

RESEARCH ARTICLE

Fashionably late? Time, work and the industrious revolution in early modern Antwerp (1585–1795)

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Abstract

Drawing evidence from the proceedings of the Antwerp *hoogere Vierschaer* (the local criminal court), the article challenges some key features from Jan de Vries' hypothesis of the Industrious Revolution. Mesmerised by an endless variety of fashionable and exotic consumer goods, eighteenth-century people would have slashed their leisure time in a variety of ways. Labour input would have been forced up on a daily, weekly and annual base. However, time-budget analysis of Antwerp labour rhythms evidences a much more complex picture, which does not really hint at an industrious revolution but rather reveals invariable industriousness.

According to the classic hypothesis of the Industrious Revolution of the American historian Jan de Vries, time became money sometime between the late seventeenth and early eighteenth centuries. Dutch men and women greatly decreased their leisure time and increased their labour input in order to boost their family-based income. Numerous strategies were used. Working hours were stretched not just by earlier start and later finish times but also by reductions in breaks and pauses. Traditional feast and holidays were removed from the calendar. Women and children were also increasingly put to work in order to maximise the family budget. According to de Vries, this spike in industriousness was triggered by new consumer behaviour, as the Amsterdam market was being increasingly swamped by an expanding assortment of new, exotic and fashionable goods. Lists of chattels and goods in post-mortem inventories indeed evidence the growing abundance, as the notaries and their clerks had to spend ever more hours working their way through loads of calicoes, chintzes and other fashionable fabrics, through collections of posh cabinets, mahogany tables and comfy *chaises longues*, through chic coffee and tea sets, sophisticated snuffboxes, pocket watches, barometers and other such newly fashionable contraptions and amenities. Moreover, this cry for the new not only appealed to upper-crust consumers (the Dutch *regenten*) but also trickled down to the lower rungs of society. Consumerism was clearly on the march. However, to pay for these myriad new luxuries, eighteenth-century people were forced to work significantly harder than their forebears had, as they now faced a levelling or even a decrease in their real wages. Industriousness was a viable strategy by which to row against this current.¹

More than two decades after it was introduced, the de Vries' hypothesis remains highly controversial. Uncertainty is not particularly bound to the consumer component: experts have gathered compelling evidence that early modern consumer behaviour and material culture were indeed radically restructured, even if the scale, timing and impact of these (r)evolutions are still under discussion.² Findings have also corroborated that these new, fashionable and exotic goods found their way to the lower tiers of society.³ More questions arise when other parts of the hypothesis are discussed; in particular, the concept of industriousness – and the accompanying boost in labour input – is rarely if ever accepted wholesale. Opponents have noted the narrow empirical base of de Vries' theory, as the evidence was initially thin and largely circumstantial.⁴ To provide more concrete proof, the German economic historian Hans-Joachim Voth turned to a rather unexpected source, drawing quantitative evidence from the proceedings of the Old Bailey, or London's supreme court of criminal justice. It appeared that Londoners had indeed raised their labour input drastically, although the chronology – reaching its zenith between 1760 and 1830 – and other details did not accord easily with de Vries' initial theory. There was, for instance, no radical change in daily routines. Late eighteenth-century Londoners may have started their workday a bit earlier and halted somewhat later than their forebears, but this hardly increased their labour input. Changes at this level were, at best, incremental. A more seismic shift changed weekly and annual patterns. First and foremost, the importance of Saint-Monday faded. Traditionally, labourers in early modern Europe were free not only on Sunday: absenteeism was also high on Monday. Saint-Monday, *Blauer Montag* or *Saint Lundi* had served as an extension of the weekend for ages, but this longstanding practice fell into abeyance in the late eighteenth century. Feast and holidays also became less rigorously observed. Leisure was rapidly curbed in London, with labour input surging from an average of 2,288 hours a year in 1760 to a staggering 3,366 hours around 1830. Following in de Vries' wake, Voth linked these radical changes in everyday time-budgeting to the birth of a new consumer culture. Time-thrift and industriousness were fuelled by an eighteenth-century demand for new luxuries.⁵

New research by Horrell, Humphries and Weisdorf seems to corroborate this late eighteenth-century surge of industriousness. Drawing fresh evidence from long-term data on annual incomes, consumption and living standards, they estimate that male labour input might have increased substantially from less than 250 days a year around 1750 to more than 300 days in the following decades. Moreover, they make a strong case for a growing participation of women and children on the labour market. In tandem, late eighteenth-century families generated a family-based income, which was not only more than adequate to buy Allen's 'respectable consumption basket', but also left some room to purchase tea, sugar, coffee, tobacco, china, cotton and other domestic comforts. New consumer patterns were, once again, cast as an ideal seedbed for industriousness.⁶ Even though the evidence seems overwhelming, other research did not completely mitigate doubts and concerns about de Vries' theory. It remains, for instance, an open question of whether the industrious revolution was a European-wide trend or a unique feature of the Atlantic 'miracle economies'. Sheilagh Ogilvie, having collected evidence from court proceedings in Southern Germany, has recently argued that such extrapolations must be read with caution. Women in Württemberg, unlike their

Dutch and British counterparts, were less active on the labour market, as their participation was seriously impeded by conservative craft guilds, parishes, neighbourhood communities and urban administrations. Unbending social conventions nipped industriousness in the bud.⁷ Ogilvie's findings encourage experts to use a wide-angle lens to trace important regional differences. It also strongly advocates comparative research, which is exactly the aim of our present analysis. Drawing evidence from the *examinatieën en informatieën* – or the eyewitness reports of the *Hoge Vierschaar* (Antwerp's local criminal court) – the article challenges some key components in Jan de Vries' hypothesis.⁸ Were Antwerp men toiling longer hours in the late eighteenth century, as were their colleagues in London, Amsterdam and other places? Was the popularity of Saint-Monday and traditional feast days in decline? Were women and children increasingly being put to work to help line the family purse? In short, was industriousness really on the rise?

Antwerp provides an ideal test case to answer some of these questions. Detailed research by Bruno Blondé, Ilja Van Damme and others has shown how the European wave of fashionable and exotic goods also found its way into the hearts and homes of Antwerp consumers. New luxuries slowly but surely percolated throughout the lower levels of society. At the close of the eighteenth century, even the more modest middle-class households boasted a tea, chocolate or coffee set, a sugar bowl, some chinaware, clocks and watches, cotton clothing, paintings, mirrors and other new luxuries.⁹ Paradoxically, however, the local economy was reeling. From the middle of the seventeenth century, Antwerp faced a severe economic crisis that led to escalating unemployment, social inequality and de-urbanization. It took almost a century for the city to recover. Yet, even in the late eighteenth century, when the Antwerp economy revived in fits and starts, social inequality remained high, with most labourers bound to poorly paid, menial and tedious jobs in damp and dim spinning cellars, calico print-works, lace-making houses and other such worksites and sweatshops.¹⁰ Antwerp provides, in short, an exceptional environment to test de Vries' central paradox of booming consumption versus stagnating wages. Following de Vries' line of reasoning, one would expect that Antwerp followed in the wake of London, Amsterdam and other Northwest European cities where men and women started to work harder and longer in order to buy these new luxuries. Taking the recent work of Voth, Humphries and Weisdorf into account, it can be further assumed that the surge of industriousness was at its height in the late eighteenth century.

Antwerp even offers a bonus, as true to the classic Weberian paradigm modern time-budgeting has often been linked to Protestantism. During the Reformation, traditional feast and Saint's days were abolished in large number in Calvinist and Lutheran areas, while Catholic regions trailed behind until the late eighteenth century.¹¹ Focussing on a Catholic city allows for testing this theory in detail. However, before launching into the analysis, the methodology and sources should be carefully evaluated.

