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Strikes and Lockouts in Sweden

Reconsidering Raphael's List of Work Stoppages 1859-1902

Karlsson, Tobias

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PO Box 117
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+46 46-222 00 00

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Tobias Karlsson

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Department of Economic History, Lund University
Postal address: P.O. Box 7083, S-220 07 Lund, Sweden
Telephone: +46 46 2227475
Telefax: +46 46 131585

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Strikes and Lockouts in Sweden:

Reconsidering Raphael's List of Work Stoppages 1859-1902

*Tobias Karlsson**

Abstract

This paper presents and discusses a recently digitized, dataset of strikes and lockouts in Sweden for the period 1859-1902. The dataset, which originally was collected by Axel Raphael by retrospectively browsing through newspapers, pre-dates the Swedish official statistics on work stoppages that began in 1903. Whereas Raphael's data have been used to illustrate the long-run development of strikes, labour historians have been hesitant or completely dismissive towards the usefulness of his work. This paper reviews, and deepens previous assessments of Raphael's data and compares his data with the official statistics for the period after 1903. This renewed assessment leads to three conclusions. Firstly, the coverage of the data is much better after 1885 than before. Trends and fluctuations in conflict frequency obtained from Raphael's data for the later period are probably accurate. Secondly, there are also in the later period a lot of missing information in how conflicts are described, for example with regard to number of participants and outcomes. Thirdly, there are good opportunities to complement, and enhance, Raphael's dataset by browsing through more newspapers or consulting other sources.

Keywords: strikes; lockouts; work stoppages; statistics; Sweden; nineteenth century; labour history; digital newspapers; media history

JEL codes: C81; J52; N33

* Department of Economic History, Lund University. E-mail: tobias.karlsson@ekh.lu.se.

Introduction

Industrialization, and the associated transformation of employment relationships, was far from a smooth process. Conflicts, in the form of strikes and lockouts, became frequent and called for the attention of politicians and civil servants. In the late nineteenth and early twentieth century, national statistical agencies began to systematically collect and publish data on labour conflicts. The Swedish official statistics on so-called “work stoppages” (*arbetsinställelser*) began in 1903. From then on, the authorities continuously collected and compiled information on strikes and lockouts. However, there are also a couple of earlier attempts to compile similar data, most notably that of Axel Raphael.

Raphael, an economist and historian, served as the secretary of a public commission on state interference in strikes and lockouts that was appointed in 1899. In this position, Raphael went through newspapers retrospectively from 1859 to 1902 to get an idea of how the frequency, nature and geographical location of labour conflicts had changed over time. The purpose of this paper is to evaluate, and assess the possibilities to revise, Raphael’s data. The dataset, which recently has been digitized, along with the official statistics for the period 1903-1938,¹ may provide valuable clues to the origins and rise of the Swedish labour movement, but has received varying judgements in the previous research.

Raphael’s data has been used in some general syntheses on the long-term development of class relations in Sweden. In *Arbetarklassen i välfärdskapitalismen* (1978, p. 115), Walter Korpi links Raphael’s data to the official statistics for the period 1903 to 1976 without further comments.² In his study of reformism in the Swedish labour movement, Seppo Hentilä reproduces Raphael’s time series, which he claims to be “relatively accurate” (Hentilä, 1979, p. 103).

Modern-day labour historians have been more critical towards Raphael’s list. Klas Åmark (1986, p. 53) establishes that the list “cannot be referred without further notice for any

¹ These datasets have been digitized and geocoded within the project *Från Sundsvall till Saltsjöbaden: Ett regionalt perspektiv på strejker och protester på den svenska arbetsmarknaden* (VR 2014-1491), led by Kerstin Enflo at the Department of Economic History, Lund University. I thank Erik Bengtsson, Jakob Molinder, Kerstin Enflo, Mats Olsson, Jesper Hamark, Gustav Nyberg, Flemming Mikkelsen and participants at *Arbetsarkhistorikermötet* in Landskrona 15-16 July 2017 for valuable comments on previous versions of the manuscript. The dataset (Enflo, Molinder & Karlsson 2019) and a codebook can be obtained through *Svensk nationell datatjänst* (SND 1088). For more information, see the following link: <https://snd.gu.se/sv/catalogue/study/snd1088>.

² For uncommented reproductions of Raphael’s data, see also Korpi & Shalev (1979, p. 166–167), Hirdman (1979, p. 61) and Lundh (2010, p. 128).

purpose”. In the same spirit, Christer Thörnqvist (1994, p. 88) writes “Raphael’s statistics has too many flaws to be good, almost irrespective of what question you pose to the material”. Jesper Hamark (2014, p. 158) call into question the practise of linking Raphael’s data to the official statistics to produce a long-run view of strike development. Flemming Mikkelsen, author of a comparative study of labour conflicts in Scandinavia, warns that:

[...] the value of Raphael’s statistics during the years from about 1867 into the 1880s is relatively limited, why it is doubtful, whether you can make conclusions about long-time trends and relations between strike activity and a number of conflict determinants.

(Mikkelsen, 1992, p. 58, own translation)

Mikkelsen argues that Raphael underestimates the number of strikes for the period before the mid-1880s, which exaggerates the impression of an increasing and more fluctuating strike activity from that point. Still, Mikkelsen agrees with Raphael that the mid-1880s indeed was a turning point in terms of conflict activity and labour organization.³

To sum up, there are three main views on Raphael’s list of work stoppages. First, there are those who regards it as accurate enough to use in order to get an overview of the development of strikes before the era of official statistics. Second, there are those who disregard Raphael completely. Third, there are those, like Mikkelsen, who believe that the list is inaccurate for the former period but reasonably accurate for the latter. In this paper, I espouse the third view. But I also argue that there a great opportunities to improve Raphael’s list, both with regard to the frequency of conflicts, but also with regard to the amount and quality of information on each conflict.

Such an effort would be a major contribution to Swedish social and economic history, as it influences our understanding of when and where (in terms of occupations and geography) the labour movement actually had its breakthrough. Can we trace the origins of the Swedish labour movement to the wave of local union formation in the 1880s, as is commonly thought, or do we have to push back its origins to an earlier phase, as suggested by Rolf Karlbom (1967)? Did handicraft workers play a leading role as initiators of conflicts until 1900, as suggested by Jane Cederqvist (1980)? What did patterns of labour conflicts actually look like outside Stockholm and Norrköping, the most well-research locations in this regard? The current paper will not settle these long-debated questions, but will provide a

³ In an appendix, Mikkelsen (1992, p. 437) also makes a more positive assessment of Raphael’s work.

better foundation for how to approach them. Moreover, Raphael's list can and should become a building block in the recent research on "contentious politics", where strikes are studied along with other forms of popular protests (Mikkelsen, Kjeldstadli, & Nyzell, 2018). In this strand of research, where the use of quantitative sources and methods so far has been limited, Raphael's list is of particular interest as it spans a time period that is thought of as a transition phase between an "old" and "new" repertoires of collective action.

More generally, Raphael's list is an early example of a data set on labour conflicts at a micro level, which is of great importance for strike research. As pointed out by Sjaak van der Velden (2012), micro data allows researchers to construct variables that are relevant for the studied problems, instead of having to rely on the cross-tabulations of official statistics.⁴ Moreover, as also pointed out by van der Velden (2006), micro data on work stoppages that include both strikes and lockouts, like Raphael's, are particularly valuable.

Finally, by discussing Raphael's list of work stoppages, the paper contributes with a better understanding of the pitfalls and possibilities of using newspapers as a source.

Although newspapers have not been the main source for historical strike research (van der Velden, 2012), it has for some decades been one of the most important sources for quantitative research on conflicts and social protests more generally (Earl, Martin, McCarthy, & Soule, 2004; Franzosi, 1987; Martin, 2005). Recent advances in digitization and machine reading of text masses give reasons for historians and social scientists to reconsider newspapers as a source of socio-historical data (Franzosi, 2017).

The paper begins with a background to Raphael's list of work stoppages. Thereafter follows comparisons with other datasets that have the same, or partly the same, chronological and geographical scope as Raphael.⁵ Some of these datasets are contemporary to Raphael; others are the results of later research. The main contribution of the paper is, however, a number of comparisons the periods 1885-1902, covered by Raphael, and the period 1903-1908, covered by the official statistics.

