

# Metal making in eighteenth-century Sweden

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Måns Jansson, *Making metal making: Circulation and workshop practices in the Swedish metal trades, 1730–1775*, Uppsala Studies in Economic History 110 (Uppsala: Acta Universitatis Upsaliensis 2017). 282 s.

The dissertation by Måns Jansson deals with the making of metal making. The aim of his study is, first, to examine how skills, knowledge, and artefacts within the Swedish metal trades were circulated, adapted and reconfigured in the period between c. 1730 and 1775, second, to analyze how these processes were related to different ways of organizing practices of work, and third, to explain why ideas on how to organize metal-making practices were adapted and reconfigured in the specific ways they were over time. "The extraction, processing and circulation of metals in various forms played a vital part in eighteenth-century societies moving towards modernization", Jansson explains (p. 16). Metal trades are defined in this book as comprising various forms of state-supported metal manufacturing outside the guild system. The focus is on finer metal making, above all cutlery making – the making of objects of everyday use such as knives, forks and scissors.

## *Concepts, argument and findings*

The first chapter starts with a survey of debates on the economic history of Sweden in the eighteenth century and on pre-industrial crafts, manufacturing industries and the transmission of skills in early modern Europe in general. Next, Jansson explains in detail the theoretical and methodological approaches employed in his book. A key element in his approach is the distinction between strategies and tactics. Strategy refers to attempts made (mainly by the protectionist state) to establish control, overview, and order within the manufacturing system and the metal trades, through espe-

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cially regulation, supervision, and the implementation of ideas about how to organize work. Tactics refers to the everyday actions carried out within and related to the strategic conditions: the creative manipulation (or use) of knowledge, materiality, and physical environments by men and women involved in making of metal ware. Strategy thus corresponds to the macro-level, tactics to the micro-level.

A second key element employed by Jansson is the so-called trajectorial method, which means: following the movements of actors and practices. Jansson follows especially the trajectories of state official Samuel Schröder and the Stockholm cutler Eric Engberg through diaries and other records of their travels, but also explores the trajectory of a particular practice, namely the so-called "English way" of making cutlery, which means the implementation of piecework at metal works and urban workshops.

Chapter 1 further discusses concepts such as circulation, grounding, contact zone, bazaar, mindful hand and knowledge and skills, which form essential instruments in Jansson's toolkit, too. Jansson uses "circulation" to denote movements of knowledge, skills and artefacts between specific communities, between different agents and practices as well as between different countries. "Grounding" refers to the ways knowledge, skills and artefacts actually land in different local contexts, and the adaptations and reconfigurations that went with it. The concept of "contact zone" is based on Kapil Raj's *Relocating modern science*, who in turn borrowed it from Mary Louise Pratt's *Imperial eyes*. The meaning of the concept did not remain entirely unchanged in the process. While Pratt conceived a "contact zone" as a space where peoples with different cultural and geographical origins and histories met and established ongoing relations "usually involving conditions of coercion, radical inequality and intractable conflict", Kapil Raj extended its meaning to include zones of contact "between different types of human activity – trade, statecraft, and knowledge-making in the same or different geographical settings".<sup>1</sup> Måns Jansson defines contact zones as any place (a workshop, a manufactory, a metal-making community, a town) where intersections of people and practices in the metal trades occurred. Following Michael Sonenscher's work on French crafts in the eighteenth century, Jansson employs the concept of "bazaar" to designate the coexistence of different patterns of recruitment, training and relations between employers and employees, including subcontracting arrangements, in metal trades in the same local context.

1. Kapil Raj, *Relocating modern science: Circulation and the construction of knowledge in South Asia and Europe, 1650–1900* (London 2007) p. 13, 225; Mary Louise Pratt, *Imperial eyes: Travel writing and transculturation* (London & New York 1992).

Regarding the relation between theory and practice, Måns Jansson is enamored by the concept of the "mindful hand" introduced by Lissa Roberts and Simon Schaffer rather than the notion of "useful knowledge" employed by Joel Mokyr and other authors. In common with Roberts and Schaffer, Jansson thinks that science should not be separated from practices of work but that "knowledge production and material production" should rather be seen as "interwoven dimensions". Hence: "mindful hand": "Knowledge" is defined in the context of his book as "ideas, theories, and experiences related to metal manufacturing in its narrow or wider meanings", "skills" is viewed as connected with "the act of doing something in practice (making, using, constructing etcetera)" (p. 40).