1. Time on trial

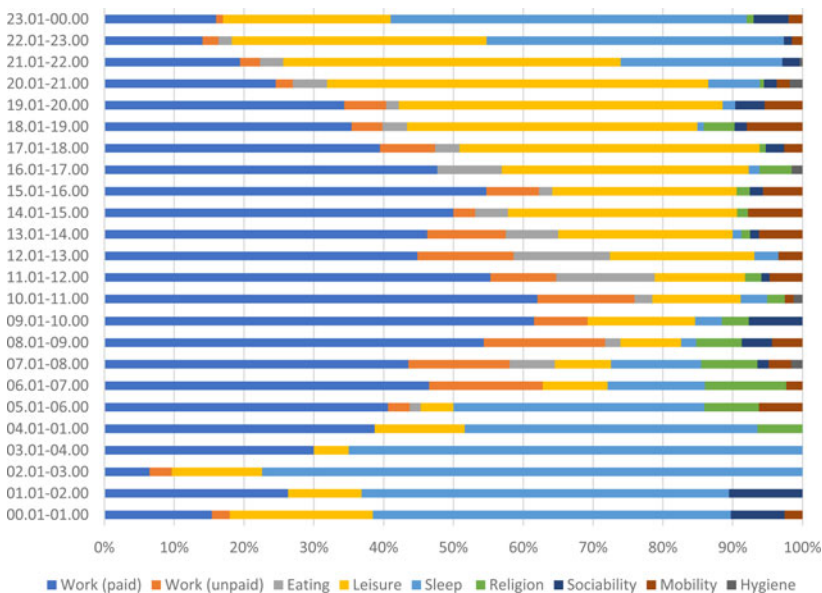
On the 5th of June 1730, Maria Lauwers, wife of baker Peter Gillekens, was called to the *Hoogere Vierschaer* to testify in a case of larceny. Maria's interrogation opened

with a classic question, with the examining magistrates asking what she had to say ‘about the thievery that had occurred in the *Laboureur* [a local inn] three weeks ago’. Maria asserted that she had been at work in her shop ‘around half past six in the morning’, when an unknown woman dashed by with a heavy bag in her hands. Maria grew suspicious and took a look outside, but the thief had already disappeared.¹² It was a commonplace statement and one that perfectly illustrates the potential of the *examinatieën en informatiën* for research into everyday time use and time awareness.¹³ Eyewitness accounts offer some clear advantages. First, they cover the *longue durée*, as detailed minutes of the *Hoogere Vierschaer* are available from 1530 until 1795. Whereas Voth’s analysis is limited to the late eighteenth and early nineteenth centuries due to the available material, the Antwerp files allow for a long-term perspective, although, as we shall see, the material is seriously skewed towards the (late) eighteenth century.¹⁴ Second, the Antwerp proceedings shed light on the daily time-budget of a relatively wide swath of society, thanks to the wide spectrum of people who were called to the bench. Antwerp judges had noticeable preferences – male, well-off and older eyewitnesses were favoured above female, poor and younger bystanders – yet, virtually anyone could be summoned to court when the situation merited.¹⁵

Table 1. Social profile of the eyewitnesses of the Antwerp Vierschaer (1585–1790) (*n* = 2061)

	Absolute	Percentage
Gender		
Men	1,470	71.3
Women	591	28.7
Total	2,061	100
Age (year)		
Child (>16)	23	1.2
Youth (16–29)	729	38
Adult (30–55)	865	45.1
Elderly (<55)	303	15.8
Total	1,920	100.1
Occupation		
Elite	23	1.3
Merchants	68	3.9
Liberal professions	112	6.5
Artisans	463	26.8
Retailers	312	18
Labourers	506	29.2
Servants	145	8.4
Housewives	102	5.9
Total	1,731	100

Finally, they provide the necessary quantitative data for a thorough, in-depth rhythm analysis of early modern society, as the eyewitnesses, victims and suspects were asked to reconstruct their comings and goings to the minutest detail, whereby a portfolio of activities were (relatively precisely) located in time. During a second step, these raw data were labelled as work, leisure, sleep, personal hygiene, religion and other pursuits. Work is a slippery category in itself, as the boundary between paid labour and household chores was not always clear in early modern Europe. Washing, spinning, sewing, cleaning and other activities were ordinary household jobs but were also commissioned.¹⁶ Using the background information from *examinatieën en informatieën*, each of these activities was sorted into either paid or unpaid work. In case of doubt, activities were classified as paid labour. It renders a dataset of nearly 2,000 observations on everyday time use in early modern Antwerp.¹⁷ Using Hans-Joachim Voth's work as inspiration, three techniques have been developed and refined to process the rough data from the *examinatieën en informatieën* and to trace industriousness: time-use analysis, start-stop methodology and logistic regression. Methodologies from sociology are extremely informative to develop a new historical method. Especially useful is the 'time-diary analysis', whereby a group of experimental subjects is asked to record all their daily activities – work, sleep, leisure, DIY, mobility and personal hygiene – in a logbook. Once aggregated, these data provide a detailed portrait of everyday time use.¹⁸ A similar modus operandi has been used to process the historical data in a full-scale, time-budget analysis, whereby the relative incidence of activities per hour has been converted into minutes.¹⁹ It leads to a fine-grained cross-section of everyday time use (Graph 1).

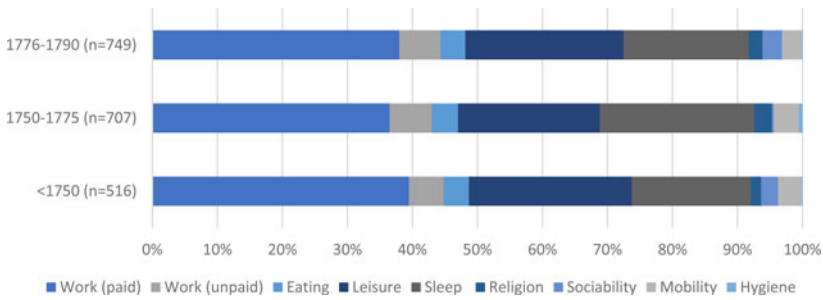


Graph 1. Full time-budget analysis of early modern Antwerp (1585–1790) ($n = 1997$).

Nonetheless, certain caveats loom. For instance, the legal nature of the sources must be taken into account: eyewitnesses did not randomly recall activities, as crime was predominantly correlated with leisure. Not surprisingly, most testimonies (53 per cent) are linked to the time span between 7 and 11 o'clock in the evening, when taverns, inns and gin houses would have been teeming with customers. During the same time, the incidence of manslaughter, assault and battery, larceny and other such criminality soared. Consequently, leisure is overestimated in the sample, while work (both paid labour and household chores), sleep and other mundane activities are undersampled.²⁰ Moreover, the methodology is highly sensitive to small-number statistics. Findings quickly become unstable as the amount of data decreases, rendering it difficult to divide the sample into subcategories so as to trace chronological evolutions (Graph 2), differences in weekdays (Graph 3), or social variations (Graph 4). Therefore, two additional methods have been deployed to remedy these flaws. Early modern eyewitnesses not only provided extensive details about their daily activities; they also itemised start and stop times. Labourers, for instance, mentioned when they arrived at work in the morning, left for lunch and signed off in the evening. Through some simple calculus, the start-stop methodology enables for tracing continuity and change in daily labour rhythms (Table 2). Yet, it is less effective to scrutinise weekly and annual patterns. Logistic regression has been used to determine the odds that eyewitnesses were at work during the week (on Monday, Sunday and other weekdays) or during the year (on Saint's days and holidays) (Tables 3 and 4).²¹ Together, these three methodologies enable us to isolate industriousness. Was Antwerp fashionably late in this regard? Did Maria Lauwers and her fellow citizens follow the British or the Dutch example?

