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SPECIAL ISSUE: EXPLORING THE HISTORY OF KNOWLEDGE AND EDUCATION

Edited by
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Table of Contents

Nordic Journal of Educational History
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INTRODUCTION

Exploring Histories of Knowledge and Education: An Introduction

Björn Lundberg

In the last few years, the history of knowledge has emerged as a rapidly growing subfield of historical inquiry, with the establishment of new research centres as well as the publication of journals, books, and special issues of academic journals.[1] To a certain extent, the desire to address the role of knowledge in the past can be viewed in light of contemporary social and political processes. A new digital public sphere has shaken the epistemological pillars of democracies in the Nordic countries and the Western world at large. The information superhighway of the Internet has become crowded with vehicles of disinformation, a turn of events few predicted 25 years ago. This course of events has provoked new academic interest in the social and political dynamics of knowledge in society.

Concepts like *fake news* and *alternative facts* have become symbols of this full-on attack on established notions of truth-seeking, but disinformation and knowledge resistance go far beyond the political spin of populist politicians. As Robert N. Proctor has pointed out, knowledge (or the lack thereof) should clearly not be understood simply in cumulative terms, but rather as a complex social and cultural phenomenon.[2] As such, knowledge has a history, or histories, which conveys important insights for the present.

However, the sudden rise of knowledge as a key concern for social activists and policymakers is not the exclusive reason that the history of knowledge has expanded so rapidly in scholarly circles. It has also proved fruitful in its integrative capacities within academia, bringing together scholars from different backgrounds to address new problems. As Johan Östling, David Larsson Heidenblad and Anna Nilsson

1 *Journal for the History of Knowledge*, affiliated with Gewina, the Belgian-Dutch Society for History of Science and Universities, was established in 2020. Recent special issues dedicated to the history of knowledge in other journals include: *History of Humanities* 6, no. 2 (2021); *Berichte zur Wissenschaftsgeschichte* 42, no. 2–3 (2019); *KNOW: A Journal on the Formation of Knowledge* 4, no. 2 (2020); *History and Theory* 59, no. 4 (2020); *Slagmark* no. 81 (2020).

2 Robert N. Proctor and Londa Schiebinger, eds., *Agnotology: The Making and Unmaking of Ignorance* (Stanford: Stanford University Press, 2008); Lukas Verburgt and Peter Burke, "Introduction: Histories of Ignorance," *Journal for the History of Knowledge* 2, no. 1 (2021), 1–9.

Hammar have noted, knowledge can function as an umbrella term that unites researchers from different fields in joint conversation.[3]

For the last five years, historians at Lund University have taken an active role in developing the history of knowledge, establishing the Lund Centre of the History of Knowledge in 2020. One of the stated ambitions of this research centre has been to develop the 'integrative and generative capacities' of the field.[4] In other words, the history of knowledge (in German: *Wissensgeschichte*) should not be seen as a mere expansion of the history of science (in German: *Wissenschaftsgeschichte*).[5] To a significant degree, the history of knowledge has nonetheless taken shape primarily in discussions with researchers from intellectual history, history of science, and, in a Nordic setting, the history of ideas. Other subfields of historical scholarship have been less vocal in embracing or rejecting this newcomer in the discipline of history. Until recently, few studies in educational history have explicitly engaged with the conceptual frameworks developed within the history of knowledge.

This is somewhat surprising, considering how closely the concepts of knowledge and education are intertwined. Granted, historians of education have more or less explicitly dealt with bodies of knowledge or the content and curricula of school subjects for decades.[6] Without using the label "history of knowledge", such studies nevertheless show that historians of education are no newcomers to the study of knowledge in the past.

It is also surprising that research in the history of knowledge has not paid greater attention to education and schooling, considering this rich tradition of dealing with the transfer of knowledge. The articles presented in this issue demonstrate the breadth and analytical potential of studies that bring the concept of knowledge to the foreground of educational history.

Work on this special issue began in April 2020, in dialogue between the editorial board of the *Nordic Journal of Educational History* and the Lund Centre for the History of Knowledge. Soon after I accepted an invitation to act as the editor of a special issue on the history of knowledge for the journal, plans for a themed issue of another journal, *History of Education Review*, edited by Tamson Pietsch and Joel Barnes, were presented. At this time, few publications had yet sought to merge the frameworks of history of knowledge and education, so there was a self-evident need for a bridge-building effort. With these two special issues taking shape simultaneously,

3 Johan Östling, David Larsson Heidenblad and Anna Nilsson Hammar, "Introduction," in *Forms of knowledge: Developing the History of Knowledge*, ed. Johan Östling, David Larsson Heidenblad, and Anna Nilsson Hammar (Lund: Nordic Academic Press, 2020), 9–10.

4 Östling, Larsson Heidenblad, and Nilsson Hammar (2020), 14.

5 Sven Dupré and Geert Somsen, "The History of Knowledge and the Future of Knowledge Societies," *Berichte zur Wissenschaftsgeschichte* 42, no. 2–3 (2019), 186–99.

6 Examples from Sweden include: Niklas Ammert, *Det osamtidigas samtidighet: historiemedvetande i svenska historieläroböcker under hundra år* (Lund: Lund University, diss., 2008); Magnus Hultén, *Naturens kanon: Formering och förändring av innehållet i folkskolans och grundskolans naturvetenskap 1842–2007* (Stockholm: Stockholm University, diss., 2008); Johan Prytz, *Speaking of Geometry: A study of geometry textbooks and literature on geometry instruction for elementary and lower secondary levels in Sweden, 1905–1962* (Uppsala: Uppsala University, diss., 2007); Anna Larsson, "Mobbning: ett tidsbundet socialt problem," *Socialvetenskaplig tidskrift* 2 (2010), 134–48; Cecilie Boge and Anna Larsson, "Understanding Pupil Violence: Bullying Theory as Technoscience in Sweden and Norway," *Nordic Journal of Educational History* 5, no. 2 (2018), 131–49.

readers will hopefully find them complementary rather than repetitive. In any case, the original research contributions stand as a testament to the budding interest in history of knowledge among historians of education as well as to the many possible approaches to research within this framework.[7]

The role of knowledge in education

Like the history of knowledge, the history of education is a vital research field, not least in the Nordic region. In the twenty-first century, researchers in Northern Europe have established international conferences, research collaborations and the journal *Nordic Journal of Educational History*.[8] The research field is interdisciplinary with contributions by scholars of history, pedagogy and sociology.[9] Educational history is often conceptualised in broad fashion, encompassing a wide range of practices "aimed at framing, planning and transmitting cultural and social heritage", as well as the conditions that these practices rely on or sustain.[10] In other words, knowledge is not merely a desired outcome of education – the stuff that learners acquire through educational practices – but deeply intertwined with the political and ideological justification of educational programs (the 'why' of education). It concerns, among other things, the rationale behind governance of education on a state level, the techniques involved in the concrete practices of teaching and learning, and the collection of data for evaluation of educational practices (or student achievements). However, some differences can also be discerned between the history of knowledge and the history of education as research fields. One concerns the institutional relationship to the subject of history. While the history of education in the Nordic countries has had strong ties to the subject of pedagogy and teacher training, the history of knowledge has so far retained a position within the discipline of history.[11] Perhaps it is too soon to give a verdict on whether this has influenced the research practices within these two fields, but it is reasonable to assume that the history of knowledge may strengthen the 'history' of educational history, bringing education closer to questions regarding society at large.

It has been said that all societies are in fact knowledge societies.[12] If we adhere to a definition of education as "the entire process by which a culture transmits itself across the generations",[13] it is clear that knowledge – tacit and explicit, practical and

7 Joel Barnes and Tamson Pietsch, "The history of knowledge and the history of education," *History of Education Review* 51, no. 2 (2022), 109–22. https://doi.org/10.1108/HER-06-2022-0020

8 Björn Norlin and David Sjögren, "Enhancing the Infrastructure of Research on the Nordic Educational Past: The Nordic Journal of Educational History," *Nordic Journal of Educational History* 1, no. 1 (2014), 2.

9 Daniel Lindmark, "Educational history in the Nordic region: Reflections from a Swedish perspective," *Espacio, Tiempo y Educación* 2, no. 2 (2015), 7–22.

10 Norlin and Sjögren (2014), 4.

11 Johannes Westberg, "Vad är utbildningshistoria? Ett forskningsfälts historia, framtid och relation till pedagogikämnet," *Utbildning & Demokrati* 26, no. 3 (2017), 7–37; Anton Jansson and Maria Simonsen, "Kunskapshistoria, idéhistoria och annan historia: En översikt i skandinaviskt perspektiv," *Slagmark*, no. 81 (2020), 13–30.

12 Johan Östling, Niklas Olsen, and David Larsson Heidenblad, "Introduction," in *Histories of Knowledge in Postwar Scandinavia*, ed. Johan Östling, Niklas Olsen, and David Larsson Heidenblad (London: Routledge, 2020), 1.

13 Bernard Bailyn, *Education in the Forming of American Society: Needs and Opportunities for Study* (New York: W Norton & Company, 1972), 14.

theoretical, concrete and abstract – forms the content of what is valued not only as true but also as important for future generations to learn, regardless of educational institutions or formalised curricula. Knowledge has such an important part in educational processes that it may seem superfluous to stress this relationship. To explore the history of knowledge in society is, by definition, to also approach the history of education. Therefore, a broad definition of educational history that includes the transmission of knowledge in society as well as the social and cultural relevance of knowledge and education is needed.[14] As Simone Lässig has pointed out: "The history of knowledge does not emphasise knowledge instead of society but rather seeks to analyse and comprehend knowledge *in* society and knowledge *in* culture."[15]

One of the vantage points for this special issue is to explore what happens when educational researchers turn their attention to the history of knowledge. Do new methods emerge, or rather do we transfer research practices from one field to another? The contributions in this issue address these questions by offering a number of empirical and methodological examples. Together, they illustrate that history of education and knowledge are never singular. What we are dealing with are explorations into the *histories* of knowledge and education.

Knowledge, movement and power

Historians of knowledge have pointed out that knowledge is never a fixed entity. Ideas and beliefs are always in motion, formatted by various media technologies and cultural practices, spread by certain actors on specific arenas. Knowledge moves, flows, circulates across space and time, between individuals and institutions, geographical locations and social groups.[16] Many concepts have been used to describe such flows: communication, circulation, dissemination, and transfer. Each has its own theoretical presuppositions. In this issue, we have adopted an eclectic approach, with various concepts used to describe different movements, depending on the character of the processes involved.[17]

Philipp Sarasin and Andreas Kilcher have argued that the movement of knowledge is always embedded in social contexts. They therefore hold that knowledge arises and circulates under the conditions of complex power relations. It can be too valuable to be passed on voluntarily or rejected because it undermines established truths.[18] In a similar vein, Michel Foucault noted in his famous lecture on the order of discourse, that exchange and communication are "positive figures working inside

14 Heather Ellis, "Editorial: Science, Technologies and Material Culture in the History of Education," *History of Education* 46, no. 2 (2017), 143.

15 Simone Lässig, "The History of Knowledge and the Expansion of the Historical Research Agenda," *Bulletin of the German Historical Institute* 59 (2016), 58.

16 Isak Hammar and Johan Östling, "Introduction: The Circulation of Knowledge and the History of the Humanities," *History of Humanities* 6, no. 2 (2021), 596.

17 For discussions regarding these concepts, see for example: Johan Östling et al., eds., *Circulation of Knowledge* (Lund: Nordic Academic Press, 2018); James A. Secord, "Knowledge in transit," *Isis* 95, no. 4 (2004), 654–72.

18 Philipp Sarasin and Andreas Kilcher, "Editorial," *Nach Feierabend: Zürcher Jahrbuch für Wissensgeschichte* 7 (2011), 9–10.

complex systems of restriction".[19] In other words, studies of the history of knowledge in education may contribute to the study of the "micro-physics of power".[20]

The dynamics of power and knowledge have been addressed extensively in modern historical scholarship, including the history of science and education. Works by philosophers and sociologists of science have long acknowledged various aspects of the power-knowledge nexus.[21] However, from an educational perspective, it may also be valuable to include a very general observation made by Norwegian anthropologist Fredrik Barth about the usefulness of knowledge as an analytical concept. It is true that knowledge is a broad term, running the risk of becoming all-encompassing or imprecise. In his plea to study the use and social function of knowledge in society, however, Barth compared it to another notoriously broad analytical concept: culture. He argued that one of the defining characteristics of knowledge, as opposed to culture, is that knowledge is always unequally distributed in society.[22] While it is generally meaningless (from an anthropological perspective) to talk about individuals of a certain population being more cultural than others, knowledge is tied to hierarchical exclusion and attempts of inclusion with profound cultural effects.[23] As Simone Lässig and Swen Steinberg argue, "power might use knowledge for its own ends, but knowledge also contains a certain emancipatory potential."[24] Thus, the question of who knows what, and why, appears as a fruitful starting point for inquiries into the role of education in wider relationships of power, identity and cultural practice.

Arenas of knowledge

Following the programmatic discussions introduced by Sarasin and Kilcher, and continued by Johan Östling, David Larsson Heidenblad and Anna Nilsson Hammar, it is possible to discern at least three potentially fruitful approaches to the study of the history of knowledge in education.

First, one way to better understand how and why knowledge circulates, is to examine the various *arenas* that have been used for the circulation or communication of knowledge.[25] Traditionally, the history of education has focused broadly on the school system (primary and secondary education), but formal and informal education takes place in all parts of society. The study of communication

19 Michel Foucault, "The Order of Discourse," in *Untying the Text: A Post-Structuralist Reader*, ed. Robert Young (London: Routledge & Kegan Paul, 1981), 62.

20 Michel Foucault, *Discipline and Punish*, Second Edition (New York: Vintage, 1995), 26.

21 For example: Paul Feyerabend, *Against Method: Outline of an Anarchistic Theory of Knowledge* (London: NLB, 1975); Ludwig Fleck, *The Genesis and Development of a Scientific Fact* (Chicago: University of Chicago Press, 1979); Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962); Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (London: Routledge & Kegan Paul, 1958); Edward W. Said, *Orientalism* (London: Routledge & Kegan Paul, 1978).

22 Fredrik Barth, "An Anthropology of Knowledge," *Current Anthropology* 43, no. 1 (2002), 1–18.

23 See also Fredrik Barth, "The Guru and the Conjurer: Transactions in Knowledge and the Shaping of Culture in Southeast Asia and Melanesia," *Man* 25, no. 4 (1990), 640–53.

24 Simone Lässig and Swen Steinberg, "Why Young Migrants Matter in the History of Knowledge," *KNOW: A Journal on the Formation of Knowledge* 3, no. 2 (2019), 215.

25 Östling, Olsen, and Larsson Heidenblad (2020).

of knowledge in society brings educational perspectives from various parts of public life to the attention of researchers. In a 2020 study on the history of sex education in Norway, Kari Harnæs Nordberg showed how schools can be analysed as 'arenas of knowledge', with different actors and stakeholders. Nordberg shows how different bodies of sexual knowledge, in this case ranging from biological to 'Christian' and psychological knowledge, figured in the struggle for influence over Norwegian sex education.[26]

All the articles in this special issue deal with institutionalised education, and illustrate how these institutions interact with other parts of society when knowledge transfers across such spaces. This movement or circulation of knowledge appears as a crucial element in the interaction between educational institutions and society at large, in order to colonise various areas of people's lives.

This is not least evident in the relationship between politics and education. The term *educationalisation* has been used to describe efforts to address social problems by educational means. In his article on the introduction of traffic education in Swedish elementary schools, Joakim Landahl shows how the growing problem of road safety during the emergence of mass motoring required schools to address the problem. Teaching traffic safety included knowledge about rules and regulation, as well as making pupils aware of the gravity of traffic hazards. As the cover image of this special issue suggests, the solutions included simulation of situations in controlled environments (such as the school yard) and measures to increase children's self-control. The introduction of school safety patrols resulted in that children became more active agents in the education of traffic safety.

Arenas of professional knowledge are not isolated entities, but connected to wider networks of interchange. In his article, Daniel Andersson analyses how Christianisation has been taught in Swedish schools during the twentieth century. Andersson takes interest in the relationship between the production of knowledge in academia and the circulation of knowledge in schools. Examining history textbook content about the process of Swedish Christianisation, he argues that secondary education textbooks during the early twentieth century were fairly harmonious with research findings in academia. However, during the second half of the twentieth century, the arenas diverged as historical scholarship introduced new scientific standards while textbooks evolved into a distinct pedagogical genre. Thus, the same author could make different characterisations – not only in form but also regarding factual description – depending on genre and arena. By the end of the century, the knowledge arenas again converged. Andersson's study implies that the "knowledge gap" between the arenas was caused by the nature of new research and values that have framed Swedish education.

Another intriguing example of how knowledge changes when it moves across borders is presented by Marcelo Caruso, who draws attention to the important topic of knowledge *of* education. Widening the geographic scope well beyond Northern Europe, his article explores the colonial history of pedagogy in India. The import of Western pedagogic knowledge during the nineteenth century, and

26 Kari Harnæs Nordberg, "Sex Education and the State: Norwegian Schools as Arenas of Knowledge in the 1970s," in *Histories of Knowledge in Postwar Scandinavia*, ed. Johan Östling, Niklas Olsen and David Larsson Heidenblad (London: Routledge, 2020), 191–207.

the institutionalisation of the "art of teaching", was a prolonged process spanning several decades. Western pedagogic knowledge was imported into a setting with ancient traditions in the art of teaching. Caruso argues that although the status of pedagogic knowledge in Britain was low, the colonial situation in India reframed it and contributed to its *de-subalternization*. Since those proficient in pedagogic knowledge could obtain better employment and social status in the colonial setting, pedagogic knowledge in India came to occupy a more ambivalent place in the epistemic hierarchies than in the metropolis.

Forms and formats

Secondly, to grasp the use and communication of knowledge in education, it is necessary to pay attention to its forms and formats. Due to its diversity and plasticity, knowledge can be practical or theoretical, embodied or tacit, academic or mundane, simple or complex, concrete or abstract. In fact, the different words used to describe such forms or kinds of knowledge is a testament to the varieties of knowledge that abound in educational history. The articles of this issue give numerous examples of the various forms of knowledge that may be important to address in the history of education, including statistical data, pedagogy and textbook history, as well as the use of computers, traffic safety and home economics.

These forms are contingent of formats. Sarasin has argued that knowledge is in fact always *formatted*. If we accept that knowledge does not exist in pure form, but is always materialised and mediated in various formats, then these formats are important to address analytically. Textbooks (Andersson), schoolyards (Landahl) and industry meetings (Guerrero Cantarell) are three of the spaces that have served as arenas for circulation of various forms of knowledge. That these formats matter is an argument presented more clearly in the article on small forms, where Jona T. Garz, Fanny Isensee and Daniel Töpper provide a compelling case for a three-dimensional analysis of paper technology, including its physical format.

Arenas for communicating knowledge thus involve specific material and spatial manifestations. For many years, the classroom, with its desks and blackboards, was the central "media technology" of schools across the world. Audio-visual equipment, such as overhead projectors, filmstrips and VCR projectors, could be added to the list. However, it is reasonable to assume that more quiet or subtler forms of technology, including the paper and pencil, also distinctly affected teaching and learning methods; in other words, the communication of knowledge. In this issue, Garz, Töpper and Isensee bring attention to the materiality of educational practices by scrutinising 'small forms' for recording and transmitting statistical knowledge in the Prussian school system. They propose a methodological approach to the study of communicative practices in educational history that takes into account historical context, materiality and usage of data. By examining pre-printed forms collected by the Prussian educational administration, their analysis of small forms as material and historical artefacts illustrates the agency of paper technology as well as the possibilities of compliance and resistance that were played out between the Statistical Bureau (which designed and collected the forms) and school teachers (who were obliged to use them).

Actors of knowledge

Third and finally, a fruitful approach to the study of knowledge in educational history is to reconceptualise the range of actors involved in producing and sharing knowledge. Rather than understanding 'knowledge actors' exclusively as scientific or academic elites, this perspective acknowledges a broad range of actors who have been involved in the production and circulation of knowledge in society. As David Larsson Heidenblad has pointed out in a recent monograph, the circulation of knowledge in society does not occur by or of itself, but rather because "specific people did specific things at specific times, which triggered chain reactions".[27]

To understand such chain reactions, we should take into consideration the dynamics between senders and receivers of knowledge, which is of great importance in educational settings. Teachers provide an obvious example of "knowledge brokers" in schools, but the definition could potentially include other groups of people not traditionally associated with expertise.[28] From the perspective of education, one group not traditionally understood as knowledge actors are students or pupils. However, as Lässig and Steinberg have pointed out, while children and youth often possess limited abilities to act, they are not mere passive recipients of knowledge, but "possess a certain potential that allows them to translate or even actively produce knowledge".[29] As such, children have contributed to bring knowledge from schools to other areas of society, via friends, parents, or other adult guardians. This is an intriguing area for future research, for which historians of knowledge and education should develop adequate methodologies that may bring forward the contributions of pupils and students to the circulation of knowledge in society.

The articles in this special issue bring forward a range of knowledge actors in the field of education. For example, Karen Andreasen and Annette Rasmussen analyse the actors and organisations involved in the advocacy of home economics as a new field of knowledge in Denmark during the late nineteenth century and early twentieth century. The broad range of parties involved – representing rural interests, women's organisations and trade unions – aligned with the biopolitical concern of the state to form new schools for home economics. Regarding the knowledge content of home economics, Andreasen and Rasmussen argue that the development of this field of knowledge was contradictory in terms of discipline and emancipation. On the one hand, it reinforced the place of women in the private sphere, preventing them from exercising public influence. On the other hand, the development of home economics increased the social status of women by providing opportunities for education and professionalisation, with subjects such as nutrition, chemistry, hygiene and horticulture developing into scientific and educational areas that are still significantly participated in by women in Denmark.

The gendering of knowledge in education is also brought forward by Rosalía

27 David Larsson Heidenblad, *The Environmental Turn in Postwar Sweden*, (Lund: Lund University Press, 2021), 21. See also Johan Östling, Anton Jansson and Ragni Svensson Stringberg, *Humanister i offentligheten: kunskapens aktörer och arenor under efterkrigstiden*, (Göteborg: Makadam, 2022), 25–26.

28 For an intriguing example, see Brian Van Wyck, "Guest Workers in the School?: Turkish Teachers and the Production of Migrant Knowledge in West German Schools, 1971–1989," *Geschichte und Gesellschaft* 43, no. 3 (2017), 466–91.

29 Lässig and Steinberg (2019).

Guerrero Cantarell in her article on how the Fredrika Bremer Association (FBF), one of the oldest women's organisations in Sweden, actively promoted women's education in technology and computerisation during the last two decades of the twentieth century. Guerrero Cantarell argues that the FBF sought to redefine the concept of technology by associating it with features that would appeal to women. The efforts of the organisation to promote this 'feminised' concept of technology included schools and other public arenas in society. By doing so, the FBF drew attention towards the gendering of technology and the role of women in technology in Swedish society.

To conclude, the cases presented here point to the rich possibilities that arise when educational history turns its attention to knowledge. By bringing new approaches to the study of educational arenas and the ways knowledge has moved within, across and beyond institutional settings, readers of this special issue will hopefully find inspiration in the diverse approaches that the authors have used to address issues of knowledge and education. The possibilities are, as evident, manifold.

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The De-Subalternization of the Knowledge of Education? Lecturing Pedagogic Knowledge in Colonial India (approx. 1840–1882)

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Abstract • This article examines the import of Western pedagogic knowledge, knowledge about the theory and principles of education and teaching, in India from its very first formulations in Bengal in the 1840s until its inclusion at the University of Madras in 1882. The article follows the early trajectory of British pedagogical knowledge in the colonial setting, its associated knowledge practices related to its institutionalization in teachers' education institutions and the main contents related to it. The research is based on a wide range of documents about colonial educational policy, particularly related to lectures in education and teaching, and a sample of early manuals of education and teaching. This article shows that, although not fully accepted as a relevant form of knowledge in Britain at the time, colonial educators introduced pedagogic knowledge as a manner of transforming inherited educational practices in India. In this process, colonial officials, missionaries, and upper-caste native authors authored manuals and embodied this kind of knowledge, in what can be interpreted as a de-subalternization of the knowledge of education in the colonial setting.

Keywords • pedagogy, knowledge practices, India, colonial knowledge, manuals

Introduction: The knowledge of education and the colonial situation

When English educational colonial officers reviewed the state of education in India, disparaging comments about the achievements of 'native' teachers abounded. Major Holroyd, for instance, Director of Public Instruction in the Province of Punjab, left no doubt about what was lacking in the country in order to have better teachers: "They have none of those scholastic traditions, the product of long experience in the art of teaching, which do so much to form the characters of teachers in other lands where the art of education has been the slow growth of centuries."[1] The absurdity of this notion, that no scholastic tradition existed in the Punjab, far exceeded the usual disparaging statements pronounced by arrogant British officials faced with the local realities of school education.[2] The Punjab lies at the crossroad of different traditions of writing, religion, and schooling. How could an official so misapprehend the realities that he should have known reasonably well since he had been in service for a long time? It is probable that his contempt was not for "scholastic traditions" as such, since schools apparently existed in the region before the British came. Rather, he was focused on knowledge, "the art of teaching", as he put it, a type of knowledge he equalled with Western forms of thinking about education.

1 W. R. M. Holroyd, *Report on Popular Education in the Panjab and Its Dependencies, for the Year 1873–74* (Lahore: Printed by W. E. Ball, 1874), 63.

2 About Holroyd and his time in office, see Tim Allender, *Ruling through Education: The Politics of Schooling in the Colonial Punjab* (Elgin, Berkshire, Dehli: New Dawn Press, 2006), 123–26.

This article deals with the beginning of the import of a kind of knowledge of education claimed by colonial officials as purportedly new to the country: pedagogic knowledge. The knowledge of teaching and learning conveyed by this term has its own conflicted history in England, as Brian Simon famously suggested. Simon showed that elite public schools and elementary schools, although eminently different, coincided for different reasons in their common aim of promoting attitudes and character formation rather than intellectual development. On this basis, pedagogy, the "science of teaching", did not reach a legitimate and prestigious position within the field of education in England.[3] Yet exactly this kind of knowledge seems to have informed British officials' perceptions about the superiority of Western forms of educational knowledge.

What was the early trajectory of this knowledge in the Indian colonial setting? Did it retain the inferior status that pedagogic knowledge had in the British metropolis? Which knowledge practices contributed to its early institutionalization? What content was associated with it? In the following, I will focus on the first decades of the spread and institutionalization of the "art of teaching", then the main term for pedagogic knowledge, from the middle of the nineteenth century to around 1882, when the first institutionalization of the degree of a licentiate of teaching at the University of Madras[4] signalled the acceptance of pedagogic knowledge even in the highest echelons of the educational hierarchy. Although huge regional variations existed in the development of education in India, I will not focus on any one region or presidency of the colony in particular, since the problem of pedagogic knowledge and its institutionalization was posed as a general, and not a localized one. Certainly, the different educational situations in each province of the colony are also worthy of specific studies. However, the localization strategy followed in this article is institutional rather than regional or political-administrative: I will focus on a *type* of institution emerging all over India in the middle of the nineteenth century: teacher training institutions. For this purpose, I will use published materials and archival documents dealing with the establishment and reform of teacher education in the country. These materials include almost complete series of the official reports on education from all provinces and specific documents from the archives dealing with the establishment of institutions for the training of teachers. In addition, in order to reconstruct the content of pedagogic knowledge, I will include a set of manuals of education and teaching used in these institutions in their first decades.

I will delve into the subject first by looking into the conceptual and historiographical problem of pedagogy and pedagogic knowledge within the broader issue of colonial knowledge transfer. Secondly, I will sketch the introduction of the knowledge of teaching and learning that was labelled the "art of teaching" in the educational scene in Bengal in the late 1830s. I will then hint at the main forms of institutionalization of this type of knowledge in the newly established institutions of teacher education and analyse the main site of articulation of the explicit form of pedagogic knowledge: lecturing on teaching and education and its main textbooks. In sum, I will show that although the subaltern status of pedagogic knowledge in the metropolis, meaning

3 Brian Simon, "Why No Pedagogy in England?," in *Education in the Eighties: the Central Issues*, ed. Brian Simon and William Taylor (London: Batsford, 1981).

4 Alfred Croft, *Review of Education in India* (Calcutta: Printed by Government Printing, 1888), 136.

here its inferior rank in the field of elaborated knowledge,[5] still influenced its introduction and acceptance in British India, the colonial situation reframed it and, to some degree, de-subalternized it.

'Pedagogic' knowledge and the history of colonial knowledge

In this article, 'pedagogic knowledge' may be understood as an explicitly formulated knowledge about the theory and principles of education and, in particular, teaching. Pedagogic knowledge is fundamentally about methods of teaching, but also includes organizational and contextual aspects of the educational work in a rather reflexive way.[6] It is an *explicit* form of knowledge in contrast to other formulations characterizing educational knowledge as embodied, tacit, or implicit. This definition also departs from other formulations in which pedagogy stood for larger and more comprehensive educational outlooks, many of them referring to the German term *Pädagogik* that, since the late eighteenth century, has depicted a whole system of education, teaching, and learning, including its philosophical foundations.[7] Finally, the meaning of pedagogy behind 'pedagogic knowledge' is different from newer meanings such as the "process through which knowledge is produced", including "the transformation of consciousness", a definition assumed in Sumathi Ramaswany's impressive work on the globe as an epistemic device in colonial India.[8] Rather than a "process", a type of explicit knowledge as opposed to implied knowledge of education, teaching, and instruction, found for instance in textbooks,[9] sums up the main perspective of the article.

Pedagogic knowledge of Western provenience represented only one breed of the knowledge innovations that colonialism, for better or worse, brought to the country. One salient global development in the last three centuries has been the ascendance of forms and variations of knowledge that have come to be termed as 'Western', or 'European'.[10] It was not only in India that this knowledge transfer posed enormous

5 Bill Ashcroft, Gareth Griffiths, and Helen Tiffin, *Post-Colonial Studies: The Key Concepts* (London, New York: Routledge, 2000), 198–201.

6 Robin Alexander, "Culture in Pedagogy, Pedagogy across Cultures," in *Learning from Comparing: New Directions in Comparative Education Research*, ed. Robin Alexander, Patricia Broadfoot, and David Phillips (Oxford: Symposion Books, 1999); Johan Muller, "The Well-tempered Learner: Self-regulation, Pedagogical Models and Teacher Education Policy," *Comparative Education* 34, no. 2 (1998).

7 Marianne A. Larsen, "Pedagogic Knowledge and the Victorian Era Anglo-American Teacher," *History of Education* 31, no. 5 (2002), 459.

8 Sumathi Ramaswamy, *Terrestrial Lessons: The conquest of the World as Globe* (Chicago, London: Chicago University Press, 2017).

9 Avril A. Powell, "Old Books in New Bindings: Ethics and Education in Colonial India," in *Knowledge Production, Pedagogy, and Institutions in Colonial India*, ed. Indra Sengupta and Daud Ali (New York: Palgrave, 2011); Sutapa Dutta, *Disciplined Subjects: Schooling in Colonial Bengal* (London, New York: Routledge, 2021); Parna Sengupta, *Pedagogy for Religion: Missionary Education and the Fashioning of Hindus and Muslims in Bengal* (Berkeley, Los Angeles, London: University of California Press, 2011), 51.

10 David R. Ambaras, "Social Knowledge, Cultural Capital, and the New Middle Class in Japan, 1895–1912," *Journal of Japanese Studies* 24, no. 1 (1998); Mohammad Asaduddin, "The West in the Nineteenth-Century Imagination: Some Reflections on the Transition from a Persianate Knowledge System to the Template of Urdu and English," *Annual of Urdu Studies* 18 (2003), 45–65; Tony Ballantyne, "Paper, Pen, and Print: The Transformation of the Kai Tahu Knowledge Order," *Comparative Studies in Society and History* 53, no. 2 (2011).

problems in relation to established native epistemic authority and world views.[11] Beyond narratives of the simple imposition of these forms of knowledge upon defenceless cultures, recent scholarship has delved into more transactional, albeit still unequal models of dealing with knowledge transfer and knowledge imposition.[12] This scholarship has argued that transfer and imposition never resulted in a mere copy or a simple transposition without unintended consequences and conflicting outcomes; and it has also called attention to the limited, but existing agency of local actors and groups when dealing with the challenges of these new types of knowledge.

Imported pedagogic knowledge in India has repeatedly been the object of historical scrutiny.[13] In particular, post- and decolonial approaches have showed some of its effects within the context of colonial workings. For instance, Sanjay Seth convincingly argued that pedagogical criticism – for instance "the anxiety of cram"[14] – advanced new forms of subjectivity in the colonial situation. Similarly, but in another vein, Parna Sengupta maintained that Evangelical pedagogy in colonial Bengal, appropriated and transformed by native authors, contributed to the fashioning of collective reformed communal identities for Hindus and Muslims coping with modern coloniality.[15] One specific aspect of pedagogic knowledge, the Pestalozzian object lessons, has attracted considerable attention.[16] Further scholarship has addressed the question of pedagogic knowledge in a rather indirect way, for instance, when looking into the emergence of the literary canon,[17] or into

11 For India: Peter Gottschalk, "Promoting Scientism: Instituts for Gathering and Disseminating Knowledge in British Bihar," in *Knowledge Production, Pedagogy, and Institutions in Colonial India*, ed. Indra Sengupta and Daud Ali (New York: Palgrave, 2011); Brian A. Hatcher, "Pandits at Work: the Modern Shastric Imaginary in Early Colonial Bengal," in *Trans-Colonial Modernities in South Asia*, ed. Michael S. Dodson and Brian A. Hatcher (London, New York: Routledge, 2012); Deepak Kumar, "'New' Knowledge and 'New' India: Lessons from the Colonial Past," in *Education in Colonial India: Historical Insights*, ed. Deepak Kumar et al. (New Delhi: Manohar, 2013); Larry Stewart, "The Spectacle of Experiment. Instruments of Circulation, from Dumfries to Calcutta," in *The Circulation of Knowledge Between Britain, India and China*, ed. Bernard Lightman, Gordon McOuat, and Larry Stewart (Leiden, Boston: Brill, 2013); Michael S. Dodson and Brian A. Hatcher, "Introduction," in *Trans-Colonial Modernities in South Asia*, ed. Michael S. Dodson and Brian A. Hatcher (London, New York: Routledge, 2012).

12 Khaled Asfour, "The Domestication of Knowledge: Cairo at the Turn of the Century," *Muqarnas* 10 (1993); Eugenia Roldán Vera, *The British Book Trade and Spanish American Independence: Education and Knowledge Transmission in Transcontinental Perspective* (Aldershot etc.: Ashgate, 2003); Tony Ballantyne, "Colonial Knowledge," in *The British Empire: Themes and Perspectives*, ed. Sarah Stockwell (Oxford, Malden/MA: Blackwell, 2008); Sanjay Seth, "Changing the Subject: Western Knowledge and the Question of Difference," *Comparative Studies in Society and History* 49, no. 3 (2007).

13 Major references include C. A. Bayly, *Empire and Information: Intelligence Gathering and Social Communication in India, 1780–1870* (Cambridge: Cambridge University Press, 1996); Bernard S. Cohn, *Colonialism and Its Forms of Knowledge: The British in India* (Princeton: Princeton University Press, 1996).

14 Sanjay Seth, *Subject Lessons: The Western Education of Colonial India* (Durham, London: Duke University Press, 2007), 22.

15 Sengupta (2011).

16 See William J. Glover, *Making Lahore Modern: Constructing and Imagining a Colonial City* (Minneapolis, London: University of Minnesota Press, 2008), xxiii-xxvi; William J. Glover, "Objects, Models, and Exemplary Works: Educating Sentiment in Colonial India," *The Journal of Asian Studies* 64, no. 3 (2005); Parna Sengupta, "An Object Lesson in Colonial Pedagogy," *Comparative Studies in Society and History* 45, no. 1 (2003).

17 Gauri Viswanathan, *Masks of Conquest: Literary Study & British Rule in India* (New York: Columbia University Press, 2015).

the "pedagogic limits" of colonial educational policies confronted with the financial and cultural fundamentals of Indian society.[18] It is against this background that this article looks into the making of pedagogic knowledge itself. The article does not predominantly focus on its effects. Instead, it looks to its programmatic emergence and its first forms of institutionalization and negotiation.

Contrary to the judgements of British actors, pedagogic knowledge as such was anything but new in India. Ancient sources already displayed statements related to patterns of teaching and interaction.[19] Moreover, in the time of the Upanishads (700–200 BC), the teacher actually became "an object of discourse".[20] The Upanishads disapproved of self-study and argued that only when knowledge transmission involved another person could knowledge really be achieved.[21] Accordingly, texts advanced norms for transmitting knowledge, including some for those who would become teachers themselves.[22] Later, still in the Hindu tradition, traces of pedagogic knowledge are evident, as in the case of the famous teacher Adi Shankara (ca. 700 CE), who advocated questions, reasoning, and the use of exegetical strategies when teaching philosophy.[23] These discernible forms of knowledge were also present after Muslim polities dominated most of the subcontinent after 1200 CE. One extremely rare document from the sixteenth century, recorded by the court historiographer Abul Fazl, showed that the powerful Mogul state issued recommendations for teaching in schools to combat the perceived waste of time in many of them. These recommendations included how to write different forms of letters and how to join them. This document displays a clear interest in children gaining understanding and not only learning by memorization.[24] The coming of what was termed as *navavidya* – new knowledge, meaning Western, mostly scientific knowledge – may have challenged the position of these traditions of pedagogic knowledge from the late eighteenth century onwards. It seems, nonetheless, that the arrival of the new knowledge did not immediately impact forms of transmission and the knowledge of teaching and learning associated with them. For instance, in the novel type of schools dedicated to *navavidya* established by Serfoji II of Tanjore, native versions of pedagogic knowledge still dominated.[25]

Recent scholarship is highly divided on the question of local pedagogic knowledge traditions at the eve of colonialism. For Dharampal, a nationalist historian in the Gandhian tradition, "the method of school teaching was superior" to the innovations

18 Akash Bhattacharya, "Pedagogic limits of the colonial state," *Proceedings of the Indian History Congress* 78 (2017).

19 Hartmut Scharfe, *Education in Ancient India* (Leiden, Boston, Cologne: Brill, 2003), 244.

20 Brian Black, *The Character of the Self in Ancient India: Priest, Kings, and Women in the Early Upanisads* (Albany: State University of New York Press, 2007), 29.

21 Joel D. Mlecko, "The Guru in Hindu Tradition," *Numen* 20, no. 1 (1982), 35–36.

22 Black (2007), 52.

23 Jacqueline G. Suthren Hirst, *Samkara's Advaita Vedanta: A way of teaching* (London, New York: Routledge Curzon, 2005).

24 Quoted in: Suresh Chandra Ghosh, *History of Education in Medieval India 1192 AD–1757 AD* (New Delhi: D. K. Publishers, 2001), 67.

25 Indira Viswanathan Peterson, "The Schools of Serfoji II of Tanjore: Education and Princely Modernity in Early Nineteenth-Century India," in *Trans-Colonial Modernities in South Asia*, ed. Michael S. Dodson and Brian A. Hatcher (London, New York: Routledge, 2012), 28–30.

introduced in the nineteenth century.[26] Tim Allender, who has dealt with colonial policies in depth, portrayed Indian teachers at this time as lacking "a pedagogical language to critique their practice".[27] Allender points to the dramatic situation for Indian teachers since it was not only new knowledge that had to be conveyed in schools. The ascendancy of English and the devaluation of inherited forms of knowledge – systems of arithmetic, measurement, laws, and, not least, the somewhat dramatized "sudden death of Sanskrit knowledge"[28] – posed an altogether new situation, in which, increasingly, older forms of knowledge were no longer the first choice for either the colonizers or the colonized. Interested parties such as liberal colonial officials saw in the crisis of inherited pedagogical knowledge an opening for their endeavours. Charles E. Trevelyan, writing in the late 1830s, maintained that these forms of knowledge were disposable: "The Brahminical and Moslem systems belong to bygone days; a large portion of them has become obsolete (…) The associations connected with the new learning, on the other hand, are gaining ground every day (…)".[29] This was not about simple imposition of metropolitan models. Trevelyan and others saw vernacular languages as not being completely appropriated for conveying new knowledge. In his view, the colonial situation and the *navavidya* required new forms of pedagogical knowledge.

The 'Art of Teaching' arrives in the colony

Early administrators of the East India Company supported the establishment of Madrassas and higher Hindu learning institutions, following older traditions of patronage of educated elites by the rulers. The support of these institutions attracted most of the funding.[30] Overall, these first moves in the history of colonial educational policy implied continuity, and not rupture in the culture of teaching and learning. A specific new pedagogic knowledge seemed not to be needed for these prestigious elite institutions. Only the coming of monitorial elementary schools in the first decades of the nineteenth century represented a first rupture in the shaping of teaching and learning. The intended mass-scale of monitorial schools, the highly rationalized and ordered routines, as well as the previously unheard-of devices for the functioning of the monitorial classrooms evidenced the beginning of a new time in the development of educational institutions. Heavily supported by missionary groups,[31] the coming of monitorial teaching, dependent on the agency of advanced pupils rather than on the work of an adult teacher, seemed not to need a reasoned knowledge of teaching

26 Dharampal, *The Beautiful Tree: Indigenous Indian Education in the Eighteenth Century* (New Delhi: Biblia Impex Private Limited, 1983), 14.

27 Tim Allender, *Learning Femininity in Colonial India, 1820–1932* (Manchester: Manchester University Press, 2016), 21.

28 Following the discussion in: Sudipta Kaviraj, "The Sudden Death of Sanskrit Knowledge," *Journal of Indian Philosophy* 33, no. 1 (2005). See also Sheldon Pollock's monumental work about Sanskrit learning: Sheldon Pollock, *The Language of the Gods in the World of Men: Sanskrit, Culture, and Power in Premodern India* (Berkeley, Los Angeles, London: University of California Press, 2006).