⁴ The International Institute of Social History (IIHS) administers a hub on labour conflicts around the world. See <https://collab.iisg.nl/web/labourconflicts/datafiles>. Adding Raphael's list of work stoppages for Sweden would be a substantial contribution to the currently available data. There are also some micro data on labour conflicts that have been used in research but are not available at the IIHS hub. See for example Card & Olson (1995) and Huberman & Young (1999, 2002).

⁵ Note that I do not discuss Raphael's description of specific conflicts. Such an avenue would of course be possible to pursue since some conflicts, such as the Sundsvall strike in 1879, has received considerable scholarly attention.

The origins of Raphael's list

Labour conflicts became a growing concern in the late nineteenth century in many parts of the industrializing world. In 1899, the Swedish Department of Civil Issues estimated that 15 strikes in the three preceding years (1896-1898) had resulted in a loss of 175,600 working days. In the following year, statistics on strikes and lockouts for a more extended period, 1886 to 1900, was published. These data had been collected by Otto Dalkvist from newspapers and trade journals (Dalkvist, 1900, 1901).⁶ Work stoppages were associated with substantial costs for employers, workers' families and third parties. Towards this background, the Swedish Parliament appointed a committee to look into the issue of how to foster more peaceful conditions in the labour market through mediation and conciliation.⁷ Raphael served as the secretary in the committee.⁸ Besides authoring a review of conciliation and arbitration in other countries, Raphael also collected statistical data on work stoppages in Sweden for the period 1859-1900. The purpose with this part of the inquiry was to compile empirical support for the importance of work stoppages over time. To achieve this purpose, Raphael did a "complete review of some daily newspapers (mainly *Göteborgs-Posten*, *Stockholms Dagblad* and *Social-Demokraten*, for some work stoppages also others), at least one for various parts of the period" (*Förliknings- och skiljenämndskomiténs betänkande*, 1901, p. 144).

With regard to the number of work stoppages, Raphael regarded his review as "rather complete" (*Förliknings- och skiljenämndskomiténs betänkande*, 1901, p. 144).⁹ Based on his failure to find any work stoppages in the years 1859-1862 and only one per year in the period

⁶ Dalkvist had a background as woodworker, but was at the time a published author and regular writer for *Ekonomisk Tidskrift*, the journal of Swedish economists. He would later become as a newspaperman and editor.

⁷ Notably, the problem with work stoppages was mainly described from an economic perspective rather than as a danger to society. In the motivation for the mentioned committee, it was written that: "Med våra mindre utvecklade industriella förhållanden har den ekonomiska intresse motsatsen mellan arbetsgifvare och arbetare i Sverige ännu icke antagit den hotande och samhällsfarliga karaktär, som densamma inom flera af de större och äldre industristaterna uppvisar." Still, the committee regarded that work stoppages in Sweden "often enough" should be seen as "betänkligt störande af samhällets lugna ordning" (*Förliknings- och skiljenämndskomiténs betänkande*, 1901, p. 16).

⁸ Raphael had a PhD in history and had served as a secretary in a committee on land ownership (*Jordbrukslägenhetskommittén* 1891—92). Around the turn of the century 1900 he was associated to *Studenter och arbetare*, an organization which aimed to reduce class conflicts and which later was replaced by *Centralförbundet för socialt arbete* (CSA). In these circles he came into touch with people such as Gustaf Cassel, Johan Leffler, Agda Montelius, Anton Nyström, Gustav Sundbärg and G H von Koch (Wisselgren, 2000, p. 262–263). Ideologically, Raphael was critical towards Marxism and came into disagreement with Hjalmar Branting (S. O. Karlsson, 2001).

⁹ In Swedish: "temligen fullständig".

1863-1865, Raphael concludes that "the era of strikes begins with the 1870s" (own translation, *Förliknings- och skiljenämndskomiténs betänkande*, 1901, p. 144).

With regard to other dimensions of his review, such as the duration and number of involved workers, Raphael was more cautious. Even though newspapers typically would comment upon work stoppages, including relatively minor ones, they would do so very briefly creating a list of strikes with many missing values on certain variables. Therefore, Raphael regarded his list as "a first guide for the future researcher, who in detail seeks to account for the history of Swedish work stoppages" (*Förliknings- och skiljenämndskomiténs betänkande*, 1901, p. 145). The future researcher could, he continued, add information to the list from local newspapers or other sources.¹⁰ That there is such a scope is also evident already when comparing Raphael's data with Dalkvist's for the period 1886-1902.

Dalkvist's investigations

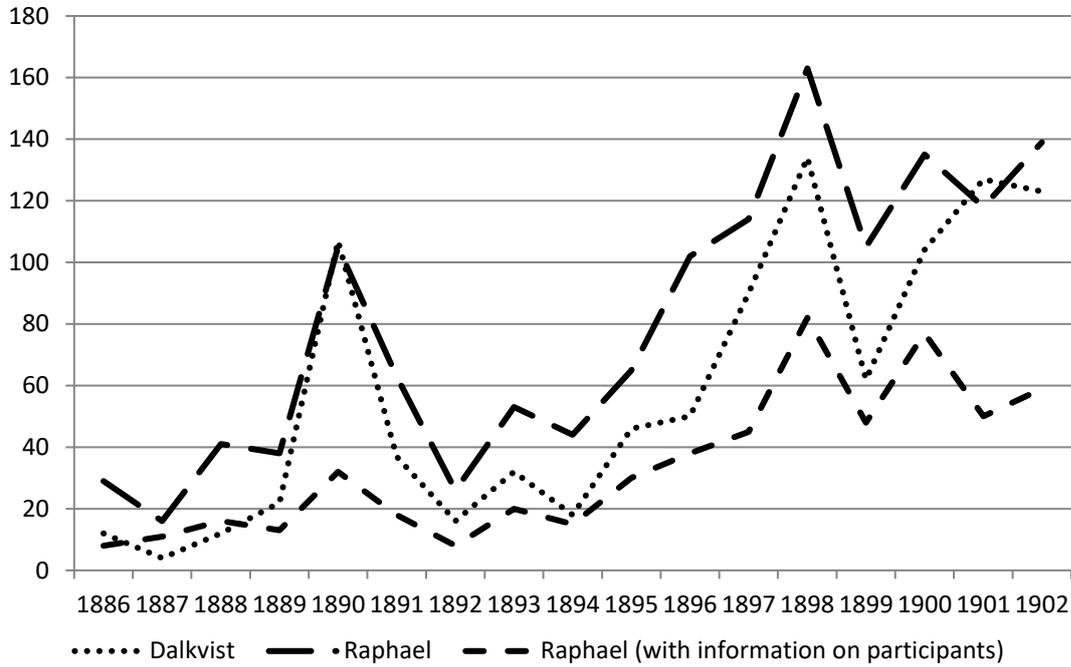
As seen in figure 1, Raphael reports higher numbers of work stoppages for most of the years compared with Dalkvist.¹¹ That is because Dalkvist only included strikes and lockouts for which the number of participating workers and the duration of the conflict was known. But as also seen in the figure, Raphael's number of work stoppages with information on the number of workers is substantially lower than Dalkvist's. For the year 1898, Raphael has information on number of workers for 82 work stoppages, whereas Dalkvist has the same information for 134 work stoppages. Still, the variation over time of the two series is highly correlated, as observed by Mikkelsen (1992, p. 436).¹²

¹⁰ This is why Raphael published his entire list of work stoppages rather than just aggregates of the number of work stoppages and why he did not summarize his information on aspects such as number of participating workers or duration.

¹¹ There are, however, two exceptions: 1890 and 1901. Dalkvist's higher number in 1890 is due to his inclusion of about 80 "smaller and shorter" work stoppages in agriculture (*Förliknings- och skiljenämndskomiténs betänkande*, 1901, p. 17).