2. Daily labour rhythms

Labour input on a daily base remains remarkably stable over the long run in the time-budget analysis of (early) modern Antwerp (Graph 2). Labourers seem to have toiled somewhat harder in the late eighteenth century than their forebears had, but there was no seismic shift, only incremental change. Labour only increased slightly from an average of 8:45 hours a day in the 1750s and 1760s to 9:07 hours at the eve of the French Revolution, or an increase of barely 4 per cent. Moreover, over the long term, labour effort was at its lowest ebb in the middle of the eighteenth century. Work hours had been much longer before 1750, when the Antwerp population clocked 9:28 hours on average per day, which is even slightly more than at the close of the Ancien Régime. Unfortunately, due to the risk of small-number statistics, it is impossible to break down the sample from 1585 to 1790 into even smaller chronological cohorts, but it seems safe to assume that the daily labour rhythms remained largely unchanged in Antwerp in the final decades of the late eighteenth century. This assumption ties in with Hans-Joachim Voth's findings for London, where the everyday labour effort also barely fluctuated.²² In Antwerp, productive time – the sum of paid and unpaid labour (household chores) – consumed a staggering 44 per cent of the daily time budget, which seems to suggest that the margins for industriousness were relatively small.²³ Labourers were, presumably, already at the end of their tethers in the late eighteenth century and could barely curtail whatever leisure time they had (Graph 2).



Graph 2. Labour input in Antwerp on a daily basis (1585–1790) ($n = 1972$).

Moreover, we have to keep in mind that leisure was markedly oversampled in the *examinatieën and informatiën*, so the actual labour input may have been much higher than the time-budget analysis suggests. Secondly, it has to be noted that these estimates are aggregates, as they lump together all sorts of variables: working hours of men, women and even children, lower-, middle- and upper-class routines, the labour input of young and old, the slogging of locals and migrants, as well as work on the week and weekend days, feast days, during summer and winter. From this point of view, an average of 9:06 hours of labour per day is rather impressive.²⁴

Table 2. Working hours in Antwerp, 1585–1790 ($n = 193$)

	Average			Mean		
	1700–1749 ($n = 40$)	1750–1775 ($n = 87$)	1776–1790 ($n = 66$)	1700– 1749	1750– 1775	1776– 1790
START	5:51	6:03	6:18	5:30	6:00	6:30
STOP	19:01	19:26	19:38	19:15	20:00	19:30
LUNCH	1:30					
Total	11:40	11:52	11:50	12:15	12:30	11:30

More solid figures can be derived from the above-mentioned ‘start-stop methodology’,²⁵ as Antwerp eyewitnesses frequently reported what time they arrived at work, took their lunch or clocked out.²⁶ Due to small-number statistics, the data from the late sixteenth and seventeenth century could not be used, so the focus is on the eighteenth century, when according to de Vries, Voth et al. industriousness soared. Not unlike London, work started relatively early in Antwerp, where spinning, lace-making and other activities were already in full swing in the early morning. Maria Lauwers, whose previously noted testimony put her work at half-past six, was anything but a *rara avis* in this regard. On average, blue and white-collar labourers began their work around six o’clock in the morning in the eighteenth century. Throughout the century, start times remained relatively stable, although Antwerpens seem to have started somewhat later in the final decades of the eighteenth century than in the first (Table 2). Lunch was also a highly

synchronised activity. Antwerp labourers usually took a break between 12:00 and 13:30.²⁷ Work finished relatively late. Normally, labourers stopped for the day around half past seven or nearly 12 hours after they had set foot in their workshop, although a significant group (23 per cent) of eyewitnesses – predominantly inn- and shopkeepers, servants and other Antwerpers – were still at work after ten.²⁸ More qualitative evidence seems to verify that long workdays were the norm in early modern Antwerp. Mattheys Mercks, a cotton spinner, was called to the bench in 1789 to testify in a case of larceny. According to his statement, he had been working at the cotton mill until a quarter before nine in the evening or – *tot seer laet* – very late in the evening before going home. Yet such qualifications were missing in most statements of Antwerpers, toiling until eight or even nine in the evening, which seems to suggest that long working days were not really frowned upon.²⁹

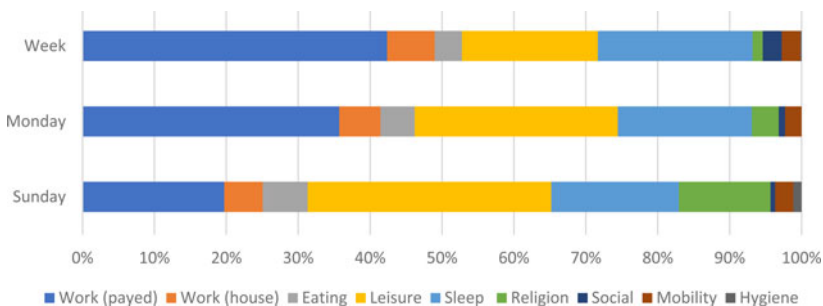
Change occurred over time, as late eighteenth-century labourers seemed to have worked a bit later than their forebears had, but it was anything but a radical or straightforward evolution (Table 2). The same holds true for the length of the working day. Late eighteenth-century Antwerpers were apparently not really toiling harder and longer than their predecessors had. Over the long run, the daily labour rhythm remains strikingly stable at around 12 hours a day. This ties in with Hans-Joachim Voth's findings for London, where daily labour input only saw some incremental changes. Late eighteenth-century Londoners toiled approximately 11 hours a day, which is still somewhat below the Antwerp estimates.³⁰ Drawing evidence from the business administration of papermakers in England, France and elsewhere, Leonard Rosenband argued that the evidence for longer hours in the eighteenth century – let alone for a bout of industriousness – was paper thin or even absent. Long working days of 12 or even more hours had become the norm long before industrialisation.³¹ The same was true for Antwerp. Even though the *examinatieën en informatieën* do not appear to evidence an industrious revolution, they substantiate invariable industriousness. Long before the nineteenth century, Antwerp labourers were already habituated to virtually endless workdays. This is at odds with E.P. Thompson's classic claim that modern labour rhythms were born in the blast furnaces, coal mines and textile mills of the British industrial revolution. Factory horns, time clocks, bells and heavy fines for lateness were necessary to coerce idle labourers into a new, hectic and relentless pace. Thompson painted a black-and-white opposition between the hectic factory regime and the more sluggish early modern rhythms, which offered ample opportunity for breaks and pauses. Labourers frequently sneaked away to drink a beer, to ran an errand, to catch up on gossip or simply to loaf about. Absenteeism – another notorious feature of Ancien Régime working rhythms – was also curtailed in the maelstrom of industrialisation.³² Robert Darnton's analysis of the payrolls of the *Société Typographique de Neuchâtel* (the Swiss printer of the *Encyclopédie*) points in the same direction. Work was frequently interrupted and absenteeism was endemic.³³