29 Charles E. Trevelyan, *On the Education of the People of India* (London: Longman et al., 1838), 110.

30 Michael S. Dodson, *Orientalism, Empire, and National Culture: India, 1770–1880* (Delhi: CUP, Foundation Books, 2010), 44–46.

31 Jana Tschurenev, *Empire, Civil Society, and the Beginnings of Colonial Education in India* (New Delhi: Cambridge University Press, 2019).

and learning. Monitorial schools were designed to function by following detailed manuals, published from 1816 onwards, for the arrangement and management of schools and they did not treat problems of teaching and learning as questions to be generally discussed or reasoned with. Of course, innovations occurred, such as dictation to a big group "of 50 or 100",[32] but monitorial teachers simply enacted these techniques and were not particularly concerned with justifications. As the *Bombay Native School Book and School Society* put it in relation to their trained Maratha teachers, it was sufficient to be instructed in the basic branches of knowledge, including arithmetic "on the European system", and having "a competent knowledge of the improved system of managing schools".[33] The agents of this school society did not consider that the native teachers needed a more reflexive knowledge of teaching and learning.

This radically changed in the 1830s. The famous controversy over English or vernacular education, epitomized in Macaulay's Anglicist minute from 1835, set the stage for an additional problem.[34] If Macaulay and Lord Bentick, the Governor General, endorsed education in English as being the sole branch of instruction worthy of government support, this implied that the education of a larger number of teachers – European and native – with a strong command of English could not be deferred any longer: "At present we are forced to put up with the leavings of every other trade and profession. A missionary who becomes tired of converting, a newspaper writer who has quarrelled with the editor, a shopkeeper who has failed, a clerk in a public office who has lost his place, are the sort of people whom we are forced to look to (…) Teaching is an art to be learned by practice. I have known people of the greatest genius and learning who could teach nothing; and we have scarcely appointed a single person of whom we knew that he was experienced in the art of teaching."[35]

Similarly, missionaries promoted their own plans for the preparation of schoolteachers. When the Reverend William Adam travelled throughout Bengal in the 1830s and wrote a highly celebratory account of the state of native education in the region, he inaugurated a discourse about the need for training in the 'art of teaching'. Adam proposed to communicate "to the body of teachers a superior degree and kind of instruction" and, by this, he meant that "the capacity to acquire and the capacity to communicate knowledge do not necessarily co-exist in the same person (…)".[36] For this purpose, "written directions verbally explained" and "practical example" may be useful;[37] but a third mode combining "precept and example" in

32 *Periodical Accounts, Relative to the Baptist Missionary Society*, vol. XXXIII (London: Burditt and Morris, 1811), 350.

33 Letter of the Secretary of the Bombay Society to the Secretary to Government in Bombay, 6 June 1826, reproduced in: R V. Parulekar, ed., *Selections from Educational Records (Bombay). Part II: 1815–1840* (Bombay, Calcutta: Asia Publishing House, 1955), 261.

34 See the splendid recent re-interpretation of this time by Parimala V. Rao, *Beyond Macaulay: Education in India, 1780–1860* (London, New York: Routledge, 2020).

35 Minutes from 8 September 1837, reproduced in H. Woodrow, ed., *Macaulay's Minutes on Education in India, Written in the Years 1835, 1836, and 1837* (Calcutta: Printed by C. B. Lewis, 1862), 91.

36 William Adam, *Third Report on the State of Education in Bengal* (Calcutta: G. H. Huttmann, Bengal Military Orphan Press, 1838), 163.

37 Ibid.

specialized institutions – the normal schools – was also needed. In normal schools, students should receive "instruction and example (…) in the art of teaching".[38]

The knowledge of "the theory and practice of the art of teaching"[39] entered the educational scene of India. The *Calcutta Christian Observer*, founded by one of the most energic evangelicals, Alexander Duff, introduced the question of the need for this type of knowledge with explicit regulatory and controlling purposes. In an article announcing the formation of a *Christian School Book Society*, the anonymous author warned that caring about the quality of education was as important as advocating its extension. Otherwise, "a swarm of half informed young men"[40] would emerge, whose intonation in reciting literature showed that they neither felt, nor understood "the forces of the passages". This was an "imagined elevation" of the intellect devoid of "morals and religion".[41] The author went on to say that "This evil can only be corrected by paying particular attention to the kind of education imparted, by selecting teachers who are well acquainted with the *art* as well as the *science* of education (…)"[42] Practical men, not scholars, had come to help. Equipped with "the art of teaching" and following "the gradual development of the intellectual faculty", these men could provide for a right understanding of works and content.[43] Here, the art of teaching should provide for a correct handling of content transmission, disciplining meanings and promoting the "right understanding".[44] The headmaster of the Benares English College also considered "that greater attention should be paid to the manners and behaviour of our pupils, that the school-rooms should be matted, and made fit to respectable pupils, that the art of teaching does not come by intuition, but that teachers must be regularly trained to the efficient discharge of their duties".[45] In sum, for these actors, pedagogic knowledge consistently represented a reformist and regulatory type of knowledge. Formulating, theorising, reflecting on the process of knowledge transmission required a type of knowledge enabling an observation of actual practices that, eventually, could correct, or better them. In this sense, the very formulation of an 'art of teaching' was conducive to reflective and reformist intentions opposed to routine and simple custom. This vindication of pedagogic knowledge thrived particularly in missionary circles, whereas official educational policy did not show a particular interest in pedagogic knowledge as an object of educational policy.

Nonetheless, pedagogic knowledge conveyed a tension that would remain critical for its limited institutionalization both in the metropolis and the colony. "The science

38 Ibid., 164.

39 A gentleman in the civil service, *A Treatise on Popular Education in India* (Calcutta: W. Thacker and Co. St. Andrew's Library, 1841), 124.

40 Theta, "The Education of India," *The Calcutta Christian Observer* VIII, no. 85 (1839), 357.

41 Ibid.

42 Ibid., 358. My emphasis.

43 Ibid., 359.

44 Bruce Curtis, "The Speller Expelled: Disciplining the Common Reader in Canada West," *Revue cannadienne de Sociologie & Anthropologie/Canadian Review of Society & Anthropology* 22, no. 3 (1985).

45 *General Report on Public Instruction in the North Western Provinces of the Bengal Presidency, for 1843–44* (Agra: Printed by L. Baptist, at the Agra Ukhbar Press, 1844), App K, xli.

and art of teaching",[46] knowledge focused on methodical knowledge transmission in collective instructional spaces, actually conveyed two conflicting meanings about its nature and status: art and science. This dichotomy in the characterization may have included a linking "and"; but, for institutional purposes, the dichotomy remained problematic because each of these two characterizations could lead to a different type of institutionalization: apprenticeship or higher education. This evoked the perennial problem of the relationship between teachers' training and universities, a contentious issue, even in the Metropolis.[47] Some advocates of a more consistent approach to the art of teaching as a science, like the Scottish physician, polymath and former Secretary to the Council of Education in Bengal, Thomas Alexander Wise in his statement before the Lords Chamber, associated the training in this art with other forms of professional training such as "attending the Courts, or the medical or Engineering College".[48] However, when all the Indian presidencies established normal schools following the Wood's Despatch from 1854, an approach close to a form of apprenticeship was settled upon as the dominant variety. Pedagogic knowledge experienced a first form of institutionalization as an 'art' that would police teachers' mores and, simultaneously, students' learning. In this sense, as an 'art', British discourse on pedagogic knowledge in the colony reproduced notions of a subaltern status of this type of knowledge, as being practical and not scholarly.

Lectures on teaching: a new practice of institutionalized pedagogic knowledge

When normal schools began to be established in India after 1854, the context of their emergence was a radically new one. After the long tenure of the East India Company, the British integrated the Indian territories into their empire as a reaction to the uprisings against British presence in Northern India in 1857. The new direct rule by the Crown meant a more assertive educational policy. British agents had always had to negotiate their forms of ruling and regulating with local actors and mostly avoided altering local customs. The context of the institutionalization of pedagogic knowledge in normal schools after 1858 was different. British attitudes towards local forms of knowledge and local institutions shifted to become quite negative; British racism intensified.[49] The old policy line of respecting existing institutions yielded to a more conscious policy of changing the existing institutions and establishing new ones. All provinces organized different forms of teacher's training in newly established normal schools. These schools were expected to train teachers for elementary and middle schools. Since the knowledge of the numerous vernacular languages was a crucial aspect in training native teachers, British educators still had to cooperate with native agents and *pandits* (Sanskrit scholars).

46 "Normal Institutions in Europe and India," *The Calcutta Review* VIII, no. XVI (1847), 310.

47 David Ross, *Education as a University Subject; Its History, Present Position, and Prospects* (Glasgow: James Maclehose & Sons, 1883). In the first drafts for the establishment of a University in Calcutta, normal schools delivering the "art of teaching" were explicitly part of this scheme of higher education. *General report on public instruction in the Lower Provinces of the Bengal Presidency, for 1845–46* (Calcutta: Military Orphan Press, 1846), 15.

48 *Sesional Papers Printed by Order of the House of Lords: Government of Indian Territories*, vol. XXIX (London: n.d., 1852–3), 226.

49 Barbara D. Metcalf and Thomas R. Metcalf, *A Concise History of India* (Cambridge: Cambridge University Press, 2001), 100–7.

As the British increasingly bought into the idea that a more reflexive understanding of teaching and learning, through pedagogic knowledge, should open a new era of education, they also brought with them meanings that were not only positively associated with this endeavour. The English semantics of the 'pedagogue' and 'pedagogy' bore pejorative meanings. A preliminary analysis of the use of these words showed that they conveyed meanings of the pedantic and of artificial self-importance.[50] Even a verb, "to pedagogue", existed, meaning "to teach with the airs of a pedant".[51] Traces of these meanings survived well into the nineteenth century and may have contributed to the fragile status of pedagogic knowledge in the British Empire. In the 1860s, when an English school inspector wanted to speak to the Vice-President of the Education Department, Robert Lowe, about a "professional" question, he promptly replied: "I know what you've come about, the science of education. There is none. Good morning".[52] This was for a long time the prevailing attitude of the elite towards pedagogical knowledge. Accordingly, many British authors admitted pedagogic knowledge only as a kind of knowledge suited for the arts, without a theoretical and reflexive status befitting a science.

When normal schools became the privileged sites for cultivating and propagating pedagogic knowledge, the options discussed in the metropolis – pedagogy and the art of teaching as 'art' or 'science' – were reconsidered in the context of the colonial situation. 'The art of teaching' in the curriculum of normal schools looked to integrate both more reflexive, intellectual as well as more practical and embodied forms of knowledge. John Murdoch, the Dean of missionary education in South India, proposed different activities in his manual for teachers *Hints on Education in India*. First, lectures on teaching, "or examination on a text-book on the subject";[53] second, the "inspection of the Model School", where regular teachers had to observe routines; third, "teaching in the Model School" under supervision; and lastly, "criticism Lessons", where teachers prepared and conducted a lesson and, after dismissing the children, a critique of the lesson by the head teacher should take place.[54] Here, I will focus on the new practice of lecturing on education, teaching and school management as a novel site of knowledge formulation and spread where pedagogic knowledge was neither implied, nor embodied, but appeared in an explicit, reasoned and systematic shape. Even native observers considered these lectures to be the crucial difference to older forms of teachers' apprenticeship.[55] Through the

50 Marcelo Caruso, Daniel Przygoda, and Friedrich Schollmayer, "'Pedagogic' – A Preliminary Thesis on a Lexical Innovation during the European Enlightenment," in *Folds of Past, Present, and Future: Reconfiguring Contemporary Histories of Education*, ed. Sarah Van Ruyskensvelde et al. (Berlin, Boston: de Gruyter, 2021).

51 John Ash, *The new and complete dictionary of the English language*, vol. II (London: Printed for Edward and Charles Dilly, 1775), n.p.

52 Quoted in: Map Hirsch and Mark McBeth, *Teacher Training at Cambridge: The Initiatives of Oscar Browning and Elizabeth Hughes* (London, Portland: Woburn Press, 2004), xxii.

53 John Murdoch, *Hints on Education in India; With Special Reference to Vernacular Schools* (Madras: Printed at the Scottish Press, 1860), xiv.

54 Ibid., xiv-xvii.

55 See the Report of the headmaster of the Calcutta Normal School, Baboo Gopal Chunder Banerjee, in: *General Report on Public Instruction in the Lower Provinces of the Bengal Presidency, for 1860–61* (Calcutta: Preinta at the Bengal Military Orphan Press, 1862), Appendix A, 81.

lectures, the general and ambivalent expression 'art of teaching' was being translated into discernible "knowledge practices".[56]

Lecturing on education was by no means an easy sell since many officials and experts sided with those who saw pedagogic knowledge as inherent to an art rather than being primarily an intellectual product. For instance, Mr. Woodrow, inspector of schools in East Bengal, described this instruction as "practical" and observed: "in this way the Pundit will be drilled in the art of teaching (…)".[57] As the Normal Department of Poona College noted, pedagogic knowledge conceived as a part of drilling was a widespread view of officials wishing to emphasize "training" and not studying.[58] In sum, the usual opinion among officials was probably reflected by the sceptical question posed in the *Bombay Quarterly Review*: "Is there one who has made the science of teaching a study, or indeed is, at present, capable of studying it as a science?"[59] Still, other actors opened perspectives complementary to the need of simply training in the 'art'. Some missionaries differentiated between "instruction in the *science* of teaching" [my emphasis, MC] and the supervision of the "practice of the art of teaching".[60] Similarly, the *Calcutta Review*, close to missionary endeavors, argued that if education "is a science as well as an art", then both "study and practice" were necessary.[61] Regardless of these diverging views on the subject, lectures and courses on education began to enter the curriculum of the teacher training institutions in the metropolis and the colonies as well.[62]

Lectures on education, teaching, and school management constituted the knowledge practice that had the strongest connection with the idea of the knowledge of education as being a "theory" or a "science". Knowledge of different sorts – philosophical, psychological, organizational, didactical – found a place of systematization and communication in these lectures. Whereas official documents often assumed that all teacher education institutions held some lectures for their students, reality often proved the contrary. T. C. Hope, education inspector in the Bombay Presidency, reported that the new director of the Ahmedabad normal school found in 1858 that students did not know "much of the principles or art of

56 I follow with this term Peter Burke, *A Social History of Knowledge II: From the Encyclopédie to Wikipedia* (Cambridge: Polity Press, 2012).

57 *General report on public instruction, in the Lower Provinces of the Bengal Presidency, for 1856–57* (Calcutta: John Gray, Calcutta Gazette Office, 1857), App. A., 25.

58 *Report of the Board of Education from January 1, 1850, to April 30, 1851* (Bombay: Bombay Education Society's Press, 1851), 63. Similarly, R. T. H. Griffith, *Report on the Progress of Education in the North-Western Provinces for the Year 1875–76* (Allahabad: North-Western Provinces Government Press, 1876), 36.

59 "Government Education in the Bombay Presidency," *The Bombay Quarterly Review* IV, no. 11 (1856), 334.

60 *Report of the Bombay Branch of the Christian Vernacular Education Society for India, A. D. 1867* (Bombay: Printed at the "Oriental Press", 1868), 9.

61 "Normal Institutions," 297.

62 For England: Wendy Robinson, *Pupil Teachers and their Professional Training in Pupil-Teacher Centers in England and Wales, 1870–1914* (New York: The Edwin Mellen Press Ltd., 2003). For India: Marcelo Caruso and Maria Moritz, "The Indian Female Pupil-Teacher: Social Technologies of Education and Gender in the Second Half of the Nineteenth Century," *South Asia Chronicle* 8 (2018); Aarti Mangal, "A Century of Teacher Education in India: 1883–1985," *Espacio, Tiempo y Educación* 7, no. 1 (2020).

teaching" and ordered the introduction of lectures in the re-arranged timetable.[63] Once organized, lectures had to give precedence to other duties of these schools, so that the teacher training school in Burdwan admitted that only "some" lectures had taken place so far.[64] Even in the 1870s there were not lectures on education, teaching or school management in the female normal schools in the North-Western Provinces.[65] In cases in which only one head teacher governed the normal school, it was almost impossible to lecture on the "art of teaching". Accordingly, a second teacher was often needed, as in the normal school in Gowhatty (Asam), so that the head teacher could "give his undivided attention" to instructing the students in the new subject.[66]

Overall, the status of lectures conveying systematic pedagogic knowledge was, at best, fragile. The conclusions of a commission set up by the government in Calcutta for the reform of education in 1856, show this very clearly. To be sure, the lower class of normal schools "should enter upon the *Science* of Education", but "we would advise their being instructed in this, somewhat after the tutorial plan, rather than by lectures. They should read approved works on the subject, to be selected by the Normal Superintendent. These should daily be read with him in class, so as to give the pupils the benefit of his explanation and remarks. Once a week, each Normal Scholar should write, if possible from memory, an abstract of the week's reading; and give his views thereon in approval or otherwise."[67]

The quoted report hints at another consequence of organizing pedagogic knowledge as 'lectures'. The specific setting of a 'lecture', usually associated with higher education, placed them ideally as a prerogative of the (mostly European) director of the normal school.[68] For instance, in the normal school in Patna the European superintendent was in charge of lectures in education and teaching for all three courses and for both departments, the Persian-Urdu and the Sanskrit-Hindi.[69] Similarly, Mr Dick, inspector in Rawalpindi (Punjab), suspected that the superintendence of the local normal schools was not in the right hands: "In my opinion the normal school should occupy an intermediate position, both in dignity and emolument between the upper school and the college, and ought to have a European superintendent who is himself conversant with all the approved methods of western teaching."[70] Sound pedagogic knowledge was associated with a

63 *Report of the Director of Public Instruction, Bombay, for the year 1858–59* (Bombay: Education Society's Press, 1860), 185.

64 *General report on public instruction in the Lower Provinces of the Bengal Presidency, for 1862–63, with appendixes* (Calcutta: Printed at the Baptist Mission Press, 1864), App. A, 225.

65 M. Kempson, *Report on the Progress of Education in the North-Western Provinces for 1873–74* (Allahbabad: Printed at the North-Western Provinces' Government press, 1874), 73.

66 Letter from W. S. Atkinson, to the Government of Bengal, 28 February 1863, N°648. National Archives of India, Delhi (hereafter NAI), Home Department, Education, April, N°5–6.

67 *Report of the Commitee for the Improvement of Schools* (Calcutta: Serampore Press, 1857), App. J, 52.

68 See, for instance, the close association between the employment of a European headmaster and the "art of teaching" in the case of the normal school in Jubbulpore. NAI, Home Department, Education. Proceedings – April 1875, N°4–10.

69 *General Report on public instruction in the Lower Provinces of the Bengal Presidency, for 1863–64, with appendixes* (Calcutta: Printed at the Baptist Mission Press, 1865), App. A, 215.

70 Holroyd (1874), 90.

knowledge almost exclusively commanded by Europeans. Examples of this abound. The Government of the Bombay Presidency was "aware of the urgent need for European teachers of 'method,' or the art of teaching, in this Presidency".[71] When authorities looked for a new director for the Normal School in Jubbulpore (Central Provinces) the preference clearly was to have "a competent European teacher of the art of teaching".[72] British officials in Bombay suspected that the lectures in the normal schools were of poor quality and recommended that high school teachers, who could speak English, should spend some time "under an English teacher of method in Bombay".[73] The main problem with this view was the question of language. Very few of the school directors really spoke native languages, so that only persons with a command of the native languages could deliver the lectures.

Self-complacent British opinion deemed native teachers as potentially good for imparting school knowledge, "but let any one who has had opportunities, as we have had, of becoming well acquainted with the best of the educated natives, candidly ask himself whether he has met one who can be deemed to possess those qualities which are absolutely essential for him before he can be fitted to put youths through a course of intellectual training. Is there one who has made the science of teaching a study, or indeed is, at present, capable of studying it as a science? As we have before said, we give these young men the credit of being able to impart a *certain* amount of knowledge, but surely this is a very small part of a system of education."[74] Pedagogic knowledge, particularly when conceived of as a "science", could seemingly have functioned as a gate keeper for aspirational natives. Tellingly, when native teachers lectured on education, as in the case of Mr. Myputram in the normal school in Ahmedabad at the end of the 1850s, these lectures were described as treating only "school management", one of the most practical and normative parts of the lectures.[75]

But native actors also increasingly reclaimed their own expertise on the knowledge conveyed by the lectures. One of them, Bhudeb Mukhopadhyay, a noted educator, government official and book author, characterized as a transformative conservative,[76] asserted his own authority as a representant of new pedagogic knowledge in his inspection tours throughout Bengal. In his instructions to the headmasters of the training schools regarding the teaching in traditional Bengali schools called *patshalas*, he stressed: "I have required the Head Masters of the Training schools to give lectures to their pupils on the comparative merits of what might be called the *school* and the *patshala* methods of instruction. It has been thus made necessary for the masters of the Training schools to think well on the effects of any changes which they might be disposed at any time to introduce. These lectures on method

71 *Report Bombay 1858–59*, 55.

72 Letter from J. W. Neill, to the Inspector of Education in the Central Provinces, N°335, 29 January 1875. NAI, Home Education A, Proceedings April 1875, N°4–10, 5.

73 *Report of the Department of Public Instruction in the Bombay Presidency, for the year 1868–69* (Bombay: Educational Society's Press, 1869), 43.

74 "The Annals of Native Education," *The Bombay Quarterly Review* II (1855), no. III: 165.

75 *Report Bombay 1858–59*, 185.

76 Satadru Sen, "The Conservative Animal: Bhudeb Mukhopadhyay and Colonial Bengal," *The Journal of Asian Studies* 76, no. 2 (2017).

are in every instance revised by me ere they are discussed before the pupils."[77] The introduction of Western-coded pedagogic knowledge and a new knowledge practice of lecturing by British and native teachers in the subject was therefore consolidated.

Not only colonial voices: The content of lectures through their textbooks

The considerable language barriers impeded the British from monopolizing pedagogic knowledge, particularly when addressed to prospective vernacular teachers, who did not speak English. Moreover, reform-oriented natives problematized the inherited pedagogic culture in schools and came to be intrigued with the new versions of pedagogic knowledge brought by the British. The famous intellectual Raja Rammohun Roy had already complained not only that "real knowledge", meaning scientific knowledge, had to be propagated, but the "Sanskrit system of education" including its pedagogical preferences had to be changed.[78] Native voices in Bengal came to criticize the inherited forms of schooling by the middle of the century, for instance, when the *bhadralok*, literary elites, complained of the bookish (*punthigata*) nature of the new liberal education, or when they criticized the emphasis of the old *gurukuls* ('Guru' schools) on character and not intellectual education.[79] When focusing on natives as actors conveying pedagogic knowledge, one central point has to be emphasized: almost all these authors, some of them prestigious pandits serving the colonial administration,[80] the native teachers in normal schools, and even the large majority of the students were from higher-caste backgrounds. Although detailed studies are still lacking, sources show that the institutional context of normal schools was strongly Brahminical, although it also included members of writing castes.[81] In a society heavily structured through these lineages, this fact is of great significance when estimating the status of the knowledge these natives conveyed.

Evidence about the content of the lectures is scarce, but occasionally available. When asked to generally describe the plan for normal schools in Bengal, one educational inspector summed up as follows: for the third years' class, "lectures and practice in the School"; in the second years' class, "Bhodeb Siksha Dihayaka and lectures and practice in the school"; lastly, for the first years' class "Lectures on the Pestalozzian system and practice in the school".[82] A year later, "Bhudeb's art of teaching. Practice in the Model School. Practice in judging of weights, measures,

77 *Report Bengal 1862–63*, Appendix A, 221. Italics in the original.

78 Quoted in: Alok Mukherjee, "Early English Textbooks and Language Policies in India," in *Language Policy and Education in India. Documents, contexts and debates*, ed. M. Sridhar and Sunita Mishra (London, New York: Routledge, 2017), 13.

79 Tithi Bhattacharya, *The Sentinels of Culture: Class, Education, and the Colonial Intellectual in Bengal (1848–85)* (Delhi: Oxford University Press, 2005), 168, 162.

80 About the pandits in the colonial situation, see Brian A. Hatcher, "What's Become of the Pandit? Rethinking the HIstory of Sanskrit Scholars in Colonial Bengal," *Modern Asian Studies* 39, no. 3 (2005); Brian A. Hatcher, "Pandits at Work: The Modern Shastric Imaginary in Early Colonial Bengal," in *Trans-Colonial Modernities in South Asia*, ed. Michael S. Dodson and Brian A. Hatcher (London, New York: Routledge, 2012); Satadru Sen, "The Conservative Animal: Bhudeb Mukhopadhyay and Colonial Bengal," *The Journal of Asian Studies* 76, no. 2 (2017).

81 Krishna Kumar, *Politics of Education in Colonial India* (London, New York, New Delhi: Routledge, 2014), 93.

82 *General report on public instruction in the Lower Provinces of the Bengal Presidency, for 1859–60* (Calcutta: Printed at the Bengal Military Orphan Press, 1861), App. A, 8–9.

and distance" was added to the first years' class; and "Bhudeb's Shikhya Bedhayak, and lectures of the Art of Teaching. Practice in the Model School"[83] was added to the second years' class. Finally, another year later, the plan discarded the lectures on the Pestalozzian system.[84] This description already shows that the mention of a particular book usually replaced a detailed list of contents. For this reason, one major possibility for reconstructing institutionalized pedagogic knowledge included in the lectures entails an analysis of the main content of these books.[85]

In general, the problem of how to convey pedagogic knowledge to 'native teachers' and 'native students' was closely related to the availability of these suitable books. Reginald Thornton, a British official reporting from Agra in the 1840s, saw serious difficulties in instructing in the art of teaching: "I therefore propose that a short treatise explanatory of the principles of teaching, such as the classification of scholars, questioning and cross-questioning them on their lessons, spelling, writing from dictation, keeping registers of admission and dismissal, and of the daily attendance and position of every boy in his class, be prepared and put into the hands of the teachers (…)."[86] When normal schools were established, the Director of Public Instruction in Madras complained that, "a manual on the art of teaching" was needed, "but at present nothing sufficiently simple is available".[87] This lack of suitable books was also felt in Bengal, but with a further condition, "such a manual ought not to be a translation, but should to a great degree partake of the character of an original composition, and comprise all that is wanted to convey instruction in the art of Teaching, the proper arrangement of classes, the discipline to be maintained and in short all the branches of a Teacher's duty."[88] Nonetheless, manuals on education and teaching were used across the subcontinent in the lectures of the normal schools.[89] Examiners and inspectors often brought the manuals into focus when they examined the normal school students. In Dhaka, in 1857, examination questions included "What books have you read on the art of teaching? Give an epitome of some one of these books".[90] Inspectors posed similar questions in Patna in the same year – "Have you read any books on Teaching? If so, enumerate any

83 *Report Bengal 1860–61*, App. A, 24–25.

84 *General report on public instruction in the Lower Provinces of the Bengal Presidency, for 1861–62, with appendixes* (Calcutta: Printed at the Baptist Mission Press, 1863), App. A, 13.

85 See Sengupta, *Pedagogy for Religion*, 81–101, for a detailed analysis of the Bengali manuals of the 1860s and 1870s in relation to new forms of subjectivity. On the dynamics of printing culture, see Robert Darnton, "Book Production in British India, 1850–1900," *Book History* 5 (2002), 239–62. A case study of a printer with a focus on textbooks and educational treatises: Ulrike Stark, *An Empire of Books: The Naval Kishore Press and the Diffusion of the Printed Word on Colonial India* (Ranikhet: permanent black, 2008).

86 *Report NWP 1843–44*, App. I, lxxix. Similarly, *Report Bengal 1856–57*, App. A, 158.

87 *A copy of the Report of the Director of Public Instruction at Madras, for the Year 1857–58* (London: Ordered by the House of commons, 1860), 24.

88 *Report Bengal 1856–57*, App. A, 158.

89 For evidence of the use of Murdoch's text, see: *Report of the Bombay Branch*, 9; for Mukhopadhyay: *Report Bengal 1863–64*, App. A, 269; for Fowler: *The Twenty-Ninth Annual Report of the American Madura Mission* (Madras: Printed at the American Mission Press, 1863), 27; for Bandyopadhyay: *General report on public instruction in the Lower Provinces of Bengal, for 1870–71, with appendices* (Calcutta: Printed at the Bengal Secretariat Press, 1871), App. A, 118.

90 *Report Bengal 1856–57*, App. C, 86.

methods recommended therein for teaching any particular branches to learners"[91] – or in Chittagong: "What books have you read, and what instruction have you received on the art of teaching"[92] Years later, in Jubbulpore (Central Provinces), the inspector referred to the examination in the art of teaching as the examination in the "school manual".[93] In sum, there is no doubt that a closer look at these books offers an acceptable proxy for the content of the lectures on education and teaching in normal schools.

A provisional survey of manuals covering education, teaching and school management published in India from the establishment of the first normal schools in the 1840s until 1882 resulted in a group of 21 texts with a total of 35 editions. These editions include for instance one text that was translated into three different languages. Out of this group of 35 editions, one third was in Bengali (12), followed by Urdu (5), Tamil (5), English (4), Oriya (3), Gujarati (2), Hindi (2), and Marathi (2). All the texts mentioned in the sources as being used in the lectures in normal schools are identifiable in the survey. Not least because of the challenging variety of languages, I will focus on five of these texts when looking at the contents of the lectures. Whereas two of these texts were originally written in Bengali – Bhudev Mukhopadhyay's *An Introduction to the Art of Teaching* (*Sikshavidhyaka prastava*, 1856, 1860, 1881) and Gopal Chunder Badyopadhyay's *An Elementary Treatise on Education* (*Shikshapranali*, 1864, 1868, 1872)[94] – English educators authored the other three texts, although all these manuals were translated into vernacular languages of the country: John Murdoch's *Hints on Education in India* was published in English (1860) and Tamil (around 1870); Henry Dunn's *Principles of Teaching* was translated and published in Urdu (1872); finally, John Townshend Fowler's *Discipline and Instruction* was first published in Tamil (1860, 1865), translated into Marathi (1865) and Gujarati (1872), before the author edited it himself in English (1881). His manual was the only one explicitly reflecting lectures originally delivered to "Normal Students" in India.[95] These five manuals totalled 15 of the identified editions and cover some of the most important Indian languages. The analysis focuses on the main themes addressed in the books and not on questions related to, for instance, conceptual changes through translation or further elaborations of the native translators or authors.

Regarding the contents, all the treatises went well beyond plain and simple instructions and definitions. To different degrees, all the manuals included three different types of pedagogic knowledge. First, general principles and comments

91 *General report on public instruction in the Lower Provinces of the Bengal Presidency, for 1857–58, with appendixes* (Calcutta: Printed by C. B. Lewis, Baptist Mission Press, 1859), App. C, 59.

92 *General report on public instruction in the Lower Provinces of the Bengal Presidency, for 1858–59, with appendixes* (Calcutta: Printed by P. M. Ckanenburgh, Military Orphan Press, 1860), App. C, 69.

93 *Report on Education in the Central Provinces, for the Year 1881–82* (Nagpur: Printed at the Chief Commissioner's Office Press, 1882), 65.

94 Bhudev Mukhopadhyay (1827–1894) was a schoolteacher and writer, appointed in 1856 as the Principal of Hooghly Normal School, and in 1862 as an Assistant Inspector to Schools. He served for one year (1882–1883) as the first native Director of Public Instruction in Bengal. Gopal Chunder Bandyopadhyay was headmaster of the Calcutta Normal School.

95 J. Townshend Fowler, *Discipline and Instruction, Containing Some of the Principles on Which a Schoolmaster Should Act in Governing and Teaching* (Madras: Printed by Addison & Co., 1881), Preface.

abounded. These included different headings, such as the need of education of the people in general and the necessary training and education of teachers in particular together with "the principles upon which pupils should be training in schools" (Mukhopadhyay),[96] "general principles of education" (Bandyopadhyay),[97] "the pleasantness of teaching" (Dunn),[98] or "ability to govern" (Fowler).[99] Second, manuals regularly included a separate chapter on school management. Under this general term, they discussed the general arrangement of schools, school apparatus, classification of pupils, registers, timetables, and all things related to the general order of the classrooms. Third, many chapters referred to the teaching of individual subjects, including quite new forms of school knowledge for India such as geography, history, drawing, or even physical education. Sometimes integrated into the general principles, sometimes into the question of school management, considerations about discipline, punishment and rewards were ubiquitous.

Although these three major themes were present in all manuals suggesting the emergence of a shared knowledge canon, the concrete organization of pedagogic knowledge varied greatly across the manuals. Murdoch's manual is a good example of a deductive form of organization of pedagogic knowledge. He began with his "general principles", covering the "nature of education", "teacher's qualifications", "discipline", "method" and "questioning" and then descending into the "special subjects of instruction" and finally to "school management".[100] Yet in Bandyopadhyay's book, general but not abstract considerations about "the duty of parents to give proper education to their children", or "the necessity of learning first the mother language" preceded questions related to school management and discipline and only in the fourteenth chapter (!) did he discuss "general principles of education."[101] Whereas Murdoch intended a kind of knowledge that advanced in a rather deductive way, derived from first principles and classifications and maintaining a precedence of systematic considerations over practical questions, Bandyopadhyay preferred a series of situated considerations followed by practical questions and ending with general orientations. Fowler's text was, in this respect, probably the most diverse in the structuring of chapters and headings. It proceeded from general considerations to "punishment", "rewards", "discipline, "instruction", and "regularity and punctuality", somewhat going from the general to the specific. The list of contents of his manual comprised fully six pages in a book with less than 90 pages. The list of "contents" resembles a list of sentences, quoted from the lectures, that could be memorized. These sentences constituting the titles in the list of contents were highlighted in bold type in the middle of the running text. This shape of the text was not only practical; it also implies an assumption of the author

96 Bhoodeb Mookerjea, *An Introduction to the Art of Teaching*, 2nd ed. (Calcutta: Kalikātā Śucāru yantra, 1860).

97 Gopal Chunder Bandyopadhyay, *An Elementary Treatise of Education, its Systems and Principles, with Practical Hints and Examples*, 4th ed. (Calcutta: Hitaishi Press, 1885), 113–39. I use the fourth edition that was almost identical to the second one from 1868.

98 Henry Dunn, *Principles of Teaching, or the Normal School Manual* (London: Published by the Sunday-School Union, 1839), 9–10.

99 Fowler (1881), 5.

100 Murdoch (1860), respectively 1, 7, 12, 18, 21, 31, and 109.

101 Bandyopadhyay, *An Elementary Treatise*, respectively 11, 28 61, and 113.

about the limited ability of the teachers who might use this manual. Eventually, the context for the origin of this textbook, actual lectures on education and instruction at the normal school in Madras, may have convinced him to disaggregate more complex arguments into step-by-step considerations.

The elements and organization of pedagogic knowledge displayed in these manuals shared some common features, but also showed plenty of room for variation. In this first exploratory analysis, commonalities stood in focus, largely leaving questions such as reinterpretation through translation, semantic local innovations, or the referencing of traditional categories while introducing the new type of knowledge[102] for further analysis. This first approach to institutionalized pedagogic knowledge, as presented in the lectures conducted in normal schools, revealed that actors had to grapple with a new kind of knowledge whose classification and mastery was everything but simple. Pedagogic knowledge did not guarantee good teaching, but actors deemed it necessary at least for avoiding errors and for preparing the more practical parts of pedagogic training. Pedagogic knowledge certainly included a series of instructions to be followed. Yet, in general, even in school management and in the teaching of specific subjects, largely operational and normative forms of knowledge, all texts presented a type of knowledge that frequently was reasoned and commented on rather than only given, or simply stated.

Discussion: The knowledge of education, colonialism, and native hierarchies

The long-term impact of lecturing on education and teaching is anything but simple to assess. In the short-term, backlashes were common. Although lectures were supposed to make the reasonings behind organizational and didactical decisions understandable, the 'bookish' nature of pedagogic knowledge displayed in the lectures led many students to simple rote learning, contradicting the very purposes of stressing the importance of the 'art of teaching'. The inspector Mr. Constable in the North-Western Provinces observed that "the art of teaching" was "a subject somewhat distasteful to the Natives";[103] this may have been a factor in why inspectors often complained that "the answers to the written questions on the Art of Teaching were miserably bad".[104] Certainly, the notions associated with pedagogic knowledge, particularly with its institutionalization in normal schools, had to be introduced to the general public, as Máhádeo Govind Shástri, school inspector of the first division in the Bombay Province, did in the locality of Sattara in 1853: "In my conversations with the people I was very sorry to find that a majority of them entertained very wrong notions regarding the important subject of education (…) The prevailing notion is that 'anybody can be a schoolmaster.' As this notion is highly prejudicial to the self-supporting system, I took great pains to correct it, and to convince the people that the art of teaching is the most important and most difficult of all arts. When I directed their attention to the various capacities, tastes, and tempers of their children

102 Siddharth Satpathy, "The Quest for Sahitya: Rise of Literature in Colonial Orissa," in *Language Policy and Education in India: Documents, Contexts and Debates*, ed. M. Sridhar and Sunita Mishra (London, New York: Routledge, 2017).

103 M. Kempson, *Report on the Progress of Education in the North-Western Provinces* (Allahbabad: Printed at the Government Press of the North-Western Provinces, 1872), 66.

104 *Report Bengal 1856–57*, App. A, 50.

collected in a school, and made them feel that the object of the school is not only to instruct the children in various branches of knowledge, but to repress bad passions, and at the same time to develop the better feelings of the heart, they themselves acknowledged that to effect all this great skill is required, and that an inexperienced man, who has not learnt the art of teaching, will never be able to manage a school properly."[105] From a historiographical point of view, a sceptical view of this too-optimistic account is highly advisable. Nonetheless, pedagogic knowledge may have made its way into local actor groups. In Jubbulpore (Central Provinces), local schoolteachers formed a society for the diffusion of "useful knowledge" under the direction of Mulvi Sufdur, the district inspector of schools. Not only schoolmasters, but also "a good sprinkling of townspeople with a few European gentlemen" attended some lessons, among them one about the "art of teaching" by Baboo K. C. Bose, another "lecture on school management" by Sufdur Ali himself, and a "conversation on female education".[106]

Explicit pedagogic knowledge was certainly a side aspect of the broader epistemic changes related to the colonial condition. Yet simple binary assumptions about the colonizer/the colonized seem not to apply to the situation as described in this article. This was the case because some of the colonizers, against the mainstream opinion in the metropolis, stressed the importance of pedagogic knowledge in the education of the new type of teachers; simultaneously, some native groups embraced the new possibilities opened up by the pedagogic knowledge imported by the British. These two disparate groups facilitated what I would call a partial de-subalternization of this type of knowledge. This shift does not mean that pedagogic knowledge per se became a prestigious form of scholarship. Yet, in the colonial situation, the status of this type of knowledge changed for at least two reasons. First, the association between pedagogic knowledge and the colonizers alone conferred the former a more complex epistemic status. Second, the rather higher-caste status of the large majority of the native actors involved in its formulation and spread complemented the repositioning of this knowledge in the status rankings. Although many of these Brahmin natives and members of writing castes may have been themselves of humble social origin, the structuring of South Asian societies along caste lines superposed the simple lines of hierarchy following different degrees of wealth. Those asserting their proficiency in pedagogic knowledge may have managed to obtain better employment and an enhanced status within colonial society. This more ambiguous status of pedagogic knowledge was displayed at the lectures analysed in this article. Their very existence and their contents show that a purely practical and routine-oriented teacher education was not desirable, no matter the poverty of the normal schools and the basic level of their training.

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105 *Report of the Board of Education, Bombay, from May 1, 1853 to April 30, 1854* (Bombay: Bombay Education Society's Press, 1854), 60.

106 See the report about this group of teachers in: NAI, Home Dept. Proceedings, Education, 30. April 1870, 2–3.

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Knowledge in the Making: Methodological Considerations on the Production, Dissemination, and Usage of "Small Forms in Education"

Jona T. Garz, Fanny Isensee & Daniel Töpper

Abstract • Collecting and producing mass data has offered an appealing way to condense educational phenomena. However, thus far, little attention has been given to the seemingly insignificant pre-printed forms that represent the basis for compiling and aggregating data. Taking inspiration from science and technology studies and the ensuing development of so-called paper technologies, this article highlights the potential of small forms in education that were used to record, evaluate, and aggregate data for educational statistics. By suggesting a multi-level methodological approach that we frame as 3D hermeneutics, we seek to contribute a methodological proposal on how to analyse these materials and showcase what lies beneath – or what comes before – the knowledge produced by educational statistics. These analyses draw on pre-printed forms collected by the Prussian educational administration at the turn of the nineteenth century, and re-trace the contexts they were embedded in, examine their materiality, and reconstruct their usage.

Keywords • small forms in education, 3D hermeneutics, knowledge production, school administration, educational statistics

Introduction

In the field of social history, the collection and production of mass data has offered an appealing way of condensing social and educational phenomena. By conducting large-scale surveys, policy makers and educational reformers have sought to gain insights into the development of specific conditions in the field of education.[1] However, focusing on the knowledge of statistics and the effects they produce often neglects the detailed procedures that went into the production of mass data. Therefore, we propose to examine the technologies that have provided the basis of aggregated information: files, blanks, index cards, lists, reports, as well as records of assessment and evaluation – materials that we frame as *small forms in education*.[2] Our understanding of these sources builds on the notion of small forms,[3] a genre

1 This article was inspired by materials and sources collected in the research projects "The Bureaucratization of Groupings. Local and Transnational Dynamics of Innovation in the Introduction of Age-Graded School Classes in Compulsory Education (Prussia, the USA, and Spain, ca. 1830-1930)" and "Profession, Normative Orders and the Emergence of Special Education", both funded by the German Research Association. The authors owe important input to Prof. Dr. Marcelo Caruso (Humboldt-Universität zu Berlin) and Prof. Dr. Vera Moser (Goethe-Universität Frankfurt am Main). The Swiss National Science Foundation, through the NFP 76 (Project-No. 177436), further funded Jona T. Garz's work on this article.
Martin Lawn, ed., *The Rise of Data in Education Systems*: *Collection, Visualization and Use,* Comparative Histories of Education (Oxford: Symposium Books, 2013).