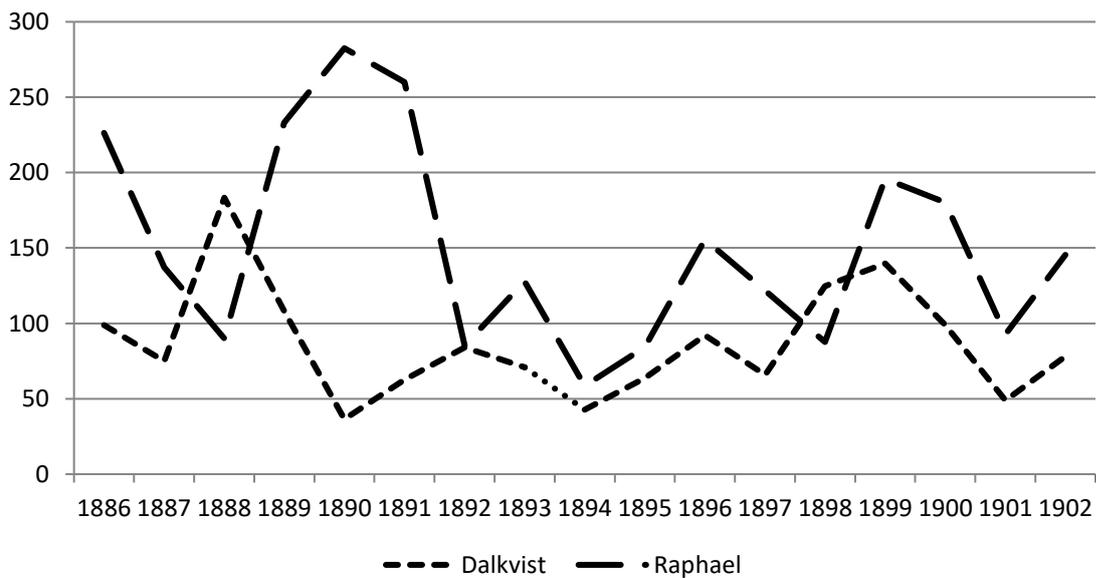
¹² The correlation coefficient is 0.96.

Figure 1. Number of strikes and lockouts 1886-1902 according to Dalkvist and Raphael, respectively



Source: Arbetsstatistik E:1 (1909, p. 328).

Figure 2. Number of participants per work stoppage 1886-1902 according to Dalkvist and Raphael



Source: Arbetsstatistik E:1 (1909, p. 328); Mikkelsen (1992, p. 435–436)

Figure 2, which compares the number of participants per work stoppage reported by Dalkvist and Raphael, shows that Raphael typically reported higher numbers. For many years, the difference is substantial. In 1890, for example, Raphael's average number of workers exceeds 280, whereas Dalkvist's average is less than 40. Recalling from figure 1, this was a year when the two authors reported the same conflict frequency. This is suggestive for the nature of bias in Raphael's list and similar works. If you go through newspapers extensively for extended time periods and with the prime ambition to count the number of work stoppages you are more likely to find information on additional conflict dimensions, such as number of participants, for big conflicts. Although Dalkvist used a similar methodology, he used trade journals, in addition to newspapers. Obviously, this additional source made a significant difference in capturing smaller conflicts.

The labour statistical surveys

The last years of the nineteenth century did not only see an increased interest in labour conflicts, but also in "the social issue" more generally. The Ministry of Commerce (*Kommerskollegium*) initiated a series of labour statistical surveys in the late 1890s. These surveys covered four industries: the bakery industry (Leffler, 1899), the tobacco industry (Elmquist, 1899), the mechanical engineering industry (Elmquist, 1901, 1904) and the printing industry (*Undersökning af tryckerier och därmed förenad handtering i Sverige.*, 1909). Separate questionnaires were handed out to employers and workers. Labour conflicts were not included in the survey of the bakery industry but appeared as an explicit theme in the following surveys. Of these, Henning Elmquist's (1899) report on the tobacco industry is of particular interest, since it was completed before Raphael's work.¹³

The tobacco report featured a section on conflicts and a table showing numbers of workers that had experienced strikes and lockouts. The table is not directly comparable with Raphael's list, but the narrative comments on the major conflicts in the report can easily be compiled and compared to Raphael. Both sources mention 13 conflicts in the tobacco industry in the period 1888-1898, of which nine obviously referred to the same events. The stated purposes of these conflicts are basically identical in the nine conflicts. In other regards there are discrepancies, both concerning the amount of details and the content. Raphael provides more details on timing, duration and number of participants whereas Elmquist (1899) more

¹³ Elmquist (1904, p. 230) explicitly refers to Raphael when discussing conflicts in mechanical engineering, particularly for the period before 1890.

often reports results (in six out of the nine overlapping cases, compared to Raphael's four). Although the absolute number of cases is small, this comparison suggests that there is scope to add information to Raphael's list – both in terms of new events and new information on already known events – from various secondary sources.

An interesting aspect of the history of the tobacco industry in the relevant period is that it contains one of the first big showdowns in Sweden between organized labour and capital. In 1896, the Tobacco Workers' Union launched a strike in Gothenburg for minimum wages (Karlsson, 2014; Lindbom & Kuhm, 1940). The Cigar Manufacturers' Association responded with a lockout, demanding the workers to dissociate with the union. Thus, the conflict became a fight over the workers' freedom of association and spread to several factories and locations across the country. Over 1,000 workers may have been involved. Both Raphael and Elmquist have picked up the 1896 conflict and basically agree upon its timing, duration, causes and outcome. Raphael classifies the outcome as a compromise, which resonates well with the description in Elmquist. However, in one key aspect the descriptions do not correspond: Elmquist clearly points out that the conflict spread as a lockout, Raphael does not.

Previous assessments of Raphael's list

Though probably aware of the shortcomings of Raphael's list of work stoppages, early generations of social and labour historians did seldom discuss the quality of this dataset in great length. In his history of the Swedish Federation of Blue-Collar Workers (*Landsorganisationen*), Ragnar Casparsson (1951, p. 18) uses Raphael's figures for the years 1865-1889 "to give an impression of the strike frequency" before widespread unionization. When discussing labour conflicts in the 1870s Tage Lindbom notes that Raphael reports five strikes for the year 1871 and adds, in passing, that "[t]he actual number should have been at least the double" (Lindbom, 1938, p. 18).¹⁴ When declaring that he has studied 60 strikes for the period 1871 to 1875, Lindbom does not remind that Raphael for the same years reports just 36 work stoppages (Lindbom, 1938, p. 20; Mikkelsen, 1992, p. 437). Another example is Rolf Karlbom (1967), who studies popular protests (including strikes) in the period 1793 to 1867. By using official sources, complemented by newspapers, Karlbom identifies and

¹⁴ A view similar to that of Lindbom is found in Jörgen Björklund's (1976, p. 41) study of strikes in the saw mill industry in the county of Västernorrland. For the 1870s, Björklund observes that [m]any work stoppages have thus not been included in [Raphael's] list" and mention some conflicts that have been documented in other sources.

describes work stoppages that predate Raphael's first observations with decades and how the actual word 'strike' became established in the 1840s. Karlbom (1967) mentions Raphael, but does not put his own findings in relation to Raphael's.¹⁵

Jörgen Westerståhl (1945, p. 22) is more explicit in his critique of Raphael, stating that the list is "very incomplete", but adds that the list is probably based on a more solid ground from the mid 1880s onwards as the labour movement began to publish their own newspapers. Christina Gynnå and Eva Mannheimer (1971, p. 60) makes a similar assessment of Raphael, stating that his list of strikes is "relatively unreliable especially during the first decades", but nevertheless use the list to study strike activity and outcomes of different worker categories, after complementing it with information from "other sources".

Local studies

The main evidence backing up the forceful criticism against Raphael mentioned in the introduction comes from two local studies: Jane Cederqvist's study on Stockholm and Ingemar Johansson's study on Norrköping.¹⁶

Cederqvist looks into the political mobilization of the working class in Stockholm in about the same period 1850-1909. Cederqvist goes through five newspapers systematically and discovers more strikes than Raphael. Whereas Raphael reports 189 strikes in Stockholm in the period 1859-1899, Cederqvist finds 266. Raphael's numbers seems to be particularly low for the 1860s and 1870s. Cederqvist also comments upon how Raphael describes individual conflicts, writing that "the information on duration is more or less generally wrong and often also that on the number of participants" (Cederqvist, 1980, p. 141). According to Cederqvist, Raphael is typically using the date of the first mentioning of a strike as its starting date. Moreover, Cederqvist notes that many strike observations in Raphael's data is missing information on one or more variables. Cederqvist concludes that Raphael's data is "extremely inadequate" (Cederqvist, 1980, p. 141).¹⁷ In here study, Cederqvist also makes interesting comparisons between newspaper data and data found in trade union archives, concluding high correspondence for information on work location and occupation, relatively high correspondence with regard to information on duration and size. Cederqvist shows that the big

¹⁵ In a later project, on legal sanctions against strikers, Karlbom (1979) relates explicitly to Raphael. More on that below.