The Files of the *Hoogere Vierschaer* suggest that these examples must be handled with a degree of caution, as they were not necessarily representative for early modern economies as a whole. Pauses and breaks were, in reality, less ubiquitous. Of the more than 150 Antwerp eyewitnesses who mention work in their statements in 1776–1790, only five – or 3.1 per cent – were on break during the moment in

question. This comes to barely 23 minutes a day. Moreover, the work/break balance remained relatively stable throughout the eighteenth century.³⁴ Pauses were not randomly scattered over the day. Fifty-eight per cent of the interruptions occurred between 9 and 11 o'clock in the morning, when labourers would have breakfast.³⁵ Less pronounced was the break in the late afternoon. Qualitative evidence also endorses the idea that long pauses were disfavoured. Matheys Merckx stated, for instance, that after lunch he resumed work at the cotton mill, around a quarter past two. According to his testimony, he had worked continuously until a quarter before nine, except for two short breaks to relieve himself outside. In each case, it had taken barely *twee à dry vader-onsen* (two or three paternosters) before he was back at his station.³⁶ Numerous examples show that Antwerpers who frittered away their work time by drinking and idling were not welcomed.³⁷

3. Weekly labour rhythms

During the late eighteenth century, London labour rhythms did not modify drastically at a daily level but did undergo some radical shifts on a weekly base. Traditionally, (Saint-)Monday had been an extra day of rest. Hans-Joachim Voth's estimates show that in 1760, the incidence of work on Monday was as low as for Sunday, while leisure peaked on both days. Monday was, in short, more weekend than weekday. By the close of the century, however, its exceptional status had wilted. Thereafter, labour input remained invariably high from Monday through Saturday. By around 1830, Sunday had become the one and only true day of rest.³⁸ Drawing evidence from newspapers, marriage registers and a range of other sources, British experts have underlined the primacy of (Saint-)Monday and the gradual erosion of its importance as a rest day, although there is less agreement on the exact chronology of the evolution.³⁹ Proceedings of the *Hoogere Vierschaer* evidence that European rhythms were not necessarily an exact copy of the British practice. Time-budget analysis reveals some striking differences, as Monday was not really a day off in Antwerp (Graph 3). Monday may have been more leisure-prone than other weekdays, but work remained central. Absenteeism was slightly higher, as the average labour input on Monday (8:34 hours) was lower than on other weekdays (10:10 hours). Yet, the gap with



Graph 3. Labour input and other activities on a weekly base (1585–1790) ($n = 1778$): Monday ($n = 359$), Weekday ($n = 1056$), and Sunday ($n = 363$).

Table 3. Logistic regression of workdays in Antwerp (1585–1790) ($n = 1059$)

	Before 1750 ($n = 416$)				1775–1790 ($n = 643$)			
	B	Wald	Exp (B)	Sign	B	Wald	Exp (B)	Sign
Monday	1,197	14,007	3,309	0.000	0,695	5,6	2,003	0.000
Tuesday	1,314	14,688	3,721	0.000	1,137	15,04	3,119	0.000
Wednesday	1,433	13,64	4,191	0.000	1,834	28,468	6,256	0.000
Thursday	1,397	15,47	4,042	0.000	1,29	17,406	3,633	0.000
Friday	1,188	10,19	3,28	0.001	1,372	21,457	3,943	0.000
Saturday	1,422	10,59	4,145	0.001	1,491	18,053	4,44	0.000
Sunday	–1,279	35,54	0,278	0.001	–1,414	43,403	0,243	0.000

Sunday (4:34 hours) was substantial.⁴⁰ Work thus resumed, fitfully, on Monday. More qualitative evidence points in the same direction. Guilelmus Colenberg, tailor, innkeeper and musician, testified in a suicide case in 1752. According to his statement, Mr. and Mrs. Van der Neusen had been present at a party in the *Hoogstraat* (High Street) on a Sunday evening, where Guilemus had played popular tunes on his violin. Around midnight, as the married couple staggered home, they had a flaming row. Vanderneusen tried to calm his wife by reminding her that the next day was Monday, a normal workday – *komt gauw met my naer huys, ick moet morgen vroeg opstaen om te wercken* – and that he had to rise early.⁴¹

Evidently, these figures may hide some chronological evolutions. Saint-Monday may have been a long-established tradition before it receded in the late eighteenth century, as Voth, de Vries and others have suggested. Unfortunately, a breakdown in chronological subcategories is not possible for time-budget analysis, as it leads to small-number statistics. Logistic regression may resolve the conundrum, as it enables for testing the odds that eyewitnesses were at work on a given weekday. For each observation, a basic, dichotomous variable was created: if the eyewitness was engaged in work, the variable is equal to one; if the eyewitness was otherwise engaged, the variable is zero. Sunday functions as the reference point in the model.⁴²

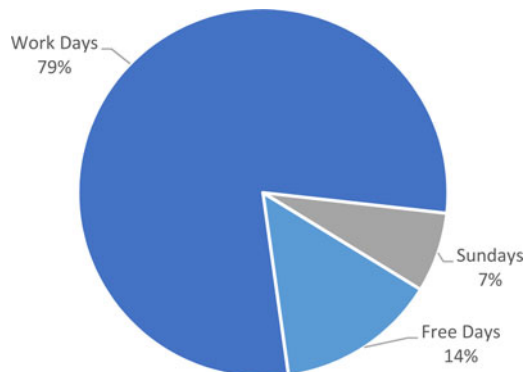
Not surprisingly, the results point in the same direction as the findings from the time-budget analysis. Sunday was the only exclusive day of rest; the odds of finding eyewitnesses at work took a downward plunge on Sunday. Monday was almost on par with other weekdays (although absenteeism was slightly higher) which seems to suggest that the tradition of Saint-Monday did not exist in Antwerp.⁴³ Along the banks of the river Scheldt, Monday was clearly not considered a day off before 1750 (Table 3).⁴⁴ These findings chime with other research on early modern labour patterns which evidences a six-day working week.⁴⁵ However, the findings do illustrate another classic pattern, viz. a steady surge in labour intensity throughout the week. Work resumed on Monday and became ever more intensive through Saturday.⁴⁶ It is a well-known pattern that also appears in Hans-Joachim Voth's London estimates. Workloads increased steadily throughout the week, as orders, deliveries and services were to be finished before Saturday evening, thereby leading to a rush in the later days of the week.⁴⁷ A similar pattern arises from an additional Antwerp source: the payrolls of the gardeners at the *Ravenhof* – a manor of the wealthy Moretus family – in Putte. Even though labour rhythms on the countryside were not always the same as in urban environments, the payrolls here evidence the same pattern. Work came to a halt only on Sunday. Labour input was somewhat lower (93.1 per cent) on Monday than on other weekdays (93.7 per cent), but the differences were small.⁴⁸

Contrary to expectations, the incidence of work on Monday did not particularly increase in late eighteenth-century Antwerp, as had been the case in London; rather, the reverse was true. Logistic regression of the *examinatieën en informatiën* evidences that before 1750, the odds of eyewitnesses having been at work on a Monday were almost on par with other weekdays. Yet, in the following decades, the likelihood decreased.⁴⁹ In Antwerp, Monday was gradually moving into the nether region between weekend and weekday, while the opposite was the case for London, where Saint-Monday was abruptly scrapped from the calendar

in the late eighteenth-century.⁵⁰ Once more, the Antwerp findings do not seem to hint at a linear, straightforward industrious revolution on the eve of the French Revolution; rather, they illustrate a (virtually) unchanging industriousness, which had already reached its zenith before 1750.⁵¹

4. Annual labour rhythms

Textbook wisdom has it that early modern labour not only came to a standstill on Sunday and (Saint-) Monday but also ceased on numerous Saint's days, holidays, fairs, *kermesses* and other public events. Freudenberg and Cummins calculated that work was suspended on 53 holidays. Minus Sundays and Mondays, there were barely 208 ordinary workdays left in a year. Estimates for Catholic Europe yield similar figures, although it remains an open question of how strictly these mandatory feast and holidays were observed in practice.⁵² Hans-Joachim Voth has cast doubt on this assumption, as his estimates show that by around 1800, most traditional holidays had gradually transformed into ordinary workdays. Work still came to a standstill on Christmas and Easter day, but other feast and holidays were less faithfully observed. Together with the elimination of Saint-Monday, this led to a spike in the annual labour input at the close of the eighteenth century.⁵³ Unfortunately, it is much more difficult to assess the impact of feast and holidays on Antwerp labour rhythms, as there was no official list of such days. Moreover, the observance of Saint's days also depended on individual membership of craft guilds, brotherhoods, parishes, neighbourhood communities, chambers of rhetoric and other groups. In 1771, the rich festive calendar of the Austrian Netherlands had been pruned back to a shortlist of sixteen saint's days, but even these high days were not always observed. Dispensation to work on these holy days was easily obtained.⁵⁴



Graph 4. Work-, feast- and Sundays in the payrolls of the Moretus manor (1775-1776) ($n = 365$).