2 The question whether *small forms in education* constitute a discipline-specific type or if a *small form* is a distinct epistemic form enabling identical epistemic practices across disciplines and knowledge fields remains to be further discussed.

3 "Small forms" is a translation of the German term "kleine Formen". Unlike the English word "form"

originally coined in the field of literary studies.[4] Small forms share one feature: they are products of deliberate acts of miniaturisation.[5] Some of these acts are enforced by time and space constraints, others follow aesthetic purposes, are the effect of formalisation, or the result of concentration on details. Tapered to the field of history of education, we propose to read small forms in education as short(er), highly formalised, widely disseminated, readily accessible, and seemingly casual sources that nonetheless are central to knowledge production structures. By focusing on this specific source type, our contribution will complement analyses of established source material by exploring the smallest units of data collection and discussing how educational knowledge was produced.

The success of small forms is closely linked to the cultural development in Europe since the end of the seventeenth century that ultimately gained momentum in the course of the nineteenth century. This included the emergence of an (inter)national press, the formation of a global market – and with it a global public – as well as scientific professionalisation and the emergence of widely used *media technologies*.[6] In the course of 'modern' developments, small forms promised "to create orientation, to cope with contingency, and to make acceleration navigable".[7] Counting cards,[8] pre-printed forms,[9] questionnaires,[10] notebooks,[11] and so on became central to

that relates to the shape of an object and a pre-structured document the German term "Form" relates to the shape of an object and more generally denotes a text genre, so that it encompasses more a qualitative meaning than its literal English translation.

4 Walter Haug and Burghart Wachinger, eds., *Kleinstformen der Literatur,* Fortuna Vitrea v. 14 (Berlin/Boston: De Gruyter, 1994), https://ebookcentral.proquest.com/lib/gbv/detail.action?docID=4793858.

5 Maren Jäger, Ethel Matala de Mazza, and Jürgen Vogl, "Einleitung" in *Verkleinerung: Epistemologie und Literaturgeschichte kleiner Formen*, ed. Maren Jäger, Ethel Matala de Mazza and Joseph Vogl (Berlin/Boston: De Gruyter, 2020).

6 While many of these media technologies have a history dating back to at least the sixteenth century, their ubiquitous presence and the importance of their use in modern offices and administrations was closely linked to the developments in nineteenth century Europe. They became even more powerful in the first decades of the twentieth century when Taylorist "scientific management" was adopted in offices around the USA and Europe. Ann Blair, *Too Much to Know: Managing Scholarly Information before the Modern Age* (New Haven: Yale University Press, 2010); Markus Krajewski, *Paper Machines: About Cards & Catalogs, 1548–1929*, History and Foundations of Information Science (Cambridge: MIT Press, 2011).

7 Michael Gamper and Ruth Mayer, "Erzählen, Wissen und kleine Formen: Eine Einleitung," in *Kurz & knapp: Zur Mediengeschichte kleiner Formen vom 17. Jahrhundert bis zur Gegenwart*, ed. Michael Gamper and Ruth Mayer (Bielefeld: transcript, 2017), 15. Translation by the authors.

8 Christine von Oertzen, "Machineries of Data Power: Manual Versus Mechanical Census Compilation in Nineteenth-Century Europe" *Osiris* 32, no. 1 (2017), 129–50, https://doi.org/10.1086/693916.

9 Volker Hess, "Formalisierte Beobachtung. Die Genese der modernen Krankenakte am Beispiel der Berliner und Pariser Medizin (1725–1830)/Formalizing Observation: The Emergence of the Modern Patient Record Exemplified by Berlin and Paris Medicine, 1725–1830," *Medizinhistorisches Journal*, 2010, 1–48.

10 Peter Becker, "Formulare als 'Fließband' der Verwaltung? Zur Rationalisierung und Standardisierung von Kommunikationsbeziehungen," in *Eine Intelligente Maschine? Handlungsorientierungen moderner Verwaltung (19./20. Jh.)*, ed. Peter Collin and Klaus-Gert Lutterbeck (Paderborn: Nomos, 2009).

11 Anke te Heesen, "The Notebook: A Paper-Technology," in *Making Things Public; Atmospheres of Democracy; [Exhibition at ZKM, Center for Art and Media Karlsruhe 20.03.–03.10.2005]*, ed. Bruno Latour and Peter Weibel (Cambridge: MIT Press 2005).

academic and bureaucratic practices of the nineteenth century[12] as they promised a quick and straightforward information management, one that was rational and selective – crucial criteria in a newly accelerated world.[13]

Different kinds of small forms have been used in science, bureaucracy and in educational settings to meticulously record all kinds of details.[14] The observation and recording of marginal and mundane things are a hallmark of 'modern' science.[15] Observation techniques, and thus the production of knowledge, relied not only on microscopes, but also on specifically designed small forms as "paper technologies"[16] that miniaturised the complex and vast world into/onto a sheet of paper. Serial data accumulated through "paper technologies" enabled the production of tables, diagrams and graphs on a range of topics and subjects, leading to new standards of precision.[17] As such, small forms were actively involved in the production of knowledge: On the one hand compressing the specific situation into a pre-printed form and thus reducing the complexity of "what is the case", making the information transportable as well as manageable. On the other hand, they enabled academic and bureaucratic practices of assessing different series of cases, thus widening the gaze and promising the discovery of hidden relationships or finding the 'truth' within the collected data sets.[18] It is exactly this relationship between paper technologies and the emergence of knowledge that we are interested in.

While several studies of specific small forms have shown their functioning as knowledge production technologies, little effort has been put into systemising these findings methodologically. This article sets out to do just that for small forms in the field of education, seeking to contribute to a discussion on how to read and interpret

12 Peter Becker and William Clark, eds., *Little Tools of Knowledge*: *Historical Essays on Academic and Bureaucratic Practices* (Ann Arbor: University of Michigan Press, 2001).

13 James R. Beniger, *The Control Revolution: Technological and economic origins of the information society (*Cambridge: Harvard University Press, 1986); Gamper and Mayer (2017); Maren Jäger, Ethel Matala de Mazza, and Jürgen Vogl (2020); te Heesen (2005).

14 Becker and Clark (2001).

15 Lorraine Daston and Elizabeth Lunbeck, "Introduction: Observation Observed," in *Histories of Scientific Observation*, ed. Lorraine Daston and Elizabeth Lunbeck (Chicago, London: University of Chicago Press, 2011).

16 Te Heesen (2005); Volker Hess and J. A. Mendelsohn, "Case and Series: Medical Knowledge and Paper Technology, 1600–1900," in *Seriality and Scientific Objects in the Nineteenth Century*, ed. Nick Hopwood (Cambridge: Science History Publications, 2010), 287–314; Volker Hess and J. A. Mendelsohn, "Paper Technology und Wissensgeschichte," *NTM Zeitschrift für Geschichte der Wissenschaften, Technik und Medizin* 21, no. 1 (2013); Lauren Kassell, "Paper Technologies, Digital Technologies: Working with Early Modern Medical Records," in *Edinburgh Companion to the Critical Medical Humanities*, ed. Anne Whitehead, Angela Woods, Sarah Atkinson, Jane Macnaughton and Jennifer Richards (Edinburgh: Edinburgh University Press, 2016). Instead of focusing on the established but narrower concept of paper technologies, we prefer to use the concept of small forms. Paper technologies focus on the design and usage of paper objects, whereas the concept of small forms allows us to look at text genres (form), literary technologies (content), and knowledge practices (usage) that are connected to note-taking but cannot be reduced to the material object alone.

17 Jäger, Matala de Mazza, and Vogl (2020).

18 Jäger, Matala de Mazza, and Vogl (2020); danah boyd and Kate Crawford, "Critical Questions for Big Data. Provocations for a Cultural, Technological, and Scholarly Phenomenon", *Information, Communication & Society 15*, no. 5 (2012): 662–79, https://doi.org/10.1080/1369118X.2012.678878. Jona T. Garz, *Zwischen Anstalt und Schule. Eine Wissensgeschichte der Erziehung schwachsinniger Kinder, Berlin 1840–1914* (Bielefeld: transcript, 2022).

mass data by offering a "behind the scenes" perspective of what went into their making.

In a first step, the article introduces the source type of small forms in education. Secondly, we discuss the utilised methodological framework, which takes inspiration from "paper technology" approaches. Thirdly, to re-read small forms from the field of history of education and highlight their processual and epistemic character, we use a methodical approach that we label *3D hermeneutics*. This examines small forms in education in three distinct and interconnected ways: as a text, as an object, and with respect to their epistemic usage. A fourth section will demonstrate our approach using the example of elementary school statistics at the turn of the nineteenth century in Prussia. Focusing on Berlin and Brandenburg, the practices of collecting data on the school level as well as aggregating said data in order to produce national statistics will be analysed.

Small forms in education as a methodological framework

The complex process by which scientific facts and knowledge are fabricated can be reconstructed primarily ethnographically, that is, by observing the practices in for example scientific laboratories.[19] Historically, such observation is not possible. Instead, however, the material traces of small forms resting in the archives can be understood as testimonies of the "knowledge practices" (*Wissenspraxen/ Wissenspraktiken*)[20] embodied by them.[21] The analysis of small forms in education draws on the concept of "paper technologies" that has established itself in recent years as a perspective of analysis in order to examine records as a cultural technique, that is, in relation to their materiality as well as to their intended and unintended administrative and epistemic effects. "Paper technologies" are technologies tied to specific noting formats on paper used to feed, process, and visualise information according to certain rules embedded into the format.[22] Among the "paper technologies" that have been analysed are index card systems,[23] patient files,[24] and police search warrants[25]. What small forms add to previous studies is that they move

19 Bruno Latour and Steve Woolgar, *Laboratory Life: The Construction of Scientific Facts* (Princeton: Princeton University Press, 1986).

20 Martin Lengwiler and Stefan Beck, "Historizität, Materialität und Hybridität von Wissenspraxen: Die Entwicklung europäischer Präventionsregime Im 20. Jahrhundert," *Geschichte und Gesellschaft* 34, no. 4 (2008).

21 Sabine Reh, "Looking at Practices–Can We Discover Something New by Looking at Practices? Practice Theory and the History of Education," *Encounters in Theory and History of Education* 15 (2014).

22 Te Heesen (2005).

23 Eric J. Engstrom, "Die Ökonomie klinischer Inskription: Zu diagnostischen und nosologischen Schreibpraktiken in der Psychiatrie," *Psychographien* 7798 (2005); Krajewski (2011); Isabelle Charmantier und Steffan Müller-Wille, "Carl Linnaeus's Botanical Paper Slips (1767–1773)," *Intellectual History Review* 24, no. 2 (2014): 215–38.

24 Sophie Ledebur, "Verstetigen eines Moments: Zum Verfahren des stenographischen Protokollierens in der Psychiatrie," in *Das Protokoll: Kulturelle Funktionen einer Textsorte*, ed. Michael Niehaus and Hans-Walter Schmidt-Hannisa, 29–41. (Frankfurt am Main: Peter Lang, 2005).

25 Peter Becker, "The Standardized Gaze: The Standardization of the Search Warrant in Nineteenth-Century Germany," in *Documenting Individual Identity*, ed. Jane Caplan and John Torpey (Princeton: Princeton University Press, 2018).

from the question of *what* (the question of the content), and include the *how* (the question of knowledge practices). Small forms not only act as devices for recording data, but are central to the data collection process itself. At the same time, the analysis of writing formats, recording practices, and the devices and materials used in the process are connected to epistemic practices embedded in a general historiography.[26] By recognising small forms in science and their constant presence in accounting, bureaucracy, and also jurisprudence, it becomes possible – through the history of these cultural practices, social spaces, and social institutions – to call attention to those unintended epistemic effects of writing down and putting into order, and thus to relate them to the formation of knowledge.[27]

Flanked by new forms of empirically based, scientific-bureaucratic productions of truth and evidence, "knowledge practices", which focused on the institutionalisation of statistically based expert knowledge, developed at the transition between the eighteenth and nineteenth centuries.[28] The term "knowledge practices" encompasses not only academic forms of knowledge production, but also entanglements and translational mechanisms between different knowledge milieus, which are also reflected in the administrative small forms in education. Accordingly, knowledge practices are understood in this article as practices that produce knowledge, but do not do so exclusively in the scientific field, but rather in a complex negotiation relationship between experts in and outside of schools, institutions, and administration.[29] In terms of media technology, these knowledge practices were made possible by small forms in various formats.

This article will focus on the small form of pre-printed forms/blanks[30] (*Vordrucke*), specifically those used for collecting standardised data on schools, their teachers as well as students in Prussia at the turn of the nineteenth century. These forms, and their interconnectedness with various aggregated lists, can be used to analyse the practices of administration – as well as the formation of knowledge. For the standardisation of noting observations in science and the standardisation of administrative procedures, it is equally true that the widespread use of blanks represented a shift in media technology. In both areas, the form of the pre-printed documents made it possible to make economical use of limited resources such as time, paper, and attention. In both areas, the blank as a pre-print, the economical use of the limited space on paper, combined with the possibilities of reproduction, made it possible to process each case in a standardised way according to certain rules, regardless of the situation and the persons involved, leading to the possibility of processing ever larger quantities of data. The limitation and miniaturisation of the blank allowed for a maximal expansion of the reach of knowledge practices.

The prerequisite for the creation of a blank is an already existing institutionalised way of writing, which then materialises into a standardised form.[31] Blanks are

26 See for the role of note-taking and filing in the Prussian state at the end of the nineteenth century Cornelia Vismann, *Akten: Medientechnik und Recht* (Frankfurt am Main: Fischer, 2011), 248–50.

27 Hess and Mendelsohn (2013).

28 Lengwiler and Beck (2008).

29 Ibid.

30 In the following we will use the terms 'blank' and 'pre-printed form' synonymously.

31 Becker (2009).

part of the material organisational structure insofar as they determine and control administrative acts. They are standardised paper sheets, labelled in a specific way and available in multiple copies. There are lines, text and blank spaces, which arrange themselves into fields into which information is to be written. They bear witness to how an administration works, why it works and what people do in and with it and what it does to people. While there are various types of pre-printed forms – like tables intended for collecting data, lists for making inventories, file covers for sorting, forms for standardised communications between units – they all share a common trait: By defining relevant information and directing the attention of the person who fills in the blanks, they create a moment of cognitive relief.[32]

Understood as "materialised bureaucracy" and used in the context of knowledge practices, blanks let us see these practices retrospectively.[33] Because blanks limit the scope of interpretation and action of those who work with them, they provide historians with hints to the ways and contexts in which they were used.[34] Through their formalisation, blanks can act as "boundary objects"[35] ensuring that different people, in different places, record the same information about a case, object or problem, thus simplifying further knowledge processing. The completed blanks become objects that contain unchangeable information, independent of time and place, and thus they contribute to the stabilisation of administrative actions as well as to reliable data collection.

The methodological approach of "paper technologies" provides the framework for our own methodological proposal on how to deal with small forms in education – the mundane paperwork organising, structuring and administering the entire field of state sponsored education. By focusing on the material preconditions, that is, the paper objects themselves, their production and function as well as the knowledge practices in which they are involved, we seek to gain insights into the practices of knowledge production within the history of education and aim to analyse the functions and routines that small forms enable regarding educational statistics in Prussia at the end of the nineteenth century.

3D hermeneutics: Text, object, usage

Although paper technologies and small forms have been researched in an array of fields[36], little attention was devoted to describing the concrete analytic steps to deal with these materials, especially when it comes to the aspect of their usage.

32 Rainer Paris, "Soziologie des Formulars," in *Normale Macht: Soziologische Essays*, ed. Rainer Paris (UVK-Verlag-Gesellschaft, 2005); JoAnne Yates, *Control Through Communication: The Rise of System in American Management* (Baltimore: Johns Hopkins University Press, 1989).

33 Paris (2005), 189.

34 While we argue that pre-printed forms have an (epistemic) effect on the actors dealing with them, we do not argue for "media determinism". Whether actors produce objects or whether objects configure the practices is not determined, but decided in the moment of action. Ates Gürpinar, *Von Kittler zu Latour: Beziehung von Mensch und Technik in Theorien der Medienwissenschaft*. (Siegen: universi, 2012).

35 Susan Leigh Star und James R. Griesemer, "Institutional Ecology, 'Translations', and Boundary Objects: Amateurs and Professionals in Berkley's Museum of Vertebrate Zoology, 1907–1939," in *The Science Studies Reader*, ed. Mario Biagioli (New York/London: Routledge, 1999), 505–24.

36 For examples of these studies see footnotes 5–13.

As discussed above, their concepts are mostly historiographically plausible and gain legitimacy due to the well-formed structure of their originating story. While they matter as genealogies, as methodologies those studies do little to enhance the theoretical discussion. To fill this gap, we propose to follow a procedure that we label 3D hermeneutics. We call this process hermeneutics as many of the sources we have in mind were historically thought of as irrelevant and therefore not that resourcefully archived and secured, and sometimes not preserved within the context of their usage. Firstly, it is quite correct to frame the process of their analysis as a systematic understanding, as it is an active process of understanding their role and their relevance pertaining to knowledge production processes. Secondly, we think it useful to highlight a certain processuality and openness of the analysis. The statistics aggregated through the use of small forms often generated the illusion of objectivity, an illusion we believe the term hermeneutics counters very well.

Such an undertaking parallels other attempts of using hermeneutic methodologies to analyse different materials, like it has been done for visual art[37] or literary hermeneutics[38]. Hermeneutics are used to reconstruct contextual meaning and usage of the material. We draw on Klafki[39] and Rittelmeyer [40] and loosely follow their proposed analytic procedures.[41]

In a first step (1), the interests in the source and the pre-understanding are articulated and it is attempted to grasp some of the prior experience and prejudice one has when dealing with the specific material. Looking at the example in focus here, this means being aware of the historical understanding of statistics as well as their contextual and historiographical usage. Since the 1960s and 1970s methods from sociology and their usages of mass data have poured into the general discussion of the history of education in German research communities, replacing and competing with more established approaches of a history of ideas. This innovation meant mostly to integrate methods of interpreting, not discussing educational data, often involving the aggregation of data from already aggregated historical statistics.[42] Some works connected wide-spanned

37 Gottfried Boehm, "Zuwachs an Sein: Hermeneutische Reflexion und bildende Kunst," in *Die Moderne und die Grenze der Vergegenständlichung*, ed. Hans-Georg Gadamer et al., (München: Klüser, 1996); Stefan Müller-Doohm, "Bildinterpretation als Struktural-Hermeneutische Symbolanalyse," in *Sozialwissenschaftliche Hermeneutik*, ed. Ronald Hitzler and Anne Honer (Opladen: Leske + Budrich, 1997), 81–108.

38 Peter Szondi and Jean Bollack, *Einführung in die literarische Hermeneutik* (Frankfurt am Main: Suhrkamp, 1975); Erwin Leibfried, *Literarische Hermeneutik*: *Eine Einführung in ihre Geschichte und Probleme* (Tübingen: Gunter Narr Verlag, 1980).

39 Wolfgang Klafki, "Erziehungswissenschaft als kritisch-konstruktive Theorie: Hermeneutik – Empirie – Ideologiekritik; Heinrich Roth zum 65. Geburtstag gewidmet," *Zeitschrift für Pädagogik* 17, no. 3 (1971); Wolfgang Klafki, *Aspekte kritisch-konstruktiver Erziehungswissenschaft*: *Gesammelte Beiträge zur Theorie-Praxis-Diskussion* (Weinheim: Beltz, 1976).

40 Christian Rittelmeyer, "Was kennzeichnet Hermeneutische Forschung?," *Zeitschrift für Erziehungswissenschaft* 6, no. 4 (2003); Christian Rittelmeyer, Michael Parmentier and Wolfgang Klafki, *Einführung in die pädagogische Hermeneutik* (Darmstadt: WBG, 2001). See also Mikula, R., & Felbinger, A., "Geisteswissenschaftlich-und sozialwissenschaftlich-hermeneutische Zugänge," in *Handbuch Gender und Erziehungswissenschaft,* ed. Edith Glaser, Dorle Klika and Annedore Prengel (Bad Heilbrunn/Obb.: Klinkhardt, 2004).

41 We mainly follow Rittelmeyer, Parmentier and Klafki (2001), 43–46.

42 Peter Lundgreen, "Quantifizierung in der Sozialgeschichte der Bildung," *VSWG: Vierteljahrschrift für Sozial-und Wirtschaftsgeschichte* 63, no. 4 (1976); Peter Lundgreen, "'Bildungspolitik' und

theorems with the data[43], some attempted to grasp how data differed within the German context[44] but nearly all these studies fall short in reflecting on the production processes and the meaning of this data.[45] We know of the data, we know how it was aggregated and (re-)interpreted over time, we even know from (historical) studies about the data aggregation agencies and their histories,[46] but the ways and means of knowledge production remain opaque. A contextual reading of the textual dimension of the small form might serve as a guide to the relevant categories, it might allow for new questions, but it mostly allows to specify the research interest. Asking why certain terms are included in such a complex and expansive questionnaire might add to the researcher's understanding of the sources.

Secondly (2), a description of the material is needed. We suggest a two-dimensional description: First the small form is described with regard to the written content before in a second step the small form is described in its material dimension. Ideally all relevant aspects will be taken into account – an endeavour that often proves difficult. When we discuss the statistics in question it is necessary to focus

'Eigendynamik' in den Wachstumsschüben des deutschen Bildungssystems seit dem 19. Jahrhundert," *Zeitschrift für Pädagogik* 49, no. 1 (2003); Peter Lundgreen, "Historische Bildungsforschung auf Statistischer Grundlage," in *Beiheft zur Zeitschrift für Erziehungswissenschaft Bildungsbeteiligung: Wachstumsmuster und Chancenstrukturen 1800–2000*, ed. Peter Lundgreen (Wiesbaden: VS Verlag, 2006), 5–13; Hans Jürgen Apel, *Das preußische Gymnasium in den Rheinlanden und Westfalen 1814–1848: Die Modernisierung der traditionellen Gelehrtenschulen durch die preußische Unterrichtsverwaltung,* Studien und Dokumentationen zur deutschen Bildungsgeschichte 25 (Köln: Böhlau, 1984); Hans Jürgen Apel and Michael Klöcker, *Schulwirklichkeit in Rheinpreußen: Analysen und neue Dokumente zur Modernisierung des Bildungswesens in der ersten Hälfte des 19. Jahrhunderts,* Studien und Dokumentationen zur deutschen Bildungsgeschichte 30 (Köln: Böhlau, 1986). For an overview of the development and all references to the manifold data handbooks, see Thomas Ruoss, *Bildungsgeschichte als quantifizierende Sozialgeschichte: Bringing a Dead Man Back to Life?* (2020), https://doi.org/10.25523/32552.7

43 Detlef K. Müller, *Sozialstruktur und Schulsystem: Aspekte zum Strukturwandel des Schulwesens im 19. Jahrhundert* (Göttingen: Vandenhoeck und Ruprecht, 1977); Detlef K. Müller, "The Qualification Crisis and School Reform in Late Nineteenth-Century Germany," *History of Education* 9 (1980); Detlef K. Müller, "Der Prozeß der Systembildung im Schulwesen Preußens während der zweiten Hälfte des 19. Jahrhunderts," *Zeitschrift für Pädagogik* 27, no. 2 (1981).

44 Marion Klewitz and Achim Leschinsky. "Institutionalisierung des Volksschulwesens," in Enzyklopädie Erziehungswissenschaft Band 5: Organisation, Recht und Ökonomie des Bildungswesens, ed. Martin Baethge and Knut Nevermann (Stuttgart: Klett-Cotta, 1984), 72–97; Marion Klewitz, *Preußische Volksschule vor 1914. Zur regionalen Auswertung der Schulstatistik: Primary schools in Prussia prior to 1914* (Weinheim, Basel: Beltz, 1981); Leschinsky, Achim. "Volksschule zwischen Ausbau und Auszehrung." *Vierteljahreshefte für Zeitgeschichte 30*, no. 1 (1982).

45 For a general discussion on the idea of neutral raw data see Lisa Gitelman, *"Raw Data" is an Oxymoron* (Cambridge: MIT Press, 2013). Ulrich G. Herrmann, *Sozialgeschichte des Bildungswesens als Regionalanalyse* (Köln: Böhlau, 1991) also reflects on data aggregation processes. For a contemporary critique of the quantification of historical research, see for example Kerstin Brückweh, *Menschen zählen: Wissensproduktion durch britische Volkszählungen und Umfragen vom 19. Jahrhundert bis ins digitale Zeitalter* (Berlin, Boston: De Gruyter Oldenbourg, 2015); Stefan Haas, Michael C. Schneider and Nicolas Bilo, *Die Zählung der Welt: Kulturgeschichte der Statistik vom 18. bis 20. Jahrhundert* (Stuttgart: Franz Steiner Verlag, 2019).

46 Michael C. Schneider, *Wissensproduktion im Staat: Das königlich preußische statistische Bureau 1860–1914* (Frankfurt am Main: Campus Verlag, 2013); Konrad Saenger, "Das Preussische Statistische Landesamt 1805-1934," *Allgemeines Statistisches Archiv, Jena* 24 (1934); Emil Blenck, *Das Königliche Statistische Bureau im ersten Jahrhundert seines Bestehens, 1805 bis 1905* (Verlag des Königlichen Statistischen Bureaus, 1905); Richard Boeckh, *Die geschichtliche Entwicklung der Amtlichen Statistik des Preussischen Staates* (Berlin, 1863).

on the blanks that were distributed by the statistical officials on all levels as well as the available accompanying manuals and instructions on how to fill them. Changes made to these blanks can be indicators of relevant shifts and highlight debated matters. In our case some published and some unpublished survey forms as well as accompanying materials and some examples of filled-in forms were archived that we describe to an extent appropriate to the aim pursued here. Our analysis also includes additional archival sources that problematise the pre-printed forms provided.

The third step (3) of the analysis deals with the dimension of the usage of the aggregated statistical data. The point here is to describe and track all the signals and hints related to the material usage of the recorded data. Here of course the object itself is of central interest, but it might as well be helpful to look at complimentary sources that closely interact with the source and discuss necessary adjustments in the small form itself and might even propose alterations. As media products small forms are products of miniaturisation, but the level of formalisation and openness of their form is not always identical. One therefore might divide step (3) into an analytic approach towards (a) the concrete (but not necessarily intentional) usages and (b) more abstract and discursive usages. To identify and re-trace relevant adjustments it can also be useful to (c) involve previous versions and practices and visualise changes.

We attempt to complete all three steps here to a certain extent. It is not helpful for this article to engage in depth with the ongoing pedagogical discourse of the period in question and to trace all usages of and references to the statistical data and the process of its aggregation. Hence, we limit ourselves to the administrative discussion on the data at hand and look at what the statistical agency wanted the statistics to report and how the data and its aggregation were discussed internally. Further chronological comparisons would have been possible, but we decided to compare two very closely connected statistics, as they show how some alterations might be connected to concrete experiences of statistical aggregation and feedback towards those procedures. This direct connection allows for a compelling case concerning the influence of survey conductors on the formation of statistical knowledge.

This form of analysis allows for a reconstruction of knowledge-producing practices that would be inconceivable without small forms in education. In the following exemplary analysis, we focus on some, but not all possible aspects of all three dimensions. We chose the material to highlight the distinctive advantages of the perspective and the analytical proposal. The small form we will be focusing our analysis on consists of a table and the corresponding guidelines for filling in the required information.

The 'context' of the statistical survey and its media

The source in focus stems from the Provincial School Board of the Province of Brandenburg (*Provinzialschulkollegium Brandenburg*), the institution aggregating the data collected at the school level before sending them to the Prussian Statistical Bureau (*Preußisches Statistisches Landesamt).* The filled-in blanks from different elementary schools of the province as well as the aggregated data from the Provincial School Board can be found at the Brandenburg State Archive, they cover the years

between 1876 and 1929.[47] The aggregated, nation-wide statistics were later published through the Statistical Bureau.[48] When looking at statistical surveys for Prussia as a whole, we are dealing with central state documents, which were connected to the Prussian Ministry of Religion, Education and Medicine (*Ministerium der geistlichen, Unterrichts- und Medizinalangelegenheiten*) as the central actor. This ministry was in the position to give orders to the subordinate institutions, like the Prussian provinces, the statistical office of the Prussian state (*Königlich Preußisches Statistisches Bureau*) and the Provincial School Board of the Province of Berlin and Brandenburg (*Provinzialschulkollegium Berlin Brandenburg*), which was as well responsible for the school matters of Berlin, in the form of the municipal school deputation (*Städtische Schuldeputation*). Starting in 1816, the Prussian Ministry commissioned the statistical office to conduct surveys about all elementary level schools within the kingdom. The statistical office was thus in charge of planning, scheduling, and organising the collection of data.

By the end of the nineteenth century surveys had become quite popular. Not only the state but city actors and even teacher associations[49] were conducting surveys of the school system structures, trying to get an overview but also gather data and information to clarify urgent organisational matters, like the question of which type of school structures works best. Not only statistical organisations were founded but also an educational statistics central institution to preserve and gather all information.[50] The quantification of educational problems had become a central

47 Brandenburg State Archive (*Brandenburgisches Landeshauptarchiv*/ BLHA), Rep. 34 (Provinzialschulkollegium), no. 1160; 1169; 1163. There are seven volumes of "Statistische Mitteilungen über die Schulverhältnisse in Berlin" (1876–1929) that are preserved in the files of the Provincial School Board. Although Prussian school data had been aggregated nation-wide since the very foundations of the Prussian state (see Otto Behre, *Geschichte der Statistik in Brandenburg-Preussen* (Vaduz: Topos Verlag, 1979), Emil Blenck, *Das Königliche Statistische Bureau im ersten Jahrhundert seines Bestehens 1805 bis 1905* (Berlin: Verlag des Königlichen Statistischen Bureaus, 1905), record keeping and file producing by the school board (the lower administrative level) marks a certain expansion of statistical activities. The increasingly detailed data collections were added to the general scope of the statistics. Several specific queries and surveys were conducted and published in specific articles and "official source books" under the label of "Prussian Statistics". The earliest of these volumes specifically dealing with the elementary school system was published in 1886 as volume 101. The sources we discuss here are taken from the second and fourth edition of the special survey. These statistical files represent a minor part of the entire provincial school records, which aside from the statistical data contained mostly administrative files on the elementary school system of the province. Additionally, these files contain the written correspondence of the institution as far as they are recorded, showing the intermediary role of the provincial school administration. Similar files are available for other provinces, though the quality and quantity of the files vary due to different administrative and archival traditions. It is to be expected that the file type we examined can be found in more than one archive. Still, the chosen province of Brandenburg is representative for the Prussian case although regional variations cannot be covered by only looking at one region.

48 Alwin Petersilie, *Das Gesammte Niedere Schulwesen im Preußischen Staate – 1901 (1905)* (Berlin: Verlag des Königlichen Statistisches Bureaus, 1905).

49 Aloys Fischer, "Entwurf eines Fragebogens zu periodischen Erhebungen über den Fortschritt der Verbesserungen der öffentlichen Volksschulen im Deutschen Reiche," *Zeitschrift für pädagogische Psychologie und experimentelle Pädagogik* 15 (1914), 454–64.

50 Heinz-Elmar Tenorth, "Das Zentralinstitut für Erziehung und Unterricht. Außeruniversitäre Erziehungswissenschaft zwischen Politik, Pädagogik und Forschung," in *Außeruniversitäre Erziehungswissenschaft in Deutschland. Versuch einer historischen Bestandsaufnahme*, ed. Ulrich Wiegmann and Gert Geissler (Köln: Böhlau, 1996); Günther Böhme, *Das Zentralinstitut für Erziehung und Unterricht und seine Leiter: Zur Pädagogik zwischen Kaiserreich und Nationalsozialismus* (Neuburgweier (Karlsruhe): Schindele, 1971).

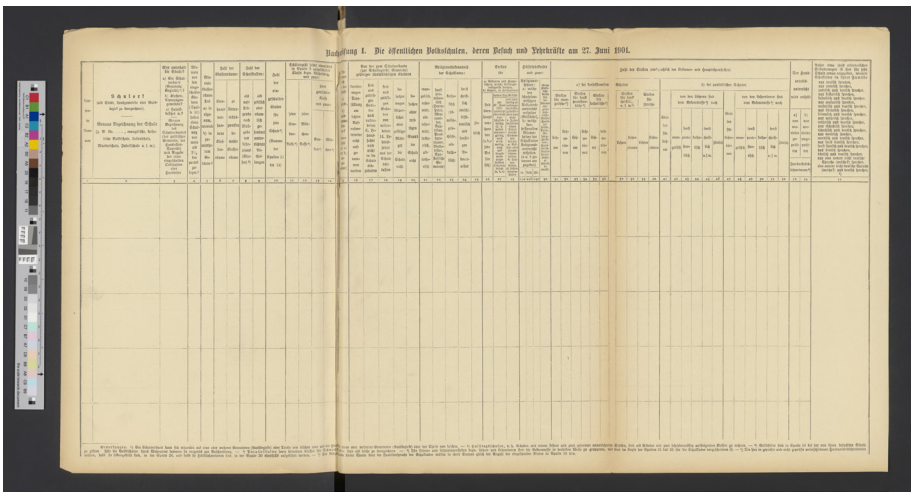
argument in a number of pedagogical debates.[51] This atmosphere of an engaged and affirmative position towards statistical surveys was very vivid until the end of the Weimar Republic in 1933.[52]

The survey materials' textual and material dimensions

Moving on to the second step we look at the textual and the material dimension of the sources at hand. The context was addressed in the source itself, which becomes apparent through the used terms, the given structure, and the highlighted knowledge interests. We start with some textual points: A first textual specificity is the label elementary school system (*niederes Schulwesen*), which hence is a sign of an underlying, but not debated, differentiation between primary schools for the poor and primary schools for pupils that are expected to move on to the *Gymnasium*. This distinction between lower schools and pre-schools (*Vorschulen*) is also mentioned in the explanatory rules of the survey of 1891. A later survey conducted in 1901 distinguishes between the different primary schools by using different forms for each school type, and only shortly afterwards this distinction was abolished by contextual changes. What the text also shows is the high relevance of language and religious questions, that further accelerates in our short time frame with more language and religious variables coming into focus. Another aspect that we can see is the distinction between supporting (*Hülfslehrer*) and full teachers (*ordentliche Lehrer*), which later becomes a relic of more multi-factored times through a reorganisation of teacher education. Seeing these categories here as columns that need to be filled in speaks volumes about the current status of the system. Similarly, other columns are dedicated to the numbers of ascending classes as well as class frequency and school financing costs. Those highlight current contested themes that require statistical material. On the organisational level we can see the structural function of school organisation since we can observe that the papers are distributed on the district (*Kreis*) level and the relevant administrative figure here is the district school inspector.

51 Johannes Tews, "Klassenorganisation der Volksschule," in *Encyklopädisches Handbuch der Pädagogik*, ed. Wilhelm Rein (Berlin, Langensalza: Beyer, 1906).

52 Otto Boelitz, *Der Aufbau des preußischen Bildungswesens nach der Staatsumwälzung*, 2., durchges. Aufl. (Leipzig: Quelle & Meyer, 1925); Alfred Tschentscher, ed., *"Die neuzeitliche deutsche Volksschule": Bericht über den Kongreß Berlin 1928* (Berlin: Comenius-Verlag, 1928). School reform initiatives used statistical findings to strengthen their cases for reforming certain aspects of the school structures as well, see for example Anton Sickinger, *Der Unterrichtsbetrieb in großen Volksschulkörpern sei nicht schematisch-einheitlich sondern diffenziert-einheitlich*: *Zusammenfass. Darstellung d. Mannheimer Volksschulreform von Dr. A[nton] Sickinger, Stadtschulrat* (Mannheim: J. Bensheimer, 1904).



Survey Form I "Die öffentlichen Volksschulen, etc. 1901", BLHA, Rep. 34 Nr. 1160.

Moving on to the material dimension of the data there are as well a few things to reflect upon. To collect and gather statistical data, the administrative authorities in charge of the respective areas developed specific survey materials that facilitated an easy form of collecting data. In many cases, blanks represented the material of choice since they offered a structured and focused approach to collecting information. We focus on blanks that were used to gather information for the school statistics survey of 1891.[53] The bundle of materials needed to conduct this survey comprises four different documents and forms: (1) the instructions on how to fill in the forms, (2) pre-printed forms I to IV, (3) forms used to collect information on teachers, and (4) a file cover utilised to provide information at a glance regarding the numbers of each collected form in one of the four categories as well as the form on teachers. The instructions describe the time period and scope of the survey. The survey was conducted on May 25, 1891 and set out to collect data concerning the elementary and grammar schools maintained by the Prussian state, the so-called *niederes Schulwesen*. The instructions applied to public schools, private schools that operated under the curricula of public schools, and they also applied to all special schools and institutions such as schools for the blind, the deaf, orphan schools, schools for "feeble-minded" or "imbecile" pupils, and so on, independent of them being maintained by public or private authorities. Only children going to school under compulsory schooling laws were surveyed; kindergarten, technical schools, or continuation schools were excluded. The instructions also defined the authorities receiving and distributing the survey materials and they determined the institutions and officials that were in charge of collecting the statistical information. Afterwards, the gathered data was checked in terms of thoroughness or missing numbers by the examination authority and in a last step, the statistics were then reported to the royal bureau of statistics. Aside from the instructions section, each blank, including the one for the teachers, comes with additional hints on how to fill in the data.

53 Cf. here and the following description: BLHA, Rep. 34 Provinzialschulkollegium Nr. 1160, no pagination.

Our analysis focuses on the pre-printed Form I (*Nachweisung I*) used in the statistical survey of schools from 1891 and 1901. Form I gathered information on public and private schools regarding attendance and the number of teachers. Studying this form and the correspondence in the archival file more closely revealed that it sparked reactions from the officials and authorities entrusted with data collection. Therefore, we specifically selected this form in its two versions for a closer analysis of the form as a means of collecting data and also as an obstacle that produces uncertainty, resistance and non-compliance.

Form I start with a set of detailed instructions which firstly define what types of schools fall under the general category of public and private schools. Secondly, the instructions meticulously elaborate on how specific columns should be filled in and what certain terms and prompts entail. The instructions are followed by the actual form that consists of 52 columns spread over three pages. The sheet of paper is folded in two parts – most likely a result of the transport or binding procedure used to collect survey materials in the official records. In general, we only have access to the blanks and a few filled-in forms, as these are kept in the record of the archives. The form is made of thick, small grain paper and is quite well-preserved, with some breakage along the corners. It contains pre-printed text elements and hand-written entries that were filled in using ink of different colours.

Aside from information on the school's location and the authority in charge of its maintenance, the form asks for information on the number of schoolchildren that need to walk more than 2,5 kilometres to school, if the school is situated in a rented building or if the schoolhouse is owned by the community. Furthermore, the form asks for the total number of classrooms, the number of classrooms used, and the number of grades. Columns 10 to 14 record the number of pupils attending the boys' and girls' grades as well as the pupils that are taught in co-ed grades. If there are any blind or deaf pupils in the different grades, these also need to be indicated. Moreover, the number of children required to go to school according to compulsory school law is polled and the share of children taught by private tutors, the number of children who could not enrol in schools due to overcrowding or who were exempt from compulsory attendance at the age of six or who were allowed to leave school before the age of 14. Also, children who could not attend school due to "physical or mental defects" as well as pupils who did not attend school "without valid reasons" are recorded. The columns (16 to 21) pertaining to the recording of pupils that fall under the community's compulsory school laws are of special interest for this contribution since the requirement to collect information on attendance and truancy (column 21) led to uncertainties on the officials' side that were discussed in formal letters addressed to the statistical authorities. That is why, as mentioned above, we are putting a particular emphasis on these discussions.

The next columns ask for the religious denomination of the pupils, the number of positions for teachers and assistant teachers, of which teachers of religious and other special instruction are to be listed separately. In the next columns the number of positions for male and female teachers needs to be stated and separated by religious denomination (Protestant, Catholic, other Christian denominations, and Jewish teachers). Furthermore, the form asks for the number of (certified and non-certified) teachers that instruct pupils in needlework. The last column records the

share of pupils who speak certain languages at home and in which combination (aside from German, the form suggests Polish, Lithuanian, Lower Sorbian, Slavic, Danish and combinations thereof). Despite differences between the two surveys (1891 and 1901), the used materials remain the same, thick, and durable paper, laid out in larger width that asks for a specifically designed desk for managing the filled-in forms and the aggregation and calculation of the many separate columns. These papers required meticulous handling but allowed for systematic statistical evaluations. Their materiality provided for various purposes: transportation, filling-in and evaluation.

When compared to form I from the survey of 1901, it becomes apparent that three columns were added to the pre-printed form of 1891. The survey was expanded in terms of the number of teaching positions at sectarian and non-sectarian schools (this differentiation is introduced in 1901) and more languages are added to the last column asking for the language(s) spoken in the pupils' families. Here, Kashubian, Masurian, Moravian, and Czech were added. These adjustments most likely relate to the increasing focus on religious and linguistic policies, which gained more attention at the turn of the century.

Regarding the focus of our contribution on the survey of pupils that attend schools in a specific school district, we can observe that the statistical office added notes to the columns that record the attendance and distribution of pupils in schools. These notes span the bottom of the sheet and provide additional details and instructions and followed – as we argue – from feedback.

The usage of forms

To reconstruct the usage of the forms we looked at the instructions, the written correspondence between the different institutions as far as it is archived and at some filled-in forms from the different surveys. Here, we can examine the files and forms that were not sent to the statistical bureau but were kept for documentation in the school board files.