The discussion of theories, methods and concepts in chapter 1 is followed by a number of chapters (2 to 4), which examine the strategic stage for metal making in the eighteenth century, focusing on the efforts of the Swedish state to bring the domestic trades in line with ideas of an all-embracing division of labour. Måns Jansson investigates this development by analyzing regulations concerning industries, by reconstructing the spatial distribution of production sites and by taking a closer look at contemporary descriptions of workshop practices of cutlery making. The central actor in these chapters is Samuel Schröder, who left a vast amount of daily notes on his exploits as supervisory officer of the metal trades in Sweden from 1753 to 1771.

From chapter 5 onwards, we move from the strategic stage, or the perspective from above, to the stage of tactics, the perspective from below – the "ground level" of metal making. Chapter 5 introduces cutler Eric Engberg by focusing on his two journeys in Europe during the mid-eighteenth century. Using Engberg's accounts as main examples, this chapter discusses important aspects of artisans' travels during the period, with a specific focus on circulation and grounding of knowledge and skills.

Chapter 6 discusses the setting up of workshops in the "English way" in Stockholm during the 1740s and 1750s. Eric Engberg and his cutlery works in the capital again figure as the chief example. Yet, by comparing with other artisans and manufacturers, Jansson also presents a broader picture of the connections between urban space, the circulation of skills and knowledge, and attempts to organize work in new ways.

Chapter 7 continues to explore the trajectory of the practice of the "English way", but it does so by looking more closely into provincial metal works such as those in Gusum, Tunafors and Viskafors, and by examining how skills and knowledge on metal making were transmitted from one produc-

2. Lissa Roberts & Simon Schaffer, "Peeface", in Lissa Roberts, Simon Schaffer & Peter Dear (ed.), *The mindful hand: Inquiry and invention from the late Renaissance to early industrialization* (Amsterdam 2007) xiii–xxvii.

tion site to another, especially by tracing the movements of artisans trained at Eric Engberg's workshop. The climax of this chapter is the founding of Eskilstuna Fristad, which was meant as a kind of "model site" for the "English way" of making cutlery in Sweden.

Chapter 8, finally, summarizes the findings and discussions of the preceding chapters and presents the main conclusions of the study as a whole. The most important insight the inquiry has revealed, according to Jansson, is the gradual and diverse nature of change in the Swedish metal trades in the eighteenth century. Metal making practices in this period showed a dynamic character not primarily because of the regulatory framework put into place by the Swedish state nor because of path-breaking innovations introduced by entrepreneurs inspired by experiences in England, but because of continuous intersections and exchanges between a large and diverse set of production units, including small workshops in Stockholm as well as provincial metal works of various sizes and organizational structures. The key to change did not reside in a single, linear driving force, but in a multiform complex of circulations, variations, alternative solutions and recombinations.

### *Evaluation*

*Making metal making* shows Måns Jansson to be an accomplished master of the historian's craft. He has meticulously and skillfully extracted a huge mass of information from a large variety of sources. Next to written sources such as diaries, letters, reports, accounts, guild records and minutes of the Bergskollegium, Kommerskollegium, Manufakturkontor, Riksdag and other state agencies, he has consulted many printed materials such as travel accounts and contemporary economic treatises as well as visual materials such as drawings, plans and prints. The sheer amount of research in archives and libraries that underlies Jansson's argument is truly impressive.

I would like to add just two minor remarks. The goal of the commercial and industrial policy conducted by the Swedish state after 1730 was heavily protectionist, as Måns Jansson reminds us in several places in his book. Its aim was to reduce dependence on imports and to increase domestic production and the consumption of Swedish products, making use of natural endowments of raw materials in the process. To what extent was this goal achieved? A few samples from the national trade statistics and the toll accounts of Stockholm, which contain detailed information about quantities of products imported and exported after 1738, might have given more insight into the impact of the changes in the metal trades from the 1730s onwards. Do the statistics actually show a decline in imports of cutlery and a rise in exports in the middle of the eighteenth century?