¹⁶ Mikkelsen (1992, p. 437-438) makes similar comparisons between Raphael and the two mentioned studies.

¹⁷ In Swedish: "ytterst bristfällig".

problem with newspapers as a source of conflict data is their incompleteness of information and that this “description bias” varies over time. So, whereas Cederqvist could find complete information in newspapers on number of participants and duration for only about 60 percent of the strikes in the 1850s and 1860s the equivalent shares in the 1880s and 1890s were 82 and 73 percent, respectively (Cederqvist, 1980, p. 144).

Table 1. Number of strikes in Stockholm 1859-1899

Period	Raphael	Cederqvist	Raphael/Cederqvist
1859-79	11	32	0.34
1880-89	46	64	0.72
1890-99	132	170	0.77
Sum	189	266	0.71

Source: Cederqvist, (1980, p. 141).

For Norrköping, a centre of the Swedish textile industry, Johansson finds 92 strikes in local newspapers in the period 1870-1902, which may be compared with the 47 strikes mentioned by Raphael for the same period and location. Johansson concludes that Raphael’s data is “incomplete and more specifically that “[t]he most serious shortcoming of Raphael is that a great number of strikes have been omitted and these unrecorded events vary depending on time period and part of the country” (Johansson, 1982, p. 28). In line with Cederqvist’s results, Johansson’s study shows that the undercounting in Raphael was greatest in earlier decades and was reduced towards the turn of the century 1900. However, the reduction was not necessarily gradual; both in the case of Stockholm and Norrköping the size of undercounting may have changed substantially from one period to another. Furthermore, a comparison of Johansson’s and Cederqvist’s studies also shows that Raphael’s undercounting is greater for Norrköping than for Stockholm; indicating the possible importance of distance between a newspaper and the location of the conflict.

Table 2. Number of work stoppages (strikes and lockouts) in Norrköping 1870-1902

Period	Raphael	Johansson	Raphael/Johansson
1870-1887	3	13	0.23
1888-1890	4	11	0.36
1891-1893	6	16	0.38
1894-1897	18	29	0.62
1898-1902	16	23	0.70
Sum	47	92	0.51

Source: Johansson (1982, p. 320)

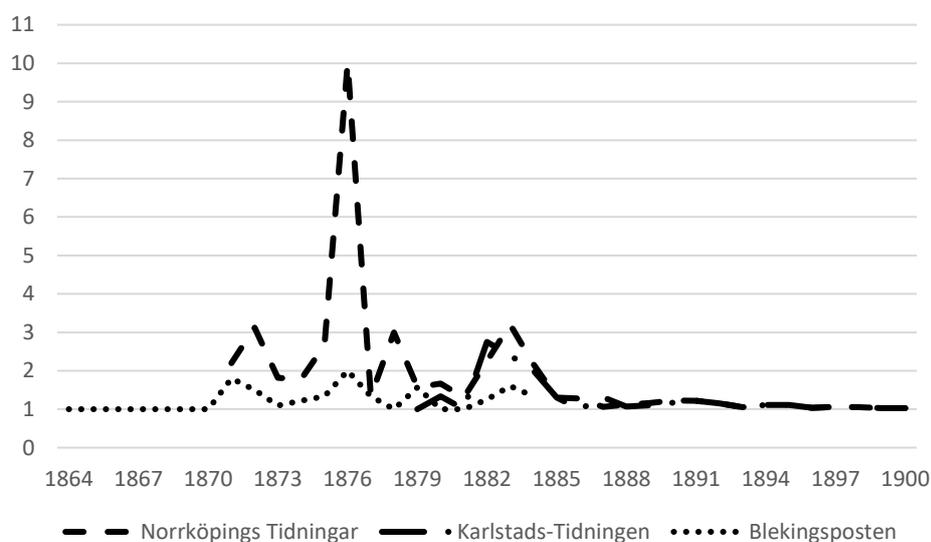
The studies of Cederqvist and Johansson, and others, are valuable for assessing Raphael but they are also in themselves limited in the sense that they have not published their data in the same form as Raphael. Since they only report aggregated numbers and not data on individual strikes, Cederqvist and Johansson cannot be used to complement Raphael's list. Although the findings of Cederqvist and Johansson remind of the failings of Raphael, indirectly they also shows the opportunities to add to and complement his work through the use of additional sources. With their local delimitations, Cederqvist and Johansson can go through sources of different nature. For the purpose of creating a dataset with national coverage, however, it would be more plausible to simply add more newspapers to Raphael's selection. After all, his selection of newspapers represents only a minor proportion of all newspapers issued in late nineteenth-century Sweden. The question is, however, how much can be gained by studying additional newspapers?

Adding more newspapers to Raphael's selection

Karlbom (1979) provides important insights in this matter. In this study he has two newspapers – *Norrköpings Tidningar* and *Karlstad-Tidningen* – browsed through in search for strikes. Neither of these newspapers were used by Raphael. *Norrköpings Tidningar* has eighteenth-century roots and was a conservative newspaper in one of Sweden's major industrial cities at the time (characterized by textile production). *Karlstad-Tidningen* begun in 1879 and was located to a middle-sized city in a saw-mill district with some notable mechanical engineering establishments.

Karlbom counted the annual number of strikes in the respective newspaper that were not mentioned by Raphael and published two additional series of work stoppages, one were Raphael's list was augmented by events encountered in *Norrköpings Tidningar*, another where the list was augmented by events from *Karlstad-Tidningen*. Figure 3 shows the ratio of the augmented series and Raphael's original series (represented by the value 1). As clearly shown in the figure, adding observations from one newspaper may have a huge effect on the annual frequency of work stoppages before 1885, but not after. In the most extreme year, 1876, Raphael reports one (1) strike and *Norrköpings Tidningar* ten (10). In most years before 1885, the ratio is between 2 and 3, suggesting that the strike frequency may have been two or three times as high as the level reported by Raphael. Thereafter the ratio approaches one. This pattern adds substance to statements by previous researchers that the undercounting of strikes is considerably less of a problem in the later period.

Figure 3. The annual effects of adding observations from one newspaper to Raphael's original list



Source: Own calculations based on data from Karlbom (1979, p. 202) and the database *Svenska dagstidningar*.

In recent years, conditions to add to Raphael's original work have changed completely with the digitalization of Swedish historical newspapers (Jarlbrink, Snickars, & Colliander, 2016). In 2014, the Swedish Royal Library made a selection of historical newspapers searchable in digital form. This corpus has then been extended and the plan is to include all Swedish newspapers published until 1903. Instead of browsing through newspapers physically, it is

now possible to browse or search digitally. At the moment, the most efficient method seems to be to search on relevant terms, within a particular publication, and thereafter check whether the hit refers to an actual work stoppage within Sweden (or the relevant geographical unit of interest).

To try out this method, I made searches on the terms ‘strike’, ‘strejk’ and ‘arbetsnedläggelse’, in the newspaper *Blekingsposten*. I choosed this newspaper because it was issued in a city – Karlskrona – that is not usually associated with an early development of the labour movement (Hilson, 2001). *Blekingsposten* existed in the period 1852-1884. From 1864, it was openly declared as *frisinnad*, which is usually understood as social liberal, often with connections to popular movements, including the labour movement.