We first describe some impressions from the usages of the forms and then examine the correspondence, highlight one specific instance and use this to show how the forms and the aggregation process were connected.

When looking at the used form at hand, one of the most striking things is that quite a few columns are not filled in but are only marked with a dash ("– ").[54] For example, the information on the school children is quite surprising as there seem to have been only children from one single religious denomination attending, which out of 198 children in total seems a bit unexpected. Out of the ordinary, there is a high number of assistants that are teaching in the school, probably due to a connection of this school with a teacher education institution. The religious denomination of the teachers is not recorded, but only crossed out with a dash. No comments were added.

Later in the files we see the blank for a second normal school at a teacher seminar that is filled in with more details.[55] Here we see answers in respect to the

54 Erhebung aus Neuruppin, 1891, Erhebung statistischer Nachrichten über das Volkschulwesen, Band 2, 1891–1906, BLHA, Rep. 34 Provinzialschulkollegium Nr. 1160, no pagination.

55 Erhebung aus Neuzelle, 1891, BLHA, Rep. 34, Nr. 1160, no pagination.

denominations as well as the language abilities of the pupils. Another filled-in form from a school from *Ostprignitz* is preserved, yet only sparsely filled-in.[56]

There seems to be a general tendency towards short answers and sparse information. Though there are no concrete reactions of resistance towards the forms those short answers might be understood as an expression of agency of teachers and school inspectors. They cannot alter the statistics, but they may decide for themselves how detailed they formulate their answers. With our data it is hard to judge whether those practices were accepted or in any way penalised, yet it seems that the cooperation was not always full-hearted from the side of the teachers.

On the institutional level, in this file we can observe the interaction between the school administration and the statistical office. Among the letters that dealt with the ongoing debates on the surveys and that can be classified as solely formal, there is one report that stands out. The report is part of a letter from the Municipal School Deputation to the Royal Provincial School Board dated June 20, 1891:

> The number of school-age children between the ages of 6 and 14 could not be precisely determined, since even the municipal statistics office is not able to state the number of this category of children as of August 1 of this year, based on the last census. On May 25 of this year, according to the census we conducted, there were 211,214 pupils between the ages of 6 and 14 in all Berlin schools. (...) According to experience, due to weakness, illness (...) of the children and various other causes, many children are not admitted to schools until they are 7 years old, and a number of them drop out before they have completed compulsory schooling due to the same factors. (…) To determine the number of children even approximately, we lack the means and would have to set an enormous apparatus in motion. For the reasons mentioned above, we were (and are, to our regret, also) not able to fill in columns 16 to 21 of Table I.[57]

Stating that some of the columns asked for could not be filled in, especially in one of the core points of the schooling apparatus relating to how many pupils are in the school system at a certain point in time, is quite surprising. However, this attempt to a limitation of the scope of the survey was not the last part of the story. With the following survey the statistical bureau sent specific hints that seemed to have been based on the reactions of the school administration, using the feedback on difficulties with the fill-in work as a starting point for improving the survey. The statistical bureau addressed the problem in the manual of their upcoming survey of 1901:
Columns 16 to 21 are described as follows:

> Columns 19 and 20 do not include children who are absent from school only temporarily (…). The beginning of compulsory schooling is always the age of 6, and the end of compulsory schooling is always the age of 14. Children of compulsory school age who are not in full attendance shall be included in the compulsory school attendance.[58]

56 Erhebung aus Ostprignitz, 1891, BLHA, Rep. 34, Nr. 1160, no pagination.

57 Letter from the Berlin Municipal School Board to the Royal Provincial School Board, 20.06.1891, BLHA, Rep. 34 Nr. 1160, no pagination. Translation by the authors.

58 Allgemeine Vorschriften über die schulstatistische Erhebung am 27. Juni 1901, BLHA, Rep. 34 Provinzialschulkollegium Nr. 1160, no pagination. Translation by the authors.

The aim seemingly is to gain correct data by reacting to the feedback from the Municipal School Board that these numbers could not be provided. With regard to the columns themselves, one new column was added compared to the previous version: it asks for the number of pupils in the school district that are attending private schools, filling a gap that had been left in the 1891 form. We see an attempt to fulfil the statistical aims and to overcome the barriers mentioned in the letter quoted above. But this attempt includes the activities of the supporting instances, the knowledge production here involves the agency of the form.

We end our description of the example here. As we have shown the methodical process can reveal interesting moments of cooperation, confusion and maybe even hindrance in all three dimensions, starting against the background of the necessary contextual prior knowledge.

Discussion and Conclusion

In the obituary for the Prussian statistical office of 1934 its last president Konrad Saenger (1869–1945) highlights the close connection between the statistical overview and the small details of their work:

> Practical statistics require a precise understanding of the subject matter to be covered, mastery of statistical techniques, and the highest degree of objectivity and dedication to the task at hand. (…) There is no activity that educates and compels to look at the larger picture like statistics, while paying the greatest attention to the smallest detail.[59]

When we see all described aspects and summarise them, we not only observe such strict binary opposition, but instead multi-layered and complex knowledge production processes involving several administrative units, hundreds of schools and an intricate system of record keeping. The processes are multi-centred but arranged around the exemplarily highlighted small form "table". Knowledge on what a school was, the criteria for a "good school" as well as how a school was to be managed was disseminated top down through the widespread distribution of the small forms. Filling in the table as such is involved in improving the expanding knowledge on schooling, but we can also observe intentional re-adjustments by the knowledge producing entity. Over time the involved actors, the used categories, the highlighted interests, and allowed exceptions can vary while the data collection process as well as the number of items collected became increasingly more elaborate. Looking at the emergence of knowledge matters as much as comparing the changes within those processes over time. It is not only important to look at the discourses, but to consider as well – as we attempted to do – the changes in administration, the ongoing discussions about the forms and ways in which the statistics were generated and how all this interacted with the discursive developments.

It is this intersection between form, content and specific usage by different actors that we think qualifies to speak of a complex process of knowledge production. The acts of creating the table, sending it to hundreds of schools, having teachers collect the information and filling in the table, ensuring a timely return process, aggregating

59 Saenger (1934), 458. Translation by the authors.

the data from the tables, publishing knowledge about schools, rearranging the tables for the next survey etc. all represent highly complex tasks. The form, the content (in which the general discourse is present) and the traces of how the blanks were used all affect what can be known at a certain point and which status this knowledge has. We argue that these complex processes can be captured through the theoretical frame of small forms that is analytically sensitive to different involved sources of agency. In addition, the 3D hermeneutics methodology allows for an interpretation of the sources based on textual, material and usage dimensions.

In our example, the analysis reveals a collision between what the Statistical Bureau deemed important information and the data that could be produced at the local level. We got a glimpse into their interactions and learned about this delicate interplay.

More broadly we think following and elaborating on these methodical considerations offers fruitful future perspectives and a better understanding of knowledge production processes. For further research it seems promising to investigate who, where and how the small forms were transformed into the large volumes of printed statistics, the end to which the blanks catered. That would mean to start looking at the entire process of data collection not from the entry point of the school administration, as we did, but instead from the statistical bureau itself. One can expect further insights, especially on the small forms as objects and the knowledge practices "printed onto" them by following this lead.

Without attention to small forms in education one can easily miss less popular innovations and thoughts that derive from smaller, less researched sources. To quote again Saenger's thoughts on statistics it is not only the interpretation and not only the numbers and columns that matter, but also the "attention to the drafting of counting papers, tables and instructions for execution."[60] It is high time that we take these smaller elements more seriously and apply methodologies that involve their agency and develop appropriate methodical steps that allow us to describe and grasp them. While it must have been rather clear to the involved actors such as Saenger, today one might also think about why and in which way statistics mattered politically, how this significant insignificance actually came into being in the first place. Why do statistics matter that much more than the means of their production? Such questions need closer attention regarding the production of knowledge in its artisanal and smaller form.

60 Saenger (1934), 460. Translation by the authors.

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The Development of Home Economics as a Field of Knowledge and its Contribution to the Education and Social Status of Women

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Abstract • Denmark underwent major changes in the 1800s and the first part of the 1900s, which affected the role of education in the lives of women. Until then, women in Denmark had primarily worked as homemakers with few academic opportunities; but from the early 1900s, home economics developed as a field of knowledge, and several schools of home economics appeared across the country. Several factors contributed to and influenced this development. Focusing on the period 1890–1940, which was particularly important to the development of this knowledge field in Denmark, we consider the interests promoting the growth of this field of knowledge, its educational content, and the contradictory meaning it had for the social status of women. On the one hand, the development of home economics contributed to turning home duties into an educational and occupational area, preparing for a welfare state making the private sphere a public matter. On the other hand, it tied women to the private sphere and prevented their influence in the public sphere.

Keywords • schools of home economics, knowledge development, gender, history of education, biopolitics, biopower, discourse, discipline

Introduction

Knowledge can take many forms that can be linked to different degrees of recognition, status, and education. Thus, knowledge and education relate to power and social structures that can increase the status of professions and the people working within them. Around the mid-nineteenth century, societal changes throughout the Western world formed the background for the development of home economics as a field of knowledge. Home economics can be defined as knowledge, skills, and competences associated with running a household, including cooking, nutrition, clothing, childcare, and other aspects of homemaking.[1] In its early development in Denmark and in relation to schooling, one of the proponents of home economics stated that:

> Home economics concerns the greatest of all things: to make a home. And there is hardly anyone who would think that a woman could be too skilled, too great, or too noble for that. It is not only her taking care of keeping things tidy and her sense of '*hygge*', but her being also skilled in the kitchen and in relation to all domestic work that marks the home.[2]

The quote indicates the importance attributed to home economics at the time, (e.g., being considered a woman's "calling" and having skills connected to femininity and

1 Jette Benn, "Home Economics in Past and Present: Perspectives for the Future," in *Creating Home Economics Futures: The Next 100 Years*, ed. Donna Pendergast, Sue LT McGregor, and Kaija Turkki (Bowen Hills: Australian Academic Press, 2012), 52–61.

2 Eline Eriksen, "Hvad er Husholdning?" *Husholdningsbladet*, no. 1 (1902), 4.

women) and indefinite characteristics of "all domestic work". This calls for further investigation of the history and educational meaning of home economics.

The transition of Western societies to democratic forms of government influenced power structures and had some initial influence on the position and roles of women in the family and society – women's struggle for liberation and equality accelerated. Labour markets were changing, farming was influenced by technological conquests, new industries developed, and knowledge in the field of health and nutrition was expanding.[3] Thus, the context and preconditions for the development of home economics as an academic field of knowledge had been established. In Denmark, this development accelerated with the establishment of numerous schools of home economics in the period from 1890 to 1940. This provided new educational opportunities for many women, for whom schooling beyond the age of 14 was rare.

Within the predominantly male occupations of farming and trades, formal training and higher education had already been established. Thus, the first technical schools were established in the early 1800s[4] and the Royal Danish Veterinary and Agricultural High School in the middle of the 19th century.[5] Education and knowledge contributed to giving these occupations a higher status and developing them as fields of knowledge.

Until the late 1800s, there had been little formal education targeting girls and women in the rural areas of the country. The knowledge required for keeping homes and taking care of children's upbringing did not generally have the character of institutionalized knowledge but was primarily disseminated through informal training. This contributed to women being seen and seeing themselves as inferior to the position of men in society.

However, several factors and actors contributed to the emergence and development of home economics as a field of knowledge. This development enjoyed support and influence – in Denmark as well as in the other Nordic countries – through contemporary ideas of "education for all".[6] It included social and economic phenomena that gave rise to ideas and initiatives of the nascent welfare state supporting a healthy population and a stable workforce, and thus low costs for the public budget for social and health care.[7] The ideas and initiatives merged with ideas

3 Rebecca Rogers, "Learning to be Good Girls and Women. Education, Training, and Schools," in *The Routledge History of Women in Europe since 1700*, ed. Deborah Simonton (Abingdon: Routledge, 2006), 93–133; Jette Benn, *Fra kvindelig husgerning over hjemkundskab til madkundskab. Historie, filosofi og didaktik* (Copenhagen: U Press, 2016); Karin Lützen, "The Cult of Domesticity in Danish Women's Philanthropy, 1870–1920," in *Gender and Vocation. Women, Religion, and Social Change in the Nordic Countries, 1830–1940*, ed. Pirjo Markkola, Study Historica no. 64. (Helsinki: SKS. 2000), 147–76.

4 Ole Karmark and Morten Piil Hansen, *Skoleeksempler. Uddannelsesstyrelsens temahæfteserie nr. 29* (Copenhagen: Undervisningsministeriet, 2001), 91.

5 Henrik Carl Bang Bendz, *Den Kongelige Veterinær- og Landbohøjskoles oprettelse 1856–1858: en dagbog* (Copenhagen: Kandrups bogtrykkeri, 1992).

6 Susanne Wiborg, *Uddannelse og social samhørighed. Udviklingen af enhedsskoler i Skandinavien, Tyskland og England. En komparativ analyse* (Copenhagen: Danmarks Pædagogiske Universitet, 2005). Alfred Oftedal Telhaug, "The Nordic Model in Education: Education as part of the political system in the last 50 years," *Scandinavian Journal of Educational Research* 50, no. 3 (2006), 245–83.

7 Helga Hernes, *Welfare State and Woman Power: Essays in State Feminism* (Oslo: Oslo University Press, 1987); Toni Liversage, *Kvinden og historien. Kønsroller og familiemønstre i økonomisk betydning* (Copenhagen: Gyldendal, 1972).

of the Danish folk high school movement, in which education and "enlightenment" played key parts.[8]

The home economics movement emerged as a multifaceted argument for an area of knowledge that could provide education for women as well as better health for the population. The educational institutions of home economics became very popular in Denmark. One might say that women's agency in relation to education in this area was influenced by the struggle for recognition of their occupations and knowledge and, at the same time, also itself influenced women's social status as citizens in a modern democratic society.

The movement could be considered as contradictory, since it on the one hand contributed to turning home duties into an educational and occupational area, preparing for a welfare state making the private sphere a public matter – underlining the close relationship between power and knowledge and between the exercise of power and of freedom. On the other hand, in linking home economics so strongly to women, it was tying them closely to the private sphere and thus preventing their influence in the public sphere.[9]

Focusing on the establishment of schools of home economics in Denmark during the period 1890–1940, we aim to answer the questions: *Why did home economics develop as a field of knowledge and what did education within this field mean for the social status of women?* To explore and answer these questions, we approach the analysis through the following steps and questions: Firstly, we identify societal changes and actors that contributed to establishing schools of home economics, their interests, and the underlying discourses, and which curricular content was emphasised at the schools of home economics. Connecting knowledge with interests and power, we then move on to the question concerning women's education and social status. As part of this, we consider how the schools of home economics contributed to women's education and social status by emphasising certain disciplining functions.

The methodology will be outlined in the following, where we also state the sources for the analysis.

Epistemological approach to knowledge and power

In asking why home economics developed as a field of knowledge, we aim to identify the underlying rationalities and power relations for this development. This means that our analysis has its departure in a post-structural thinking of discourses and power, which, drawing on Foucault, aims to examine contradictions and what is privileged in relation to something else. It emphasises the close relationship between power and a particular knowledge, which is conceptualised as biopower.

From the 17th century, this new means of power developed and the biopower took two forms: *disciplining* of the individual body and *regulation* of the population's life processes.[10] The disciplining of the body means optimising its resources and making

8 Palle Rasmussen, "The Folk High School," in *Learning with Adults. International Issues in Adult Education*, ed. Peter Mayo (Rotterdam: SensePublishers, 2013), 219–28.

9 Karin Lützen, "The Cult of Domesticity in Danish Women's Philanthropy, 1870–1920," in *Gender and Vocation. Women, Religion, and Social Change in the Nordic Countries, 1830–1940*, ed. Pirjo Markkola, Study Historica no. 64. (Helsinki: SKS. 2000), 147–76.

10 Michel Foucault, *The History of Sexuality, vol. 1* (London: Penguin, 1978).

it more useful, productive, and obedient. The regulation power is directed towards the population as a whole and connects to processes that Foucault terms *biopolitics* and defines in the following way:

> The attempt, starting from the eighteenth century, to rationalize the problems posed to governmental practice by phenomena characteristic of a set of living beings forming a population: health, hygiene, birth-rate, life expectancy, race.[11]

Thus, the life of the population forms the object for regulation through the explicit policies and regulating norms. For this, biopower depends on and conditions the development and emergence of different life sciences – home economics exemplifying one of these. Accordingly, biopolitics concerns the emergence and introduction of measures that *regulate* the lives of citizens and, through measures such as education, discipline the citizens and make them behave in ways that, seen from the state's perspective, are the most rational. In this way, biopolitics in many ways stands as equivalent to the ideas of the Nordic welfare state and its use of biopower and gender as basic organising principles of society.[12]

For our analysis, we use the concept of biopower and the forms of regulating discourse and discipline it depends on, which we analyse in the two steps outlined above. That is, we first focus on the aspect of regulation by identifying the underlying interests of the actors that engaged in the development of home economics as a field of knowledge. Here, we also consider the discourses of home economics that were promoted by different interest groups. For this, we draw on sources such as reports on education in home economics, various legal material, and journal letters and articles written by politicians of the time and actors within the field. The legal material represents central public publications regarding educational law and politics in the area in Denmark. The women represent key actors in developing and shaping home economics education in Denmark, and the journals were important and influential channels of the time for doing this.

Next, we focus on the aspect of discipline by connecting the dissemination of knowledge through home economics education when addressing the question concerning women's status in society. For this, we draw on sources including statistics on the number of schools and courses for women in the area, publications such as books and articles about education in the field of home economics, and memoires written by key actors in the development of this field in the chosen period.

Societal factors and actors prompting the schools of home economics

In early modern Europe, women's occupation had very much been linked to the home and to a role of being the person primarily responsible for domestic matters.[13] This role entailed preparing and serving food for family members and carrying out other types of tasks in connection with looking after the home. However, knowledge within this field was largely equivalent to training; that is, characterised by a very low

11 Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège de France, 1978–79* (London: Palgrave Macmillan, 2008), 317.

12 Hernes (1987), 10.

13 E.g., Rogers (2006).

degree of institutionalisation and academisation. There was of course literature on topics in the field, but there was little of what could be described or was recognised as more scientific knowledge or ways to disseminate it. Thus, home economics as an academic field did not exist at that time, even though a more scientific approach to health, including knowledge of healthy food and nutrition, was under development. In Denmark, this was represented by, among others, doctor and nutritionist Mikkel Hindhede (1862–1945). Hindhede was very interested in questions concerning public health and in 1910 became head of the new Danish National Laboratory for Nutrition Research (*Statens Laboratorium for Ernæringsundersøgelser*).[14]

Until the 20th century, the dominant professions in Denmark were related to farming, with almost 80 per cent of the population living in rural areas and only approximately 20 per cent in the cities.[15] For most people, working life and life in general were therefore closely linked to farming. Some tasks were common for the family members at the farms, but there was also a high degree of division of labour. Women were predominantly responsible for the family's food and nutrition, clothing, domestic hygiene, and caring for children.[16] A similar gender-related division of labour was seen in middle-class families, especially in rural areas.

Women's occupation in housekeeping and the area of home economics was (and still is in some families today) considered a part of women's lives that was given by nature. Therefore, women were also trained from an early age in this type of work. "Schooling" for this was a part of socialisation (of girls), of which family life formed the framework, and training took place in connection with performing work tasks such as "maid" and the like. Until the beginning of the 20th century, there were only very few educations for or accessible to women in Denmark, and very few women obtained an academic education.[17]

Following societal developments, this changed during the 19th century. These developments included the transition from an agricultural to an industrial society, welfare state reforms, a transformed class structure with a larger middle class, the introduction of democracy, population growth, and the development of knowledge in the fields of health and nutrition.[18] Taken together, these developments also had a major impact on women's occupation in this field. The changes in the labour market, along with demographic changes that included a growth in urban areas and a larger middle class, meant that women's employment conditions changed, and a greater need and demand for education within women's occupational areas developed. Women organised themselves in the struggle for better conditions and rights in society and

14 In their publication "The History of Home Economics Education," Magdalene Lauridsen and Sofie Christensen describe how the actors in the field of home economics soon established what they describe as an "alliance" with Hindhede. (Sofie Christensen and Magdalene Lauridsen, *Husholdningsundervisningens Historie: Udarbejdet i Anledning af Landbrugsudstillingen* (Sorø: Sveegaards Boghandel, 1938), 5.

15 Danmarks Statistik, *Befolkningen i 150 år* (Copenhagen, Danmarks Statistiks Trykkeri, 2000), 15.

16 Hernes (1987).

17 Pia Fris Laneth, *Lillys Danmarkshistorie. Kvindeliv i fire generationer* (Copenhagen: Gyldendal, 2006).

18 Viggo Jonasen, "Den kommunale danske velfærdsstat – gennem fire socialreformer og fire mellemtider," in *Den danske velfærdsstats historie*, ed. Niels Ploug, Ingrid Henriksen and Niels Kærgaard (Copenhagen: Socialforskningsinstituttet. 2004), 202–23.

in the labour market, which underlined the need for more schooling and education.[19]

Such conditions interacted and in themselves influenced education in the field of home economics and thereby also the development and dissemination of knowledge in the field. The different actors that shared an interest in establishing schools of home economics, including the associations of farmers, smallholders, women, and workers,[20] built their arguments for this on different discourses.

The farmers' discourse of housewife skills

The transition from agricultural to industrial societies that characterised many Western countries in the 1800s brought about great changes for all those engaged in agriculture. The period was characterised by a significant decrease in the number of farms and thus also in the number of people employed in the sector, be it as a farmer, agricultural assistant, maid, or as a housewife on a farm. Thus, these people had to find alternative employment opportunities, which could be positively supported by, and necessitated, education and training.

Even though a form of primary school had already been introduced by law in Denmark – which ensured that children in both the countryside and urban areas received some school education – the education system was still characterised by substantial inequalities and differences. Young people in rural areas had to move to the larger cities if they wanted an education after primary school, and for women the possibilities of education was quite small.[21]

The farmers' associations constituted strong players in Danish politics during the period. In home economics education, they saw an opportunity to ensure better educational opportunities in the rural areas, not least for their daughters, wives, and mothers. This could both be of benefit to the farms and ensure a possible livelihood for the women in rural areas who might not be able to get employment on the farms but could instead work as maids, cooks, or housekeepers for middle-class families, whose numbers increased in the growing urban areas.

The Danish farmers' associations therefore took several initiatives in this direction. Under their auspices, the education of women at farms was discussed as early as the middle of the 19th century. For example, it was discussed in a report by Frederiksborg County Farmers' Association in 1857: "What can be done to train Peasant Girls to be skilled Housewives? By what means can it work for the Promotion of Garden Culture?"[22] For this purpose, the farmers' association advocated for the education of girls to be "skilled housewives".

However, it was not until the beginning of the 20th century that such initiatives really began to take root. At the delegates' meeting of the Zealand Farmers' Association in 1901, important members expressed support for the cause. For example, Chamberlain Oxholm stated that:

19 Gerda Petri and Minna Kragelund, *Mor Magda – og alle de andre. Husholdning som fag fra 1900 til i dag* (Copenhagen: Forlaget Komma, 1980), 147–76; Hernes (1987).

20 Inga Dahlsgaard, *Women in Denmark: Yesterday and Today (*Copenhagen: Det Danske Selskab, 1980).

21 Petri and Kragelund (1980).

22 Anders Uhrskov, *Frederiksborg Amts Landboforening 1843–1943* (Hillerød: Frederiksborg Amts Landboforening, 1943), 29.

> The courses [in home economics] can give housewives the opportunity to prepare good and healthy food for little money and it can raise the culture in the homes and lead to greater 'hygge'.[23]

Again, the educational objective appears to be training the *housewife* in cooking that is both healthy and economic and in cultivating the home. In this way, courses in home economics appear to be an assurance of the future as a housewife.

The smallholders' discourse of economising

The smallholders' associations also constituted strong players in Danish politics during the period. They represented the small farms, typically run as family farms in which all family members took active parts. Accordingly, the associations took strong interest in home economics.[24] The positive significance of the courses for smallholders was noted at the above-mentioned meeting.[25] In her speech, one of the Danish pioneers of home economics, Magdalene Lauridsen, argued that such an education could contribute to "creating opportunities for savings and better nutrition of the rural population if the housewife knew these conditions."[26]

Referring to her experiences from study visits in England, she further described that:

> Here they had arranged courses for especially the poorer part of the population, where they were taught about better utilization of vegetables and cheap products that could improve public nutrition.[27]

Thus, the aspects of economy, utility, and nutrition appear as central arguments not only from the perspectives of the farmers and smallholders, but also from pioneering women within the field.

In 1908, the first Danish home economics association was founded on the initiative of Rebekka la Cour (1878–1961). She was a trained teacher in home economics but had also studied at the Royal Danish Veterinary and Agricultural High School and, together with her husband, had founded an agricultural school.[28]

The associations of home economics addressed the interests of the housewives at the farms and in the countryside. After a few years however, other associations arose around home economics that also addressed the interests of other groups of women. The Danish Housewives' Association was thus started in 1917 and primarily targeted the interests of the housewives in urban areas. In addition, the Collaborating Danish Association of Home Economics in the Countryside – which had information as one of its purposes – was established in 1921. This association published the magazine, *Husholdningsbladet* ("Journal of Home Economics") and was also the initiator of another magazine, *Vort Landbrug. Tidsskrift for Husholdning* ("Our Farming: Journal of Home Economics"), which was published from 1922 under the auspices of the farmers' associations.[29]

23 Gustav Nedergaard, *Magdalene fra Ankerhus* (Copenhagen: G. E. C. Gad, 1997), 95.

24 Petri and Kragelund (1980).

25 Nedergaard (1997), 94.

26 Nedergaard (1997), 93.

27 Nedergaard (1997), 93.

28 Petri and Kragelund (1980), 67.

29 Petri and Kragelund (1980), 69.

These journals both contributed to the same discourse. For instance, in the *Journal of Home Economics*, the chairman of the Cooperative Farmers' Associations, H. Valentiner, praised the educational activities for country women in such ways:

> It is of great importance that the question of a better use and utilization of the foodstuffs available to the population is put under debate now. The fact that food is cooked poorly, unappetizing, does not just mean a loss of nutritional value - the effects go far beyond. … and the form in which they work entails that women in many different life positions (farmer and peasant wives, young girls, teacher, and clergy) get the opportunity to get together, not only to hear lectures on topics of particular interest to them, but also to have the opportunity afterwards to exchange their opinions, their thoughts on what they have seen and heard.[30]

Another important contributor to the *Journal of Home Economics* was the pioneer Rebekka La Cour, who promoted similar ideas.[31] For some years, she was also the editor of *Our Farming: Journal of Home Economics*.[32]

The home economics and housewives' associations enjoyed great popularity. In the mid-1930s, the home economics associations had more than 10,000 members, predominantly in rural areas, and the number increased steadily.[33] The Danish Housewives' Associations, established in 1930, reached approximately 5,000 members during the first 10 years.[34]

The women's discourse of qualification and liberation

The pioneering women within the field of home economics also had strong affiliations with feminist organisations. For the feminist movement, the education of women was a key issue. Although the level of education began to rise in general, many women still obtained only a primary school education. In addition, there were only limited possibilities for education within the employment areas dominated by women, which contributed to great gender inequality within education. Accordingly, the education of women was considered an important way of strengthening women's position in society and establishing more equal conditions between the sexes. The education of women in the field of home economics was no exception to being seen as a positive step in the right direction of liberating women from the economic dependence of men.

As stated on the frontpage of the journal issued by the Danish Women's National Council, the purpose of education was "to ensure the development and qualification of women to the responsibility and work of full citizens."[35] In this way, the initiatives in the field of home economics can be seen as linked to the women's movement and women's struggle for equal rights.[36] Addressing the rights of maids, one of the pioneering women pointed out:

30 Heinrich N. Valentiner, "Husholdningsaftenskoler," Husholdningsbladet (1902), 62–64.

31 Petri and Kragelund (1980), 67.

32 Nedergaard (1997), 85.

33 Lars Christian Biza, Benedikte Krebs Lange, and Eva Katarina Lous. *Ude eller hjemme* (Aarhus: Aarhus Universitet, Historisk Institut, 1982); the Danish population were in 1930 app. 3.5 million (Danmarks Statistik, 2000)

34 Petri and Kragelund (1980), 67.

35 *Kvinden og samfundet* 34, no. 14, (1918).

36 Liversage, *Kvinden og historien. Kønsroller og familiemønstre i* økonomisk *betydning* (1972).

> We need cooking schools and worker kitchens that could undertake further education, especially in cooking, and we especially need the few homes that have both the will and the ability to guide the young girls, in a sensible way, to engage in the work that they perform as maids.[37]

The mantra of the women's movement with the schools of home economics was that women should have the same opportunities for education as men. The schools of home economics were the obvious opportunity for establishing a vocational education for women, which should equate domestic knowledge with other subjects, and by qualifying women make them able to enjoy the same respect and reputation as men. As also highlighted by the pioneer, Birgitte Berg-Nielsen (1861–1951), who played an important part in promoting the Danish Women's Society's policy in home economics and establishing a school of home economics as well as a teacher training college in Frederiksberg in 1905, the purpose of home economics education was not to force women back home but to give them the opportunity for a profession, financial independence, and – through rational planning – the strength to engage in important societal issues.[38]

The workers' discourse of welfare

Many women were employed as unskilled labour in various professional areas related to home economics (e.g., maid, housekeeper, kitchen assistant, cook), and they were not in a strong position in the struggle for the protection of their interests. The unions that had been set up in the late 1800s, primarily prompted by women employed in industry and urban areas, were aware of this. Also, for the trade unions, the recognition of home economics as a field of knowledge therefore became a key issue, since education would put women in a much better position in terms of negotiating their pay, employment, and working conditions in general.

Thus, several educational initiatives within home economics were initiated by the trade unions, which e.g., established the Maids' Vocational School (Husassistenternes Fagskole) in 1906. From 1921, the Danish Red Cross also gave women a short-term education in the area. The state was also directly involved as a player in such activities, since a few decades later it established the "Home Economics course for unemployed women" under the auspices of the Directorate of Labour for the Unemployment Funds. In the years 1935–1940, approximately 500 women participated in these courses.

The affiliation with the labour and trade union movement was obvious. For example, as described in the publication *The Maids' Vocational School - 25 Years of Activity 1906–1931*:

> The Maids' Vocational School was established by the Maids' Union or, as it was then called, "The Copenhagen Association for Maids" …. The school is today a self-governing Institution with a Board appointed by the Ministry of Business Affairs …. The Maids' Vocational School is the first Vocational School in Denmark to be built

37 Birgitte Berg-Nielsen, "Tjenestepigernes stilling," *Hvad vi vil, 1, no. 10 (*1888), 77–78.

38 Elisbeth Andersen, *Fejekost og stemmeret* (Copenhagen: Hernovs Forlag, 1988), 63; Inga Dahlsgaard, *Women in Denmark: Yesterday and Today (*Copenhagen: Det Danske Selskab, 1980).

> by the working class itself and by the part of it that, although relatively small, had the strength and ability to work together not only for the entire class's economy but also its moral and cultural elevation.[39]

Class solidarity was central in the attempt to provide competences for the maids and others belonging to the working classes. When more women entered the labour market this brought significant changes in the family structure. Increasingly, industrialisation led to a separation of production and domestic matters. Along with this came an increased need for and strengthened political interest in the state having to perform tasks in the social and welfare area. Therefore, a more comprehensive policy in this regard became necessary, one that called for welfare reforms and was reflected in the period, specifically in the adoption of several laws in the area.[40] In addition, the state's new ways of getting involved in home economics were also reflected in, for instance, the establishment of the Danish Health Authority in 1909.[41]

Citizens' welfare – in the form of ensuring health care and not least education within the field – thus to a greater extent became a matter for the state. This mattered for the notions tied to the housewife and her role in society. In some ways, the discourse of the welfare state took over the discourse of the housewife; in other ways, it played a parallel role to this.

From a welfare state perspective, the housewife was seen as a key player in taking care of the family's health, providing a good upbringing for children, etc., and as a free source of labour that could keep (welfare) state expenditure as low as possible. In that process, home economics as a field of knowledge gained a different (and higher) status and significance. This was underlined by the state support[42] and illustrative of its biopolitics. Thus, the distribution of this knowledge and the disciplining of women into caring (from the perspective of the state) was important. This was therefore accompanied by activities set in motion or supported by the public sector to aid the development of knowledge in the field, as well as its distribution.

Schools of home economics and their disciplining functions

The first formal initiatives to establish education for women in home economics in Denmark were taken in the latter part of the 19th century. Already in the 1870s, Natalie Zahle (1827–1913), a pioneer in the field of education and manager of a girls' school and a high school for girls, had written about involving "domestic work such as washing, ironing, and cooking."[43] as an integral part of the teaching in the school, and states:

39 Frederik Dalsgaard, *Husassistenternes Fagskole- 25 Aars Virksomhed: 1906–1931* (Copenhagen: Dansk Andels Trykkeri. Husassistenternes Fagskole, 1931), 7–9.

40 Including a new poverty law and the law on old-age benefits (1891), social reform (1891–1892), voluntary health insurance with state subsidy (1892), law on plots of land for farm workers (1899), legislation for smallholders (1919), new social reform (1933), etc.

41 Danish: Sundhedsstyrelsen (1909).

42 According to Larsen (2008), state funding for schools of home economics was introduced 1907 and thus the schools obtained a semi-public status. Christian Larsen, *Fra skoleanordninger til Den Store Skolekommission* (Copenhagen: Danmarks Pædagogiske Universitetsskole, 2008), 32.

43 Natalie Zahle, *Om den kvindelige uddannelse her i Landet* (Copenhagen: Th. Linds Forlag, 1873), quote from Jette Benn, "Skolekøkkenet – et rum for husgerninger – for disciplinering og udfoldelse." in *Skolefag i 100 år*, ed. Vagn Oluf Jensen (Copenhagen: Danmarks Pædagogiske Bibliotek, 1995),

> There is enough talk that the young women of our time do not understand how to run a house; what if they are taught such Knowledge not only theoretically, but practically, at the age when the Body needs much Movement?[44]

As quoted, the central purpose of the school was to discipline the female body. Even if initiatives had been seen in the direction of establishing a home economics education earlier in the 19th century, it was towards the very last part of the century that something really happened, and the regulation of the field began.

In 1898, the first Danish school of home economics was established in the Danish town of Sorø, with Magdalene Lauridsen (1873–1957) as a leading person. A few years later, a teacher training college in home economics was also established there. The Sorø School of Home Economics likewise educated young women to become so-called "itinerant teachers", which meant teachers who moved from place to place and to distant areas (sometimes by cycling from one place to the other), and teaching home economics to young women and farmers' wives.[45]

The education in home economics soon became very popular among women, and in the following years several schools were established all over the country, though mostly in the countryside or in the provincial towns. In 1935–1936, there were 22 such schools.[46] The number of pupils at the schools increased steadily in the first decades of the 1900s, as can be seen in the statistics from Statistics Denmark, which show that there were 79 pupils in the school year 1908–09, 333 in the school year 1920–21, and 1,543 in the school year 1935–36.[47]

In addition, in the period 1902-1905, three teacher training colleges in the field of home economics were founded, one in Sorø and two in the Copenhagen area, to educate teachers for the schools of home economics.[48] The number of students at these colleges was 117 in 1934–35 and 127 in 1935–36.[49]

During this period, the education at schools and colleges of home economics could be of a duration of up to approximately two years of full-time study. However, some courses or series of courses could be stand-alone teaching sessions or lectures, or a series of consecutive sessions of, for instance, two hours each (courses).[50] The content of the activities is described in the schools' curricula, syllabi, and in various reports,

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91–104.

44 Zahle, in *"Om den kvindelige uddannelse her i Landet,"* (1873), quote from Benn (Copenhagen: Danmarks Pædagogiske Bibliotek, 1995), 92.

45 Petri and Kragelund (1980), 102; Folmer Dam et al., *Magdalene Lauridsens liv og virke, Udgivet på hendes 100-års dag, den 25. april 1973 af Elevforeningen Ankerhus* (Sorø: Elevforeningen Ankerhus, 1973).

46 Petri and Kragelund (1980), 102.

47 Danmarks Statistik, *Statistisk* Årbog (Copenhagen: Statens Statistiske Bureau. Thieles Trykkeri (1910), 151; (1922), 145; (1937), 154. For comparison, teacher training colleges, another important educational area, had 1,757 students in the years 1935–1936, which illustrates the great popularity of the schools of home economics.

48 Sofie Christensen and Magdalene Lauridsen, *Husholdningsundervisningens Historie: Udarbejdet i Anledning af Landbrugsudstillingen* (Sorø: Sveegaards Boghandel, 1938).

49 Danmarks Statistik, *Statistisk Årbog* (Copenhagen: Statens Statistiske Bureau. Thieles Trykkeri, 1937). 154.

50 Gustav Nedergaard, "Ankerhus gennem 100 år," in *Festskrift: Ankerhus Seminarium 100* år (Sorø: Ankerhus Seminarium, 2002), 31 - 51 40; Petri and Kragelund (1980), 24.

of which we provide some examples. The school examples are selected because they are situated in different catchment areas – a rural and an urban – and accordingly had different target groups. They serve to illustrate the types of disciplining related to the different contexts of the schools.

The Sorø School of Home Economics

The Sorø School of Home Economics represented the rural community, and teaching activities were aimed at women from such areas. In the Danish magazine *Kvinden og Samfundet (Woman and Society)*, which represented the Danish Women's Society, the school described its activities in an annual report as follows:

> Both theoretical and practical instruction is given. The theoretical includes Home Economics Chemistry, Health Science, Natural Science, Botany and Bookkeeping. The practical exercises include ordinary and fine cooking, butchering, baking, French washing and ironing, maid work, dress and linen sewing, stuffing, and patching. The students are divided into teams, which change every month, and all students receive an equal share in all work. In addition, emphasis is placed on opening the minds of young girls to the questions of the time through lectures of a versatile nature - on literature, the legal position of women, economics, etc.[51]

As illustrated, housekeeping implied many theoretical knowledge dimensions. In addition, the field of knowledge also implied practical dimensions of disciplining, which are reflected in the photographs of students and teachers wearing uniform clothing. The "uniform" was typical at the schools of home economics and contributed to the discipline of conformity and *esprit de corps*.[52]

Figure 1. *Maids' Vocational School in Copenhagen.* Photo collection: Royal Danish Library.

The Suhr School of Home Economics

The Suhr School of Home Economics represented education for women in the urban areas and the women of the bourgeoisie. A description from the school defines the academic content, which in some respects is like the descriptions from the Sorø School of Home Economics. However, differences can also be observed, which are significant to note, and which express and reflect that the two schools to a certain extent addressed different target groups, as seen in an advert in the journal of the Danish Women's Society in 1901:

51 "Sorø Husholdningsskole," *Kvinden og Samfundet* 15, no. 18 (1899), 202.

52 E.g., Magdalene Lauridsen, *"Fem og Tyve Aar 1895–1920. Et tilbageblik,"* (Sorø: Foreningen Ankerhus, 1921), 7, and at the photo which is from the Maids´ Vocational School, Copenhagen, 1932.

> It is our pleasure to draw attention to Ms. Ingeborg Suhr, who has set up a housewife school here in the city, (see the ad below!) which strives to become a model school for practical housework. The aim of the school is to seek to remove all the disadvantages with which it has hitherto been associated for parents to let their daughters learn housework and housekeeping …. All emphasis is placed on the teaching of cooking, setting the table, serving, baking, washing, household accounting, nursing, etc., in short, everything that falls into a bourgeois home.[53]

In another description of the Suhr School of Home Economics, from 1915, it appears how the school addresses the daughters of the bourgeoisie:

> It is of course of great importance to parents in the province that their daughters can stay at the school and use the afternoon and evening also to seek other education. If desired, students outside the education, which is both of a practical and theoretical nature and includes nursing and childcare, can also participate in washing, rolling, and ironing. (…) The home economics education offered by the school can also be supplemented with a course in dressmaking.[54]

As also pointed out elsewhere, to be schooled to oversee domestic servants they had to learn the principles of housework.[55] Subjects such as natural science and plant science, however, are not mentioned as part of the teaching, as was the case at the Sorø School of Home Economics.

Figure 2. *Suhr School of Home Economics.* Photo collection: Royal Danish Library.

It is remarkable here that explicit emphasis was placed on practical elements of housework rather than on "opening the minds of the young girls," which was mentioned at the Sorø school. This may partly reflect the folk high school inspiration that was more typical for the rural schools. Partly, that the girls from the bourgeoisie were less familiar with doing practical housework at home but had to learn it "theoretically" at school, while dressmaking was considered "useful" for them. Likewise, finer cooking appeared to be more important at Suhr's, whereas themes of rural households such as gardening and livestock farming were more important at Sorø.

Course activities, evening classes, and the like

The courses of shorter duration reflected the breadth in relation to the work tasks associated with the role of the housewife. Regarding the courses held by itinerant

53 "Fra uge til Uge," *Kvinden og samfundet* 17, no. 11 (1901), 42.

54 "Den Suhrske Husmoderskole," *Kvinden og Samfundet* 31, no. 17 (1915), 264.