The payrolls of the gardeners of Moretus' manor in Putte illustrate the flexibility of these regulations. Work only came to a standstill during 24 days a year (or 7 per cent) and on ordinary Sundays (14 per cent), which leaves 289 normal workdays (Graph 4). More than 30 per cent of these, rest days fell on Monday. Therefore, the traditional cycle of Christmas, New Year's Day, the Epiphany, Shrove Tuesday and Ash

Wednesday, Easter (Mon)Day, Ascension Day, Whitsun, Whit Monday and Our Lady Ascension comprised the bulk of the free days (11 in total). There were barely five or six other feast days.⁵⁵ Clearly, the payrolls hint at a more intensive labour rhythm than previously assumed. Even in a Catholic bulwark such as Antwerp, the impact of feast days on the yearly calendar was modest.⁵⁶

Table 4. Logistic regression of Saint's days in Antwerp (1585–1790) ($n = 1826$)

	B	Wald	Sign	Exp (B)	N
Weekday	1,073	56,929	0.000	2,924	1,372
Feastday	0.26	1,193	0.275	1,297	126
Sunday	-1,216	85,527	0.000	0.296	328

Unless they were specifically mentioned by the eyewitnesses, it is virtually impossible to trace the less important Saint's days in the *examinatieën en informatieën*. Yet, the above-mentioned cycle of 11 major high days is easier to track. Once more, logistic regression can be used to scrutinise the potential difference between ordinary weekdays, Saint's days, and Sundays. Not surprisingly, the odds of finding people at work were considerably lower on these traditional feast days than on weekdays, yet the likelihood was notably higher than on Sundays (Table 4).⁵⁷ Due to small-number statistics, we must be careful with quick conclusions, yet these results appear to suggest that, even on important high days such as Christmas, New Year's Day, the Epiphany, Ash Wednesday or Ascension Day, work did not entirely come to a standstill, which is not really a surprise as dispensations were easy to get. A few examples may solidify this hypothesis. Mathias Sicoty, a merchant, had been working until one o'clock p.m. on Christmas Eve in 1761, when he went to the post office to send a letter. He pushed the letter into the mailbox, whereupon he noticed that there were bird droppings on his hand. Postmaster Pierre Baraux was alarmed and rushed from his office to ascertain that the box had been soiled. Laudaens, another merchant, affirmed that he and Mathias had come from the Stock Exchange to post a letter.⁵⁸ Apparently, the three men were up and about, tending to business affairs, on one of the traditional high days on the Christian calendar.

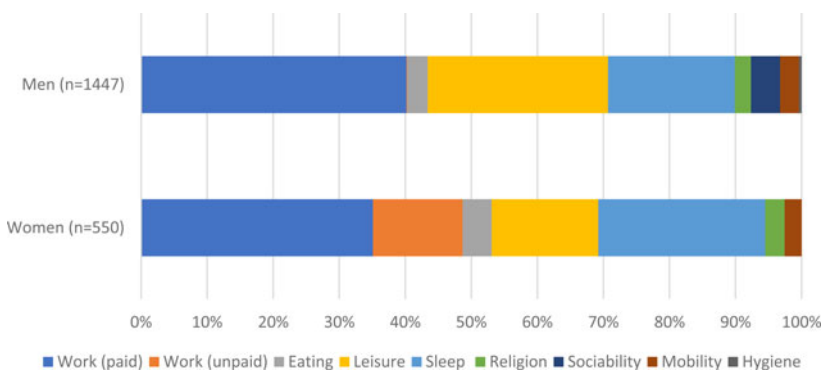
Unfortunately, it is impossible to trace evolutions over the long run, as the low number of observations on Saint's days – only 126 statements in total – in the sample would render the whole model unstable. Therefore, it had to be taken for granted that the number of feast days remained virtually unchanged throughout the late eighteenth-century, whereby a best (based on 16 days) and worst-case scenario (based on 35 days) has been computed.⁵⁹ Estimates from the above-mentioned, full time-budget analysis suggests that a – more or less – stable scenario, whereby little if any change occurred, was a plausible one, as an (abrupt) reduction in the number of feast and Saint's days would have left its mark in average daily labour rhythms (Graph 2). A cutback would have boosted everyday labour input in the late eighteenth-century, especially when compared to the pre-1750 levels. In reality, the daily labour effort hardly changed in the long eighteenth-century (Graph 2). This chimes with the more qualitative research of Thijs Lambrecht, who found

that the festive calendar of the Spanish Netherlands had already been considerably pruned back in the late seventeenth and early eighteenth-century.⁶⁰

5. Social rhythms

According to de Vries' initial hypothesis, the industrious revolution not only materialised in a higher labour input of men, who reduced their leisure time by toiling longer on Mondays, Saint's days and other holidays; it also took shape in a higher participation of other family members. Women and children were increasingly put to work to support the family purse.⁶¹ Hans-Joachim Voth endorsed the idea: London women were initially less engaged on the labour market than men. They were responsible, though, for the lion's share of household work. Unfortunately, due to small-number statistics, Voth was unable to trace long-term evolutions in these gendered labour rhythms.⁶² More recently, Humphries, Horrell and Weisdorf have argued how the rise in family incomes in the late eighteenth-century might be explained by an increase in industriousness of all family members. Men, women and children would have combined forces to buy all sorts of new luxuries. Working harder and longer lined the family purse.⁶³ Delving into the Württemberg court proceedings, Sheilagh Ogilvie paints a quite different scenario, as strict rules and regulations impeded female participation on the German labour market. Industriousness was nipped in the bud by conservative casuistry, whereby craft guilds, parishes and other bodies curtailed any available space for women, who were predominantly found at the fireside. Ogilvie persuasively argues that North Atlantic miracle economies were not necessarily emblematic for evolutions in Central Europe or elsewhere.⁶⁴ Drawing evidence from the business administration of British, French and German paper mills, Leonard Rosenband painted yet another picture. Women – and children – had been part of the production process since time immemorial.⁶⁵

Even though Antwerp could scarcely be labelled as a 'miracle economy', the local labour division mirrored London rather than Württemberg, as Antwerp women were (almost) fully engaged on the labour market. Time-budget analysis evidences that they may have worked somewhat less than their husbands, fathers, sons and other male relatives, yet the differences were small (Graph 5). On average, male

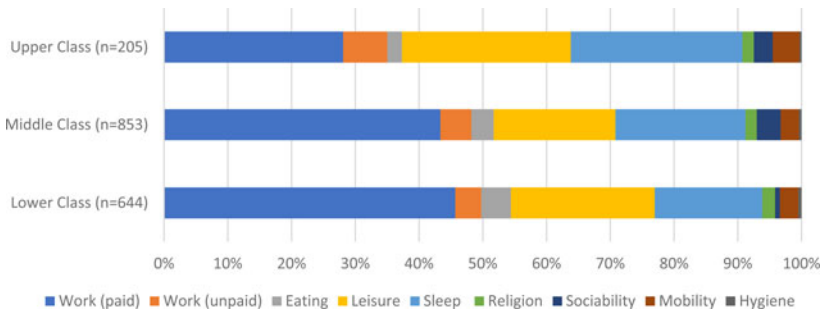


Graph 5. Labour input and other activities by gender (1585–1790) ($n = 1997$).

