75 dorf (2015), or the debate over the role of institutional changes]. Barbara Hahn also
76 takes the time to explain the shift in meaning of certain notions or words that might
77 seem timeless to neophytes (capitalism, plantation, factory system, manufacture, etc.),
78 to show the historicity of evident truths that, moreover, do not go without saying (the
79 place of American cotton in the British economy in the first half of the nineteenth cen-
80 tury, the long-term place of coal in the British economic and technological systems,

81 etc.) all the time resisting any temptation for teleology. In short, this is a book that
82 teaches us to think. Hahn provides very enlightening partial conclusions along the way,
83 complemented by a short bibliography with relevant references at the end of each chap-
84 ter. Finally, her specific examples, from the “Callico Madams” (chapter 1) to John Mar-
85 shall’s grandiose vertical mill (chapter 5), give substance to technical changes that are
86 sometimes difficult to conceive, especially for young readers immersed in the digital
87 world of the twenty-first century.

88 The only criticism I can offer concerns the author’s evocation of the birth of the
89 consumer society in terms of an improvement in nutritional intake, acquisition of
90 clothes, watches, Wedgwood porcelain, etc., and even the boom in seaside tourism,
91 which began to benefit some workers (or farmers) as early as the 1840s. She interprets
92 these changes as an improvement in the living standards and living conditions of the
93 working classes due to industrialization. But, although she quotes a reference by John
94 Komlos, she forgets that, as with mechanization, there is no teleology in terms of living
95 standards and that reality here can also be multidimensional. Hahn does not mention
96 the works of new anthropometric history [Floud et al. (1990) and Cinnirella (2008), in
97 particular] which have nevertheless shown that, with the exception of Saxony, British
98 industrialization was accompanied by a significant decline in biological living stand-
99 ards (measured by stature) during the first half of the nineteenth century. This is just
100 one consequence, among many, of the anarchic growth of British cities during industri-
101 alization and increasing inequalities between their inhabitants. Although the results of
102 anthropometric history are still being debated, the author could have at least mentioned
103 this important area of economic history. But this flaw does not detract from the many
104 qualities of this very fine work.

105

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