55 Gerda Petri, "Huslig uddannelse – socialisering omkring århundredskiftet," in *Pigeopdragelse*, ed. Mette Winge et al. (Roskilde: Forlaget Emmeline, 1981), 38–41.

teachers in the rural areas, one of the early teachers, Maren Tarp (1885–1978), describes their form and content as follows:

> The teaching itself was organised by Magdalene Lauridsen according to a plan which the teacher was not allowed to deviate from unless special circumstances prevailed. A demonstration usually included the preparation of two courses of food with a certain purpose such as to increase the use of garden items, especially cheap and nutritionally valuable products. During the 2 hours that the lesson lasted, the price, nutritional value and preparation of the products were discussed. In addition, a ½-hour lecture was given on a special topic, e.g., water, milk, meat, vegetables and the second winter also on hygiene, e.g., the skin and its care, the blood, and the breath.[56]

This teaching was aimed at women in the countryside, who could grow their own vegetables, and at providing knowledge about cooking, food, and nutrition, but it also dealt with health-related topics. The courses were built around the preparation of different dishes, with the simultaneous dissemination of knowledge about the nutritional value of food.

In an edition of the *Journal of Home Economics* from 1908, the then chairman of the Cooperative Farmers' Associations, H. Valentiner, describes an evening course in very positive terms:

> Nothing is more enjoyable than such a demonstration – all the while the teacher, with the help of a petroleum appliance, prepares the food in the quickest and cleanest way (Cleanliness is a quality that is repeatedly emphasised). While peeling a potato or sharing an apple, she [the teacher, ed.] tells her 30-40 listeners about the properties of water, or what can be said about milk, meat, etc. These evening schools, and the form in which they operate, mean that women in many different positions of life (farmhand and housewife wives, young girls, teachers, and clergymen) can get together.[57]

Another example illustrates courses aimed at women who could be described as belonging to the bourgeoisie. The Suhr School of Home Economics in 1938 describes the curriculum of a "Monthly course for advanced students" in home economics:

> The monthly course is intended to give housewives, housekeepers, managers of summer pensions, etc., who are skilled in daily cooking, a supplementary education in the features and specialties required of the trained housewife in larger homes. … The teaching includes Dinner-oriented and cold Table intended for finer Household, further serving, Table setting, Table decoration and Waiting. In addition to the summer course in June, pickling and boiling. The teacher presents and reviews the dishes that the students prepare and eat themselves the following days of the week.[58]

Here, there was no explicit focus on the nutritional or health dimension of cooking but on cooking and keeping a home, such as this related to the higher social classes.

56 Quote from Dam et al. (1973), 28.

57 Valentiner, "Husholdningsaftenskoler, " *Husholdningsbladet* (1902), 62–64 (author's translation of the quote from the Danish in the text).

58 Agnes Elgstrøm, *Undervisningsplan.* (Copenhagen: Den Suhrske Husmoderskole og Husholdningsseminarium. 1939), 20.

The farmers' associations were great supporters of the itinerant courses. The spread of the courses can be seen in statistics, which show that between 1901 and 1907 41,421 women across the country participated in such courses under their auspices.[59] They also set up so-called "home economics evening schools", which many attended. In an article on the subject, the number of schools in 1904–1905 is noted as 190 and the number of pupils as 7,827.[60]

Similar courses were held under the auspices of the Danish Women's Society, and there was an active information effort carried out by the home economics associations that used magazines such as the *Journal of Home Economics* for dissemination.

In summary, the teaching activities and the knowledge disseminated reflected what was considered *useful for housewives*, whether in the countryside or in urban areas. The disciplining functions concern the development of, first and foremost, skills in relation to ensuring the nutrition and health of the family and, in relation to this, economic behaviour in consideration of the family's resources. The latter obviously necessitated that the schools of home economics reflected the social classes and situations of their main target groups, which they did.

Home economics and its conflictual status as disciplining knowledge

As described, there were in many ways overlapping interests among the contemporary movements in developing home economics as a field of knowledge. In their considerations of the contribution of this knowledge to the public or the private sphere and to the social status of women, there were also considerable differences and discrepancies. Sometimes there was even a discrepancy within the social movement's own logic as to whether this knowledge promoted an idea of emancipation or the opposite.

Liberation and agency of women

Education and training in home economics initially constituted a large part of the educational activities for women in the countryside and in the smaller towns.[61] However, it was not primarily with the aim of gaining professional competence that women were educated in home economics. Many of them, perhaps most, took or came to the schools of home economics to improve their home and family skills. But the development of home economics as a field of knowledge and its interplay with the business side of life must not be underestimated. Education in home economics required people with a higher education to engage in and implement the activities.

Thus, the emergence of the new field of knowledge contributed to the further education of more people, most often women, who could take on new business areas. In that way, home economics could provide women with more agency. That is, they might be allowed to enter the public sphere if it were congruent with domestic duties and could be considered an extension of their activities as homemakers.[62]

59 Petri and Kragelund (1980), 71.

60 *Illustreret tidende (No Authorname.)*, "Landboforeningernes Husholdningsaftenskoler," *Illustreret Tidende* 48, no. 2 (1906), 25.

61 Karen E. Andreasen and Annette Rasmussen, "Husholdningssagens betydning for den lille bys modernitet: kvinders uddannelse og erhverv inden for husholdning 1890–1940," *Erhvervshistorisk Årbog*, no. 1–2 (2020), 67–91.

62 Lützen (2000),147–76.

As mentioned above, within the women's movement Birgitte Berg-Nielsen was particularly important for home economics education. She and others went against the idea of considering such knowledge as something "innate" in girls and favoured the notion that "you have to learn something to be something."[63] She saw it as an important purpose of the education in home economics to support the woman as an individual through professional expertise and to try to create respect for domestic work. In addition, she emphasised that the subject had to be part of compulsory public education, also aimed at men, and should be considered a matter for the state, which consequently should support the home economics schools. However, this did not happen.[64]

Even in rural areas, the feminist organisations' ideas of education in home economics were received positively. The number of smallholders with their own land grew during the 1800s, and they also had an increased interest in strengthening and improving the farms to get the best possible return. The farm owners' new conditions as self-employed supported a strengthened interest in the optimisation of their farms and knowledge about this.[65]

As the women took care of important work tasks in the operation of the farm, such as those in charge of the household – in the form of the production of healthy nutrition for the family in all its phases, the maintenance of health and the prevention of diseases – a general interest in strengthening the knowledge and skills of women in rural areas developed. It was therefore also the politically strong farmers' associations in the Danish agricultural community that supported early initiatives for courses and education for women in home economics.[66] While there was a perceived notion of women's natural abilities for housework and childcare, there was at the same time widespread ignorance in the field, which the state wished to rectify.

For many years, advocates of women's rights had supported the strengthening of women's educational opportunities. Thus, for many decades this led to a "strong alliance" between the women's movement and the state to develop an education for women in home economics and motherhood.[67] The women's movement stated economics as an argument for the state to go into the establishment of schools of home economics, arguing that great societal values could be created if the housewives received solid education on a scientific basis.[68]

Tying women to a subordinate social status

State aid for home economics education was not obtained in the first years. Thus, it was a paid education until 1930, primarily aimed at the daughters of peasants and the bourgeoisie. This meant that the largest group of employees within home economics, that is the maids and servants, was not initially covered by the vocational training relevant to them.

63 Petri, "*Huslig uddannelse – socialisering omkring* århundredskiftet," (1981), 38.

64 Dahlsgaard (1980).

65 Petri and Kragelund (1980), 13, 71–76.

66 Nedergaard (1997), 90; Petri and Kragelund (1980), 43, 71–76.

67 Laneth (2006), 243.

68 Andersen (1988), 60.

It was not until the establishment of the Maids' Vocational School in 1906 that the educational needs of this group of women were met.[69] However, the servants remained in many cases uneducated and had low-paid jobs, and it was only with the adoption of a law in 1930 providing subsidies for evening and youth schools that they were given the opportunity of a formalised education in the field.

In the bourgeois culture of the urban middle classes, indoor life and a minimum of manual work characterised the ideal of a woman.[70] According to this ideal, women were supposed to perform embroidery and play piano. There was a sharp division between the domestic sphere of the home and the public sphere of business and politics, of which the first belonged to women and the latter to men. There were strict rules as to the roles of the sexes and as to considering a woman's place to be in the home and taking care of it. When young women entered a school of home economics, it was with the special focus of learning to become homemakers and adapting to the set of attitudes confined to this role. To gain and exert her role in the home, not necessarily as an active homemaker but as a person in charge of domestic servants, the bourgeois woman had to acquire knowledge of home economics and was disciplined into the attitudes that came with this.[71]

In this way, schools of home economics also contributed to tying women to the home, to a "calling of being a wife and mother."[72] Even women for whom marriage was not possible could follow this calling into charitable work or by acting as a mother for the children of others or persons her own age or older and thus display domesticity. This meant that women could be allowed to enter the public sphere if it were an extension of their activities as homemakers. Accordingly, it was also as homemakers that women argued for the right to become involved in social affairs. Leading women within a moral reform movement that worked against the legalisation of prostitution compared this to filth piling up in the homes and advocated for "a homemaker's sense of cleanliness."[73] Thus, part of the reform work of these middle-class women can be seen as an attempt to domesticate the public sphere – the home was society, and society should be transformed into a home.

The domesticating of the public sphere was very much in line with the Nordic welfare state idea that the state is the "home of the people". Thus, it assisted the development of the welfare state, in which the biopolitics played an important role in supporting the physical and social health of the population and thus keeping down the costs of health as well as social care. As part of this, the development of home economics as a field of knowledge helped to professionalise women so that they could leave their own homes to enter the labour force. The core of this professionalisation of mothering and care, however, was not considered an employment of similar status as other public domains of knowledge, which were dominated by men. Although education was considered critical in elevating the status of women, the fields of

69 Anette Wolthers, *Fagbevægelse, ligestilling og mangfoldighed i mere end 100 år* (Copenhagen: FIU-Ligestilling, 2015), 59.

70 Ruth Emerek et al., *Kvinder i byen. Aalborg omkring år 1900* (Copenhagen: Strandbergs Forlag, 1982).

71 Petri (1981), 38–41.

72 Lützen (2000), 147–76.

73 Lützen (2000), 147.

knowledge that they went into did not provide them with the sufficient skills and confidence that allowed them to move beyond the "domestic" spaces into the public world.[74]

Conclusion

The development of home economics as a field of knowledge has been influenced by several different societal conditions and different actors. It was highly influenced by associations that represented the interests of the countryside, including the Danish farmers' and smallholders' associations on the one hand, and the women's associations and trade unions – the latter representing urban workers – on the other hand.

They represented very strong interests that to some extent coincided with welfare political agendas, whose cause could also be promoted through, and in fact depended on, the development and dissemination of knowledge within the area of home economics – biopower.[75] Such dissemination took place through the teaching and activities of the schools of home economics, which the state supported ideologically and later also financially. Thus, the strength of the interests behind the schools of home economics and the fact that they allied with the state favoured the development of home economics as a field of knowledge.

The pioneering women – such as Birgitte Berg-Nielsen, Rebekka La Cour, and Magdalene Lauridsen, who were leaders of schools of home economics – advocated strongly for an academic education within the field.[76] However, it was only after the middle of the twentieth century that efforts had some success, with the establishment in 1963 of the Nordic High School for Home Economics Science, while requests for an academic education under the auspices of, for instance, the university were not successful until much later.[77]

The pioneering women spoke partly on behalf of the farmers' organisations and interests and partly on behalf of feminist organisations and women interested in qualification and liberation. Through their positions, they represented and could serve as "ideal types" for other women, who via their qualifications took up instructional and leading positions in society. Thus, they demonstrated how knowledge could add status and power to women.

The forms of knowledge that were expressed in courses and education – and the disciplining function of home economics – could be claimed to be of both a gendered cultural and professional character. The gendered culture emphasised the role of women as housewives and their functions of housekeeping, including decoration, table setting, and serving (men), which would discipline them into beings in inferior social positions and ultimately served the purpose of the state.[78]

The professional orientation on the other hand appeared from the curricular content based on knowledge linked to subjects such as nutrition, chemistry, hygiene,

74 Rogers (2006), 93–133.

75 Foucault (1978).

76 Petri and Kragelund (1980), 58.

77 Petri and Kragelund (1980), 94.

78 Foucault (2008).

and horticulture, which later developed into scientific and educational areas that today are highly frequented by women. In this way, the development of home economics as a field of knowledge has also been important in educating, professionalising, and thereby increasing the social status of women. However, it is still questionable to what extent increased professionalisation within the field of home economics has added to the status and power of women.

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Revising Swedish Christianisation: History Mediation in Research and School, 1915–1996

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Abstract • This article examines history mediation and the relationship between education and academia. The aim is to investigate historical representations of the Christianisation in Sweden from 1915 to 1996, by doing a comparative analysis of the content in research publications and history textbooks for upper secondary school (or the equivalent). The research field and the textbooks are perceived as two different knowledge arenas. The analysis shows how the two arenas are more harmonious and consistent in their representations of Christianisation during the early twentieth century. In the mid-twentieth century, the arenas deviated from each other for an extended period, before finally becoming more unitary again by the end of the century. The impact of the schools' steering documents, as well as the distinctiveness of the two arenas, seems to constitute the conditions for inconsistencies between them at different times. The analysis also suggests that the educational applicability of the knowledge content in contemporary research, likewise impacts the relationship between the two arenas.

Keywords • history of knowledge, history teaching, history textbooks, upper secondary school, historical research, Christianisation in Sweden, historiography

Introduction

Divergent or harmonious knowledge arenas?

Knowledge about historical periods has gradually changed over the last century and this transformation of knowledge has continuously been mediated in society. Historical knowledge is circulated in different mediating arenas that shape politics and cultural life.[1] One portion of this mediation takes place among scholars, who mediate their historiography in research forums, books, and journals. But how does historiographical change correspond to the knowledge content that is being mediated in the schooling of pupils? This question is particularly intriguing when it comes to representations of historical periods of which our understanding has changed greatly. Moreover, history teaching often includes national identity building, which can make teaching hard to adapt to current research findings.[2] The shift in religious denomination – from paganism to Christianity – that took place at the end of the Viking Age has been referred to as the *Christianisation* in Swedish historiography.[3] In the field of inquiry into this Christianisation process, key aspects of the representations have initially been

1 Johan Östling, Niklas Olsen, and David Larsson Heidenblad, "Introduction: histories of knowledge in postwar Scandinavia," in *Histories of Knowledge in Postwar Scandinavia: Actors, Arenas, and Aspirations*, ed. Johan Östling, Niklas Olsen, and David Larsson Heidenblad (Abingdon, Oxon: Routledge, 2020), 1–3.

2 David Cannadine, *The Right Kind of History: Teaching the Past in Twentieth-Century England* (Basingstoke: Palgrave Macmillan, 2011), 220.

3 Bertil Nilsson, "Avslutande reflexioner," in *Kristnandet i Sverige: gamla källor och nya perspektiv*, ed. Bertil Nilsson (Uppsala: Lunne böcker, 1996), 419.

centred around missionaries, early bishops, and kings. This has changed over time and new factors such as political motives and cultural mentalities have become more crucial for the representations.[4] But what has happened to the educational mediation of knowledge when the scientific knowledge has changed? This article explores the relationship between mediation of knowledge in schooling and in academia.

Academic research findings and theses tend to be ever-changing, which leaves textbook authors with the difficult task of having to select representable content and, at the same time, write in accordance with syllabus, curriculum and textbook writing traditions. This leads to the question of how the circulation of academic knowledge is impacted by changing conditions for schooling. Furthermore, it has been suggested that textbook authors, just like other mediators of historical knowledge, continually let their own historical understanding and values impact the content in textbooks.[5] Narratives about the Christianisation in Sweden have been taught as part of the history subject in Swedish schools as far back as the mid-nineteenth century.[6] At the same time, we know that the history of education and the history of culture were strongly conjoined in western society during this time.[7] Over the course of the twentieth century, much has happened in Swedish culture, religion, and, not least, politics, and all of these changes have thus affected how history has been taught in school.[8] In this complex intersection of influencing factors, one of the most influential genres of history books has been written: textbooks.

Aim and research questions

This article will highlight the mediation of knowledge in the history of education and the connection between history teaching and academic research. The aim of this article is to investigate historical representations of the Christianisation in Sweden between 1915 and 1996, with the main focus on the relationship between historical knowledge presented in historical research and in history textbooks. The year 1915 was chosen as a suitable starting point based on the fact that the Swedish state church started to lose its grip on Swedish education around this time.[9] The year 1996 was

4 Bertil Nilsson, "Inledning," in *Kristnandet i Sverige: gamla källor och nya perspektiv,* ed. Bertil Nilsson (Uppsala: Lunne böcker, 1996), 11–12.

5 Hans Almgren, "I huvudet på en läromedelsförfattare," in *Att spegla världen. Läromedelsstudier i teori och praktik*, ed. Niklas Ammert (Lund, 2011), 352–55.

6 The first Swedish history textbook to present the Viking age and the shift in religious denomination around the year 1000 was published in 1845, see Göran Andolf, *Historien på gymnasiet: undervisning och läroböcker 1820–1965* (Stockholm: Esselte Studium, 1972), 185–86.

7 Cannadine (2011), 219–221.

8 Herbert Tingsten, *Gud och fosterlandet: studier i hundra års skolpropaganda* (Stockholm: Norstedt, 1969), 277–281; Ulf Zander, *Fornstora dagar, moderna tider: bruk av och debatter om svensk historia från sekelskifte till sekelskifte* (Lund: Nordic Academic Press 2001), 460–472; Hans Albin Larsson, *Barnet kastades ut med badvattnet: historien om hur skolans historieundervisning närmast blev historia* (Bromma: Historielärarnas förening, 2001), 88–91; Janne Holmén, "Historia," in *Utbildningshistoria: en introduktion*, ed. Esbjörn Larsson and Johannes Westberg (Lund: Studentlitteratur, 2011), 290–293.

9 Esbjörn Larsson and Johan Prytz, "Läroverk och gymnasieskola," in *Utbildningshistoria: en introduktion,* ed. Esbjörn Larsson and Johannes Westberg, third edition (Lund: Studentlitteratur, 2019), 157. Another relevant factor is that this article builds on a previous work with similar source material, see Daniel Andersson, "Bruket av kristnandet: Relationen mellan framställningar av kristnandet i Sverige i forskning kontra gymnasiets läroböcker under 1900-talet" (Umeå universitet,

chosen as the endpoint for the study due to the selection of sources, where the latest publications in both categories of sources were published this year.

The textbooks will not be studied through the abstract lens of "progression", nor will I do an analysis of the overall societal setting that might have influenced the textbooks. Instead, the ambition is to try to isolate the specific relation between research publications and textbooks in connection to a specific historical period in order to enhance the understanding of how knowledge in the textbooks corresponds with historical research and how this has changed over time. The study will therefore focus on when and how history textbooks have coincided with or deviated from the contemporary findings and themes that are presented by prominent historical scholars. Through this approach, the study will establish new knowledge on the development of history teaching by focusing on the history of textbooks and temporal shifts in the depictions of a specific period. By highlighting the intersection between historiographical and educational mediation of knowledge in the public sphere, the study will bring new perspectives to the traditional subjects of the history of education. The article also brings the history of science into dialogue with the institutional history of schooling, which results in an analysis of how this reframes our understanding of schooling as an institution and its relationship to scientific development.

This article will first focus on the question of how historical knowledge about the Christianisation process in Sweden has changed over time in various research publications. It then addresses the question of how the same type of knowledge has changed in history textbooks. The study will then dive into the comparative analysis and focus on the question of the nature of the relationship between the knowledge content in textbooks and in historical research, and how this relationship has changed over time. Furthermore, the article focuses on historical knowledge as it – in the form of textual information – unmasks what the relationship between these two categories of texts says about the circulation of knowledge between historical studies and history education. This will then deepen the understanding of how the circulation of knowledge between science and education was impacted by the changing conditions of Swedish schooling during the twentieth century.

Previous research

Previous research into historical representations has shown how nineteenth-century Swedish textbooks depicted the Viking heritage as primitive, with a distinct feature of clerical-ideological use of history. The historian of religion Johan Wickström has shown how the Lutheran understanding of humans and the potency of the state-church framed the representations in textbooks, especially during the late 1800s. Furthermore, depictions of the Christianisation of pagans had imprints of nationalism and evolutionism, usually angled towards cultural evolution or even Social-Darwinism.[10] History textbooks around 1900 were often characterised by a conservative theological view of history in which God was presented as a sort

Humanistiska fakulteten, Institutionen för idé- och samhällsstudier, 2017), http://www.diva-portal.org/smash/get/diva2:1094109/FULLTEXT01.pdf (Retrieved May 20, 2022).

10 Johan Wickström, *Våra förfäder var hedningar: nordisk forntid som myt i den svenska folkskolans pedagogiska texter fram till år 1919* (Uppsala: Department of Theology, Uppsala University, 2008), 2, 4–8, 13, 45–59, 355–61.

of intervening historical director, directing the fate of the nation. The Vikings appeared as God's tools for spreading Christianity to the Nordic countries.[11] Readers were expected to identify with the Christian legacy that was introduced during Christianisation, and not with the pagan heritage that preceded it.[12]

The limited amount of previous research into the relationship between history textbooks and historical research shows how political forces, rather than current research trends, have been allowed to control representations in history textbooks. Textbooks published during the first half of the twentieth century are often described as static and tradition-laden, and therefore lacking proper correspondence to contemporary research findings. The representations in these textbooks were often considered to be rooted in "eternal values", which in turn represented a kind of timeless identity. This meant that the content in these textbooks could not be changed, even though there was new research that disputed it. The immutability of history textbooks was also largely due to the fact that there were divergences and inconsistencies within the research fields, which in turn led to passivity among the textbook authors. This resulted in a "lag" in relation to the content in current research during most of the twentieth century.[13]

Another prominent factor that influenced history textbooks and their relationship to scientific development was the Swedish State Approval Scheme for Textbooks (Sv: *Statens läroboksnämnd*). The appointed experts in the State Approval Scheme took the position that textbook authors should be conservative in matters where one or several aspects were disputed within the research field. This further contributed to static tendencies in the history textbook genre.[14] It is also evident that historical scholarship and history teaching have been dichotomised in a split between scientific motives versus pedagogical or ideological conceptions. But previous research still shows how both arenas are parts of the same negotiation-processes that intertwines actors and knowledge in both arenas.[15]

Theoretical framework

History mediation and knowledge arenas

Representations of different periods or events in the past, are here understood through the concept of *history mediation*. This refers to any communicative act in which a person, group, or institution, which possesses certain historical knowledge, in some way communicates this knowledge in order for the recipient to absorb it and

11 Tingsten (1969), 125–26, 145, Wickström (2008), 355–61.

12 Jörgen Gustafsson, *Historielärobokens föreställningar: påbjuden identifikation och genreförändring i den obligatoriska skolan 1870–2000* (Uppsala: Department of History, Uppsala University, 2017), 180, 187–88.

13 Andolf (1972), 256–57, 292–94; Ingmarie Danielsson Malmros, *Det var en gång ett land: berättelser om svenskhet i historieläroböcker och elevers föreställningsvärldar* (Höör: Agering, 2012), 252–79.

14 Henrik Åström Elmersjö, *En av staten godkänd historia: förhandsgranskning av svenska läromedel och omförhandlingen av historieämnet 1938–1991* (Lund: Nordic Academic Press, 2017), 124. 274, Henrik Åström Elmersjö, "Negotiating the Nation in History: The Swedish State Approval Scheme for Textbooks and Teaching Aids from 1945 to 1983," *Journal of Educational Media, Memory and Society* 8, no. 2 (2016), 16–35.

15 Henrik Åström Elmersjö, "Historievetenskap och historieundervisning: Sven Ulric Palme och 1950-talets läroböcker i historia för folkskolan," *Scandia* 83, no. 1 (2017), 10–42.

learn from history.[16] Mediation of historical knowledge takes place within different mediating forums where mediators reconceptualise the past to make it serve a communicative purpose. It is within this context that there is a meeting between humans and history, and a production of historical knowledge and meaning.[17] This article will, in this sense, combine history didactics with history of knowledge perspectives. The analysis will focus on changes in the mediation of historical memories and how this knowledge content reflects the messages conveyed by the mediators. Historical knowledge is put into motion through several mediation processes that lead to what here will be referred to as a *circulation of historical knowledge*. This is likewise a communicative process that is imbedded in the social and cultural structures of a society and usually rests on an essential material basis, in this case textual communication. This concept illustrates how materiality and mediality are intertwined in the process where knowledge is produced and distributed.[18] The concept of circulation will be used to explain how a certain form of knowledge appears in, and moves through, different mediating forums in society (academy and school) at different times.

In this article, the 1) history textbooks and 2) the research publications within the overall field of history (which here includes the academic fields of history, archaeology, church history and history of religion) are perceived as two *knowledge arenas* where historical knowledge is mediated. These two genres are understood as textual arenas based on their ability to function as forums for mediation of knowledge. The textbooks and the research publications are textual vessels for mediation and the genres as a whole can be seen as textual locations for this mediation. The two arenas are thus a part of the cultural communication chain and are elements in a larger infrastructure for knowledge.[19] The understanding of the two history-mediating sections as arenas also illustrates the interplay between the mediator of history as an actor and the circulation of knowledge in society.[20] It is important to note that these arenas are connected to two different knowledge institutions, one academic and one educational, with different actors, audiences, and contexts. In this study, the key feature that characterises and unifies the arenas is their role in the mediation process and not necessarily the public nature of the forums, which in these cases is arguable.[21] The emphasis is on mediation in itself rather than mutual

16 Cecilia Axelsson, *En meningsfull historia?: didaktiska perspektiv på historieförmedlande museiutställningar om migration och kulturmöten* (Växjö University Press, Växjö 2009), 47.

17 Here, mediation of historical knowledge can be related to the concept of *historical culture*, which refers to the socio-cultural area of communication where history is depicted, used and understood. See: Klas-Göran Karlsson, *Europeiska möten med historien: historiekulturella perspektiv på andra världskriget, förintelsen och den kommunistiska terrorn* (Stockholm: Atlantis, 2010), 76–77.

18 Johan Östling et al., "An introduction," in Johan Östling, et al. eds, *Circulation of Knowledge: Explorations in the History of Knowledge* (Lund: Nordic Academic Press, 2018), 18.

19 Östling et al., (2020), 7–8; John Durham Peters, *The Marvelous Clouds: Toward a Philosophy of Elemental Media* (Chicago: University of Chicago Press, 2015), 18–19.

20 Östling et al., (2020), 7–8; Johannes Glückler, Roy Suddaby, and Regina Lenz, eds., *Knowledge and Institutions* (Springer International Publishing, Cham, 2018), 1–9.

21 Johan Östling, "Offentlighetens kunskapsarenor. Historiska reflexioner över samtiden," in *Oumbärliga samtal*, ed. Johannes Heuman, Jenni Sandström, and Sten Widmalm (Daidalos, Göteborg, 2020a), 123.

interaction between mediators and their audiences.[22] An arena for mediation of knowledge is a forum that, through its given (academic or pedagogical) framework, offers opportunities and sets limits for the circulation of knowledge.[23] In order for an arena to be a forum for mediation or promotion of knowledge in society, it needs a clearly defined audience and a measure of stability and persistence over time.[24] I would argue that both the textbook genre and the academic research field meet these criteria. They are understood as two knowledge arenas whose dissemination is connected to two major knowledge institutions in society: Swedish academia and the Swedish school.

This article only examines the two arenas side by side in relation to their respective influencing factors and the external forces influencing them mutually. The theoretical stand is not that there is a production of two separate forms of knowledge: scientific knowledge and educational knowledge. Rather, the theoretical perspective is characterised by a more general approach to the circulation of the knowledge with a focus on temporality in mediated knowledge content.

Materials and method

The source material consists of 22 publications, including 11 academic texts and 11 educational texts. The research publications were published in the following years: 1915 (two publications), 1934, 1938, 1945, 1959, 1962, 1971, 1980, 1990, and 1996, whereas the history textbooks were published in 1919, 1923, 1942, 1955, 1962, 1966, 1970, 1973, 1982, 1985, and 1996.[25] The two categories of sources were selected with two different methods. The research publications were selected through a study of bibliographies and the number of references that can be attributed to specific studies. By looking at citation patterns in publications concerning the Christianisation at different times, a bibliometric selection of research was made.[26] References that have been frequently used at different times by scholars are here viewed as signifiers of prominence. It is important to note that both contemporary references and later references were taken into account. A study can be prominent in its time, only to lose relevance, but also be highly relevant for a later generation of scholars. In this study, it was more important to read research publications that made an early impact in their field. In order to grasp what kind of representations characterised the publications at a specific time, the temporal aspect must be paramount. The sample of publications is, however, not an attempt to capture the entire research field and its development over an 80-year span, but rather to give examples of how prominent representations have shifted over time.

History textbooks for upper secondary school were selected based on sales figures, and from the 1970s onward, based on the number of editions. Textbooks printed in

22 Östling et al. (2020), 7.

23 Johan Östling, "En kunskapsarena och dess aktörer: Under strecket och kunskapscirkulation i 1960-talets offentlighet," *Historisk tidskrift* 140, no. 1 (2020b), 119.

24 Johan Östling, "Circulation, Arenas, and the Quest for Public Knowledge: Historiographical Currents and Analytical Frameworks," *History and Theory* 59, no. 4, (2020c), 122. See also: Östling (2020b), 119.

25 The titles are presented under *References.*

26 Olle Persson, *Forskning i bibliometrisk belysning* (Umeå: Inum 1991), 2–3, 51.

several editions are more likely to have been frequently used, which makes them relevant for this study.[27] Just as the case with the historical research, the textbooks might not be completely "temporally representable", because there might have been a delay between publication and market penetration. In addition, both the selection of academic and educational texts was chronologically steered to create a better distribution of sources throughout the research period. Both selection processes were also aimed at creating an endpoint for the study sometime during the 1990s.

The comparative aspects of the analytical method are centred around a textual comparative analysis of the content in the historical research publications and the history textbooks for upper secondary schools (or the equivalent) in Sweden. The comparative analysis will highlight the differences and similarities in the representations of the Christianisation process at different times in order to enhance the understanding of how the relationship between this specific research field and the textbooks has changed over time. Through this, the historical scholarship and upper secondary history teaching (or the equivalent) will be better understood in terms of what separates and unifies them as two different, yet both influential history-mediating forums. It is also important to note the constructive aspect of the period that is being depicted. Sweden did not exist as a state during the time of the Christianisation, which means that a *Swedish* Christianisation never actually took place.[28] For this reason, the descriptive refuge in this article is Christianisation *in* Sweden, that is, a geographical area that later became Sweden. The authors have, however, solved this issue in different ways, which in itself is an interesting facet of the findings.

Analysis

The historical research publications

Research publications concerning the Christianisation process in what later became Sweden have largely been confined to a specific Swedish historiography. This can be attributed to the phenomenon of methodological nationalism, which is an influencing factor through the nationalistic premises in the earlier studies.[29] There is also the fact that modern Swedish areas such as the southern peninsula of Skåne often were included in the medieval or iron-age geography of "Sweden".

In the earlier publications from the 1910s, the Christianisation process was largely presented as a form of "struggle" between paganism and Christianity. Paganism was represented by its old, dark forces and "piracy morals", and Christianity was

27 From the 1970s onward, there are no more public sales figures, and therefore a different method of selection had to be used. The quantitative study conducted by Andolf in 1972 shows that textbook authors used for "general history" (which excluded Swedish history) were also frequently used in books on Swedish history, see Andolf (1972), 117–135, 271–282. See also Niklas Ammert, *Det osamtidigas samtidighet: historiemedvetande i svenska historieläroböcker under hundra år* (Uppsala: Sisyfos, 2008), 74–75.

28 Thomas Lindqvist, "Kungamakt, kristnande, statsbildning," in *Kristnandet i Sverige: gamla källor och nya perspektiv*, ed. Bertil Nilsson (Uppsala: Lunne böcker, 1996), 222; Jan Arvid Hellström, *Vägar till Sveriges kristnande* (Stockholm: Atlantis, 1996), 241.

29 For a definition on methodological nationalism see further Andreas Wimmer and Nina Glick Schiller, "Methodological Nationalism and Beyond: Nation-state Building, Migration, and the Social Sciences," *Global Networks* 2, no. 4 (2002), 301–34.

essentially represented by its missionaries.[30] The missionaries thus played a key role in the representations, which were often centred around different missionary legends, such as the legend of Ansgar from Hamburg, or the legends of Saint Eskil or Saint Sigfrid from England. The archaeologist Sune Lindqvist wrote: "The foundation for this mission was probably laid by Eskil's and Sigfrid's diligent work and then followed up by their companions, and with which it maintained lively contact in the future [...]."[31] There was a moral dimension in the historical knowledge that was framed by an emphasis on righteous missionaries who established Christian churches and overcame pagan forces. Christian and national values were clearly paramount, alongside the notion of the eternal legitimacy of the Swedish state church that was established. The authors often referred to the areas that were being Christianised as "Sweden" or even "the country of Sweden."[32] The treatment of the sources and the arrangement of the presentations further show how the Christian foundation was both compatible and merged with the historical methodology and the design of the publications, especially concerning framing and fact selection. In the early missionary-centred research publications, the finalisation of the Christianisation was placed around the year 1100.

The studies of the 1930s focused more on mission tactics than on individual missionaries, as the missionary legends were toned down. The description of the "struggle" between paganism and Christianity also changed gradually. Helge Ljungberg's study from 1938 was one of the first that emphasised the relevance of the early Swedish monarchy.[33] The final phase of the Christianisation started to be placed around the latter half of the 12th century, which illustrates that the certainty in the narratives about successful missionaries started to fade. This further shows a shift towards a more critical stance concerning the sources, where the old missionary legends started to be subjected to more critical scrutiny.[34] This is likely connected to the development of the source-critical historical methodology.[35] In Birger Nerman's archaeological study from 1945, more emphasis was placed on the role of the monarchy as a supporter of Christianity and its stakeholders. Now the more critical analysis of the sources clearly started to change the representation of the Christianisation process. Here we see an example of how Nerman questions the legitimacy of the missionary legends:

30 Knut B. Westman, *Den svenska kyrkans utveckling: från S:t Bernhards tidevarv till Innocentius III:s* (Stockholm: Norstedt, 1915), 16–20; Sune Lindqvist, *Den helige Eskils biskopsdöme: några arkeologiska vittnesbörd om den kristna kyrkans första organisation inom mellersta Sverige* (Stockholm, 1915), 3.

31 Lindqvist (1915), 169; *Svenskt biografiskt lexikon*, s.v. "Sune Lindqvist," ed. Birgitta Lager-Kromnow, accessed January 28, 2022, https://sok.riksarkivet.se/sbl/Presentation.aspx?id=10643.

32 See for example: Westman (1915), 16, 18; Lindqvist (1915), 8–12, 63, 99–113.

33 Helge Ljungberg, *Den nordiska religionen och kristendomen: studier över det nordiska religionsskiftet under vikingatiden* (Stockholm, Uppsala Univ., 1938), 166–167, 213, 308–9.

34 See for example: Ljungberg (1938), 188; Toni Schmid, *Sveriges kristnande: från verklighet till dikt*, (Stockholm: Svenska kyrkans diakonistyrelses bokförlag 1934), 22–23, 27.

35 Birgitta Odén, "Det moderna historiskt-kritiska genombrottet i svensk historieforskning," in *Teori- och metodproblem i modern svensk historieforskning: en antologi*, ed. Klas Åmark (Stockholm: Liber, 1981), 37–67.

> It is the biography of a saint and thus arranged according to a scale where the intention was to glorify and where the hero's fate, insofar as it is not connected with his Christian deed, does not interest to a greater degree […].[36]

The findings in the research field from the 1950s, 1960s and 1970s (and also partly the 1980s) increasingly depicted the Christianisation as a state-forming process in which the monarchy played a key role. The chieftains and missionaries came and went, but the statehood surrounding the early Swedish kingship became a stable factor in the area that could be relied on. The function of Christianity as a means of power was likewise developed into one of the most important theses of the studies. Members of the social elite in the form of chieftains and prominent peasants were the main adherents of the new religion. At the same time, Christianity became the main tool of the monarchy in the struggle for the centralisation of power by using the church organisation and the ecclesiastical institutions. The historian Sven Ulric Palme was one of the first to present this depiction in 1959. He did not have a background as a church historian or as a religious scholar like some of the earlier scholars. Palme was instead associated with the history-critical school of "Weibull" that emerged in Sweden during this time, and this historiographical positioning clearly shapes the content in his representations.[37] Palme wrote:

> The following question must be posed: which social groups, which forces in society, supported the mission? […] The runestones testify to the early conversion of rich peasants and local elites to Christianity. And this connection, between the grouping of rune stones and the internal differentiation of agricultural areas, one cannot escape. […] Christianity has first been accepted by the local elites, and the elite class has been its main supporters [...] they knew the richness and power of the Christian principals, sought to learn for their part from the administrative technology that seemed to follow Christianity [...].[38]

His emphasis on the critical analysis of the limited sources (like the runestones) and the social hierarchy manifests a distinct shift from the earlier knowledge content. This further shows how knowledge about the Christianisation in Sweden was now angled towards social, economic and political change rather than a missionary-driven struggle against paganism. This shift displays many of the typical traits of the history-critical school, not least the critical stance towards ideological and moral interpretations, and an emphasis on strict empirical scientific ideals. The history-critical school may therefore have had a substantial impact on the historiography of Christianisation at this time, due to its major impact on the historical research arena as a whole. The key role of kingship, the state-forming force of Christianity, and its function for power and control thus became the core ingredients in the representations of the Christianisation process from the 1950s onward.[39]

36 Birger Nerman, *När Sverige kristnades* (Stockholm: Skoglund, 1945), 16.

37 Alf W. Johansson, "Sven Ulric Palme (1912–1977)," in *Svenska historiker: från medeltid till våra dagar*, ed. Ragnar Björk and Alf W. Johansson (Stockholm: Norstedt, 2009), 596–597.

38 Sven Ulric Palme, *Kristendomens genombrott i Sverige* (Stockholm: Bonnier, 1959), 144, 149.

39 Palme (1959), 129, 143–44, 149; Kjell Kumlien, "Sveriges kristnande i slutskedet: spörsmål om vittnesbörd och verklighet," *Historisk tidskrift* 82, (1962), 255–56, 260; Jan Arvid Hellström, *Biskop och landskapssamhälle i tidig svensk medeltid* (Stockholm: Nord. bokh. distr., 1971), 20, 165–66; Stefan

Palme also described the archaeological evidence for an early eastern mission to "Sweden". Palme claimed, just as the scholar Toni Schmid had briefly done in her study from 1934,[40] that Byzantine or early Russian orthodox missionaries were directed towards Scandinavia. How substantial the impact of this mission had been was, however, described as unclear at this time. After all, it was the German central European mission that ultimately became victorious.[41] The study of the conservative historian Kjell Kumlien from 1962 also expands on the notion of an early eastern orthodox mission to "Sweden" that acted as a complement to the German and English missionary work. Kumlien stressed that this had little impact on a finalised Christianisation, which he claimed was not completed until the early 13th century.[42] Most of the chronological dating of a finalised Christianisation was increasingly postponed and placed between the second half of the 12th century and sometime during the 13th century.[43] The study of Stefan Brink from 1990 concerning the formation of early parishes followed this line of development in the research field, but added to the relevance of the tolerance towards other denominations that characterised the Old Norse religion.[44]

A massive research project called *The Christianisation in Sweden* was launched in the 1990s. The publications from this project continued this line of development by emphasising the social elite who first converted to and supported the new religion, the use of Christianity as a means of power and as a tool for state formation. In this project, we see several religious scholars and historians of religion, alongside regular historians. Here, the description of a "struggle" between the two religions was completely rejected, and the representations included a humanistic feature where the two groups were depicted as having lived side by side under peaceful conditions for a long time. Traces of Christianity already existed in the 9th century and its final establishment did not take place until the 13th century. In the main anthology of the project, the historian Thomas Lindqvist wrote:

> The Christianisation was a change in societal views and legitimisation of power […]. The importance and influence of Christianity in the state formation process lay partly on an administrative and organisational level [...]. The higher clergy, the bishops, gained significant political influence. The significance of the Church was perhaps primarily in the ideological area.[45]

Knowledge was now centred around political influence, power and the early symbiosis between Christians and pagans. Most important is perhaps that scholars who in some cases were educated as theologians now took a critical stance in the depiction of the establishment of the early Swedish church and present it as an ideological

Brink, *Sockenbildning och sockennamn: studier i äldre territoriell indelning i Norden* (Uppsala: Gustav Adolfs Akad.; Stockholm: Almqvist & Wiksell, 1990), 52–53, 63, 67; Lindqvist (1996), 239–40.

40 Schmid (1934), 65.

41 Palme (1959), 125–27.

42 Kumlien (1962), 256–57, 275–81.

43 Hellström (1971), 262–63.

44 Brink (1990), 52–53.

45 Lindqvist (1996), 239–40.

and economical project, rather than a heroic stance for the "right faith".[46] During the late twentieth century, most of the prominent texts in the historical research arena presented the Christianisation as a part of the formation of the Swedish state, exclusively in a political respect.