eyewitnesses reported 9:38 hours of work per day, while female interviewees recorded 8:25 hours.⁶⁶ Female participation was traditionally high in retail, services and low-skilled labour, but low in the more traditional sectors that were dominated by the craft guilds. Especially in Antwerp, where low-paid jobs in sweatshops for spinning, lace-making, calico-printing and other industries were increasingly being reserved for women and children, the prominent female presence was not surprising.⁶⁷ Antwerp women were not only (almost) fully engaged in wage labour and retail, but they were also responsible for the lion's share of household jobs. Washing, cooking, cleaning, childcare, shopping, gardening and other domestic chores were predominantly female activities (Graph 5). Women spent, on average, more than three hours a day on odd jobs, while men barely put in two minutes. Productive time – both paid and unpaid labour – swallowed almost half (48 per cent) of the daily time-budget of women, which was considerably higher than the everyday effort (40 per cent) of men. Leisure was, by contrast, much more restricted, such that women had barely half of the leisure time of their male counterparts.⁶⁸ It mirrors some deeply ingrained gender variations that still survive today, where many women have to combine a professional career with a long list of household chores. Today, the tension leads to a *time squeeze*, whereby women's leisure is highly fragmented and under heavy strain.⁶⁹ It is not unlikely that eighteenth century women experienced a similar time pressure.

Did female participation on the Antwerp labour market increase drastically in the course of the eighteenth century? Due to the relatively small numbers, it would be unwise to divide the sample further into chronological subsamples to trace evolutions, yet, once again, the above-mentioned data from the full time-budget analysis (Graph 2) casts some serious doubt on such a scenario. A massive influx of women on the Antwerp labour market in the late eighteenth-century would have created a spike in the graph, while, in reality, the overall labour input remained relatively stable over the long run. The Vierschaar evidence corroborates previous research of, for instance, Laura Van Aert, who traces back the strong participation of Antwerp women on the labour market to the late sixteenth-century.⁷⁰

Unfortunately, the Antwerp eyewitness reports do not provide much information about children as they were rarely if ever called to testify in court (Table 1). Barely 1.2 per cent of the eyewitnesses of the Hoge Vierschaar were under the age of 16. Therefore, it is virtually impossible to test a small – yet important – part of de Vries' hypothesis that eighteenth century parents lined their family purse by putting their children to work. Industriousness would have been powered by large-scale exploitation of child labour: a gloomy hypothesis which has been recently supported by the research of Horrell, Humphries and Weisdorf.⁷¹ Even though the small-number statistics require some caution, the Antwerp material seems to point in the same direction. While before 1750 barely one out of ten activities reported by Antwerp children was related to work, it seems to have risen to two out of nine in the period 1776–1790. Yet, at the same time, the results from the full time-budget analysis (Graph 2) cast some serious doubt on the fact that this extra influx of (child) labour power really mattered for the Antwerp economy as a whole. It did not boost the overall labour input. Labour levels remained rather stable throughout the eighteenth century or even decreased slightly.



Graph 6. Labour input and other activities by class (1585–1790) (n = 1702).

Last but not least, there is also a class dimension, as Jan de Vries' theory suggests that the new-found industriousness was first and foremost a middle-class phenomenon. Upstarts from the middling sorts were mesmerised by Populuxe goods and exotic wares and were keen to put in some extra hours to purchase all these new consumer goods. Later on, this mix of consumerism and industriousness trickled down to the lower tiers of society.⁷² To discover class differences in labour rhythms, the Antwerp sample was divided into three subcategories based on the occupation of the eyewitnesses: upper class (elites, merchants and liberal professions), middle class (artisans and retailers) and lower class (unskilled labourers and servants). Long working hours were the norm for middle- and lower-class witnesses in Antwerp with, respectively, 10–11 hours a day, which seems to suggest that the scope for an extra bout of industriousness was rather small (Graph 6). It would also have left a trace in the more general data about labour in early modern Antwerp (e.g. Graph 2), yet that is not the case. Instead of a spike, the curve flattens out in the late eighteenth-century.

6. Antwerp versus London

Now that all pieces of the puzzle are present, we can estimate the overall labour input on an annual basis. For London, Hans-Joachim Voth unearthed some conclusive data about an impressive, late eighteenth-century boom in working hours: between 1760 and 1830, the total work effort would have increased markedly, from 2,288 hours to a staggering 3,366 hours a year. It hints at a serious reduction of leisure time – in particular through the elimination of Saint-Monday and, on a second level, by a cutback in holidays – alongside a surge of industriousness. Londoners put in more hours to support the family purse, as de Vries' theory had projected.⁷³ New evidence gathered by Horrell, Humphries and Weisdorf on annual wages corroborates these findings of a late eighteenth-century spike in labour efforts.⁷⁴ Drawing evidence from the *examinatieën en informatieën*, a similar model can be built for early modern Antwerp. Two methodologies have been used to estimate the annual labour input (Table 5). First, the findings from the time-budget analysis can be extrapolated. On average, labourers toiled 9:28 hours a day before 1750, and 9:07 hours in the late eighteenth-century. Multiplied by

365 days, these figures hardly point to an industrious revolution – on the contrary, the overall labour effort seems to have decreased slightly from 3,457 to 3,326 hours a year. As labour input had already reached its apex before 1750, they rather evidence invariable industriousness than an abrupt revolution. Comparable results can be obtained from a more finely grained estimate which discriminates between weekdays, Mondays and Sundays: Antwerp labourers toiled long hours (3,341 hours a year) compared to their British colleagues. Antwerp data are also at odds with the classic Freudenberg and Cummins hypothesis, which argues that strenuous and backbreaking labour was simply impossible before the Industrial Revolution, as chronic undernourishment and pitiful health impeded too much physical strain. Saint-Monday, Saint's days and other holidays were essential to regain one's strength and to restore the balance between hard work and a meagre, low-calorie diet (Table 5).⁷⁵

One might still argue that time-budget analysis is not the most sensitive methodology to trace evolutions in everyday time management. Therefore, we have developed a second model. Maybe, the 'start-stop methodology' is in this case, more reliable. In order to estimate annual labour input properly, we have to discriminate between ordinary weekdays, Mondays, Sundays and holidays (Table 5). Labour did not entirely come to a standstill on Sundays and Saint's days, as we have seen earlier, yet, for the sake of clarity they have been marked as free days in the model. Based on Moretus' payrolls, it was estimated that work ceased on 52 Sundays and 16 holidays – the best-case scenario – which implies that there are 245 ordinary weekdays. Taking into account that the average daily work effort on these weekdays increased slightly from 11.67 to 11.83 hours a day, the total labour input would also have received a modest boost (Table 5). However, at the same time, the labour intensity on Monday decreased, from 10.34 to 5.77 hours a day, leading to the conclusion that the overall labour effort in Antwerp remained relatively stable during the eighteenth century, or even decreased slightly, from 3,304 to 3,104 hours a year. Obviously, these figures should be taken with a grain of salt, as the start-stop methodology approximates a theoretical best-case scenario of an average work day that was not interfered with by bitter frost, heavy showers, sweltering heat, and other weather conditions, lack of raw materials, strikes and other calamities. In reality, these unforeseen interruptions were part-and-parcel of the early modern production process.⁷⁶