My search revealed that at least one of the search terms were mentioned in 163 pages in *Blekingsposten* from 1864 to 1884. About two thirds of the hits referred to events that had taken place outside Sweden, to more general discussions on labour conflicts, or to phenomena outside the labour market. However, 52 hits referred to 48 domestic labour conflicts that were ongoing or had taken place.¹⁸ Of the 48 conflicts only half also appear in Raphael’s list, which identifies 86 conflicts until 1884 (se table A3). Thus, adding one local newspaper increase the total number of strikes in the period 1859-1884 by 28 percent. This is of course a significant difference, but far from the difference found by Karlbom when browsing through *Norrköpings Tidningar*. This suggests that for the period before the mid-1880s, the coverage of labour conflicts varied substantially between newspapers, perhaps due to the conditions at the location. A newspaper in a major industrial city such as Norrköping would cover more strikes than a newspaper in less industrialized locations. This does not mean that local newspapers only covered local conflicts. Even *Blekingsposten* wrote about strikes that took place on distant locations, within and outside the country. The reports were often based on, or directly copied, from other newspapers, which was common practice at the time. This practice means that there are decreasing returns to go through all mentionings of strike-related terms in the corpus of digitized newspapers, at least until more elaborate methods for machine-based reading can be applied on the corpus in question.

A delicate matter that will arise when going through additional newspapers is how to handle slightly deviant or directly contradictory descriptions of events.¹⁹ For example, in my

¹⁸ Thus, in four cases, the same event was mentioned more than once. In addition, the newspaper sometimes reported on how workers were considering going on strike. These events have not been included in the 52 hits mentioned above.

¹⁹ For in-depth studies on the coverage of labour conflicts by newspapers with different political leanings, see Nyzell (2009) and Ekelund (2012). Referring to a conflict in Malmö in 1926, Ekelund concludes that the social

study of *Blekingsposten*, I encountered a strike among brick layers in Stockholm who protested against wage cuts. According to the report, a group of 350 to 400 workers marched to face the employer, but were met by a police officer who encouraged the workers to appoint a delegation to negotiate. This was done “[...] and after one of the persons, which had accomplished the [wage] cut had left with the police officer, the brick layers calmly removed themselves and was dispersed to return to their work” (own translation).²⁰ Based on the above information it is hard to tell whether the brick layers succeeded in their attempt to stop wage cuts, if they had to accept the employers terms or if some kind of compromise was made.²¹ In table A3, I choosed to code the outcome as a loss for the workers, but I also note that it could have been a compromise. Raphael, on the other hand, describe the outcome as a victory for the workers.

Apart from such problems, searches in a contemporary local newspaper add information to cells that Raphael has left blank, as well as information of a kind that he did not systematically collect. In the above-mentioned example of the brick layers in 1869, we may, for example, in addition to a description on how the interplay between workers and employer looked like and the involvement of a third party (the police officer), also learn about prevailing piece rates for the occupation in question. Other reports includes details of the work places involved in the conflict, how conflicts could be related to each other or the visit of a socialist agitator, the workers’ behaviour and characteristics (for example in terms of age and sex), the occurrence (or non-occurrence) of violence, and so on.

In any case, I believe that there are significant returns to adding more newspapers to Raphael’s selection. The findings above also indicate that the researcher interested in pursuing such a task needs to carefully consider what newspaper to add. The researcher also have to be aware that there are likely biases in newspapers’ coverage of labour conflicts. Conflicts in certain sectors may get more attention than others. Small conflicts of brief duration may, for example, pass unnoticed, whereas conflicts that affect many workers and employers for

democrat newspaper *Arbetet* claimed that the workers’ won “substantially” higher wages, whereas the right-wing newspaper *Skånska aftonbladet* claimed that the workers basically accepted the employer’s offer. However, it cannot be assumed that newspapers were equally biased in the nineteenth century. According to media historians, the Swedish daily press underwent a transition from being focused on straight news stories to an increased emphasis on opinion journalism in the early twentieth century (Lundström, 2004; Lundström, Rydén, & Sandlund, 2001).

²⁰ In Swedish: [...] och sedan den ena af de personer, som åstadkommit nedsättningen afrest med polismästaren, aflägsnade sig murarne i all sköns lugn och skildes åt för att återgå till sina arbeten”. *Blekingsposten* 9 July 1869.

²¹ The problem to classify the outcome of work stoppages does not only apply to data from newspaper reports. For a discussion of how to understand ‘compromises’ in particular, see (Enflo & Karlsson, forthcoming).

extended periods receive more attention. These issues are also worth considering when comparing Raphael's list to the official statistics on work stoppages from 1903, which is only partially based on newspapers.

Linking Raphael's list to the official strike statistics

As mentioned, aggregates of Raphael's list of work stoppages has previously been linked to the official strike statistics. Hamark (2014, p. 158) is explicit in his critic of this practice:

Even though this is a tempting procedure for analyzing long-term changes, I do not believe in it: the means of data gathering up to 1902 differs from the following period, and it is hardly valid to transform the two diverse series into a single series.

I agree with Hamark that linking pre- and post-1903 data on work stoppages should be done with caution. Still, it may be informative to link the series in order to assess how big impact the changed procedures and institutional context of data collection had.

It is indeed correct that methods for collecting conflict data changed in 1903. From this year, a state agency, *Kommerskollegi afdelning för arbetsstatistik*, took responsibility for continually covering and collecting information on strikes and lockouts. As Raphael, the employees at the agency went through newspapers, numbering to 5, but in contrast to Raphael, the employees also went through about 40 trade journals (*fackliga tidskrifter*).²² Upon encountering a conflict report in a newspaper or journal, the employees sent out questionnaires to involved organizations, or to local agents. These agents, magistrates in cities and municipality chairmen in the countryside, also compiled lists of work stoppages every quarter that could catch conflicts that went unnoticed in newspapers and journals.

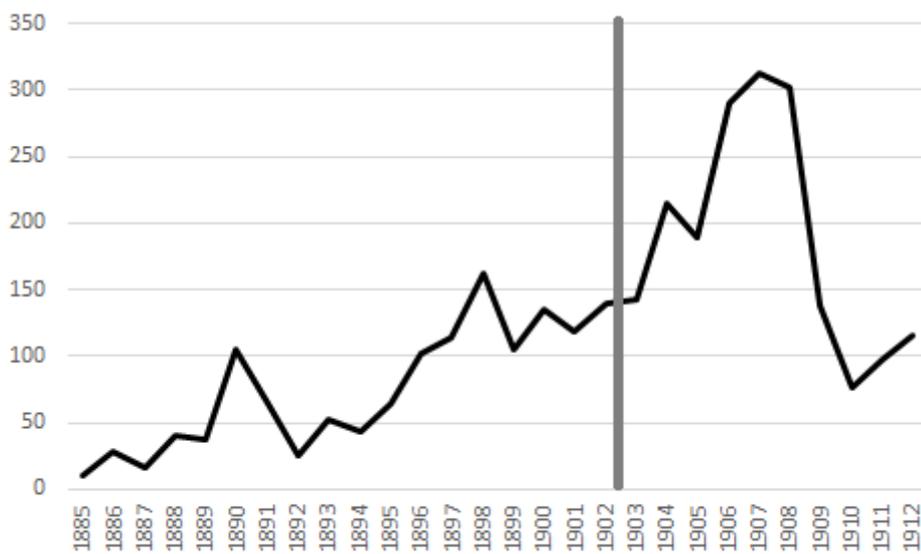
Based on a retrospective inquiry made by the Transport Workers' Union in 1906, Thörnqvist (1994, p. 89) establishes that the reliability of the official statistics became better after 1903. In an international perspective, the official Swedish strike statistics has been considered of high quality. Mikkelsen (1992, p. 441), for example, emphasizes its "high reliability, gathered and processed by a very qualified department" (own translation) and notes that the Swedish statistics, unlike many of its equivalents, aimed to capture conflicts in all industries, irrespective of their size and duration. As pointed out by Åmark (1986, p. 53)

²² These journals, can be seen as a reflection of the growing number of union federations, were not available for Raphael or had just recently been founded when he compiled his list.

and Hamark (2014, p. 159–160), this aim may not always have been realized. Moreover, scholars disagree on whether the Swedish official statistics include political strikes.²³

This latter aspect is probably not of great source of inconsistency since it does not seem like Raphael counted political strikes. The question is whether there are major breaks in the frequency and nature of conflicts for the pre- and post-1903 periods? In the following, I compare 1885-1902 with 1903-1912, that is the period for which Raphael’s data is better with the first period of official statistics.²⁴

Figure 4. Number of work stoppages before and after 1903



Source: Own calculations based on data from Enflo, Molinder & Karlsson (2019).