The history textbooks

The representations in history textbooks from the early twentieth century mirrored contemporary research publications to a great extent. The author Erik Falk wrote in a textbook from 1923:

> [...] The monk Ansgar, who first preached Christianity at Hedeby (Schleswig), then journeyed to Birka (c. 830) where he founded a Christian congregation. When it was disturbed by the pagans, Ansgar came once more to Birka (853) and was then allowed to preach Christianity […] In 1008, King Olov Skötkonung was baptised by Bishop Sigfrid at Husaby in Västergötland, and the subsequent Swedish kings were also Christians. By the end of the old age, however, paganism was still strong, and the struggle between the old and the new religion continued.[47]

The emphasis on the fate of the nation-state, its early Christian kings and missionaries and not least their struggle against paganism, characterised most of the sections about the Christianisation. The authors of the early textbooks highlighted the same forms of religious and political knowledge as the early scholars, with an equally strong emphasis on nationalism and clerical values. The representations evoked the idea of the relevance of the church, by stressing the importance of the Christianisation.[48] This knowledge corresponded well with the confessional agenda that was stipulated in earlier Swedish schooling, but also in the overall societal setting. The church influence over upper secondary school was formally lifted in 1905, but the ecclesiastic institutional imprint on all school forms remained strong.[49] Confessional stakeholders thus had a strong impact on the historical knowledge mediated in both knowledge arenas during this time. One can say that the pedagogical framework that conditioned the mediation in the textbook arena allowed for a harmonious relationship with the research arena. The confessional influences in the textbook arena therefore promoted the circulation of contemporary academic knowledge. Falk wrote the following in a textbook from 1942:

> Many Swedish runestones also preserve the memory of Christian men [...]. When Christianity became dominant in the Nordic countries, the Nordic peoples came under the influence of the Christian Church and gained a greater share of the general European culture than ever before.[50]

46 Nilsson (1996), 419–29.

47 Erik Falk, *Lärobok i svensk historia för gymnasiet. 1, Forntiden och medeltiden* (Stockholm, 1923), 26–27.

48 Falk (1923), 28; Clas Theodor Odhner, *Lärobok i fäderneslandets historia samt grunddragen av Danmarks och Norges historia* för *gymnasiet. [1], Forntiden och medeltiden,* Third edition (Norstedt, Stockholm, 1919), 14–15, 18; Erik Falk, *Lärobok i svensk historia för gymnasiet* (Stockholm, 1942), 22–24.

49 Larsson and Prytz (2019), 157.

50 Falk (1942), 22–24.

Note the methodological nationalistic premises surrounding the notion of *Swedish* runestones and different Nordic *countries* during the late Iron Age. Falk mediated a notion of "lineage" that contemporary Swedish people had to these early Christians. Falk used the terms "Swedish" or "Sweden" frequently in these representations and sometimes when he explicitly referred to geographical aspects.[51] The differences in the presentation of facts are overall small between textbooks and research publications in the early twentieth century, which illustrates that history-mediating texts were more similar to each other on a general level during this time. This in turn shows that the historical knowledge mediated about the Swedish Christianisation was quite unitary in the early twentieth century. The understanding of the Christianisation was framed by nationalism and moral-clerical values in both arenas during this time.

However, this starts to change when a divergence appears between textbooks and research publications from the mid-twentieth century onwards. This divergence coincided with the development of historical scholarship into new scientific standards and away from the traditional narrative form.[52] The process was likewise connected to the development of the textbook into its own pedagogical genre.[53] History mediation in the two arenas thus seems to have grown apart during the mid-twentieth century. The knowledge content in the textbooks was generally static and mostly unchanging up until the 1960s. The explanation for this is the diverging conditions for mediation within the two arenas, where the academic and pedagogical characteristics of the two knowledge institutions no longer were aligned. This process gradually started to inhibit the circulation of newer academic findings in contemporary history education. This was illustrated in a textbook by the historian and author Kjell Kumlien from 1955. He described the Christianisation in Sweden largely as a struggle between potent missionaries and pagans. He writes:

> The missionaries Christianises the north: [...] paganism flourished in Uppland as late as the end of the 11th century [...] the Viking age thus became long and filled with longer fruitless attempts to Christianise our nation [...] Eventually, the new faith also won in Uppland. Uppsala Temple was destroyed, probably around 1090, and a church was erected on its old site.[54]

This quote is in many ways representative of the textbooks during this time. Kumlien's text is especially interesting considering that he also contributed to the historical research field around the same time, where he made a much more critical depiction of missionary work, which was in line with contemporary trends in the research arena.[55] Moreover, this representation does not include a description of the early eastern orthodox mission in the Scandinavian areas that Kumlien expanded on in his research publication. This further illustrates the great divide between the two

51 See for example: Falk (1923), 27–28.

52 Odén (1981), 37–67; Klas Åmark, "Historiografi 2: svensk historieskrivning," in Knut Kjeldstadli, *Det förflutna är inte vad det en gång var* (Lund: Studentlitteratur, 1998), 56–66.

53 Sture Långström, *Författarröst och lärobokstradition. En historiedidaktisk studie* (Umeå: Univ., 1997), 165–67, 185–90; Ammert (2008), 23–24.

54 Kjell Kumlien, *Sveriges historia för gymnasiet* (Stockholm: Bonnier, 1955), 38–40.

55 Kumlien (1962), 255–56, 260.

knowledge arenas, as we see how the same mediator makes two different depictions based on the text genre and the intended target group. Kumlien as a mediator was here subordinated to the contextual influence of the arena. Observe how this not only included pedagogical considerations in the framing of the content, but also actual facts about the Christianisation process. Such a distinct divide between the two knowledge arenas did not exist 30 years earlier.

The first tendencies for a shift became visible in the textbooks published during the 1960s. It was here that the first passages with problematising depictions of the missionary legends began to appear.[56] In connection to this, it is important to remember that the Christian values expressed in the curricula had changed significantly during the mid-twentieth century. A modernisation in the understanding of the "nurturing" duties of the Swedish school led to a decline for Christian values. The new elementary school curriculum of 1965 could be viewed as a milestone in this development, with several signifiers of a shift towards a neutral religious position.[57] This is a contextual factor for the textbook arena that made contemporary research trends more favourable and usable for textbook authors. The mid-twentieth century was also a time when the textbook market opened up the authorship for teachers without academic backgrounds.[58] Thus, the character and background of the mediators themselves changed, which can also be connected to an incipient shift in the textbooks.

However, the 1960s was also a time when the content of older history was severely reduced in the textbooks due to changes in the curriculum towards an emphasis on more recent history. Between 1965 and 1981, the curriculum excluded all historical content before the year 1000.[59] This was an additional influencing factor that seems to have made a major impact. This change seems to reinforce a "lag" in textbooks in relation to contemporary historical research, due to the limited space that the Viking age and the mediaeval age were now given in the textbooks. This further strengthened the static mode and textbook representations of the Christianisation once again became almost unchanging.[60]

When we reach the 1980s, the textbooks suddenly appeared to adhere to the line of development that had characterised historical research publications from at least the 1950s onward. Knowledge about the political and state-forming force of the Christianisation seemed to be circulated within the textbook arena around this time. This coincided with the expansion of older historical content through changes in the curriculum in 1981,[61] which indicates that the change in the schools' steering

56 Martin Bäcklin et al., *Historia för gymnasiet* (Stockholm: Almqvist & Wiksell, 1962), 47–48; Wilhelm Tham, Kjell Kumlien and Folke Lindberg. *Folkens historia 1: Lärobok för gymnasiet* (Stockholm: Svenska Bokförlaget 1966), 29–31; Ivan Borg and Erik Nordell *Historia för gymnasiet. Årskurs 3, 1, Hum-Sh* (Stockholm: Läromedelsförlagen: Svenska bokförlaget, 1970), 53.

57 Daniel Lindmark and Niclas Lindström, "Religionskunskap," in *Utbildningshistoria: en introduktion*, ed. Esbjörn Larsson and Johannes Westberg (Lund: Studentlitteratur, 2019), 270–71.

58 Långström (1997), 165–67.

59 Lgy 65, *Läroplan* för *gymnasiet* (Skolöverstyrelsen, 1965), 177, 182, Lgy 70, *Läroplan för gymnasiet II: Supplement 71 Historia* (Stockholm: Utbildningsförlaget/Skolöverstyrelsen, 1981), 17–18.

60 Se for example Göran Graninger and Sven Tägil, eds., *Historia i centrum och periferi: Del 1 Högmedeltiden till Franska revolutionen* (Stockholm: Esselte Studium, 1973), 40.

61 Lgy 70, *Läroplan för gymnasiet II: Supplement 71 Historia*, Stockholm: Utbildningsförlaget/Skolöverstyrelsen 1981, 17–18.

documents had opened the door for the authors to align with "newer" research findings. There is, however, a significant possibility that some of the textbook authors already knew about these research findings earlier but the educational conditions did not allow for the mediation of them until now. There is no mediation of these research findings within the textbooks arena until after 1981, regardless of the possible circulation of them among textbooks authors at an earlier stage.

Now the representations were more humanistically oriented and depicted how the two colliding cultures during the late Viking age did not engage in a struggle but lived in harmony. The ones causing distress between the groups were the political actors, like the societal elite or the chieftains, striving to be kings and seeking legitimacy from the Christian kingdoms on the continent. The date for the finalised Christianisation was now placed during the second half of the 12th century or even the 13th century, which is another important marker that signifies a shift in the textbooks towards the trends in the research arena from the 1950s onward.[62] Another example that illustrates this shift becomes visible when the 1985 textbook *Alla Tiders Historia* becomes the first textbook to include a passage concerning early eastern orthodox missionary attempts to Christianise "Sweden".[63] In the 1996 textbook *Epos historia*, the depiction was finally in line with the themes that had been dominating the research arena for almost 40 years. The authors wrote:

> The unification of the kingdom and the increase of power for the kings went hand in hand with the introduction of Christianity. The two phenomena are intimately connected with each other. The church enlisted the help of the kings to spread its message, and the kings received support from the church as they sought to increase their power at the expense of the clans […] The monk Ansgar was sent on several journeys up to both the Danes and the Swedes [...] But when Ansgar left Birka, Christianity was soon forgotten [...] It is doubtful whether Sweden can be called Christian until the 13th century [...].[64]

Here, the research findings had gained even more weight in the depictions and seemed to be perceived as completely consolidated truths by the authors. The key role of the kingship, the state-forming force of Christianity, and its function for power and control were now the three major facts constituting the framework for the understanding of the Christianisation process. The textual comparison makes it evident that a "lag" exists in relation to the historical knowledge mediated in the research arena. The themes that had been primary in the research field since at least the 1950s finally emerged in the textbooks. It is important to emphasise that this shift started to occur in close connection to curriculum changes, especially after the expansion of older history within the history subject in 1981. The school steering documents obviously had a substantial impact on the mediation of knowledge in the

62 Göran Graninger and Sven Tägil, eds., *Vägar till nuet: historia för gymnasieskolan. Antiken - 1800* (Solna: Esselte studium, 1982), 57, 59; Börje Bergström, Arne Löwgren and Hans Almgren, *Alla tiders historia*, Third edition (Stockholm: Liber, 1985), 90–91.

63 Bergström et al. (1985), 90–91.

64 Robert Sandberg et al., *Epos historia: för gymnasieskolans kurs A och B* (Stockholm: Almqvist & Wiksell, 1996), 119.

history textbooks and acted as one of the defining aspects both in creating a divide between the two arenas and in steering the textbook arena back in line with the historical research arena. Thus, the actors within the National Board of Education (Sv: *Skolöverstyrelsen*) had been highly influential in regulating the possibilities for correspondence between the two arenas due to their formulated changes in the curriculum.[65]

However, there remain aesthetic differences between the two knowledge arenas in relation to the presentation of knowledge. This mostly concerns the way the texts are written and how the knowledge is framed in terms of pedagogical simplifications, parables, or metaphors in the textbooks, versus empirical presentation and analytical reasoning in the research publications. The general trend of writing "grand narratives" in history textbooks and the usage of such metanarratives in the overall history subject is another trait that distinguishes the textbook arena from the research arena.[66] These differences can largely be explained by examining the now very different contexts in which the textbooks are influenced by the pedagogical motives of the authors, alongside the impact of the curricula. The intended recipient becomes increasingly decisive for how the texts are written, which then impacts the consistency of knowledge between the two arenas. The Swedish school still has to live up to certain values and nurture children into a particular citizenship and a certain value system that in turn implies certain connections to the past. New democratic values in history teaching become more prominent during the second half of the twentieth century. These are in turn the creations of the new political actors connected to the Swedish government and the Ministry of Education and Research (Sv: *Utbildningsdepartementet*), who now partake in defining the historical content. But at the same time, it is important to note that democratic values are usually connected to younger history and do not relate to much of the earlier historical content in the history subject, such as the Christianisation.[67] This might leave the floor open for depictions that correspond with older narratives and older forms of expression connected to textbook traditions.

It is important, however, to observe that the divide between the two arenas in fact shrinks after 1981 and is not particularly notable during the 1990s. During this period, the content in the textbooks is more up-to-date and consistent with contemporary research findings. In relation to this, it is also important to note the steering towards secular values in Swedish schooling, especially in connection to the issuing of new curricula during the late twentieth century.[68] There is an example of this in the curriculum from 1994, which states that even though the schooling shall rest on values that derive from a Christian past, it must be completely secular.[69]

65 Lgy 70, *Läroplan för gymnasiet II: Supplement 71 Historia* (Stockholm: Utbildningsförlaget/Skolöverstyrelsen, 1981).

66 Se for example Heidi Knudsen Eskelund,"Historiefagets forhold til redegørelse," *Nordidactica* 1 (2015), 56, 58, 61; Danielsson Malmros (2012), 253ff.

67 Larsson (2001), 68, 89–91; Holmén (2011), 292.

68 Lgy 70, *Läroplan* för *gymnasieskolan*, revised 1992 (Stockholm: Utbildningsdepartementet, 1992); Lpf 94, *Läroplanen* för de *frivilliga skolformerna* (Stockholm: Utbildningsdepartementet, 1994). The Swedish School Board, Skolöverstyrelsen became Skolverket in 1991 and remains a state-controlled institution that influences the nature of the curriculums and syllabus.

69 Lpf 94, *Läroplanen* för de *frivilliga skolformerna* (1994), 3.

Some of the textbook authors may have interpreted this as a somewhat dualistic imperative, but they seem to have taken the secular rule seriously during the late twentieth century.

On a general level, the circulation of knowledge seems to be conditioned by a correspondence between the nature of new research trends and values that frame Swedish education. When these two factors are compatible, academic knowledge is circulated in the contemporary pedagogical arena. When they are not, the circulation seems to be halted and the knowledge arenas become out of sync. If new research publications had suggested that heroic missionaries in fact played a crucial role in the Christianisation of the country, it is unlikely that this would have been deemed as acceptable content to mediate in upper secondary history teaching during the 1990s. Nevertheless, such representations were applicable in history education during the 1920s, when the contexts surrounding the two arenas were more unitary. The *applicability* of historical research in contemporary history education therefore conditions the relationship between the two knowledge arenas.

The changing conditions for schooling, particularly in relation to the syllabus, curriculum, and educational values seem to have obstructed the circulation of academic knowledge on several occasions. The possibilities for the circulation of academic knowledge in history education was in fact impacted by its changing conditions during all phases of the twentieth century. Common views and values in the two arenas were continuously a constitutive for a unitary and harmonious temporal relationship between them. These results are somewhat consistent with previous research suggesting a lag between historical research and history textbooks due to either static textbook traditions and values or to passivity among influential experts and authors because of the divergence and disputes within the research fields.[70] However, this article nuances the relationship further by revealing the influencing factors of applicability, correspondence in mediation and temporality in the conditions and contexts that frame both academia and education.

Concluding remarks

This article set out to analyse the mediation of historical knowledge in connection to representations of the Christianisation in Sweden. The analysis shows that history textbooks for upper secondary school from the early twentieth century are in line with the overall knowledge content presented in contemporary historical research. A divergence occurred somewhere around the mid-twentieth century when representations in the research publications became more critical towards the missionary legends and started to emphasise the role of the kingship and political factors concerning power, control, and early state formation. This shift coincided with the introduction of new scientific standards within academia, as well as a higher number of regular historians contributing to the research field.

The textbooks, however, continued in a static way to mediate similar historical knowledge until the 1970s and partially into the 1980s. This resulted in a gradually increasing "lag" or "knowledge gap" between the textbooks and contemporary

70 Andolf (1972), 256–257, 292–294; Danielsson Malmros (2012), 252–279; Åström Elmersjö (2017), 124, 274; Åström Elmersjö (2016), 16–35.

scholarly representations. The changes in the school steering documents seem to be one of the major factors causing this lag in the textbooks, even during the period when the lag was reduced. Steering documents can in this way be a factor that steer the didactical tools in history education away from scientific development. The fact that the textbooks started to include segments from newer knowledge content within the research arena during the 1980s shows how the two arenas started to drift towards each other again in terms of history mediation. This illustrates fluctuations in correspondence between the knowledge mediation in the two arenas: There is high correspondence between them in the beginning of the century, low correspondence in the middle, and then higher correspondence again at the end of the century. However, the external aspects concerning values and motives behind the texts that are specific for each arena seem to make this divide continuous. But this mostly impacts the aesthetic considerations in connection to the pedagogical objectives in schooling versus scientific display in academia. It is also important to stress the conclusion that even the aesthetic aspects connected to the framing of the content were much more unitary in the early twentieth century. Historical knowledge mediated in academia and in schooling regarding Swedish Christianisation did not deviate from each other to any large extent until the 1940s.

So, what do these conclusions mean for the history of education and the understanding of the circulation of knowledge between science and education? This article has examined how historical knowledge about the Christianisation in Sweden has changed and what roles these two arenas have played in the mediation of that change. It is important to note that the conclusions imply a transition of knowledge in the way that this change took place during the twentieth century and how the two arenas interplayed in this transition. One also needs to observe that knowledge is never detached from power. The investigation into the relationship between the historiographical and educational mediation of knowledge is therefore also an inquiry into the power and control over the memory of the Christianisation in Sweden. Political documents such as the school steering documents have been one of the ways that power over historical knowledge has been exercised. It is, however, likely that few actors in the Swedish School Board or the Swedish Ministry of Education and Research were aware of the extent of their impact on representations of a specific period such as the Christianisation.

The distinctiveness in the nature of schooling and textbooks, and the impact this has had on textbook authors, remains one of the core explanations for the divide between the two arenas. The text genre and the target group remain important for how knowledge is conveyed for the duration of the century. The intended recipient becomes more and more crucial for how the texts are written, which is an important analytical result in relation to the question of the consistency of knowledge between the two arenas. However, the study also shows that the twentieth century consisted of periods when the divide both expanded and was reduced, which shows that the distinctiveness between the two knowledge arenas is not a constant in itself. In the early twentieth century, there was no such divide between these arenas. The analysis instead suggests that the applicability of historical research in contemporary history education can be an additional factor that conditions the relationship between historiographical development and history teaching.

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Educationalising Death: The Emergence of Traffic Education in Swedish Elementary Schools

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Abstract • When a social problem is educationalised, i.e. formulated as a responsibility for educational institutions, knowledge becomes a solution for societal ills. This article examines the history of traffic education in Swedish elementary schools as a particular form of knowledge. Focusing on the three first decades of traffic education, the ambition is to delve deeper into the issue of what constituted traffic knowledge during a period of mass motorisation. In teaching about traffic, what were the main things that had to be conveyed? What were the main challenges in teaching the essentials of traffic, and what techniques were used to make traffic possible to understand for an audience of children? Drawing on handbooks for teachers and textbooks in traffic education, the article discusses five forms of knowledge that were used in traffic education: knowledge about risk, juridical knowledge, visual knowledge, moral knowledge, and practical knowledge.

Keywords • traffic education, educationalisation, history of knowledge

Mass education and mass motorism were two major societal trends that coincided during the twentieth century. The increase in compulsory schooling and the steep development of motorised traffic are two modern features that scholarly literature typically has discussed as separate phenomena. Still mass motorism and mass education were related to each other as the former created a problem that the other became involved in solving. The rise of car traffic involved a large number of traffic accidents, some of them deadly, and education in schools and other places became one of the means to make traffic safer. In the history of education, this is a familiar phenomenon that has been described in terms of *educationalisation*, a concept that highlights how social problems have been formulated as educational problems.[1]

This article discusses the introduction of traffic education in Swedish elementary schools between 1936 up to the early 1960s. During the early twentieth century, suggestions for introducing traffic education were heard in numerous countries, and when the discussion reached Sweden, international role models were invoked.[2] In 1934, a national organisation for the promotion of traffic safety (*Nationalföreningen* för *trafiksäkerhetens främjande*, NTF) was formed, and it came to be heavily involved in traffic education in schools as it produced much teaching material and organised

1 Paul Smeyers and Marc Depaepe, eds, *Educational Research: The Educationalization of Social Problems* (Dordrecht: Springer, 2008); Daniel Tröhler, *Pestalozzi and the Educationalization of the World* (Basingstoke: Palgrave Pivot, 2013); Marc Depaepe, *Between Educationalization and Appropriation: Selected Writings on the History of Modern Educational Systems* (Leuven: Leuven University Press, 2012); David F. Labaree, "The Winning Ways of a Losing Strategy: Educationalizing Social Problems in the United States," *Educational Theory* 58, no. 4 (2008), 447–60.

2 A Danish example was presented in "Köpenhamnsbarnen läras trafikkultur i alla skolor," *Dagens Nyheter*, February 25, 1924. An American example was presented in "Se efter först," *Dagens Nyheter*, February 14, 1932.

courses in traffic education for teachers. In 1936 it was decided that all schools in Sweden should teach traffic education.

Traffic education was not only conducted in schools. In a society which saw the rapid rise of the car, traffic knowledge became an urgent need, felt in society at large. Traffic knowledge involves both theoretical and practical knowledge, relevant for the majority of citizens, from motorists to pedestrians, who are all part of the same traffic system. It is a type of knowledge that is communicated both informally (in daily life in traffic) and formally (driving schools, school traffic education, traffic propaganda for young children). It is also a sort of knowledge that has been associated with security thinking: knowledge has ultimately been mobilised in order to save lives. Studying the relationship between traffic and knowledge might appear as a rather specialised endeavour, but in fact traffic is a fundamental part of modern society that few people are untouched by. With an expression from Marcel Mauss, it might be described as a "total social fact" of relevance to all sectors of society.[3] During the twentieth century, the car became a prominent part of public life. Roland Barthes suggests that because cars are both used and "consumed in image" by the whole population they should be seen as "the exact equivalent of the great Gothic cathedrals".[4] On one point, however, the parallel fails. The solid, stable and permanent structure of the cathedral stands in sharp contrast to the movement and vulnerability that is associated with traffic accidents. As the traffic system involved an increasing number of people and the car came to dominate the streets, the issue of knowledge became important not least because of the uneven distribution of traffic knowledge in society.[5]

This article puts the focus on a social category that has been seen as particularly important when it comes to traffic education: children. The vulnerability of children has been invoked in numerous contexts, most memorably perhaps in the short story by Stig Dagerman, "To kill a Child," published in 1948 and made into a short film with support from insurance companies.[6] In focusing on the role of children in traffic education, the relationship between knowledge and risk comes to the fore. There are some aspects of adult life that have been considered risky and perilous, but that have been hard to teach children about. Sex education, alcohol and tobacco, are examples that young children have been kept away from rather than taught about, although there are variations to it. Traffic is a factor that children, however, cannot be altogether separated from. It is a part of life where children and adults intermingle, where they actually share a life form, and where learning thus has to start early.

The role of children in traffic has involved at least two interrelated dimensions of knowledge. The first dimension has to do with educating children about traffic. Basically it is about conveying knowledge about traffic and its rules in ways that are easily understood for children, for example by using education in schools. The second dimension, by contrast, is about developing knowledge on the limitations of educating small children, and disseminate that knowledge to society at large,

3 Marcel Mauss, *The Gift: The Form and Reason for Exchange in Archaic Societies* (London & New York: Routledge, 2002 [1950]), 100.

4 Roland Barthes, *Mythologies*, trans. Annette Lavers (New York: Hill and Wang), 88.

5 Fredrik Barth, "An Anthropology of Knowledge," *Current Anthropology* 43, no. 1 (2002), 1–18.

6 Stig Dagerman, "Att döda ett barn," *Aftonbladet*, April 22, 1948. The short film was directed by Gösta Werner and premiered in 1953. "Att döda ett barn", https://www.filmarkivet.se/movies/att-doda-ett-barn/

affecting attitudes among motorists, and ultimately shaping the material design of roads and neighbourhoods. This article focuses on the first dimension.

Analysing schools in relation to traffic knowledge does not give a complete picture of how traffic became an object of learning and instruction. Public campaigns and driving schools are two other significant contexts, but their position is in a sense more obvious. To explore the role of traffic education in schools is to point out a less obvious context which can shed light on how a given society gives weight to certain forms of knowledge. The fact that schools managed to adopt it, despite lacking a tradition of traffic education, reflects the urgency felt about the rising numbers of traffic accidents.

The present article works at the intersection of the history of knowledge, history of education and traffic history. More precisely, the history of knowledge and education provides the perspectives under which the phenomenon – traffic – is understood. Traffic has recently received a great deal of interest, not least in the field of mobility studies.[7] The cultural history of the car,[8] the history of roads,[9] the governance of drivers and of traffic[10] and the future of the car system[11] have been studied. Of particular interest for this article is research about risk, road safety and traffic accidents. The history of the car is intimately connected to deadly risks. In 2018, WHO reported that 1.35 million people died in traffic that year. Some scholars have argued that this is a kind of mass death that has been made invisible in public debate: "automobility 'works,' because its accidents are denied."[12] While this mechanism of denial is central, there is a long history of attempts to control traffic in order to make it more predictable and less dangerous.[13] The historiography of these attempts has not systematically focused on the issue of knowledge, but still there are several studies which discuss the role of education in combating traffic accidents. Road safety associations, traffic safety campaigns, schools and other institutions have become involved in educating citizens.[14] One of the more interesting findings

7 Mimi Sheller, "From Spatial Turn to Mobilities Turn," *Current Sociology* 65, no. 4 (2017), 623–39.

8 Cotten Seiler, *Republic of Drivers: A Cultural History of Automobility in America* (Chicago: University of Chicago Press, 2009).

9 Massimo Moraglio, *Driving Modernity: Technology, Experts, Politics and Fascist Motorways, 1922–1943* (New York: Berghahn, 2017).

10 Peter Merriman, "'Mirror, Signal, Manoeuvre': Assembling and Governing the Motorway Driver in Late 1950s Britain," *The Sociological Review* 54, Suppl. 1 (2006), 75–92.

11 Kinsley Dennis and John Urry, *After the Car* (Cambridge: Polity, 2009).

12 Jörg Beckmann, "Mobility and safety," *Theory, Culture & Society* 21, no. 4–5 (2004), 81–100, 94.

13 Jonas Anshelm, *Rekordårens tbc: debatten om trafiksäkerhet i Sverige 1945*–1965 (Linköping: Linköpings universitet, 2005); Bill Luckin, "Motorists, Non-Drivers and Traffic Accidents between the Wars: A Provisional Survey," *Transfers* 2, no. 2 (2012), 4–21.

14 Peter D. Norton, *Fighting Traffic: The Dawn of the Motor Age in the American City* (Cambridge, Massachussets: MIT Press, 2008), ch. 8; Peter D. Norton, "Four Paradigms: Traffic Safety in the Twentieth-Century United States," *Technology and Culture* 56, no. 2 (2015), 319–34; Nurit Guttman, *Communication, Public Discourse, and Road Safety Campaigns: Persuading People to be Safer* (London: Routledge, 2014); Chris A. Williams, "Risk on the Roads: Police, Motor Traffic and the Management of Space, c. 1900–50," in *Governing Risks in Modern Britain,* ed. Tim Crook and Mike Esbester (London: Palgrave Macmillan, 2016), 195–219; Stève Bernardin, "'Taking the Problem to the People': Traffic Safety from Public Relations to Political Theory, 1937–1954," *Technology and Culture* 56, no. 2 (2015), 420–39; Kai Nowak, "Teaching Self-Control: Road Safety and Traffic Education in Postwar Germany," *Historical Social Research/Historische Sozialforschung* 41, no. 1 (2016), 135–53; Keith Laybourn and David Taylor, *The Battle for the Roads of Britain: Police, Motorists and the Law, c. 1890s to 1970s*

is that education has been a strategy that has replaced other, arguably more effective, methods to improve road safety. A striking example is how representatives of the car lobby in the UK were strongly critical of legal regulations on drivers, and instead stressed the importance of education and urban planning.[15] As these studies indicate, education has been seen as an important antidote to traffic accidents, but the concept of education and knowledge has been left largely unproblematised.

Therefore, the ambition of this article is to delve deeper into the issue of what constituted traffic knowledge during a period of mass motorisation. More specifically, the focus is on traffic knowledge as conveyed to a particularly vulnerable and unexperienced social category – children – and the institution – school – supposed to take up the responsibility to teach about the perils of modern traffic. In teaching about traffic, what were the main things that had to be conveyed? What were the main challenges in teaching the essentials of traffic, and what techniques were used in order to make traffic possible to understand for an audience of children? The starting point for my investigation has been a curiosity about what constituted traffic knowledge and how the features of that very knowledge affected the introduction of it in schools. As we will see, traffic knowledge should not be understood in the singular, but as consisting of a variety of knowledge forms.

The 1936 introduction of compulsory traffic education in Swedish schools can be followed through a range of sources. In this article, handbooks and textbooks on traffic education constitute a central source. Among the textbooks, a central actor is the elementary school teacher Hjalmar Rimby, who wrote a number of publications about traffic, most notably *I trafikvimlet*, which was published in at least 26 editions, between 1930 and 1960, and *Skolornas trafikbok*, printed in four editions between 1937 and 1953.[16] Furthermore, three handbooks for teachers, published in 1937, 1953 and 1963, have been used. They were all produced in collaboration between the Royal Board of Education and the national traffic safety organisation, NTF. Over time the handbooks demonstrate how traffic knowledge became an established part of school education. The first book has NTF as the first author, the second and third have the Royal Board of Education as the first author, a shift that indicates the institutionalisation of traffic education in the educational system. Moreover, a clear development occurs between the first and the second handbooks. In contrast to the first handbook, the 1953 and the 1963 handbooks are full of concrete advice on how to teach children about traffic in the different school years. In doing so they send a clear message that traffic is a topic that can be taught.[17] Using textbooks and

(Basingstoke: Palgrave Macmillan, 2015), ch. 6; Laura Drummond, "How the Car Won the Road: The Surrender of Atlanta's City Streets, 1920–1929," Dissertation (Georgia State University, 2021), DOI: https://doi.org/10.57709/22643233; Martin Emanuel, "Controlling Walking in Stockholm During the Inter-War Period," *Urban History* 48, no. 2 (2021), 248–65.

15 Sean O'Connell, *The Car in British Society: Class, Gender, and Motoring, 1896–1939* (Manchester: Manchester University Press, 1998).

16 Hjalmar Rimby, *I trafikvimlet: Några vägråd* för barn och *ungdom i anslutning till 1930* års *vägtrafikstadga* (Borlänge: Utgivarens förlag, 1930); Frithiof Hællquist and Hjalmar Rimby, *Skolornas trafikbok* (Stockholm, Hugo Gebers förlag, 1937).

17 *Trafikundervisning: handbok* för *lärare*. Utgiven av Nationalföreningen för trafiksäkerhetens främjande med bidrag av statsmedel och i samråd med Kungl. Skolöverstyrelsen (Stockholm: Kungl. Boktryckeriet, 1937); *Handbok* **för** *lärare i trafikundervisning*. Utgiven av Kungl. Skolöverstyrelsen i samarbete med Nationalföreningen för trafiksäkerhetens främjande (Stockholm: Skolöverstyrelsen,

handbooks has been a useful way of getting an overview of different ideas about how to teach children about traffic. Other source materials have been used as a complement, mainly to provide context and additional information about traffic education; these include press material, instructions and information from the national agency for education, articles in teacher magazines, and governmental reports about traffic safety.

Forms of knowledge

The introduction of compulsory traffic education came with courses for teachers, textbooks and other teaching materials for schools and handbooks for teachers. Since the handbooks and textbooks were about education, it is not surprising that they expressed a firm belief in the power of education. The 1937 handbook for teachers about traffic education shows this clearly in a discussion about reasons for traffic accidents. According to the handbook there were four main factors that could affect the number of accidents: roads, vehicles, traffic rules and people. The handbook somewhat downplayed the role of the three first factors, and instead emphasised the role of the human factor. Many persons, drivers and pedestrians alike, were simply too ignorant about traffic. To create safety in traffic was therefore "a question of adaptation and education."[18] In a later handbook, published in 1963, a slight reduction of the number of children killed in traffic over the last few years was explained as an effect of intensified traffic propaganda and traffic education.[19] This belief in the power of education indicates that the handbooks became an instrument of educationalisation. Traffic education rested on a transmission of responsibilities which gave schools an elevated role, albeit in alliance with other actors as well. Collaborations between schools, the home and the police were seen as of paramount importance.[20] Handbooks for teachers gave detailed advice in the form of a model letter to the parents in which schools informed about the importance of traffic education and the need for cooperation by the parents.[21]

To more fully understand what traffic education could mean in the context of schooling, I will in the following analyse some central themes that can be detected in early handbooks and textbooks about traffic education. What kind of knowledge was it that they wanted to convey, what techniques for conveying knowledge were advocated, and what could knowledge achieve in relation to traffic safety?

Knowledge about risk

The *raison d'être* of traffic education was the risks of modern traffic. Part of the content in the courses was to teach about those dangers. One way in which this was

1953); *Handledning i trafikundervisning. Utg. av Skolöverstyrelsen i samarbete med Nationalföreningen* för *trafiksäkerhetens främjande* (Stockholm: Skolöverstyrelsen, 1963).

18 *Trafikundervisning: handbok* för *lärare* (1937), 52. See also Hællquist and Rimby (1937), 10. The strong emphasis on education was criticised in SOU 1940:33, *Principbetänkande i trafiksäkerhetsfrågan* (Stockholm: K.L. Beckmans boktryckeri, 1940), 135.

19 *Handledning i trafikundervisning* (1963), 171.

20 *Handledning i trafikundervisning* (1963), 9–17.

21 *Handbok* för *lärare i trafikundervisning* (1953), 171–72; *Handledning i trafikundervisning* (1963), 13–14.

done was through statistics. A booklet to be used in traffic education from 1930 cited the numbers of persons killed in traffic per year, and addressed the reader directly: "These are horrible figures. A large proportion of those killed in this way are children […]. You are too good to be sacrificed unnecessarily in this way, and therefore I wanted to teach you how to go about protecting yourself as much as possible."[22]

A diagram that showed the dramatic increase in deadly accidents was used in the first major textbook for traffic education, in 1937. It showed a steep rise in accidents beginning with three casualties in 1908 and ending with 410 deaths in 1936.[23] By conveying information about the number of deadly accidents the textbook gave a reminder not only about the dangers of traffic, but also about the historical changes and ultimately the risky nature of modernity. Another way of indicating a historical shift was by describing the role of play in the streets. Citing an alleged idyllic past with calm streets where the children could safely play, the textbook emphasised the dramatic change that came with the car, reminding the readers that the streets were no longer suitable for play.[24] What they tried to do here can be seen as the educational aspect of a larger conflict about how to view the street itself. Whereas the street used to be seen as a public space where commerce, play, and socialising coexisted with non-motorised traffic, the dawn of the motor age created a clash between motorists and pedestrians. In order to make space for the car, pedestrians and other people had to disappear from the street. Education was one way of achieving that momentous change.[25]

The rise of modern traffic made accidents into daily, almost routinised events, and textbooks were by no means alone in describing modern traffic as hazardous. Other media forms, especially newspapers, reported frequently about the dark side of modern mobility. Of interest in this context is that these media reports also had an influence on traffic education in schools. This is particularly evident during the very first years of compulsory traffic education in Sweden. The 1937 handbook for teachers recommended that traffic education should try to harness pupils´ interest in collecting things by encouraging them to keep newspaper clippings about traffic accidents. A clipping could, for example, be used for joint discussions, and drawings on the blackboard could further explain the passage of events.[26] A similar tendency to incorporate media logic in the classroom can be discerned in the textbook for traffic education that was published the same year. It put the newspaper at the very centre of the text, as it included news items on almost every page.[27] By discussing actual events reported in the media, the textbook came to function as a sort of bridge between two media formats that were often kept separate. This use of newspaper clippings as a didactical tool was, as one reviewer pointed out, an unprecedented approach.[28] Later textbooks and handbooks would not use newspaper in the same

22 Rimby (1930), 6. Similar formulations in Rimby (1958), 5–6.

23 Hællquist and Rimby (1937), 7.

24 Hællquist and Rimby (1937), 5.

25 Peter D. Norton, "Street Rivals: Jaywalking and the Invention of the Motor Age Street," *Technology and Culture* 48, no. 2 (2007), 331–59.

26 *Trafikundervisning: handbok* för *lärare* (1937), 80.

27 Hællquist and Rimby (1937).

28 John S. Ericson, "Trafikundervisningen obligatorisk – läroboken kommen," *Svensk läraretidning* (1937), 1029f.

conspicuous manner, but overall, mass media was important in making traffic into a societal problem. This position of the media was also evident in a 1948 governmental report about traffic safety. The report argued that the media was better than statistical facts at making information feel important, and used 3.5 pages to cite newspaper notices about traffic accidents during one summer week in Sweden.[29]

The fact that traffic education pointed out risks raises the question of what the ultimate message was. What does it mean to teach people to avoid dangers? Traffic education belongs to the category of school subjects which mainly have a negative motivation. The closest equivalent is probably the teaching about alcohol, tobacco and narcotics, which became common in the 1960s, and sex education, made compulsory in 1955. Avoiding dangers, in the case of sex and drugs, was often synonymous with temperance: recommending pupils to avoid realms of social life considered inappropriate for their age. In the case of traffic, the strategy was different. Modern traffic was impossible to avoid, its incremental influence over society could not be escaped. To avoid the dangers of traffic was therefore tantamount to confronting the danger by training.

Juridical knowledge

One way in which pupils were trained to avoid risks was by education about the actual rules that guided the traffic system. This feature was prompted by the emergence of the first traffic act, launched in 1923, leading up to a stricter juridical regulation of motorised traffic. Its pedagogical implication was that learning about traffic came to include learning about the law. An early example of this juridical knowledge is a booklet produced by the elementary school teacher Hjalmar Rimby, published in at least 26 editions between 1930 and 1960. The booklet was an introduction to the 1930 Road Traffic Act, and can be described as an attempt to translate the somewhat obscure knowledge of the traffic act for a readership consisting of young children. "The 1930 Road Traffic Act contains a lot of new provisions, which you have no idea about, and to help you adjust so that you do not violate the provisions out of ignorance, I have had this little book printed."[30] The booklet introduced the juridical matters in a mix of styles: direct quotations from the traffic act were presented and followed by more popular comments.[31] The first royal circular about traffic education, produced in 1936, expressed a similar idea: the aim of traffic education was to "convey knowledge about the most important traffic rules," as well as to give advice on how pedestrians and bicyclists could avoid traffic accidents.[32] In 1960, the Royal Board of Education listed literature and teaching materials that could be of use in traffic education.[33] Among the publications aimed at pupils, three were partly or mainly about traffic rules.[34]

29 SOU 1948:20, *Betänkande med förslag till* åtgärder för *höjande av trafiksäkerheten. Avgivet av 1945* års *trafiksäkerhetskommitté* (Stockholm: Emil Kilhströms tryckeri A.-B., 1948), 9–12.

30 Rimby (1930), 5.

31 Rimby (1930).

32 SFS 1936:583, Kungl. Maj:ts cirkulär till skolöverstyrelsen, domkapitlen, folkskolinspektörerna samt rektorerna, föreståndarna och styrelserna för de under skolöverstyrelsens inseende ställda läroanstalterna rörande obligatorisk trafikundervisning.

33 *Aktuellt från Skolöverstyrelsen* 14, no. 2 (1961), "Hjälpmedel vid trafikundervisningen på skolans högre stadier", 31f.

34 The three publications mentioned were *Rätt och vett i trafiken: Vägtrafikförordningen till vardagsbruk* (Stockholm: Nationalföreningen för trafiksäkerhetens främjande, 1952); Knut Norström, *Mopeden:*

In relation to other school subjects, this is a feature that really stands out. While some elements of juridical knowledge have featured in school subjects such as social studies, juridical knowledge is not a dominant part of what learning is about in elementary schools. The fact that traffic knowledge had such a clear connection to the juridical sphere is an example of the kind of knowledge that traffic education concerned. To a large degree it was about separating right from wrong, about following instructions that were meant to be unambiguous.

Visual knowledge

A similar tendency to strive toward a clear and orderly understanding of traffic can be seen in the visual dimensions of traffic education. Traffic is, as pointed out by John Urry, a multisensory experience in which the noise and smell of cars and other vehicles can easily overwhelm the visual sense.[35] But in traffic education the visual sense has dominated, the pedagogical principle can be described as ocular-centric. Books on traffic education generally contained a large selection of traffic signs as well as instructions about traffic lights. Conveying knowledge about such things is a logical consequence of how traffic came to be regulated during the 20th century: with traffic signs, traffic lights, and also the traffic police, who used body language to regulate traffic. These silent ways of communicating represented an attempt to regulate drivers and pedestrians alike. As such they were, ideally, quite powerful tools. Traffic lights for instance are, in Clay McShane's words, systems that "attempt to impose a strong social control over the most fundamental of human behaviours, whether to move or be still."[36] The visual knowledge associated with these signs was connected to the above mentioned juridical knowledge, in the sense that they warned against dangers, recommended specific actions, or forbade certain behaviour.[37] In doing so, traffic lights and other signs communicated in a way that was meant to be simple to decode. As Lefebvre has stressed, signals are designed to be unambiguous. They should always be possible to read with one single sense organ, to mix sound with visual information would be confusing.[38]

Still, the ability to interpret signs as unambiguous can often require a process of learning. The visual vocabulary of traffic signs as conveyed in textbooks was arguably encompassing much more info than the regular pedestrians, especially children, had use for, since many signs were directed towards drivers of motorised vehicles. Nonetheless the signs were taught, along with information of what traffic lights meant, and in early examples also how the signs of the traffic police should be interpreted. This emphasis on the visual had implications for how textbooks were designed. In a time when many textbooks were still printed in black and white, traffic

trafik, juridik, teknik (Stockholm: Fylgia, 1960); Knut Norström, *Trafikreglerna i ord och bild*, 3rd ed. (Stockholm: Fylgia, 1960).

35 John Urry, "Inhabiting the Car," *The Sociological Review* 54, no.1, supplement (2006), 22.

36 Clay McShane, "The Origins and Globalization of Traffic Control Signals," *Journal of Urban History* 25, no. 3 (1999), 370.