Drawing new evidence from the payrolls of construction workers at St. Paul's Cathedral, Judy Stephenson was able to trace the whimsical rhythm of pre-modern labour. Few if any of the stonemasons, fitters, hewers, layers and unskilled labourers worked more than 5 days a week or more than 40 weeks in a year. Only a small minority of skilled workers enjoyed a more or less regular working week or year, while the majority were hired and fired depending on the circumstances. Down the ladder, unskilled labourers were probably constantly on the lookout for a new job, either voluntarily or forced. (Precious) Time was lost in this never-ending job changing.⁷⁷ Unskilled labourers – and, to a certain extent, even a master stonemason – could probably only dream of the regular, well-filled work scheme of 11 or 12 hours a day that is hypothesised in the start-stop methodology. However, these disruptions left their trace in the time-budget analysis. Facing bad weather, lack of raw materials and short-term unemployment, an average of nine hours a day may

Table 5. Estimates for labour input in Antwerp (1585–1790)

	Daily	Annual
Full time-budget analysis		
<1750	9.47	3,457
1776–1790	9.11	3,326
Time-budget analysis per day		
Sunday	4.73	246
Monday	8.57	445
Weekday	10.16	2,650
		3,341
Start-Stop Methodology (<1750)		
Weekday	11.67	2,766
Monday	10.34	538
Sunday		0
Holiday		0
		3,304
Start-Stop Methodology (1776–1790)		
Weekday	11.83	2,804
Monday	5.77	300
Sunday		
Holiday		
		3,104

be more plausible (Graph 2). Both methodologies lead to the same conclusion: late eighteenth-century Antwerp saw no abrupt rise in working hours. Unlike the British metropolis, there is little if any evidence that the commercial hub of the Austrian Netherlands experienced an industrious revolution on the eve of the French Revolution.

7. Conclusion

Drawing evidence from the *examinatieën en informatieën*, new data on early modern labour rhythms can be collected, that seem to put Jan de Vries' classic hypothesis in a new perspective. Contrary to expectations, Antwerp did not seem to witness an industrious revolution in the (late) eighteenth century. Its 'invariable industriousness' is completely at odds with the classic scenario of a surge in working hours that seems to have revolutionised labour markets in London, Amsterdam and other Northwest European metropolises. The contrast is all the more puzzling as all the classic ingredients were there. Detailed research of post-mortem inventories and other sources has shown that Antwerp witnessed its own consumer (r)

evolution in the eighteenth century, as the lists of chattels and goods – and especially the sprawl of new luxuries – became ever longer. At the same time, real wages stagnated or even plummeted in the fitful economic climate. Industriousness – the second ingredient in the twin hypotheses – would have solved the paradox, but Antwerp labour rhythms remained remarkably stable in the (late) eighteenth century. It raises some new questions. Why did Antwerp miss out on an evolution that rocked the foundations of labour regimes in other European cities? How can the contradiction between the twin theories on consumption and industriousness be explained?

Looking at the *examinatieën en informatieën*, the first question looks less complicated than the second. Antwerp may not have witnessed an industrious revolution in the (late) eighteenth century as the elbowroom of labourers to raise their efforts was simply too small. Full time-budget analysis, start-stop methodologies, and logistic regression hint at a virtually unchanging high level of industriousness. Working days were already protracted before 1750. Antwerpers did not only work many hours every day, but they also worked six days a week. Apparently, Saint-Monday was rarely if ever observed along the banks of the Scheldt. Feast and holidays may have provided a welcome escape from the daily work regimen, but evidence suggests that even on Christmas, New Year's Eve, the Epiphany, Shrove Tuesday, Whitsun, Our Lady Ascension and other high days, work hardly came to a complete standstill. Findings also cast doubt on the assumption that the influx of women and children into the workplace tipped the balance. Antwerp women were already fully engaged in the local economy before 1750 and their *time squeeze* – a mix of wage labour and household chores – did not leave much room for more industriousness. From the late seventeenth-century onwards, Antwerp labourers were already at the end of their tethers. The space for an extra exertion of industriousness was simply too small. At least, in terms of working hours, for it is still possible that they increased their work pace in terms of efficiency or in other more subtle ways.

It strengthens the idea that Antwerp might have witnessed an industrious revolution at an earlier stage: rather than being fashionably late, the commercial hub of the Habsburgian Netherlands may well have been energetically early. An obvious period to look for industriousness would be the late sixteenth-century, when Antwerp witnessed a brief Golden Age followed by a cataclysmic economic meltdown in 1585, before the city lost its supremacy to Amsterdam. Moreover, detailed research has shown that a material renaissance deeply reshuffled families' chattels and goods in the sixteenth century.⁷⁸ More research is needed to flesh out this bare-bone hypothesis. Yet, even so, the Antwerp case cautions against an incautious application of the concept of the industrious revolution. London, Amsterdam and Antwerp already differed as chalk from cheese in this regard. It is likely that the timing and impact was even more different in Central Europe, along the Mediterranean, or in the Nordic countries. Further research will help to concretise these differences in time and space.

Lastly, the findings on early modern Antwerp seem to cast some serious doubt on the relation between industriousness and consumer behaviour, as the link between the twin hypotheses seems missing. During the eighteenth century – and especially in the final decades of the Ancien Régime – Antwerp was flooded

by an endless variety of fashionable and exotic goods, which, slowly but surely, trickled down to the lower tiers of society. At least, that is what traditional research based on post-mortem inventories has revealed. Industriousness would have been vital to pay for all these new luxuries. Nevertheless, two new theories have cast some doubt on this scenario. First of all, a range of experts have argued that the early modern material culture saw some fundamental changes: a set of relatively few, durable, high-quality and expensive goods made way for a mass of fashionable but fragile objects, that were notably less expensive. Relative price changes rather than industriousness might have been the driving force between the transformations in material culture.⁷⁹ Secondly, based on new estimates and a more thorough social benchmarking of post-mortem inventories, an alternative hypothesis has been formulated. New luxuries might have been less evenly spread across society than assumed and were predominantly hoarded by the members of the small upperclass of Antwerp society, who had accumulated immense wealth in the late sixteenth and early seventeenth-centuries. Coffee and tea sets, pocket watches, snuffboxes, porcelain, lacquer and other such refinements underlined their fashionable, cosmopolitan and genteel taste.⁸⁰ Consumer (r)evolutions along the Scheldt may have been a symptom of festering social inequality rather than the embodiment of blue-collar industriousness. While Antwerp elites sipped at their coffee and chocolate in their lush mansions, the underbelly seems to have worked its guts out.

Notes

1 For the original hypothesis: Jan de Vries, 'The industrial revolution and the industrious revolution', *Journal of Economic History* 54 (1994), 249–70; Jan de Vries, 'Between purchasing power and the world of goods: understanding the household economy in early modern Europe', in John Brewer and Roy Porter eds., *Consumption and the world of goods* (London, 1993), 85–132. A more recent synthesis is Jan de Vries, *The industrious revolution. Consumer behavior and the household economy, 1650 to the present* (Cambridge, 2008).

2 Some classic texts are Frank Trentman, *Empire of Things. How we became a world of consumers from the fifteenth century to the twenty-first* (London, 2016), 53–8; Daniel Roche, *A history of everyday things. The birth of consumption in France, 1600–1800* (Cambridge, 2000); Raffaella Sarti, *Europe at home. Family and material culture, 1500–1800* (New Haven, 2002); Lorna Weatherill, 'The meaning of consumer behaviour in late seventeenth- and early eighteenth-century England', in John Brewer and Roy Porter eds., *Consumption and the world of goods* (London, 1993), 206–27; Bruno Blondé and Wouter Ryckbosch, 'In "splendid isolation"'. A comparative perspective on the historiographies of the "material renaissance" and the "consumer revolution"', *History of Retailing and Consumption* 1 (2015), 105–24.