Given the prominent place of artefacts in the research questions of this book, it is moreover somewhat surprising that the set of sources does not include material objects. Måns Jansson has not examined artefacts from the eighteenth century themselves. One wonders what surviving items such as knives, forks or scissors could tell us about the work practices or quality of the Swedish metal trades, or what a study of models, machines or implements could add to the insights gathered by following the paper trail.

Another strength of Jansson's dissertation is his ability to combine his extensive collection of historical evidence with sophisticated conceptual reflection. The conceptual apparatus is not dressed up *pour épater le bourgeois*, but functions as a set of effective tools to examine and interpret historical reality. *Making metal making* is a successful mix of descriptive and analytical approaches to history writing.

In some cases, though, the author might have taken a slightly more critical look at the contents of his concepts. The concept of "contact zone" may lose its edge if the key element of "intercultural encounters" is left out of the definition. If (almost) any place where contacts occur can be a "contact zone", what is the specific use of this concept?

There is also an intriguing difference in Jansson's valuation of the concepts "mindful hand" and "useful knowledge". He clearly prefers the former over the latter, but the reasons are not wholly persuasive. In *The gifts of Athena*, Joel Mokyr defined "useful knowledge" as dealing "with natural phenomena that potentially lend themselves to manipulation, such as artifacts, materials, energy, and living beings".<sup>3</sup> Jansson claims that the approach of looking for intersections between strategy and tactics "questions Mokyr's notion of 'useful knowledge'" (p. 142). The "somewhat erratic nature of skills and practices" in his view "questions Mokyr's description of 'useful knowledge'" (p. 162). But why these findings should undermine the notion of "useful knowledge" is not entirely clear, nor is it obvious that the irrelevance of "useful knowledge" in the Swedish case would make the notion "questionable" in general. Roberts' and Schaffer's concept of the "mindful hand", by contrast, appears to be accepted at face value, even though questions about its utility or applicability might be raised, too.

*Making metal making* in fact contains many indications that "mind" and "hand" did not always go together as easily as the notion suggests – not in the sense that there was a "mindless hand", but in the sense that there could exist a "handless mind". Måns Jansson himself actually again and again does make distinctions, also based on contemporary evidence, between theory and practice, or between ideas and practice, without drawing the conclusion

3. Joel Mokyr, *The gifts of Athena: Historical origins of the knowledge economy* (Princeton 2002) p. 3.

that the concept "mindful hand" might be questioned after all. Knowledge production and material production were not necessarily intertwined; separation was actually possible.

*Some further questions*

*Making Metal Making* is thus a carefully researched, clearly written, well-argued and well-structured study on a highly relevant subject at the interface of economic history, the history of technology and the history of knowledge. It firmly redirects the focus of research to the activities of craftsmen and the role of artisanal knowledge. Jansson shows himself to be abreast of the current state of the international debate on early modern workshop practices and the circulation of knowledge and makes an original and important empirical and methodological contribution to the field.

In some respects, the author might have elaborated and strengthened his argument a bit further. It would have been interesting, for example, to read more about the wider relevance of the Swedish case. Were the "strategy" and "tactics" that could be observed in eighteenth-century Sweden similar to, or different, with those that might be found in other northern countries "moving towards modernization", such as Prussia or Denmark? Within Sweden, the focus of inquiry in *Making metal making* is almost exclusively on Swedish actors: Swedish administrators, Swedish artisans, Swedish economic writers, Swedish entrepreneurs. What about the foreign artisans who arrived in substantial numbers in Sweden after 1740? One wonders how the author would assess the role of immigrated artisans compared to artisans trained in Sweden itself? How important was their activity for improvements in production and the circulation of knowledge?

Finally, the book concentrates more on the supply side than the demand side of the metal trades. We learn more about the men who made the knives, forks and scissors, or organized the production, than about the people who actually "bought the stuff". But who were the consumers for whom all this cutlery was produced? In which segments of the market did the workshops and manufactories operate? Did they sell their wares to bourgeois or artisan households or to those of the aristocracy, too? And in what ways and to what extent did demand in turn affect the kinds of products and the kinds of knowledge that were made and exchanged in the metal trades? It is one of the many virtues of Måns Jansson's book that it stimulates the formulation of such further questions for research as well.