As seen in figure 4, there is no sudden jump upwards in the number of strikes and lockouts between 1902 and 1903, which is what I would expect to see considering that the bigger apparatus of data collection after 1903. Moreover, the year 1902 is not a peak year in Raphael’s series, but one in a row of observations at similar level. At least for the years immediately before 1903, it seems like Raphael’s method of data collection actually gave a similar result as the official statistics. This may of course be a coincidence, but a plausible hypothesis is that the coverage of strikes and lockouts in Swedish newspapers improved

²³ Mikkelsen (1992, p. 154–155) suggests that many of the strikes in 1917–18 were driven by political motives, whereas Hamark (2014, p. 160–163) bring forward examples of political strikes that were not included in the statistics.

²⁴ From 1913, the National Board of Health and Welfare (*Socialstyrelsen*) took responsible for collection of data on work stoppages.

gradually over time, particularly after the mid-1880s with the emergence of a labour movement press.²⁵ The upward trend in Raphael's data from 1885 onwards should probably be smoother, which means that there must have been a more considerable increase in an earlier phase.

Table 3. Summary statistics of Raphael's data on work stoppages in Sweden 1859-1902

Period	N	Share of observations with information on							
		Year	Start date	End date	Location	Occupation	Purpose	Participants	Result
63/69	11	1.00	0.91	0.27	1.00	1.00	0.36	0.00	0.55
70/74	32	1.00	0.97	0.13	0.97	1.00	0.13	0.25	0.47
75/79	15	1.00	1.00	0.27	0.87	1.00	0.13	0.53	0.60
80/84	28	1.00	1.00	0.50	1.00	1.00	0.86	0.39	0.46
85/89	133	1.00	0.73	0.39	0.99	0.99	0.85	0.38	0.54
90/94	292	1.00	0.74	0.43	1.00	0.99	0.79	0.32	0.49
95/99	549	1.00	0.72	0.55	1.00	1.00	0.85	0.44	0.54
00/02	392	1.00	0.73	0.50	1.00	0.99	0.82	0.47	0.51

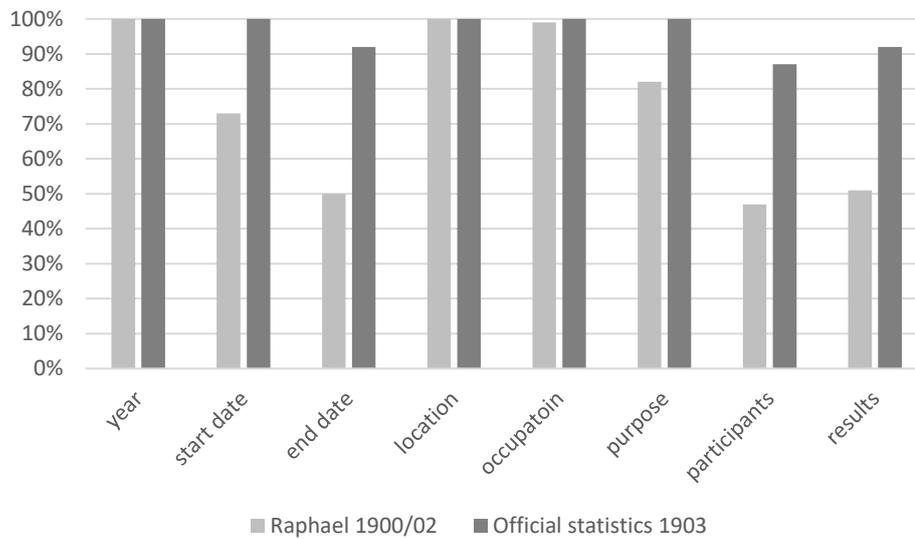
Source: Own calculations based on data from Enflo, Molinder & Karlsson (2019).

The discussion on Raphael's data has so far almost entirely been focused on the frequency of strikes. The most important change between 1902 and 1903 is probably related to the amount of information available for each conflict. Table 3 shows the share of observations in Raphael's list with information on specific variables for eight sub-periods. As seen in the table, there are few non-missing values on three variables: year, location and occupation, whereas the share of non-missing values are considerable for end date, participants and results.

Figure 4 compare the share of non-missing values for the same variables in Raphael for the period 1900-02 with the first year of the official statistics (1903). It is clear that the official statistics provide more information on each conflict with regard to start date, end date, participants and results. Thus, the official statistics contain more information on each recorded conflict.

²⁵ One way of looking further into the difference in data collection procedures until and after 1902 would be to apply Raphael's method for some years after 1902.

Figure 4. Share of non-missing values for various variables, Raphael and the official statistics compared



Comment: A location not necessarily means that a location can be easily geo-coded. Place names may be vague, or referring to a district rather than a delimited location.

Source: Own calculations based on data from Enflo, Molinder & Karlsson (2019).

It is very likely that small conflicts and conflicts of brief duration are less fully described than bigger and longer conflicts. To investigate this issue further, I have compiled a table of descriptive statistics comparing Raphael’s data with the official statistics for various sub-periods. In table 3, we see that the median size of work stoppages is reduced from 45 to 24 participants between 1900/02 and 1903/05, confirming the hypothesis that small conflicts are underrepresented in Raphael’s list.²⁶ The same phenomenon is illustrated in figure 6. When it comes to the duration of conflicts, however, there is no marked difference between Raphael and the official statistics, as seen in figure 7.

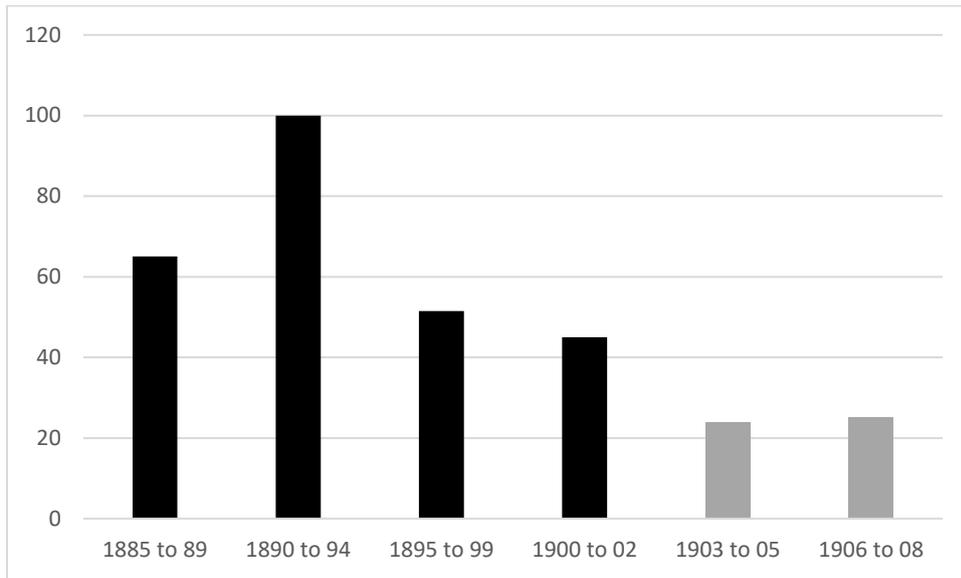
²⁶ This finding makes the smooth transition between Raphael’s data and the official statistics shown above even more remarkable. It may be the case that conflicts with few participants were mentioned in newspapers but less fully described than big conflicts.