37 Frank Schipper, "Unravelling Hieroglyphs: Urban Traffic Signs and the League of Nations," *Métropoles*, no. 6 (2009), 4.

38 Henri Lefebvre, *Critique of Everyday Life: Foundations for a Sociology of the Everyday*, vol. 2 (London: Verso, 2002), 278.

education textbooks somewhat stood out with their bright colour images of traffic lights and traffic signs.

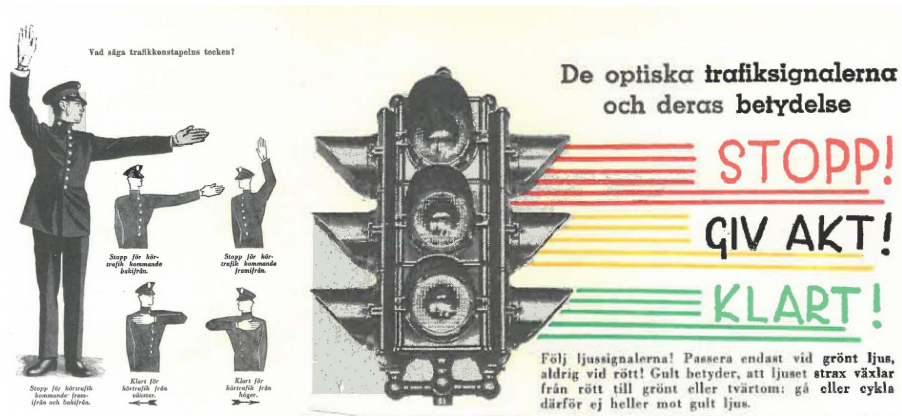

Image 1. *The meanings of different visual signs, such as traffic signs, traffic lights and the signals given by the traffic police, could not be taken for granted and were communicated in textbooks. Source:* Trafikundervisning: handbok för lärare (1937), 75–76.

Moral knowledge

Another dimension of traffic education that can be distinguished was arguably more complex and had to do with self-control, character and morality. Whether it should be labelled a form of knowledge can be discussed, but in terms of education it was definitely something that was taught. However, the techniques for conveying moral knowledge were not simple. A 1948 governmental commission about traffic safety argued that teaching pupils the traffic rules was a comparably easy task. The next, and more crucial step, was to apply the rules, and this ability to use knowledge in real-life situations was dependent on good character: on a sense of responsibility, decency, judgement and caution. It could be encouraged in different ways, for example by different kinds of competitions to make the pupils more interested in traffic security, or – as in the American system – by using the school safety patrol.[39]

The fact that the invention of motorised traffic demanded a high level of self-control has been stressed by Norbert Elias who attempted to apply his theory of the civilising process to the realm of traffic. Focusing especially on drivers, he discussed their need to regulate themselves in order to avoid serious accidents.[40] By contrast, traffic education in schools was focused on another social category. There, it was pupils – i.e. non-drivers – that had to learn self-regulation. A frequent complaint in this respect concerned ways that children used the roads. It was stressed that roads were not suitable for play. In the old days, before motorised traffic, streets might have

39 SOU 1948:20, *Betänkande med förslag till* åtgärder för *höjande av trafiksäkerheten. Avgivet av 1945* års *trafiksäkerhetskommitté* (Stockholm: Emil Kilhströms tryckeri A.-B., 1948), 258–59.

40 Elias points out that this ambition has only partly been realised, as the number of deaths in road accidents is tantamount to a decivilising process. Norbert Elias, "Technization and Civilization," *Theory, Culture & Society* 12, no. 3 (1995), 7–42.

been compatible with play, it was said, but nowadays such behaviour had become dangerous.[41] Such advice was based on the radical transformation brought by cars, making traditional ways of living outdated. The streets had once been conducive to play, but those days were now long gone, and play in the streets had to be avoided. In addition, another kind of – more modern – play in the streets was castigated. The advent of new vehicles, especially bicycles and cars, had created new possibilities for play in the street: hanging onto a moving car, cycling on the street like a circus artist, breaking into a parked car and accidently making it move. Such behaviours were repeatedly pointed out as something to avoid.[42] For children and other pedestrians the street had but one function: it was a space to cross, swiftly and safely. Detailed instructions on how to cross the street were given.[43] To cross the street was an ability that had to be learned and was connected to developments such as the emergence of the zebra crossing.[44]

Practical knowledge

While theoretical knowledge – conveyed through books, films, brochures and posters – was deemed important it was clearly not seen as offering sufficient protection from accidents. As we saw earlier, there were complaints that pupils had good knowledge about the traffic rules, but that they were bad at applying it. That criticism was partly centred on the idea of a moral character, but had also to do with the sheer ability to learn, regardless of character. In the following I will discuss two attempts to further practical knowledge in schools: simulations and school safety patrols.

Simulations

Traffic accidents represented a growing societal problem during the studied period. The antidote – traffic education – rested on a contradiction: how do you teach children about dangers without exposing them to dangers? One way of dealing with the problem was to design a multitude of simple, practical exercises where pupils were taught how to move through traffic space. This could be done through the use of simulated environments that in different ways recreated real-life situations. It could for example be achieved by using some of the spaces in or close to the school buildings, such as the school yard or the gymnastics hall. The school yard could be used to create a simulation of a block with roads, traffic signs and pedestrian crossings. In the school yard, pupils could get the opportunity to train themselves how to walk, stop, turn their heads, look for vehicles, cross the street, and overall how to move in a manner appropriate to a modern city where cars constantly circulate. It was a distinctly modern way of moving, illustrating Marcel Mauss's thesis that every society invents specific techniques of the body that have to be learned.[45] The principle of simulation could also take other forms. The art of bicycling could be practised in the simplest possible way, by using a stick as a stand-in for bicycle handlebars,

41 Hællquist and Rimby (1937), 5.

42 E.g., *Trafikregler* för *skolorna. Utarbetade av Kungl. Automobilklubben* (Stockholm: Norstedt, 1924), 2, 9; Hællquist and Rimby (1937), 20, 23, 35; Thorson (1955).

43 E.g. Hællquist and Rimby (1937).

44 Moran (2006).

45 Marcel Mauss, "Techniques of the Body," *Economy and Society* 2, no.1 (1973), 70–88.

making it possible for small children to get lessons in bicycling.[46] In some places a more permanent and realistic structure was constructed, in which the school yard was painted with pedestrian crossing markings, facilitating traffic lessons in school. Another strategy was to build a miniature environment with streets and houses, which made the simulation even more realistic. The 1963 handbook that described this simulation also recommended that a uniformed policeman should direct the lessons, since it made it all more realistic.[47] The use of such simulations can, in the broader sense, be seen as an example of how learning about hazardous situations can be done in a totally safe environment. As a strategy it has been used also in other contexts, for example in military training, as exemplified by the simulated town of Yodaville, used as a bombing range.[48]

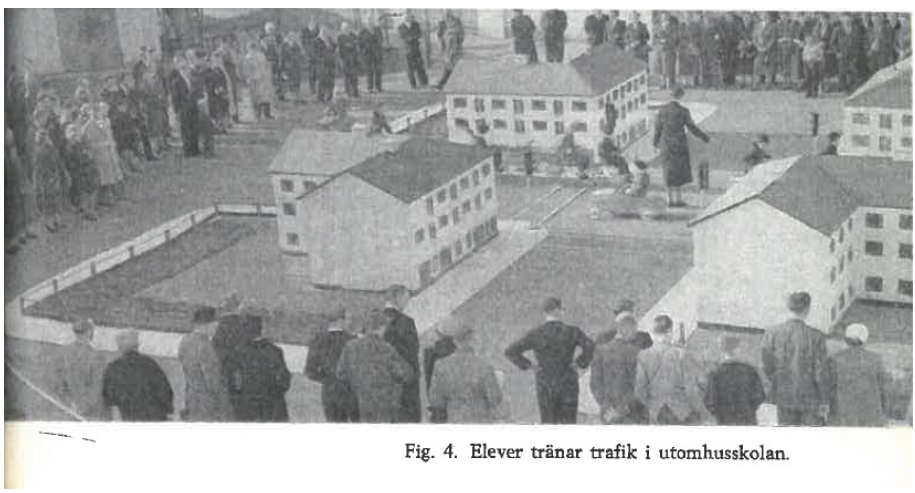

Image 2. *Pupils practising traffic in a simulated environment. Source:* Handledning i trafikundervisning (1963), 23.

School safety patrols: the pupil as teacher and police

Traffic education was, as we have seen, associated with learning the rules and obeying the authorities, and this socialisation involved contacts with the police. Children learned how to interpret the signals of a traffic policeman, and were urged to listen to the police. The role of children was mostly passive. Learning about traffic occurred in controlled areas, and the uses of simulations for practical lessons demonstrate that real traffic was to be avoided if possible. However, a change was on its way that would give children a more active and didactic role in conveying knowledge about behaviour in actual traffic.

Beginning in the 1950s, children were given a new task with the emergence of so-called school safety patrols, or what later became known as the school police.[49]

46 *Handbok* för *lärare i trafikundervisning* (1953) 175.

47 *Handledning i trafikundervisning* (1963), 23.

48 Dylan Mulvin, *Proxies: The Cultural Work of Standing in* (Cambridge, Massachusetts: The MIT Press, 2021), 1–4.

49 For international examples, see discussion in Crook (2016) on "school crossing patrols."

The first school to introduce the system was a newly built elementary school in Stockholm, Skanskvarns folkskola. The introduction occurred in 1950 and was reported in one of the leading newspapers as a success.[50] The system spread to more schools in Stockholm, and three years later, in 1953, the National Board of Education sent out information about school safety patrols in their publication *Aktuellt från Skolöverstyrelsen* that provided information on what was going on in the educational system. The board recommended that schools with a clear need should introduce the system, and referred to positive experiences of the system, both from abroad and from some individual schools in Sweden. School safety patrols, which consisted of older and more mature pupils who helped younger children to cross the street safely, had two major aims according to the board: to make the journey to school safer and to help with traffic education. The second aim illustrates the educational motives for the reform: this was about learning as much as it was about safety.[51]

The introduction of the school safety patrol constituted a shift in the role of pupils, from relatively passive recipients of knowledge to active partners in the regulation of traffic. This shift not only resulted in pupils becoming "teachers" of traffic rules, but can also be understood in relation to the role of the police. Directing traffic had traditionally been the responsibility of the traffic police. That there was a similarity between the two actors was emphasised symbolically by the dress of the safety patrol, and by the informal name they were given: "school police." Furthermore, the police were involved in educating the school safety patrol, and could also have the responsibility to keep an eye on the activity. Pupils involved in the safety patrol were also given a certificate that showed they were part of the safety patrol, a document that was signed by the police.[52] Legitimised by the actual police, the school police came to play a role in directing traffic for many years.[53]

Conclusion

How do societal problems become reframed as educational problems? This article, using Sweden as an example, has discussed how traffic education in schools came to be seen as an important strategy to deal with traffic accidents. This process – in effect an educationalisation of road death – has primarily been analysed in relation to the different knowledge forms involved in traffic education.

My motive for such a focus on knowledge is that it can enhance our understanding both of how traffic education was introduced in schools and what that education consisted of. In doing so I have used a broad concept of knowledge, in line with more cultural-historical understandings of the history of knowledge, and in contrast to more narrow perspectives on knowledge that we sometimes associate with the history of science. Like Lässig, I think that a new history of knowledge should be

50 *Aftonbladet*, "Barnens egen trafikpolis," April 22, 1950.

51 *Aktuellt från Skolöverstyrelsen*, 6, no. 10 (1953), 119f. See also *Handbok* för *lärare i trafikundervisning* (1953) 15–17; SOU 1948:20, 103–104.

52 *Handledning i trafikundervisning* (1963), 36–37; *Aktuellt från Skolöverstyrelsen* 13, no. 45 (1960) "Anvisningar för sammanhängande kurs rörande trafikundervisning för lärarkandidater vid folkskoleseminarierna," 802–03.

53 In Stockholm the system with pupils operating the traffic safety patrol was stopped in 2013. Stefan Lisinski, "Beslut idag: skolpoliserna försvinner," *Dagens Nyheter,* December 20, 2012.

understood in the plural, as histories of knowledge, and that it should take "a broad spectrum of forms of knowledge into consideration."[54] The five forms identified – knowledge about risk, juridical knowledge, visual knowledge, moral knowledge and practical knowledge – can be used as a characterisation of what constituted traffic knowledge during its first decades as a school subject. While not an exhaustive list the forms demonstrate that traffic knowledge should not be understood in the singular, and that it was actually quite a complex set of knowledge forms that was supposed to be taught in schools. As such, the different knowledge forms had different functions. Knowledge about risk created emotional motivation as well as historical awareness of how traffic and its related accidents had proliferated during recent decades. Juridical knowledge was about the actual rules that had to be obeyed, whereas visual knowledge was needed to navigate among traffic signs and traffic lights, and moral knowledge was about self-control. Practical knowledge was about meeting traffic in real-life situations, an ability that was trained in semi-real, simulated situations, or in the form of more active guiding of traffic as traffic police.

The different dimensions of knowledge further raise the question of how the specific nature of traffic education was related to the institutional character of schools. Was the complexity of the various knowledge forms compatible with the normal character of school or not? The question is relevant for an understanding of the preconditions for educationalisation but perhaps it is wrongly put, since traffic education in schools was only partly conducted using the traditional method of teachers teaching pupils. In fact, traffic education appears to have been conducted partly in the form of cooperation with new actors: the police, the traffic safety association and also the students' own participation were important. One way of interpreting this is that the knowledge forms used in traffic education were partly compatible with traditional ways of teaching in schools, while in other respects they required collaboration with actors traditionally outside the teaching profession. In order to enter schools, traffic education needed to be conducted in collaboration with professions and associations outside schools. While much more research is needed to get a more nuanced view on how these different knowledge forms related to different actors, they serve to remind us that the process of educationalisation is a complex one that cannot be taken for granted. Beneath the surface of educationalisation lies a myriad of knowledge forms that might or might not be possible to apply in the context of schooling.

Being aware of this complexity holds the potential for a revamped and more nuanced discussion of the whole idea of educationalisation. Previous research has mainly been interested in discussing the factors that explain why all kinds of social and individual problems are formulated as educational ones. Educationalisation has been described as a more or less unstoppable, automatic force, even a syndrome.[55] Less scholarly interest has been devoted to understanding failed attempts to educationalise social problems. I believe that our understanding of educationalisation can be developed if we also try to understand the factors that stand in the way of

54 Simone Lässig, "The History of Knowledge and the Expansion of the Historical Research Agenda," *Bulletin of the German Historical Institute* 59, Fall (2016), 45.

55 David F. Labaree, "School Syndrome: Understanding the USA's Magical Belief that Schooling Can Somehow Improve Society, Promote Access, and Preserve Advantage," *Journal of Curriculum Studies* 44, no. 2 (2012), 143–63.

introducing a topic in schools. A final example might suffice to illustrate my point.

To understand why certain social problems are educationalised, the severity of the problem plays a role. Changes in the curriculum are more easily legitimised if they appear to address a serious and urgent social problem. However, the nature of the problem is not the only factor that matters, and it would be erroneous to see educationalisation as a logical, inevitable consequence of social problems. A contrasting example can be used to illustrate how educationalisation is anything but a homogenous process and that we need to make more fine-grained analyses of how attempts to impose certain tasks on schools can both fail and succeed. The contrasting example is swimming education, a case that in many ways shows striking similarities to traffic education. In the 1930s, there were demands that Swedish schools should make swimming education a compulsory school subject. Some schools already taught swimming, but it was not compulsory to do so. The motive to introduce swimming was the perils of water: the high number of drowning accidents. The demands were formulated by an association that promoted the importance of swimming safety, the Swedish Life Saving Society, formed in 1898 in response to a staggering number of drowning accidents (over 1000 a year).[56] However, in striking contrast to traffic education the proposals to introduce compulsory education were formulated as a long-term goal and it ultimately failed. One of the obstacles – perhaps the main obstacle – was the relative absence of swimming facilities close to the schools.[57]

The failure in introducing swimming education illuminates one of the fundamental preconditions for the successful introduction of traffic education in schools: the ubiquity of roads and streets. Unlike the more uneven distribution of water, roads of various kinds are a universal phenomenon in modernity. One might say that all roads eventually lead to a school. This dense network of roads has arguably served to legitimise traffic education. The constant presence of roads, and the daily use of them by children to reach schools, was a daily reminder of the risks of traffic and the merits of traffic education.

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56 "Simning på skolschemat landet runt inom tio år," *Svenska Dagbladet,* July 18 (1939); "Simundervisning bör lagstadgas." *Svenska Dagbladet*, December 30 (1940).

57 "Simning på skolschemat inom 10 år," *Svensk läraretidning* 58, no. 29 (1939), 853.

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Technology as a Woman's Call: The Efforts of the Fredrika Bremer Association to Promote Women's Education in Technology 1978–1999

Rosalía Guerrero Cantarell

Abstract • In 1978, Sweden's oldest women's organisation, the Fredrika Bremer Association (FBF), organised an event on women and technology. This was the first event of its kind in Sweden and it was met with great interest. Consequently, it became a recurring annual event until the late 1990s. At a time when the computerisation of society precipitated a response from the Swedish state, labour market parties and civil society, the FBF became an authority in the area of technology and gender equality. Framed within the field of history of knowledge, this article claims that the FBF sought to redefine the concept of technology to include what they considered to be female features. They circulated this new definition in the school system and among the broader society. The FBF has been overlooked as a relevant actor in the circulation of technology knowledge, even though it played a significant role in the discussion of women and computer technology in Sweden from the late 1970s to the late 1990s.

Keywords • gender; women in STEM; women in technology education; gender and technology; history of knowledge; Fredrika Bremer Association

Introduction

The Fredrika Bremer Association (*Fredrika Bremer Förbundet*) (FBF), the first women's organisation founded in Sweden, showed great interest in promoting women's technical education in the context of the so-called micro-electronics revolution from the late 1970s onwards. The FBF, established in 1884 as an apolitical association, had 6,854 members by the end of the 1970s, and was spread across eight districts and 63 local departments.[1] Their goal was to achieve equal rights for women in work, the elimination of a gender-segregated labour market and the recruitment of an even number of men and women to all occupations.[2] Moreover, this organisation conceived education as an instrument to facilitate equality between men and women.[3]

The FBF were active in promoting women's technical education on several fronts. On the one hand, they participated in a debate on the meaning of technology, the role of computers in the emerging digital society and the positioning of women in this process. On the other hand, they took a hands-on approach and organised

1 "Vittnesseminarium: 1968 och den nya kvinnoradikaliseringen," in *Kvinnorörelsen och '68 – aspekter och vittnesbörd*, ed. Elisabeth Elgán (Stockholm: Samtidshistoriska institutet. Södertörns högskola, 2002), 79.

2 Inger Hultgren, *Kvinnors organisation och samhällets beslutprocess. Fredrika-Bremerförbudet och Husmodersförbundet Hem och Samhälle på riksplanet och lokalt i Jämtlands län 1925–1975*, PhD diss. (Umeå: Umeå University, 1982), 60.

3 SOU 1980:44, *Betänkande om statsbidrag till kvinnoorganisationer* (Stockholm: LiberFörlag, 1980), 78.

information events in educational institutions and public venues, targeting pupils and students at different levels, as well as education providers and the general public. Moreover, the FBF's signature event, the Women and Technology Days (*Kvinnor och Teknik-dagar*, WTD) included courses and instructive components that linked girls and young women to technology, in order to spark their interest in this area.

In this article, I show that the FBF sought to challenge a notion of technology in an order of knowledge that excluded women. By doing so, they gained a cognitive authority that was called upon in the coming years. The FBF included so-called "soft" or "feminine" features in the definition of skill within the context of (computer) technology. The FBF disseminated arguments relating to women and technology in a way that transcended institutional, social and political boundaries.[4] I use the concept of the circulation of knowledge in the empirical analysis, instead of using terms such as "spread" or "dissemination", as I am placing the FBF's communicative actions within the framework of the history of knowledge approach. This means that I bring awareness to the materiality and mediality of knowledge and take cognisance of the social context and the cultural elements surrounding this process.[5]

The knowledge that the FBF created was embodied in practices and objects, from publications and leaflets, to talks, exhibitions and networking sessions. These objects or practices are what Christian Jacob would call places of knowledge, as it is through these that knowledge is materialised. [6] This article focuses on the variety of practices that the FBF performed, all linked to two goals: to advance a new definition of technology and to promote women's participation in technology education.

Although the presence of the FBF in the public debate was distinctive, it is unfeasible to ascertain a discernible influence on curricular changes, the labour market structure, or women's educational choices within the scope of this article. However, the FBF's participation in the exchange of ideas in diverse social settings in which education in technology was delineated, discussed and conducted, suggests that they were a relevant, although frequently overlooked actor, in the process of knowledge production. This article focuses on both the production of knowledge relating to technology in which the FBF engaged and the way in which this knowledge was circulated.

The role of women's organisations in education has not been thoroughly researched in Swedish scholarship. A relevant study in this area is Johanna Ringarp and Karin Carlsson's investigation of the women's association *Tolfterna*, which had a popular educational programme, aimed at bringing together women from different social classes around the turn of the twentieth century, and in which working class women sought to obtain the literacy knowledge they missed from formal education.[7] The

4 Borrowing Sarrasin's formulation of the historical phenomenon that knowledge and its circulation represent: Philipp Sarasin, "Was ist Wissensgeschichte?" *Internationales Archiv für Sozialgeschichte der deutschen Literatur* 36, no. 1 (2011), 164.

5 For more on the concept of circulation of knowledge see: Johan Östling et al., "The history of knowledge and the circulation of knowledge: an introduction," in Johan Östling et al. *Circulation of Knowledge. Explorations in the History of Knowledge* (Lund: Nordic Academic Press, 2018), 18.

6 Jacob claims that knowledge is invisible unless it is materialised in books, libraries, or people. Christian Jacob, "Lieux de savoir: A comparative approach to the tools and techniques of scholarly work" (paper presented at the Royal Library, Copenhagen, Denmark, 24 September, 2009).

7 Karin Carlsson and Johanna Ringarp, "Tolfterna: Ett bildningsprojekt inför kvinnors fullständiga

American case has received more attention. In a volume on the history of American women's associations and their influence in education, the contributors explore the variety of ways in which organised women attempted to bring more women into formal education, particularly higher education.[8] Anne Ruggles has studied the way in which women's clubs in the United States acted as shaping forces in the understanding of concepts such as nationhood, economy, gender and culture, often through (informal) educational practices.[9] The efforts of the FBF had parallels in both the international and transnational contexts. Christine von Oerzen has studied the strategies of a transnational network of female academics (1917–1955), who managed to further the position of women in science and society through friendships, close personal bonds and professional contacts.[10] Amy Bix has studied two organisations, dedicated to advancing women's status in computing. By examining two associations, active in the United States in different decades, Bix shows that while the movement started out as the efforts of a few "outsiders struggling to win attention," it grew into a high-profile international movement that understood the challenges women faced in technical work.[11] Although works like these have stressed the importance of women's organisations in advancing professional women's work in the area of technology, and the changing the practices of educational institutions, they did not focus on whether these organisations conceptualised technology knowledge differently or whether they attempted to bring a new perspective to the broader view of knowledge circulation within educational and professional arenas.

Unlike the aforementioned examples, the focus of this article is on the FBF's efforts to create a definition of technology that differed from mainstream views circulating in society. The redefinition of technology and its associated skills, which I claim were promoted by the FBF, were used in their campaigns, undertakings and communication. This redefinition of technological knowledge took place through practices, such as writing and speaking to various audiences during events or participating in political debates; consequently, this knowledge circulated through diverse channels in different arenas, through the FBF's publications, annual reports, meeting protocols, internal correspondence, conferences, seminar minutes, event advertisements, material from the Women and Technology group (*Kvinnor och Teknik*, W&T) within the association, as well as press articles.

I reconstruct the two decades of work conducted by the association regarding the question of women and technology and examine the attempts of the W&T group to shape a definition of technology. One of the central sources of this article is FBF's

medborgarskap," in *Historie – didaktik, dannelse og bevidsthed: Rapporter til det 29. Nordiske Historikermøde* ed. Duedahl Poul, vol. 1 (2017), 9–39.

8 Anne Meis Knupfer & Christine Woyshner ed. *Educational Work of Women's Organizations, 1890–1960* (Basingstoke: Palgrave Macmillan, 2007).

9 Anne Ruggles Gere, *Intimate Practices: Literacy and Cultural Work in U.S. Women's Clubs, 1880–1920* (Urbana: University of Illinois Press, 1997).

10 Christine von Oertzen, *Science, Gender and Internationalism: Women's Academic Networks 1917–1955* (New York: Palgrave Macmillan, 2012).

11 Amy Bix, "Organized Advocacy for Professional Women in Computing: Comparing Histories of the Association for Women in Computing and the Association of Computing Machinery-Women's Council," in *Communities of Computing: Computer Science and Society in the ACM*, ed. Thomas Misa (New York: Morgan & Claypool Publishers-ACM Books, 2016).

journal *Hertha*, a publication with articles relating to current social, cultural and economic issues. I selected the articles published from 1975 to 2000, which dealt with the question of technology and women's education and work. The authors were FBF members or guest writers, and the articles featured were often discussed in the meetings of the W&T group. The published articles reflect the collective view of the organisation. *Hertha*'s editors were present in the FBF working committee meetings, during which they informed and discussed with members the journal's articles, special issues, content and economic matters. Articles regarding the discrimination of women in technical professions, for example, were sought after and calls were made to the various sections of the FBF requesting article submissions or narrations of experiences.[12]

In the first section of this article, I explore the definition of technology that the FBF promoted and analyse its publications, in particular the journal *Hertha*. I took note of the ideas, criticism, role models and examples provided, to outline the way in which they understood the mainstream notion of technology and how they considered this understanding should be modified. In the following sections I explore how the FBF circulated their core ideas and examine the channels and strategies used. I divide this analysis into two parts, one related to formal education, in which I explain the role assigned to schools by the FBF and how school premises were used as a place of knowledge; the second section relates to informal education, in which I mention all other practices not directly associated with the formal education system.

In this article, technology refers to a set of devices and processes that came about as a result of the so-called microelectronics revolution in the 1970s, which had a social impact on many fields and led, among other things, to the computerisation of workplaces and other areas of society, including public administration, healthcare and industry, as well as an increased use of personal computers. This article investigates the reaction of the FBF to these types of technologies. While the focus is on the work of the FBF in relation to women's education in computer technology, the broader notion of technology occasionally forms part of the analysis. In many cases, and particularly in the earlier documents, the FBF reflects on the notion of technology (*teknik*), namely, the more general phenomena resulting from technical change, such as questions of transportation, nuclear power and military artefacts. I decided to include some of these reflections on technology *in general,* as they constitute the basis of the reasoning of the FBF regarding computer technology. When the word technology is used to refer to studies at different educational levels, however, it does not only refer to computers, but to science, technology, engineering and mathematics, the so-called STEM field. Thus, the concept of technology in this paper encompasses computer knowledge but not always exclusively.

Changes in the labour market affecting women and state initiatives

The growth of the Swedish public sector in the 1960s, as a result of the strengthening of the welfare state, heralded a breakthrough in the participation of women in the labour market, characterised by a highly productive, capital intensive, service-oriented industrial sector and expanding service industries in the public sector.

12 Kvinnor och Teknik group meeting minutes 1981-09-15, Fredrika Bremerförbundet B4:5, National Archives (*Riksarkivet*, hereafter RA).

Following a decentralisation process, municipalities and counties were in charge of welfare services by the 1970s, which further increased women's paid work. In parallel, between 60,000 and 90,000 jobs disappeared as a result of technological development until 1975. Most of the jobs lost were in positions occupied predominately by female workers (retail, banking, office work).[13]

Women have dominated the public sector except in two occupations, namely, programming and sales, and this pattern has remained, despite changes in the economy and the labour market, such as the dismantling of the public sector and the expansion of the industrial sector.[14]

The gender segregation in the labour market was accentuated during these years. A restructuring of the labour market, due to the process of computerisation resulted in a gender division of work, with men employed in electronic data processing and women in data entry. Thus, in the gender hierarchy of the new computerised workplace, women were located at the bottom.[15]

A national microelectronics programme, proposed in the early 1980s, stressed the role of education in spearheading computer development in Sweden. The proposal noted the lower participation of women in the area of technology and called for specific measures to address this issue.[16] The problem of uneven gender distribution in these areas was regarded as a social and economic problem in the 1960s, but by the 1980s, this had also become a gender equality matter.[17]

In 1978, the Computing and Electronics Committee mapped the use of the new technology in society and industry and the Computer Impact Assessment Committee (*Dataeffektutredningen*) investigated the changes in the workplace as a result of computerisation.[18] Their conclusion was that the increased use of computers would require more clerks and professional workers and fewer unqualified workers, rendering low skilled workers, many of whom were women, jobless.[19] The state response was to allocate resources to the Labour Market Ministry to tackle the education, training and recruitment needs of the qualified workforce for the industry. Part of these funds were earmarked for increasing women's interest in work and training in the industrial sector, with the More Women to Industry campaign (*Fler kvinnor till industrin*) (1983/84). By widening the labour market for women, the demand for a technical workforce in Sweden would be met.[20]

In the 1980s, the Swedish parliament allocated funds for the training of the population in computer-related issues, as part of the Broad Computer Education

13 Maria Bergom-Larsson, *Kvinnor och teknologi* (Stockholm: Fredrika-Bremer-Förbundet, 1980), 28.

14 Lena Andersson-Skog, "In the Shadow of the Swedish Welfare State: Women and the Service Sector," *The Business History Review* 81, no. 3 (Autumn, 2007), 465.

15 Bergom-Larsson (1980), 29.

16 Motion Christer Eirefelt, *Ett nationellt mikroelektronikprogram*, prop. 1983/84: 8.

17 Daniel Lövheim, *Naturvetarna, ingenjörerna och valfrihetens samhälle: rekrytering till teknik och naturvetenskap under svensk efterkrigstid* (Lund: Nordic Academic Press, 2016), 81, 119–120.

18 SOU 1984:20, *Datorer och arbetslivets förändring. Betänkande av Dataeffektutredningen* (Stockholm: Liber/ Allmänna förl., 1984).

19 SOU 1981:17, *Industrins datorisering: Effekter på sysselsättning och arbetsmiljö. Delbetänkande av Dataeffektutredningen* (Stockholm: LiberFörlag, 1981).

20 Arbetsmarknadsdepartamentet, *Proposition om kvinnornas villkor på arbetsmarknad*, Prop. 1984/85:130

project (*Bred datautbildning*). This initiative emphasised the role of education for the development and use of computer technology under democratic rule.[21] Women and the poorly educated were identified as the groups with the greatest need for computer education.[22] However, the women's associations of the Centre Party and the Social Democratic Party were the only organisations that received funding from the Computer Delegation (*Datadelegationen*), even though five other organisations, including the FBF also applied for funding.[23] Nonetheless, the Computer Delegation asked the FBF to carry out an evaluation of the material used in study associations in the field of computing from a gender equality perspective.[24] The FBF concluded that the educational material did not promote gender equality and that, in fact, women had been made invisible. The FBF demanded an amendment to the literature to naturalise women's work with computers and increase their potential to influence computer development. The work of this group in educational issues continued further, as will be discussed in the next section.

Women in technology education

The question of gender roles was debated within formal education. Here, the state sought to resolve an economic problem. In the 1970s, there was a lack of technical professionals that could support the country's economic and technological development, but the shortage was expected to be even more pronounced in the future. The need to attract women into technical areas was, even from the perspective of the National Board of Education (*Skolöverstyrelsen*) (NBE), vital for a healthy Swedish labour market and necessary in achieving technical development. The state's view was that the problem was associated with women's lack of self-confidence and the inability of teachers to convey the subject in a way that engaged female students.[25]

In 1974, the FBF participated in a debate on gender roles in schools, together with representatives of industry, labour unions, the employment office and the delegation for equality, among others, and it was noted that while 46% of boys in secondary education selected technical pathways, only 1% of girls chose this option. From the perspective of the FBF, it was necessary to fight gender stereotypes in society, as these affected women's educational choices.[26] The following year, the NBE published a report where gender imbalances in relation to technology education were stressed, which formed the basis of a series of state-sponsored projects to counter gender stereotypes in schools.[27]

Minister of education, Lena Hjelm-Wallén, argued in 1984 that many of the jobs women held in industry, offices and commerce were threatened by a rationalisation

21 SOU 1985:50, *Bred Datautbildning. Betänkande av datadelegationen* (Stockholm: Liber/Allmämma förl., 1985), 13.

22 SOU 1985:50, 15.

23 Datadelegationen meeting minutes *1982-12-22*, Dnr 182:31a, Datadelegationen B4:5, RA; Sammanställning över inkomna ansökningar beträffande Bred utbildning i datafrågor till allmänheten, 1982-12-01 DNR 982:31a, Datadelegationen B4:5, RA.

24 SOU 1985:50, 62.

25 Hedlin (2009), 167.

26 Hultgren (1982), 114.

27 *Ett friare val: Jämställdhetsprogram för skolan* (Stockholm: Liber, 1978).

wave, therefore, it was important for them to enter the male-dominated sector.[28] She argued that by increasing the participation of women in technical programmes, industry and society would have a wider base from which to recruit technical professionals. The situation was such, she claimed, that there was only one girl to 10 boys in technical upper secondary programmes and higher education.[29] In the 1980s, various regional and local efforts within formal education, vocational education, and the labour market to attract women to technology were carried out within the framework of the More Women to Industry campaign.[30]

In the mid-1990s the IT-Commission (*IT-kommissionen*), a group established to give IT-related advice to various state bodies, argued that schools had a vital role in eliminating gender differences in this area. A pilot study, carried out in the late 1990s as a response to this directive revealed that women tended to become interested in computers only when they viewed them as a tool for better communication, whereas men could become interested in the computer itself and could then integrate it more easily into different areas of their lives.[31]

While women were already considered an important target of the state's efforts to democratise knowledge relating to technology, in general, and computer technology, in particular[32], the FBF's main objective was to encourage the participation of women in technical studies. In this way, women could challenge established social norms and ideas that related technology to male expertise.

The FBF takes an interest in technology

The FBF experienced significant growth during the 1970s. It was the second largest of the non-political women's associations (surpassed by a large margin, however, by the Housewives Home and Society Association (*Husmodersförbundet Hem och Samhälle*) (HHSA) with 30,347 members[33]) and considered one of the 10 most influential opinion builders during this period.[34] Its journal, *Hertha*, was published six times per year. While the HHSA stressed women's domestic role, the FBF was mainly concerned with women's professional and political roles.[35]

By 1975, the FBF reformulated their goals and strengthened their labour market focus. Their mission was to achieve equal rights for women in work, the elimination of the gender-divided labour market and to ensure the recruitment of an equal number of men and women across all occupations.[36]

28 Lövheim (2016), 121.

29 Lena Hjelm-Wallén, "Nya och fler utbildningar kommer," *Svenska Dagbladet*, June 6, 1984.

30 Lena Näslund, *Säg Ja! Till tekniken: om kvinnor i tekniska yrken och utbildningar* (Malmö: Liber, 1985); Birgitta Åseskog, *Kvinnor och teknik: en tipskatalog med idéer om hur flickor och kvinnor kan stimuleras till intresse för tekniskt arbete* (Stockholm: Liber, 1984).

31 Hallerdt (1999).

32 Women were targeted in state campaigns, such as the Broad Computer Education Project. See Motion till Riksdagen by Berit Oscarsson and Hans Rosengren on Broad Computer Education, Mot. 1987/88 A220, 2.

33 SOU 1980:44, 81.

34 Elgán (2002), 79.

35 Hultgren (1982), 178.

36 Hultgren (1982), 60.

The FBF's interest in education was present from the time of their establishment, as one of their first actions was to grant scholarships to young women to help them attain economic independence through education. Moreover, one of their specific goals in the late 1970s was that "all education shall aim at reaching equality between women and men,"[37] leading the organisation to engage in the question of gender roles in school.[38]

The position of the FBF in the areas of education and work was acknowledged by the Equality Council of the Civil Engineers Association, the first organised group in Sweden to become involved in the question of women and technology. This council contacted the FBF and proposed cooperation. When this group dissolved, some of their former members turned to the FBF, requesting that they take up the question of women and technology in their agenda.

Partly as a result of this request, the W&T group was formed within the FBF in 1978. In January 1979, the FBF organised a seminar to assess the situation and map the state of knowledge in relation to women and technology. Subsequently, the W&T group decided to take on the task of promoting women's involvement in technology and to target all categories of women at all levels.[39]

The interest of FBF can be explained by the dramatic change of computer technology and its status in Swedish society throughout the 20-year period of this analysis. According to state statistics, computer use in Sweden increased from the 1960s and in an explosive manner since the late 1970s. According to a 1984 survey of the population between the ages of 16 and 64, 35 percent of the population had knowledge of computer technology and work was the most common way for individuals to encounter computers. Almost one in every four workers used computers in their jobs and around three percent of the population was believed to have some kind of computer equipment at home. It was twice as common for men to have home computer equipment than women. Around 3.5 times more men than women had extensive knowledge of programming, systemisation and automatic data processing. The majority of computer workers were men, but women dominated among terminal and administrative workers. [40]

This state of affairs led different organisations become involved with the question of women and technology. In a meeting with labour union representatives, organised by the FBF in 1981, the question of computerisation was raised. Representatives were worried about a gender division of the computer-oriented labour market, that would give men the most qualified programming tasks and women the low-status and least qualified positions.[41]

The interest in technology questions also came from within the FBF. The W&T was formed by FBF members with a technical background, such as civil engineer, Eva Fåhreus and mathematician, Elsa-Karin Boestad-Nilsson, who worked at the

37 SOU 1980:44, 78.

38 Hultgren (1982), 114.

39 Elsa-Karin Boestad-Nilsson, "Här står vi idag," in Monika Westman ed., Gnistor (Stockholm: Ingenjörsförl., 1982), 8; Protocol of the FBF Board Meeting 13-14/10/1979, FBF Main archive, B4:5, RA.

40 *Folkets datorvanor. Datoranvändningsundersökningen Juni 1984*, Information i prognosfrågor 1984:5. Sveriges officiella statistik (Örebro: Statistiska centralbyrån, 1985).

41 Minutes of the representation committee meeting with representatives of the main labour unions at the FBF's office. 1981-11-06. FBF Main archive, B4:5, RA.

Swedish Defence Research Agency (FOA) and is considered Sweden's first female programmer. The latter also promoted the creation of the group *Women and Computers* (*Kvinnor och data*) within the FBF, which aimed at monitoring the developments of computer technology in society from a gender equality perspective.[42]

The group carried out different activities such as debates, exhibitions and demonstrations of technology, as well as responding to political enquiries, creating reports and organising nationwide activities through their WTD, the first events of its kind in Sweden in relation to this topic.[43] In the second half of the 1990s, the W&T group separated from the FBF and became part of the Swedish National Museum of Science and Technology (hereafter Technological Museum). A few years later, the group became independent and established contact with a branch from Örebro University, called QTeknik.[44]

The FBF's creation of technology knowledge

Prior to the formation of the W&T group, the FBF had dealt with the question of technology in some of its publications. Their basic assumption was that technology, instead of contributing to gender equality, had mirrored predominant social conditions and reflected men's dominant status in society.[45] Socialisation upheld this state of affairs: boys were given vehicles and guns to play with and boys were asked by teachers to start the audio player or set up cables in the classroom; by comparison, girls were given dolls and tea sets and were expected to comfort the upset child in school.[46] The FBF stated that technology had often been associated with war purposes; it threatened life on earth and had been the cause of life hazards, such as birth defects, genetic damage and cancer. In a world full of man-made technology, super jets and micro-computers existed but not sun-heated houses or effective lifts for patients in long-term care.[47] These ideas had also been expressed in the public debate. Liberal politician, Marit Paulsen, stated that men regarded themselves as gods but their lack of respect for nature was leading to the eradication and pollution of all biologic life. These ideas resonated among FBF members, who discussed Paulsen's ideas in *Hertha*.[48]

Man-made technology could not only be dangerous but could also be inefficient and impractical. Kitchen technology, for instance, had developed too slowly. A curator from the Technological Museum argued in *Hertha* that "vacuum cleaners are still heavy and cumbersome, and we are still kneeling in front of the oven door and trying to balance the oven dish when taking it out of the oven".[49] Therefore, women had to participate in technology development, not only within the domestic realm, but also in other male-dominated areas.

42 Minutes of the FBF's board meeting, 1980-06-01, FBF Main archive, B4:5, RA.

43 Märta Fritz, "Fredrika-Bremer-Förbundets 100 års jubileum," *Hertha,* no. 4 (1984).

44 Märta Fritz, "När tekniker inte kunde vara kvinnliga," *Hertha*, no. 1 (2004).

45 Svante Lindqvist, "Nappflaskor, barnvagnar och kondomer – är det Teknik," *Hertha* no. 2 (1982), 13.

46 Vilma Bergman, "Två barndoms-världar i samma rum," *Hertha*, no. 6 (1978), 21.

47 Bergom-Larsson, 1980 p. 15–20.

48 Maj Wechselman, "Manlig Teknik till döds," *Hertha*, no. 6 (1978).

49 Gunilla Englund, "Ska hushållsrobotarna ta över?" *Hertha*, no. 6 (1978), 13–15.

Articles about computers appeared more frequently in *Hertha* from the late 1970s. The journal editor wrote that computers should not be regarded as almighty machines that dominate us. On the contrary, their purpose should be to make life better for people. The only thing computers could do was to add two numbers and compare them. Nobody should need to know the internal processes of computers to judge whether they are useful, too expensive, whether they force people into an inhumane work pace or whether they are a good or a bad tool. Computers, she continued, tend to give more power to already powerful elites, so women should not be impressed by them, instead they should see through their objectives.[50] In a similar vein, a female physicist argued in *Hertha* that women should set demands on technology, even without fully understanding it. Her means of inspiring women to influence technology was to encourage them to join political parties or create new ones, to educate themselves and to ensure that their children received education in technology and natural sciences.[51]

The voices of highly educated women often had a place in FBF's channels. Eva Boestad, engineer at the Swedish Space Corporation argued that having more women in these types of workplaces would lead to a fairer work environment. She also mentioned that contrary to many other (male) engineers, she did not see her occupation as her main source of identity. She stressed that to be able to see a wider perspective at work, it was necessary to also be a humanist.[52] Boestad herself embodied the argument that women tended to be more people-oriented and were able to put their technical knowledge in context, to see its usefulness for society.