Table 3. Descriptive statistics for number of participants, Raphael and the official statistics compared

	Period					
	1885/89	1890/94	1895/99	1900/02	1903/05	1906/08
N	133	292	546	392	546	904
minimum	12	2	2	6	1	1
maximum	600	2000	2000	4000	13805	12663
unique values	29	49	82	73	120	174
missing values	83	199	306	206	51	89
mean	154	190	123	146	101	89
standard deviation	168	292	234	357	655	488
percentiles						
10%	19.5	16	12	13	5	4
25%	37	30	25	23	10	11
50%	65	100	51.5	45	24	25
75%	250	200	114.5	140	60	67
90%	450	500	250	300	164	145

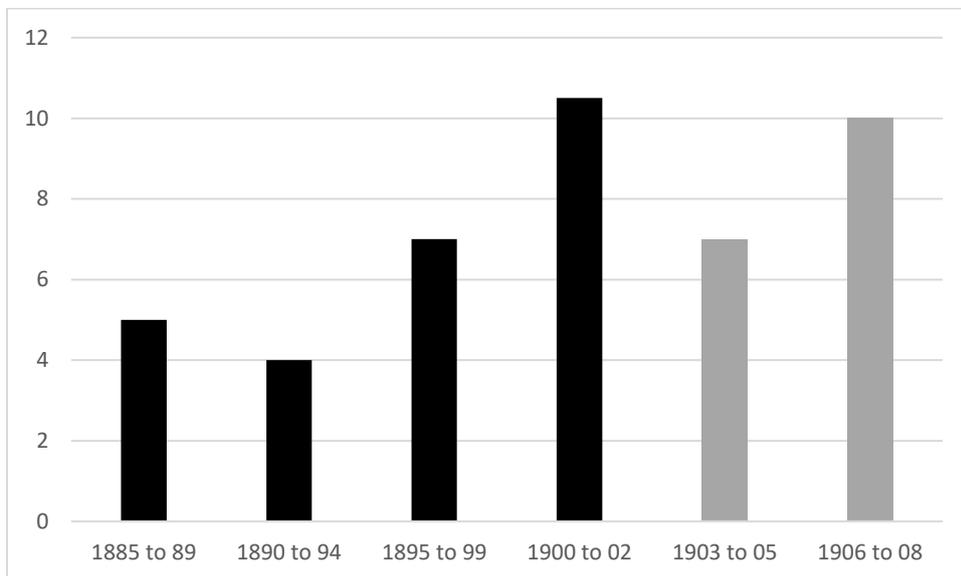
Source: Own calculations based on data from Enflo, Molinder & Karlsson (2019).

Figure 6. Median number of participants in work stoppages, Raphael and the official statistics compared



Source: Own calculations based on data from Enflo, Molinder & Karlsson (2019).

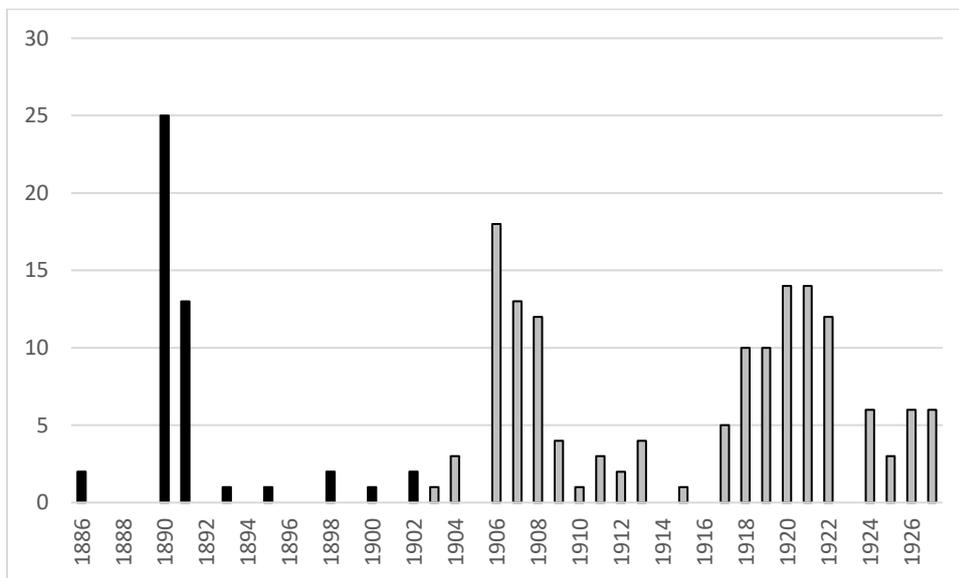
Figure 7. Median duration (in days) for work stoppages, Raphael and the official statistics compared



Source: Own calculations based on data from Enflo, Molinder & Karlsson (2019).

Another question when assessing historical strike statistics is whether there are certain occupational groups that are systematically underregistered. Conflicts in occupations where unionization began late, such as farm labourers, may be less visible in newspapers and official reports.

Figure 8. Number of strikes among farm labourers, 1886-1927



Source: Own calculations based on data from Enflo, Molinder & Karlsson (2019).

Figure 8 compares the number of strikes among Swedish farm labourers (typically labelled *jordbruksarbetare* in Raphael’s list) in the period from 1886 (first recorded strike) to 1927. Here we see that strikes among farm labourers were less frequent before 1903 than after. This is quite reasonable since the Swedish union of farm labourers (*Svenska lantarbetareförbundet*) was founded in 1908. Although some farm labourers’ strikes may have gone unrecorded, they are not completely absent from Raphael’s list. In the year 1890 Raphael records more strikes in this occupational group than in any single year during the period 1903-1927. These conflicts were concentrated to Eastern Sweden (the county of Östergötland in particular) and concerned working hours and working conditions more generally. In his study of the agricultural labour movement, Pär-Erik Back (1961, p. 15–16) briefly describes the strike wave in 1890-91, where Isidor Kjellgren in Norrköping and F. V. Thorsson in Ystad played key roles. Back concludes: “the first enthusiasm was quickly cooled down, as the employers’ resistance hardened. [...] It would linger until the new

century before the [movement] took off again” (own translation). Or more precisely until 1906-08, if we are to believe the official statistics in this matter.²⁷

At the moment, we cannot look further into the occupational distribution in Raphael’s data and the official statistics. However, when inspecting the two datasets I would like to call attention to the fact that occupational titles that include “worker” (*-arbetare* or *-arbeterskor*) are more common in the official statistics. Some notable examples are shown in table 4. Future researchers who wish to integrate the two datasets and study strike activities of various occupational groups have to figure out to what extent the observed differences in occupational titles are reflecting fundamental changes in the character of work, subjective changes in the identity of strikers or different recording practices between Raphael and the employees involved in the collection of the official statistics.

Table 4. Frequency of some occupational titles, Raphael and the official statistics compared

Occupational title	1885-1903	1903-1908
<i>Bagare</i>	41	9
<i>Bageriarbetare</i>	1	19
<i>Skomakare</i>	76	0
<i>Skomakeriarbetare</i>	0	1
<i>Skoarbetare</i>	17	29
<i>Skräddare</i>	61	2
<i>Skrädderiarbetare</i>	1	52
<i>Sömmerskor</i>	2	6

Source: Own calculations based on data from Enflo, Molinder & Karlsson (2019).

²⁷ Some strikes of agricultural workers are omitted in the official statistics, as pointed out to me by Gustav Nyberg, who is currently about to finish a thesis on agricultural contract-workers (*statare*) in Stockholm county 1890-1920.

Conclusions

This paper revisits an unofficial, and controversial, dataset on work stoppages in the second half of the nineteenth century compiled by Axel Raphael, within the framework of a government inquiry. Whereas some scholars have referred to and used Raphael's data, others have disregarded it completely or partially.

When comparing Raphael's data with other datasets it is clear that, as claimed in previous research, Raphael underestimates the number of work stoppages for the period before 1885. Additional research would probably change the picture of early labour conflicts in Sweden, in terms of levels, fluctuations and locations. However, additional newspaper-based research would probably not change the picture much in these regards for the period after 1885. This means that the Raphael data can be linked to the official statistics for the period after 1902 to show long run trends in labour conflicts. More research is required to describe the conflicts in Raphael's data, for example in terms of worker demands, number of participants, duration and outcomes. In its present form, Raphael's data have many missing cells also for the period after 1885.

Finally, I believe that some modern-day critics have misunderstood Raphael's list of work stoppages. It was already from the beginning described as a preliminary dataset. Raphael hoped that other researchers would continue his work. The opportunities to continue Raphael's work have changed dramatically in recent years with large-scale digitization of newspapers. By adding more newspapers to the Raphael's selection, it would be possible to improve coverage of the early years, as well as to fill in many pieces of missing information for the later years.