In the 1990s, women's role as consumers was highlighted. The construction manager of the Volvo 200-series mentioned in an interview that her organisation had realised the value of recruiting women for the construction and development unit. She emphasised that the company's view of women had changed. They had come to recognise that women were consumers and demanded certain features in the cars that men had not prioritised to date; that the working environment was better with gender mixed groups and that work was less one-sidedly, technocratically oriented. Thus, the participation of women in the car industry was presented as an example of how women's abilities and experience could be and were used to make profitable technology.[53]

A journalist wrote in *Hertha* that the Internet was often described as an emotionless male toy. However, she continued, "in order to get women to use the internet and learn about technology, it is necessary, unfortunately, that they understand the practical benefits that they can get from it."[54] A year later, *Hertha* published an article about *NetWorking Women*, a network created to help women learn about computer technology. The author argued that women needed to be able to put computer technology in a larger context, to be able to make sense of it and

50 Vera Nordin, "Med kvinnorna mot en ny Teknik," *Hertha*, no. 6 (1978), 33.

51 Vera Nordin, "Dagens pascha," *Hertha*, no. 2 (1982), 4–5.

52 Stina Andersson, "Eva Boestad: En tekniker måste vara lite humanist," *Hertha* no. 3 (1987), 12.

53 Eva Dahlgren, "Kvinnliga konstruktören. Säkerheten främst," *Hertha,* no. 4 (1990), 24–25.

54 Kajsa Wilhelmsson, "Cyberspace för den framåtsyftande kvinnan!" *Hertha,* no. 3 (1995), 23–24.

become interested.[55] In 1997, the W&T group organised an event on women and the Internet for their Autumn programme.[56] The strategy they had used to date, namely, to encourage women to learn about the latest technologies and to find ways to use them to achieve their goals and fulfil their own interests remained, even though the technology had changed.

The goal that the W&T group set from the time of their establishment was to encourage more women to study and work in the technology field. The key to achieve this goal was to find ways to make technology a tool in the service of society, as only then women would stream into technical education, wrote an academic from the Royal Institute of Technology, in the magazine *Ny Teknik*, which was discussed in one of the FBF meetings.[57]

These examples show that for the FBF, women 's social inclination, their interests and abilities were somehow tied to their sex, and this governed their relationship with technology. The idea that men and women had different incentives to use technology was also commonly expressed in relation to computer technology. Society was missing women's ideas, perceptions and demands with regard to technology, which were different from those of men, and women should be involved in the creation of technology, as well as the decision-making process regarding its uses.[58]

While in the early 1970s, concern focused on the uses of technology for war purposes, atomic weapons, pollution and the dangers of computerisation, in the 1980s, concern turned to the broader use of microcomputers and the gendering of the computer-oriented labour market; in the 1990s, attention turned to the Internet. The technologies changed but the strategy remained: women should learn about technology and participate in its creation and evaluation, so as to attach "female" features to it.

The knowledge that the FBF attempted to advance was that men's dominant role in technology had been the result of an active exclusion of women. Women had not been regarded as capable of creating technology because they were considered to be "too interested in people and were not cut out for other aspects of life, therefore, should dedicate themselves to their areas of expertise."[59] Thus, one of the problems identified by the FBF was that society labelled women as unsuitable for technology because of the abilities and interests associated with their gender. Another problem was that many women were reluctant to engage with technology because their limited professional knowledge created powerlessness and hostility.[60]

The idea that men and women were inherently different, which had consequences for the way in which they approached technology, was not rejected by FBF. Instead, FBF used this discourse of difference to promote women's participation in the

55 Anita Boberg, "NetWorking Women avlivar myten om att män kan mer om datorer," *Hertha,* no. 3–4 (1996), 32.

56 Minutes of the W&T group meeting 15-01-1997, FBF Helsingborgskrets F2:4, Helsingborg Stadsarkiv (hereafter HS).

57 Maria Hammarén, "Den kvinnliga frågan till tekniken," *Ny Teknik*, no. 30, July (1990).

58 Tekniken- kvinnans vän eller fiende? Leaflet on Women and Technology Week March 1982, F2:4, FBF Helsinborgskrets, HS.

59 Kerstin Anér, "Lagom teknik kvinnoteknik," *Hertha*, no. 6 (1978), 9.

60 Tekniken- kvinnans vän eller fiende? 1982, HS.

area of technology. The modern industrial society that FBF described was formed by polar opposites: on the one hand were male qualities of rationality, effectivity, impersonality, competition and economic gain, in which the objectives of criteria and profit dominated; on the other hand, was the female perspective, characterised by human consideration, feelings, proximity and experiences. The male value system governed work life and society, while the female system of values governed private life and family.[61] These differences that had hitherto resulted in men's dominance over technology could be used to improve technology and women's status in society. FBF argued that women's interests and abilities did not prevent them from understanding or engaging with technology. On the contrary, women's particular way of thinking could make technology more humane and socially useful. Only by adding feminine features to the definition of technology, could benefits be tangible for the whole of society. Sociologist Rita Liljeström, a popular scholar among FBF members, argued that highly educated men in the area of technology were often unable to deal with simple contexts because they were subject-oriented, whereas women were able to comprehend society, from an individual perspective and in terms of social relations.[62]

Technology had been male-oriented but the time had come to ensure that technological development was no longer life-threatening but also life-preserving. For this purpose, women needed to be involved and needed to acquire both technical knowledge and political power to make decisions on the use of technology.

Circulation of technology knowledge in formal education

In the following sections, I demonstrate the materiality and mediality of knowledge, by empirically observing the places of knowledge and forms of circulation that the FBF used to communicate and disseminate their definition of technology as widely as possible. The places of knowledge described here are linked to formal and informal educational settings. The forms of circulation are related to educational, academic and, in some cases, recreational practices.

According to the FBF, the shortage of women in technology could be mitigated by changes in the educational system. In 1970, the theme of the Congress of the International Alliance of Women was "*Education in the Technological Age*," the same year that FBF member, Edith Anrep, was elected president of the international organisation. The FBF presented their agenda in the international forum and encouraged their sister organisations to work for an education system that questioned society's demands and guaranteed basic rights for women in the technological age.[63] Moreover, the FBF promoted computer education regionally. At the seminar of the Nordic women's organisations, in which the question of new technologies received special attention, a debate was held regarding the consequences of women opting out of education in technical areas. For the FBF, the problem was that in highly industrialised countries, such as Sweden, the best-remunerated jobs were in the area of new technologies or computer technology, and a gender balance in salaries would

61 Bergom-Larsson (1980), 6–10.

62 Notes on Rita Liljeström's talk at the Women's Work Seminar 1978, FBF Main archive F3a: 8, RA.

63 Vilma Bergman, "Utbildning i teknikens tidsålder," *Hertha*, no. 5 (1970), 21–23.

never be achieved if women were not trained in this area. Moreover, for gender equality to be attained, women needed a broader range of occupations from which to choose.[64]

The disadvantages of girls in technical education in schools was exemplified in a series of articles in *Hertha*. Certain secondary school pupils were interviewed for the journal in 1978. The girls shared their experiences and affirmed that they did not receive any support from their school or the career counsellors, when they showed interest in technical studies. On the contrary, they were advised against choosing a technical study area. Despite the obstacles, they followed their preferred career path and were thriving, although their choices were not without challenges.[65] The FBF claimed in these articles that the problems encountered were not necessarily the girls' choices, but those of the adverse school environment.

Career counsellors in schools were often a target group for FBF activities and were considered key actors in creating a responsive environment for girls with technical interests. Moreover, they were considered essential in changing attitudes towards traditional gender roles in educational choices. However, an interview in *Hertha* shows that the view of a career counsellor on the question of women in technical studies was not always helpful in changing selection patterns. These views were considered typical of their time and were shared by many career counsellors across the country. The interviewed counsellor claimed to be supportive of girls who wanted to take a non-traditional career path. He also stated that this was not an easy job as girls cared too much about their appearance and did not want to get dirty. The technology and workshop career paths, he added, were noisy, dusty and troublesome, and girls had a lesser technical interest. The author concluded that a change in attitudes needed to occur among the career counsellors before they could form part of the change.[66]

In the 1990s, the FBF carried out a campaign to achieve equality in schools, which began with a study on the distribution of resources, time and attention among boys and girls in schools. Additionally, gender representations in natural sciences and technology teaching materials were also studied. The FBF reported that boys cost on average 8,400 kronor more per year than girls, received more instruction time and were given more attention by teachers; moreover, women were clearly underrepresented in the area of technology in teaching material. The FBF advised that teachers be educated in gender equality and that such studies be disseminated in other municipalities, in order to make the problem known by the authorities.[67]

The FBF considered schools an important platform for spreading knowledge among pupils and staff regarding the benefits of the participation of women in the field of technology. The participation of the FBF in the public debate through their publications in *Hertha*, their statements in state enquiries and their inputs in state-sponsored projects, school campaigns and conferences, were complemented with the organisation of events on school premises.

64 Notes on Rita Liljeström's talk, 1978, RA.

65 Berti, Bergendahl, "Är Teknik något för dig 'grabben'?" *Hertha*, no. 6 (1978).

66 Mari, "Yrkesvalsläraren som han tror sig vara – och som han är," *Hertha*, no. 6. (1978), 40.

67 Karin Nordström, "Läroböckers bildmaterial ojämlikt," *Hertha* no. 3–4 (1996), 27; Karin Thorsell, "Nytt hopp för skolan," *Hertha* no. 3–4 (1996), 30.

The FBF organised talks in schools, as well as women and technology-themed workdays during which pupils could listen to FBF members and female professionals in the field of technology talk about prospects for girls in this area. They promoted contact between women in technical occupations and students on the technology pathway in secondary school, as well as pupils about to choose their study subjects. The FBF rejected strategies of using rewards for students or school staff when making non-traditional choices. Instead, they believed in the power of role models and brought female managers, engineers and computer experts to schools.[68] These types of activities were common in the work of the FBF in informal education settings, such as their WTD event, during which they also targeted pupils, students and educational staff outside formal education settings.

Circulation of technology knowledge outside schools

Seminars, conferences, talks and forums brought FBF members, scholars and professionals together to offer a message to the audience. A large part of these activities took place outside of the realm of formal education but aimed at creating and circulating computer knowledge primarily through a process of dissemination of information from (mostly female) experts in different areas of computer technology to the general public.

The annual WTD event hosted most of the activities that the FBF organised within the area of technology education. This event was organised since 1979 by the W&T group, the members of which viewed themselves as an informal network and ranged from technology experts to those wishing to influence and make demands on technology.[69] The objective of the group was to engage both men and women in this issue, as well as investigate and analyse the situation of women in the area of technology in education and the labour market, and discuss women's attitudes towards technology. More concretely, the W&T group aimed at proposing measures to increase women's participation in and influence on technological development.[70]

The WTD event had different durations and focuses over the years, but notably, the same purpose: to disseminate an image of women as being creative and technically capable and to inform the general public of women's significant role in the history of technology. The main event was organised in the premises of the Technological Museum, which remained a partner until the group left the FBF in the late 1990s and became a separate organisation linked to the museum. Together, they organised exhibitions that would be hosted at the museum for several months and they often toured around the country.

The first event, which the FBF referred to as *The Big Happening: More Women in Technical Occupations* took place in 1979 and was considered the founding event of the FBF's work with regard to women and technology. The week-long event included exhibitions, competitions, theatre, debates, music and dance, as well as the exhibition *Technology at Home*. In this event, the two engineering associations

68 Notes on the organisation of a theme day in Olympia School by FBF Helsingborgskrets, Nov. 1982, F2:4 FBF Helsingborgskrets, HS.

69 Kvinnor och Teknik-Gruppen flyer, 1988. F2:4 FBF Helsinborgskrets, HS.

70 Letter from the coordinators of the W&T group to its members, September 15, 1981, FBF Main archive, B4:5, RA.

presented an assessment of the situation of women in technology education. Of the 155,000 engineers in Sweden, only 7500 were women, and 76 per cent of female engineers considered that employers chose men as a first option.[71] While the situation appeared dismal, women already working in the technological industry and education could provide some much-needed insights. A sociologist talked about the situation for women in the new labour market and urged women to educate themselves as programmers or computer operators to compete with men for jobs. Two Volvo employees talked about their experiences and the gender equality work that was taking place at the traditionally male-dominated company.[72]

In 1982, the FBF received funding from the Swedish Board for Technical Development (STU) to organise a conference on women and technology. The two-day conference, which preceded the WTD had 400 participants, including women with a technical education background, students in the area of technology, teachers, career counsellors, people from industry, personnel from the employment service and members of engineering associations. The presentations and discussions from this conference were published in the book *Gnistor*, which served as a constant reference in the continuing work of the FBF in the coming years.[73] This event was described in their annual account as the greatest endeavour of the spring.[74]

In 1983, the WTD event was smaller than that of the previous year, but it was followed by the conference *Women and Computers*, in which around 200 women and a handful of men learned about the computerisation of society, computers and their effects on the labour market, especially in the case of women. According to the FBF, the participants were interested both in the theoretical and practical aspects of computers, and it became clear that women needed to receive computer knowledge, to be able to follow computer developments.[75] The conference was organised in cooperation with the study association, *Studiefrämjandet*. Although the conference had a participation fee, as it was carried out without any funding, attendance was high and the FBF even reported profit. The conference was advertised in the largest national newspapers and smaller journals.[76] Conference participants came to the conclusion that women needed to keep up with computer knowledge and computer development. Computerisation entailed many unknown possibilities and risks; therefore, it was necessary for women to be prepared.[77]

This year, formal education was at the centre of the debates. The introductory debate in Stockholm's *Kulturhuset*, called *Technology at School*, was about boys' and girls' chances and attitudes in school. The activities organised at the Technological Museum, which in one day received 300 visitors, gave girls the opportunity to conduct technical experiments independently and to listen to women who worked in technical positions. The concluding debate at the Royal Institute of Technology in

71 Christina Ramberg, "Report from Kvinnor och Teknik-veckan in Stockholm 15–16 March, 1982," Annex to *På väg…: information från FBF Göteborgskretsen*, no. 2 (1982), Royal Library (hereafter KB)

72 Christina Ramberg, "Kvinnor och Teknik- kväll i Gbg," Flyer Göteborgskretsen. (1982), KB.

73 FBF Annual Report1983, B1:4, FBF- Main Archive, Blekinge Archive (hereafter BA).

74 FBF Annual Report 1982, 2, KB.

75 FBF Annual Report 1983, 2,6, KB.

76 FBF Annual Report 1983, 9, KB.

77 FBF Annual Report 1983, KB.

Stockholm centred on the question of whether more women in the technical field would change technology.

The W&T group and their annual activities inspired events all over the country. In 1985, an exhibition took place in Västervik, in which visitors could observe women demonstrating technological tools, such as a home-made computer or the software used in libraries, the employment office or shops. The main organiser of the event claimed to have been inspired by the W&T group and their event *Technology in Practice* the previous year.[78] In 1987, the state-owned telecommunications company, Televerket, helped sponsor the event and exhibited their products. Televerket also set up practical stations, where visitors could learn how to build a telephone, search in the Videotex databases and gain information regarding aids for people with communication disabilities.[79]

The main event of the WTD was organised by the Stockholm branch of the FBF. However, an early invitation was sent out to all branches in the country, asking them to participate and contribute ideas to the content and planning of the activities. Some of the themes of the debates, lectures and seminars were the role of women in the history of technology, visions of the future, women and interest in technology, women in technical programmes, women in research, women in technological occupations, women as inventors, women in the computer society, women in medical technology, women's attitudes towards technology, the advantages and disadvantages of computers for women and women's need for technology.[80]

Many of the WTD activities had a practical orientation and addressed the general public, in particular, young women. In 1982, for example, the FBF set up a computer cabin where girls could try out computers with the help of a guide from a study association.[81] In 1984, The *Technology in Practice* activity showed visitors how to build their own circuit boards and make electrical connections, carry out simple car repairs and chemical experiments and how to make a call on a mobile phone. The event was complemented with talks relating to women in technical occupations and with school counsellors promoting technical education for girls.[82]

In 1993, the programme included mini courses in computer technology and domestic electronics. A national newspaper quoted one of the course leaders as saying that many girls believed that computers would explode if they experimented with them, however, it was not until they dared to play with them that they understood how this technology worked.[83] In 1999, the W&T group organised an event on everyday encounters with technical problems, in which visitors could, among other things, drive an electric car, surf the internet, repair cables and film with a digital camera. Young girls could try out different computer games and act as juries in deciding on the

78 Märta Fritz, "Teknik i Västervik," *Hertha*, no. 6, (1985), 11.

79 Anna-Greta Johansson, "Kvinnor och Teknik – sponsrade temadagar," *Dialogen* 4 (1987), 9.

80 Kvinnor och Teknik group meeting minutes, 1981-09-15, RA.

81 FBF Annual Report 1982, KB.

82 "Tekniken i praktiken. Kvinnor och Teknik 1984," Organised by the Museum of Technology and FBF, programme sheet, F1:138B.18, Telemuseums historiska arkiv (hearafter Telemuseum), National Museum of Science and Technology (hereafter TM).

83 Anna-Lena Haverdahl, "Teknik lockar kvinnor," *Svenska Dagbladet*, October 23, 1993.

best game; they also experimented with making their own homepages.[84]

The interest in computers, which had been particularly high in the second half of the 1980s, dwindled in the 1990s. State funding had by this time disappeared, but the FBF was able to ask private donors for special contributions. The FBF received a donation from the Industry Association for their 1990 event.[85] In the second half of the 1990s, the themes discussed ranged from city planning technology to car mechanics, with a greater emphasis on technical higher education and practical examples from work life, encompassing the computer industry, astrophysics and product development. The speakers and discussants talked about the interesting aspects of their jobs and the social implications of technology.[86]

By the late 1990s the group had created a solid network of groups and organisations from industry, education and civil society, as well as state institutions, that were ready to collaborate with the FBF's activities and sponsor some of their projects.[87] This response shows that the FBF's position on the training of women in technology had become well-accepted and the new knowledge on the role of women in the technological society[88] had gained a foothold in some areas, not least in education and other official domains.

Other activities took place outside the framework of the WTD, as activities relating to women and technology education were spread throughout the year. One example was the *TUFF* (Technology, Education, Girls, Parents) project, which started in 1983 and aimed at encouraging parents to support their daughters in choosing occupations in technology. It was implemented by five different sections in six different Swedish counties in the spring of 1984.[89] The targeted actors were expected to function as a bridge to the general society and the new "converts" from a variety of areas and levels in society, would do their job to attract more women to technology studies and careers. The speakers provided hard facts regarding the current situation of women in the areas of education and the labour market in technology, as well as their vision on the advantages of having more women in technology education, both from the perspective of women and the wider society.

The presentation of role models and networking were two of the preferred strategies to spread knowledge used by the FBF. The events that targeted the general public, many of which addressed young women, in particular, often used women in technical occupations and higher technical studies as role models. They would teach participants how to use computers or specific programmes, as well as how to

84 Kvinnor och teknikgruppen 1979–1999 firar de första 20 åren, anniversary party invitation, F2:4 FBF Helsingborgskrets, HS.

85 Women and Technology group meeting protocols 06.09.1990, and 19.09.1990, F2:4 FBF Helsingborgskrets, HS.

86 Kvinnor och teknikdagar 9–10 november 1996, programme sheet, F2:4 FBF Helsingborgskrets, HS.

87 Letter from Annemarie Skeppare on behalf of the W&T to the participants of the WTD, November 12, 1996, F2:4 FBF Helsingborgskrets, HS.

88 A technological society is one in which "specific technologies dominate our sense of the kinds of problems that government and politics must address, and the solutions that we must adopt." Andrew Barry, *Political machines: Governing a Technological Society* (London & New York: The Athlone Press, 2001), 2. For FBF, computers and IT technology were the dominant technology women needed to grapple with for most of the studied period.

89 FBF Annual Report1983, B1:4, FBF- Main Archive, BA.

build computers. By doing so, new gender roles in the area of computer technology were showcased. The FBF aimed at normalising the view that women's participation in technical areas was possible and desirable. Seminars, talks, exhibitions and other similar activities contributed to building a network of like-minded professionals and workers. The WTD often held specific networking events and talks regarding the importance of cooperation.[90]

Women in technical occupations functioned as a bridge between the FBF and the industry; Volvo and Tetra Laval were two of several companies that sponsored FBF activities and the latter also had connections with Vattenfall Södertörn AB and Lidingö Energi AB. Employees from these companies often participated in the capacity of speakers at FBF events. Every year the FBF invited professional women to talk about their work and the situation regarding women in their workplace and to give advice to women in the audience on how to succeed professionally. The advice ranged from choosing suitable studies in the area of technology to choosing the right marriage partner that would support a woman's ambitions.[91]

In the 1990s, the network initiated by the FBF had grown larger and new organisations joined. In 1992, the *Kvinnor Kan* association organised an event with a similar set-up to the WTD. It included talks and workshops relating to computer technology, and technology companies were present to recruit female professionals. The W&T group helped with ideas and support.[92] Similarly, innovation institutes and organisations, such as NUTEK, WiTEC and the Swedish Inventor Association collaborated with the W&T group in activities designed to promote innovation and creativity, such as the technical invention competition of 1997 to design a product that would be beneficial for Swedish society.[93] Thus, by the 1990s, the FBF had positioned itself as an expert and a crucial collaborator partner for other organisations, interested in promoting women's participation in technological development.

Conclusion

The question of technology became a priority for the FBF in the mid-1970s. The problem associated with technology was, in the view of the FBF, the result of men's domination of knowledge. Men had the monopoly of technological knowledge and decided on its uses. Moreover, the decisions they made were often counterproductive for society. Therefore, it was imperative that women contributed to the creation of technological knowledge. Thus, their aim was to create a new view of technology that included women, so that women could appreciate its potential and take on a more active role in its creation and use.

This reflection on technology took place at a time when the process of computerisation of industry, public administration and social life was taking place. The Swedish state, worried about the likelihood of women's unemployment, took measures to train the population and women, in particular, in computer technology.

90 "Späckade dagar om Teknik," *Dagens Nyheter*, March 21, 1987.

91 Skeppare (1996).

92 Project description of the Technology Square- Kvinnor Kan fair, 28 May,1991; Letter from Annemarie Skeppare to the Women and Technology group", June 24, 1991, F2:4 FBF Helsingborgskrets, HS.

93 "High lowtech idéer som lyfter," Competition advertisement March 1997, F2:4 FBF Helsingborgskrets, HS.

The FBF followed the state's initiative but made sure to promote the participation of women in the creation of technological knowledge through higher level education. This group was not only interested in women's computer literacy but in women's participation in innovation, research, decision making and managerial positions in the industry.

By the mid-1990s, the total number of personal computers was estimated to be 1.25 million, making Sweden one the world's most computer-dense countries. Around 15 percent of Swedish homes had personal computers and the proportion of computer users varied in different sectors of the labour market. In 1990, only 10 percent of people employed in agriculture and forestry used computers, by comparison with 90 percent of people employed in the banking and insurance sector. Computers were used by 58 percent of state employees, compared to 14 percent of those employed in municipalities and county councils. Among male state employees, 54 percent used computers, compared with 64 percent of female employees; among private employees, 36 percent of men used computers compared with 46 percent of women. One in three workers used IT in their work.[94]

In light of these changes, the FBF aimed at establishing a network of women, who were already part of the male-dominated area of technology, either as students, teachers, professionals or politicians. These women constituted a source of new knowledge and by bringing a female aspect to their technology-oriented settings, they were already making an impact on technology. Thus, in their view, by normalising the idea that technology also belonged to women, they were changing old, pre-conceived notions.

During the 1980s, the FBF's ideas relating to technology became increasingly focused on computer technology, although these often included the broader science, technology, engineering and mathematics field. Women could be programmers, gamers or efficient computer users, and this view was circulated in publications, conferences, talks, exhibitions, workshops and all the activities organised within the WTD.

Most of the activities were aimed at guiding women towards university level education, which would lead to a key position in the labour market. However, in order to establish a long-term change, the FBF affirmed that efforts were needed from pre-school education onwards. The FBF targeted all levels of education with their publications, declarations in state enquiries, school campaigns and activities on the premises of educational institutions, as well as conferences addressing teachers, career counsellors and politicians. However, they were also interested in reaching a social consensus by addressing the general public. Their WTD, which took place in museums and other public spaces, such as cultural centres and auditoriums, etc. were open to everyone, although certain activities addressed specific groups, such as the youth, parents, journalists, etc.

Assessing whether the work of the FBF regarding the question of women and technology significantly changed the pattern of women's choices, leading to a more gender-equal distribution of students and workers in the area of computer technology, is beyond the scope of this article and would require further analysis of

94 SOU 1994:118, *Informationsteknologin. Vingar år människans förmåga* (Stockholm: Fritze, 1994).

a different range of sources. However, this analysis shows that the FBF played a role in directing attention towards the gendering of technology and the role of women in technology in the Swedish context. The FBF was attributed a major role by the state in questions related to the education of women in technology and was, therefore, consulted in the capacity of an expert, whenever a change in the curriculum or a project relating to education in technology was being developed.

Moreover, new groups, organisations and networks, including the civil society and educational actors, were formed in the area of education in technology, and these had close connections to the FBF and their W&T group. New and more inclusive knowledge relating to technology and the role of women in the technological society was created and circulated in Sweden, which opposed the notion of technology as an exclusively male endeavour, even though in practice, this was mostly still the case.

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Concluding Remarks

Heather Ellis

While able to trace its origins back several decades,[1] recent years have seen a flurry of activity in an area of historical inquiry consciously styled the history of knowledge. As the introduction to this special issue points out, there are now dedicated research centres, journals and academic societies for the history of knowledge.[2] This renewed interest has also expressed itself in a growing number of publications: books, articles and special issues, which aim to reflect on, develop and promote the field.[3]

One of the biggest challenges that the history of knowledge has encountered is in defining what is meant by "knowledge". One of its conceptual strengths is its ability to act as an umbrella term, able to bring together and, to some extent, overcome some of the most entrenched divisions in historical inquiry. For example, between the history of science (most commonly understood in an English-speaking context as the history of the natural sciences) and the history of humanities, first studied as the history of individual disciplines but increasingly also as a shared form of knowledge under the banner "history of the humanities";[4] these divisions generally represent the conditions and categories of knowledge operating at universities in the late twentieth century when these fields developed as species of historical inquiry; yet they can work to obscure our understanding of knowledge making in the past in periods before the "two cultures" binary was a principal organising category of thought.[5] This confusion of terminology is compounded by the existence of multiple

1 See, for example, Peter Burke, *A Social History of Knowledge: from Gutenberg to Diderot* (Cambridge: Polity, 2000); Peter Burke, *A Social History of Knowledge II: from the Encyclopédie to Wikipedia* (Cambridge: Polity, 2012); Peter Burke, *What is the History of Knowledge?* (Cambridge: Polity Press, 2016); Philip Sarasin, "Was ist Wissensgeschichte?" *Internationales Archiv für Sozialgeschichte der deutschen Literatur* 36, no. 1 (2011), 159–72.

2 For example, the Lund Centre for the History of Knowledge (LUCK) founded in 2020; The *Journal for the History of Knowledge* was established in 2020 and is affiliated with Gewina, The Belgian-Dutch Society for History of Science and Universities; see also the website and blog History of Knowledge – Research, Resources, and Perspectives.

3 See, for example, Anna Nilsson Hammar, David Larsson Heidenblad, Erling Sandmo, Johan Östling, Kari Nordberg, eds, *Circulation of Knowledge: Explorations into the History of Knowledge* (Lund: Nordic Academic Press, 2018); David Larsson Heidenblad, Anna Nilsson Hammar, Johan Östling eds, *Forms of Knowledge: Developing the History of Knowledge* (Lund: Nordic Academic Press, 2020). Cf. Recent work in geography and historical geography, for example, Heike Jöns, Peter Meusburger, Michael Heffernan eds, *Mobility of Knowledge* (Cham: Springer, 2017).

4 See, for example, Rens Bod, *A New History of the Humanities: The Search for Principles and Patterns from Antiquity to the Present* (Oxford: Oxford University Press, 2013); Rens Bod, Julia Kursell, Jaap Maat and Thijs Weststeijn, "A New Field: *History of Humanities,*" *History of Humanities* 1, no. 1 (Spring 2016), 1–8.

5 For the "two cultures" concept, see Charles Percy Snow, *The Two Cultures* (Cambridge: Cambridge University Press, 1969).

meanings of the term "history of science". Understood, as already mentioned, in an English-speaking context, as the history of the natural sciences only, in a German and Scandinavian context, it is often used to refer to the history of all systematic academic knowledge of the kind generated at an academy or university.[6] This is usually where the term is given as a translation of *Wissenschaftsgeschichte* which has a much wider meaning in German. "History of science" is used in this way, for example, in the essay by Andersson in this special issue when he refers to "bringing the history of science into dialogue with the institutional history of schooling."[7]

However, its breadth is also the characteristic which potentially makes the term "history of knowledge" hard to define in practice. Some publications which have appeared under the label of "history of knowledge" have been criticised for including areas so broad and diverse that almost anything could be treated as knowledge. In a thoughtful afterword to *Forms of Knowledge: Developing the History of Knowledge*, a volume of essays published by the Lund research centre in 2020, Staffan Bergwik and Linn Holmberg ask, "What does it add to our historical understanding to study carpentry skills—or religious ritual, public opinion, awareness of contemporary events, or the ability to find your way home—as knowledge rather than as ideas, practices, or capacities?"[8] For the history of knowledge to function as an "integrative and generative"[9] umbrella term, there needs to be a clearer understanding of what "knowledge" means. Personally, I would support (with Bergwik and Holmberg) Lorraine Daston's call to focus on privileged and "systematized ideas and skills."[10]

Another question raised about recent work in the history of knowledge is the extent to which those working in the field have placed themselves and their work within the context of existing literature in other areas of historical inquiry which have been asking questions about the nature of knowledge, knowledge making and mobility in the past for many years such as the history of science, intellectual history and historical geography. There have been calls to try and tie down more concretely what it is that makes the history of knowledge distinct as an approach to the past. What can it add to existing approaches? This is why a special issue like this one which focuses precisely on this question, namely how the history of knowledge connects with and crucially adds to a well-established field such as the history of education, is to be welcomed. While it may seem obvious that the two fields are connected, they have tended to be written at something of a remove from each other, a tendency I have noted elsewhere regarding the history of science and the history of education.[11] One of the reasons for this separation may be the perception that the

6 See Denise Philips, "Francis Bacon and the Germans: Stories from when 'science' meant '*Wissenschaft*'," *History of Science* 53, no. 4 (2015), 378–94.

7 See Andersson, 87.

8 Staffan Bergwik and Linn Holmberg, "Concluding Reflections. Standing on Whose Shoulders?" in *Forms of Knowledge*, ed. Johan Östling, David Larsson Heidenblad, and Anna Nilsson Hammar (Lund: Nordic Academic Press), 291.

9 Johan Östling, David Larsson Heidenblad and Anna Nilsson Hammar, "Introduction: Developing the History of Knowledge," in *Forms of Knowledge,* ed. Johan Östling, David Larsson Heidenblad, and Anna Nilsson Hammar (Lund: Nordic Academic Press), 17.

10 Bergwik and Holmberg (2020), 287.

11 Heather Ellis, "Editorial: Science, Technologies and Material Culture in the History of Education," History of Education, 46, no. 2,(2017). 143-146.

history of knowledge (as is also the case with the history of science) is concerned with knowledge making, formation and production, while the history of education is focused on the transmission or reception of knowledge. The concept of "knowledge transfer" has been highly influential in the history of education in the last two decades, where the mobility of knowledge is conceived as uni- (or, at best, bi-) directional between makers and receivers/users.[12] As Daniel Andersson's essay on the relationship between historiographical knowledge and school history textbooks in this special issue clearly shows, this model fails to do justice to the contradictions, lags and discontinuities which characterise the movement of knowledge in different historical situations. As Michel Foucault has expressed it, knowledge, along with other forms of cultural exchange and communication, operates within "complex systems of restriction."[13] These complexities are better (but still imperfectly) captured by alternative concepts such as "circulation" which still seems to imply an even-paced, balanced movement around a neat circuit which is rarely what we find in the messiness of the past. As this collection of essays makes clear, history of knowledge approaches should aim to "analyse and comprehend knowledge *in* society and knowledge *in* culture" at all stages of its creation, development, reception, adaptation, and transformation.[14]

It is welcome to see these older, yet still influential, ideas of transfer being challenged in recent years, not just by those working within the "history of knowledge" but by scholars in a wide range of different historical fields. We have new, more nuanced frameworks for thinking about the different ways in which knowledge moves, which draw on the work of theorists such as Bruno Latour, Michel Foucault and many others as well as the broader influence of postcolonial and decolonial approaches.[15] In particular, there has been a recognition that unequal distributions of power within the networks and spaces of knowledge making, circulation and adaptation have a significant impact on the ways in which (and the speed/ease with which) knowledge moves. The essay from Marcel Caruso in this special issue is particularly interesting in this light as it explores the change in status experienced by Western pedagogical knowledge when it was introduced in colonial India. Considered a relatively low status knowledge type in the British imperial metropolis, in the context of colonial power structures, Caruso argues, it was valued more highly, undergoing what he interestingly terms a process of "de-subalternisation." We see something similar in the essay by Karen Andreasen and Annette Rasmussen which examines how the perceived value of "knowledge, skills and competences associated with running a household" in Denmark was raised substantially in the period between 1890 and 1940 when they became institutionalised in formal schools of home economics.[16] There appears to have been an associated rise in the status of women who were the

12 See, for example, Jenny Collins and Tim Allender, "Knowledge transfer, educational change and the history of education: New theoretical frameworks," *History of Education Review* 42 No. 2 (2013), 112–118.

13 Michel Foucault, "The Order of Discourse," in *Untying the Text: a Post-Structuralist Reader*, ed. Robert Young (London: Routledge & Kegan Paul, 1981), 62.

14 Lundberg, 4.

15 See, for example, Jöns, Meusburger and Heffernan eds, *Mobilities of Knowledge*.

16 See Andreasen and Rasmussen, 64.

chief educators and students in this field of knowledge, although, as Andreasen and Rasmussen admit, it also served to perpetuate the traditional connection between women and the private sphere. By contrast, the rise of women's technical education, promoted in Sweden in the late twentieth century by the Fredrika Bremer Association, helped to create and circulate "new and more inclusive knowledge relating to the technology society...in Sweden," according to Rosalía Guerrero Cantarell.[17]

I welcome the tripartite division of approaches set out by Björn Lundberg in the Introduction to this special issue – the focus on (i) arenas of knowledge, (ii) forms of knowledge and (iii) knowledge actors. It helpfully captures insights gained from the recent spatial and material turns in historical research as well as from the growing influence of actor-network theory. Overall, they help to create the conditions for a more nuanced, holistic understanding of the way in which knowledge operates. It allows us to bring together productively those two aspects of the history of knowledge which have often been treated separately, the formation or making of knowledge, on the one hand, and the transfer, transmission, framing and adaptation of knowledge, on the other, and to show how they both form part of a much larger whole.

Focusing on the intersection between the history of knowledge and the history of education helps to refine what we mean by the "history of knowledge" as a term; it forces us to be more precise in our definitions and sharpens the idea of "knowledge" as a conceptual tool for understanding the past. In particular, it brings into focus the crucial relationship between knowledge and power. Educational spaces, particularly formal, institutionalised spaces such as the classroom, act as knowledge arenas characterised by very visible and often rigid sets of power relations, where knowledge is communicated, framed and legitimated (not always successfully) through the figure of the teacher, lecturer or instructor. As is mentioned in the Introduction, all the essays in this special issue deal with knowledge within institutionalised education settings (teacher training colleges, elementary school classrooms, public lectures). As such, they are choosing to set some limits, preferring to think of knowledge (although this is not explicitly said) as called for by Lorraine Daston – as "systematized ideas and skills." In making that choice, however, the variety of types of knowledge focused on in the essays makes clear that it still allows for the umbrella function of the term "history of knowledge" to operate. Epistemic hierarchies and the operation of power within and between different types of knowledge are at the centre of several essays including Marcelo Caruso on the status of pedagogical knowledge in colonial India and Karen Andreasen and Annette Rasmussen on the status of home economics as a field of knowledge.

The range of history of education as a field of inquiry is similar to that of the history of knowledge, including, conceptually and semantically, as it does, the full range of subjects which can be taught. It does not restrict itself to the teaching and learning of the (natural) sciences alone or the humanities, for example. Similarly, history of education does not confine itself to a consideration of academic subjects but can, as the essays here show, extend to a wide range of practical and pragmatic instruction formats such as traffic and swimming education. Indeed, a concept which is used on a number of occasions in the essays here (see, in particular, Joakim Landahl's essay

17 See Guerrero Cantarell, 144.

on traffic education in Swedish elementary schools) – educationalization[18] – shows very well how education has been so broad in its semantic range as to be considered a potential means of solving a wide variety of social problems from teenage pregnancy to drug use and traffic deaths.

Considering the history of knowledge and education together can also do much to challenge the idea that the history of education is primarily (or only) about the reception and transmission of knowledge. Through the key concept of mediation which is central to a number of essays (in particular, those by Daniel Andersson and Rosalía Guerrero Cantarell), we see how knowledge is not just transferred but transformed in the arena of the classroom, lecture hall, museum, art gallery or political meeting through the interactions of a complex array of knowledge actors. New knowledge is also generated in these spaces or in any other space of education, formal or informal. Making use of the concept of "mediation" helps us to reconceptualise agency in both the making and movement of knowledge. It is also key that none of the essays restrict themselves to the institutionalised spaces of education they investigate but insist on exploring how knowledge moves between classrooms and other spaces in society. Among others, the essays presented here consider the entanglements of knowledge with colonial structures of power (Caruso); state administrative systems (Garz, Isensee and Töpper; Andreasen and Rasmussen), the police (Landahl), museums, journalists, industry and the general public (Guerrero Cantarell).

Björn Lundberg describes the conceptual approaches adopted in these essays as "eclectic,"[19] but I would suggest that there is actually quite a lot of consistency between them. For example, most of the authors engage closely with the forms and formats of knowledge. They are the focus of the essay by Jona Garz, Fanny Isensee and Daniel Töpper in which they explore what they call "small forms", in their case, pre-printed blank forms designed to collect specific educational data in late nineteenth-century Prussia. Memorably, they describe these forms as "deliberate acts of miniaturisation" and in so doing they get right to the heart of *how* knowledge is made, specifically how information can be turned into knowledge through the acts of "writing down and putting into order."[20] They point, in particular, to the paradox of an act of miniaturisation as they describe the collation of information on the small form enabling "a maximal expansion of reach of knowledge practices."[21] They provide us with an instructive example of how a focus on the *how* of knowledge formation can reveal much about the scales and speed at which these processes operate.

We gain a similar insight from Andersson's essay which shows how what counts as historical knowledge among academics in universities can change much more rapidly than among teachers in elementary school classrooms. School teachers rely on much more heavily formatted, standardised (and therefore more stable) knowledge forms such as textbooks whose design is informed by a very different set of conventions and rationales from those operating in university-based research.

18 On "educationalization," see Marc Depaepe and Paul Smeyers eds., *Educational Research: The Educationalization of Social Problems* (Dordrecht: Springer, 2009).

19 Lundberg, 4.

20 See Garz, Fanny Isensee and Daniel Töpper, 40, 43.

21 Ibid., 43.

This contrast in the pace of change is even more significant when we reflect that many authors of school history textbooks were also academics.[22] Landahl in his study of traffic education in Sweden also focuses on forms of knowledge, identifying a variety of knowledge forms used to teach children about the dangers of traffic including handbooks (which often incorporated relevant newspaper articles), colour images and visualisations as well as physical reconstructions or inscenations of particular traffic situations.

There are still some conceptual questions remaining, for example, precisely how we use the term "embodied" knowledge. In the Introduction, for example, "embodied" knowledge is positioned as a type of knowledge which can be contrasted with theoretical or explicitly stated knowledge, an idea sometimes captured by the notion of praxis, where knowledge exists in the actions/practices of a teacher and is incapable of being expressed in an explicit (textual) form. I would argue that such an understanding of "embodied" can obscure another important sense in which knowledge can be embodied – where it is recognised that knowledge cannot move or flow without being "embodied" within particular social and cultural contexts and within particular people. Knowledge processes – be they knowledge making, knowledge communication, knowledge reception or adaptation – are always embodied in individual people (and groups of people). It is vital, as the field develops, that the history of knowledge does not replicate the tendency of work in other fields which sees knowledge as something free-flowing, which exists (and can be studied as) texts, images and objects, seemingly without reference to people. As David Larsson Heidenblad has written (and his words are quoted in the Introduction to this special issue), the circulation of knowledge in society does not occur by or of itself, but rather because "specific people did specific things at specific times, which triggered chain reactions".[23]

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22 Heather Ellis, "Elite Education and the Development of Mass Elementary Schooling in England, 1870–1930," in *Mass Education and the Limits of State Building, c.1870–1930*, ed. Laurence Brockliss and Nicola Sheldon (London: Palgrave Macmillan), 54.

23 David Larsson Heidenblad, *The Environmental Turn in Postwar Sweden*. Lund: Lund University Press, 2021, 21.

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