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Appendix

Table A1. Dalkvist's statistics on work stoppages

Year	Number of strikes and lockouts	Number of participating workers	Number of lost working days
1886	12	1185	15700
1887	4	300	4300
1888	12	2200	5350
1889	22	2379	36190
1890	107	3900	126100
1891	37	2317	74120
1892	16	1346	105900
1893	32	2269	201350
1894	18	768	4790
1895	46	2929	16110
1896	50	4600	195200
1897	90	5930	80100
1898	134	16700	184400
1899	62	8667	205900
1900	104	10290	331600
1901	127	6200	210000
1902	123	9600	350000

Source: Arbetsstatistik. E:1 (1909, p. 328).

Table A2. Raphael's statistics on work stoppages

Year	Number of strikes and lockouts	Number of lockouts	Number of conflicts of mixed character	With information on number of participating workers	Number of participating workers
1859	0			0	
1860	0			0	
1861	0			0	
1862	0			0	
1863	1			0	
1864	0			0	
1865	1			0	
1866	0			0	
1867	2			0	
1868	3			0	
1869	4			0	
1870	1			0	
1871	5			0	
1872	8			4	1170
1873	11			3	1200
1874	9			1	60
1875	3			1	400
1876	1			1	150
1877	3			3	313
1878	1			1	300
1879	7			2	4500
1880	3			2	490
1881	10			5	1740
1882	4			0	
1883	5			1	800
1884	6			3	341
1885	10			2	137
1886	29	1		8	1810
1887	16			11	1508
1888	41			16	1440
1889	38	2		13	3031
1890	105	3		32	9039

1891	63	2		18	4680
1892	26			8	683
1893	53	2		20	2559
1894	44		1	15	878
1895	65	4		30	2529
1896	102	4	4	38	5916
1897	114	7		45	5478
1898	163	13	7	82	7185
1899	105	11	12	48	9399
1900	135	22	14	77	13880
1901	118	11	18	50	4633
1902	139	16	18	59	8587

Comment: Conflicts of 'mixed character' are either combinations of strikes and lockouts, blockades or combinations of lockouts and blockades.

Source: Arbetsstatistik. E:1 (1909, p. 328). 'Number of strikes and lockouts', 'With information on number of participating workers' and 'Number of participating workers' have been directly extracted from Arbetsstatistik E:1 (1909, p. 328). 'Number of lockouts' and 'Number of conflicts of mixed character' are drawn from Enflo, Molinder & Karlsson (2019).

Table A3. Work stoppages mentioned in Blekingsposten 1864-1884

Number	Year	Location	County	Profession	Start date	End date	Number of part. workers	The workers' purpose	Result	Notes	Source date(s)	Number in SND 1088
1	1865	Stockholm	1	stenarbetare				Lönehöjning		Descriptive account.	1865-04-21	2
2	1868	Göteborg	13	varvsarbetare				Lönehöjning			1868-04-03	6
3	1869	Stockholm	1	mureriarbetare	1869-07-05	1869-07-05	350-400	Förhindra lönesänkning	N	Unclear result, could also been classified as a compromise.	1869-07-09	9
4	1871	Halmstad	12	arbetare vid mudderverk				Lönehöjning	K		1871-09-22	
5	1871	Varberg	12	arbetare vid mudderverk				Lönehöjning	N		1871-10-06	
6	1871	Karlskrona	9	spannmålsbärare				Lönehöjning	N		1871-10-24	
7	1871	Ängelholm	10	nattvaktare			4	Arbetskläder			1871-11-03	
8	1872	Helsingborg	11	handsk-sömmerskor			flere hundra	Lönehöjning			1872-05-17	22

20	1874	Kroppss	11	gruvarbetare				Lönehöjning			1874-05-29	41
21	1874	Norrköping	4	verkstadsarbetare	1874-11-16	1874-11-17	180	Arbetstiden		Descriptive account.	1874-11-20	43
22	1875	Malmö	11	cigarmakare	1875-10-01			Lönehöjning		Descriptive account.	1875-10-08	
23	1876	Vimmerby	7	järnvägsarbetare							1876-04-12	
24	1877	Stockholm	1	snickeriarbetare	1876-01-31	1877-02-02	50-60	Ordningsregler	N		1877-02-06	48
25	1877	Karlskrona	9	fortifikationsarbetare	1877-07-21	1877-07-21	100	Lönehöjning	N		1877-07-27	
26	1879	Sundsvall	21	sågverksarbetare						Descriptive account.	1879-06-03, 1879-06-06	53
27	1879	Hudiksvall, Forssa och Iggesund	20	sågverksarbetare, brädgårdsarbetare	1879-06-04					Related to 28, 29, 30 & 31.	1879-06-06	54
28	1879	Marma, Bergvik och Lamholm	2 & 20	brädgårdsarbetare	1879-06-03		300			Related to 27, 29, 30 & 31.	1879-06-06	55
29	1879	Åsbacka	20	sågverksarbetare	1879-06-04					Related to no. 27, 28, 30 and 31.	1879-06-06	
30	1879	Långrör	20	sågverksarbetare	1879-06-04					Related to no. 27, 28, 29 and 31.	1879-06-06	
31	1879	Söderhamn	20	sågverksarbetare, brädgårdsarbetare	1879-06-04					Related to no. 27, 28, 29 and 30.	1879-06-06	

32	1879	Karlskrona	9	stenhuggeri- arbetare				Lönehöjning		Conflict between Swedish and German workers.	1879-06- 17	58
33	1879	Östersund	22	järnvägsarbetare	1879-06- 16	1879-06- 16	300			Descriptive account.	1879-06- 20	
34	1881	Stockholm	1	tegelslagare							1881-06- 21	62
35	1881	Halmstad	12	hamn- och timmerarbetare	1881-06- 14		några hundra	Lönehöjning			1881-06- 21	64
36	1881	Göteborg	13	mureriarbetare	1881-06- 27		3-400	Timlön istället för daglön		Descriptive account.	1881-07- 01	65
37	1881	Stockholm	1	träarbetare	1881-09- 19	1881-10- 14		Lönehöjning	N	Descriptive account.	1881-10- 07 1881- 10-18	68
38	1882	Göteborg	13	spinneriarbetare			200	Lönehöjning			1882-11- 10	
39	1882	Göteborg		kuskar och konduktörer	1882-12- 05			Tjänstgörings- bestämmelser			1882-12- 08	75
40	1883	Lomma	11	cementarbetare	1883-04- 07		200	Arbetstiden		August Palm's socialist agitation mentioned.	1883-04- 10	77
41	1883	Karlskrona	9	skrädderiarbetare	1883-04- 30			Lönehöjning		Descriptive account.	1883-05- 04	

42	1883	Stockholm	1	skrädderiarbetare				Lönehöjning		The workers have formed a trade union.	1883-05-04 1883-05-08	78
43	1883	Stockholm	1	verkstadsarbetare	1883-05-03	1883-05-05	3-400	Missnöje med verkmästare	S		1883-05-08	
44	1883	Stockholm	1	bageriarbetare				Missämja bland arbetarna			1883-05-08	
45	1883	Stockholm	1	plåtslageriarbetare				Lönehöjning			1883-07-31	79
46	1883	Malmö	11	varvsarbetare	1883-09-24		800	Missnöje med annordningar vid varvet		Descriptive account.	1883-09-28	80
47	1884	Härnösand	21	skrädderiarbetare				Lönehöjning			1884-05-02	
48	1884	Grönbybacken	11	arbetare	1884-07-08	1884-07-09	200	Lönehöjning	N		1884-07-11	

Comment: The following county codes (from Jörberg 1972) are used: 1=Stockholm county, 2= Uppsala county, 4=Östergötland county, 7= Kalmar county, 9=Blekinge county, 10=Kristianstad county, 11=Malmöhus county, 12=Halland county, 13=Göteborg and Bohus county, 20=Gävleborg county, 21=Västernorrland county, 22=Jämtland county and 24=Norrbottn county. ‘Descriptive account’ in the column ‘Notes’ means that the report in the newspaper includes more, or richer, information than may summarized in the table, for example that a strike broke out after a visit of socialist agitator August Palm (40 and 41), or the geographical spread of a conflict along a railway line (1), or that violence was used (34). SND 1088 refers to Enflo, Molinder & Karlsson (2019).

Source: *Sök bland svenska dagstidningar*, <<https://tidningar.kb.se/>> (various dates, autumn 2017).