3 For Britain: Joseph Harley, 'Consumption and poverty in the homes of the English poor, c. 1670–1834', *Social History* 43 (2017), 81–104. Harley elaborated on an older theme: Peter King, 'Pauper inventories and the material lives of the poor in the eighteenth and early nineteenth centuries', in Tim Hitchcock, Peter King and Pamela Sharpe eds., *Chronicles of poverty: the voices and strategies of the English poor, 1640–1840* (Basingstoke, 1997), 155–91. For the Dutch Republic: Anne McCants, 'Exotic goods, popular consumption, and the standard of living: thinking about globalization in the early modern world', *Journal of World History* 18 (2007), 443–62.

4 For some critical notes: Leonard Rosenband, 'The industrious revolution: a concept too many', *International Labor and Working-Class History* 90 (2016), 213–43; Alexis Litvine, 'The industrious revolution, the industriousness discourse, and the development of modern economies', *The Historical Journal* 57 (2014), 531–70; Trentman, *Empire of Things*, 74–5; Sheilagh Ogilvie, 'Consumption, social capital, and the industrious revolution in early modern Germany', *Journal of Economic History* 70 (2010), 287–325; Elise van Nederveen-Meerkerk, 'The industrious revolution. Consumer behaviour and the household economy by Jan de Vries', *Tijdschrift voor Sociale en Economische Geschiedenis* 6 (2009), 175–7.

- 5 Hans-Joachim Voth, 'Time and work in eighteenth-century London', *Journal of Economic History* 58 (1998), 29–58; Hans-Joachim Voth, 'Time-use in eighteenth-century London: some evidence from the Old Bailey', *Journal of Economic History* 57 (1997), 497–9; Hans-Joachim Voth, 'The longest years: new estimates of labor input in England, 1760–1830', *Journal of Economic History* 61 (2001), 1056–82; Joel Mokyr and Hans-Joachim Voth, 'Understanding growth in Europe, 1700–1870: theory and evidence', in Stephen Broadberry and Kevin O'Rourke eds., *The Cambridge economic history of modern Europe: volume I – 1700–1870* (Cambridge, 2012), 7–42. For a broad overview: Hans-Joachim Voth, *Time and work in England during the industrial revolution* (Cambridge, 2012), 164–84.
- 6 Some pioneering articles in this regard are Robert Allen and Jacob Weisdorf, 'Was there an "industrious revolution" before the industrial revolution? An empirical exercise for England, 1300–1800', *Economic History Review* 64 (2011), 715–29; Jane Humphries and Jacob Weisdorf, 'Unreal wages? Real income and economic growth in England, 1260–1850', *Economic Journal* 129, 623 (2019), 2867–87. doi:10.1093/ej/uez017; Sara Horrell, Jane Humphries and Jacob Weisdorf, 'Working for a living? Women and children's labour inputs in England', *Oxford Economic and Social History Working Papers* 172 (2019), 1–59. For a more negative view, see Gregory Clark and Ysbrand van der Werf, 'Work in progress? The industrious revolution', *Journal of Economic History* 59 (1998), 830–43.
- 7 Ogilvie, 'Consumption', 287–325.
- 8 Today, the files are stored in the Felixarchieff (the Antwerp City Archives): FeA, V 123, *Examinatieën en Informatieën* (1530–1795). More background on these local, Brabantine court in: Jos Monballyu, *Six centuries of criminal law. History of criminal law in the southern Netherlands and Belgium (1400–2000)* (Leiden, 2014), 411–28; Wim Meewis, *De Vierschaar. De criminele rechtspraak in het oude Antwerpen van de 14^{de} tot de 18^{de} eeuw* (Kapellen, 1992).
- 9 Bruno Blondé and Ilja Van Damme, 'Retail growth and consumer changes in a declining urban economy (1650–1750)', *Economic History Review* 63 (2010), 638–63; Bruno Blondé, 'Tableware and changing consumer patterns. Dynamics of material culture in Antwerp, 17th and 18th centuries', in Johan Veeckman eds., *Majolica and glass. From Italy to Antwerp and beyond. The transfer of technology in the 16th–early 17th century* (Antwerp, 2002), 295–311. In a more recent article, Blondé and Ryckbosch trace back the roots of this evolution to the sixteenth century: Blondé and Ryckbosch, 'In splendid isolation', 105–24.
- 10 Blondé and Van Damme, 'Retail growth', 639–41; Catharina Lis and Hugo Soly, *Disordered lives. Eighteenth-century families and their unruly relatives* (Cambridge, 1996), 44–7; Wouter Ryckbosch, 'Economic inequality and growth before the industrial revolution: the case of the low countries (14th to 19th centuries)', *European Review of Economic History* 20 (2016), 1–22.
- 11 Karl Schreiner, 'Abwuerdigung der Feiertage – Neuordnung der Zeit im Widerstreit zwischen religiöser Heilssorge und wirtschaftlichen Fortschritt', in Arndt Brendecke, Ralf-Peter Fuchs and Edith Köller eds., *Die Autorität der Zeit in der Frühen Neuzeit* (München, 2003), 257–303. For a revisionist approach: Thijs Lambrecht, 'Les fêtes religieuses et le travail dans les Pays-Bas méridionaux, XVIIe et XVIIIe siècles', in Corine Maitte and Didier Terrier eds., *Les temps du travail. Normes, pratiques, évolutions (XIVe-XIXe siècle)* (Rennes, 2014), 43–62.
- 12 Felixarchieff Antwerpen (FeA), V 92, *Examination of Maria Lauwers* (5 June 1730).
- 13 Files of the *Vierschaar* have already been successfully used to mine data on early modern time awareness: Bruno Blondé and Gerrit Verhoeven, 'Against the clock: time awareness in early modern Antwerp, 1585–1789', *Continuity and Change* 28 (2013), 213–44.
- 14 Unfortunately, these observations are not evenly spread over the centuries since the files of the *Hoogere Vierschaer* became more extensive at the end of the eighteenth century. As a consequence, in our sample there are 585 observations for 1585–1750 (29.5 per cent), 654 for 1751–1775 (33 per cent) and 741 for 1776–1790 (37.4 per cent).
- 15 More background on the social bias of these sources: Blondé and Verhoeven, 'Against the clock', 213–44; Gerrit Verhoeven, 'Le pays où on ne sait pas lire. Literacy, numeracy, and human capital in the commercial hub of the Austrian Netherlands (1715–75)', *European History Quarterly* 44 (2014), 223–43. Hans-Joachim Voth points out similar problems for the Old Bailey: Voth, *Time and work*.
- 16 Jane Whittle, 'A critique of approaches to "domestic work": women, work, and the pre-industrial economy', *Past and Present* 243 (2019), 35–69; Mark Hailwood, 'Time and work in rural England, 1500–1700', *Past and Present* 248 (2020), 87–121.
- 17 Except for Voth, there are only a few examples of historians who have used these sources in a similar way: Keith Wrightson, 'Popular senses of past time: dating events in the North Country, 1615–1631', in

Michael Braddick and Phil Withington eds., *Popular culture and political agency in early modern England and Ireland* (Woodbridge, 2017), 91–108; Gerard Moran, 'Conceptions of time in early modern France: an approach to the history of collective mentalities', *Sixteenth Century Journal* 4 (1981), 3–19.

18 Some examples of current, sociological *time-diary analysis*: Henri Lefebvre, *Rhythmanalysis. Space, time and everyday life* (London, 2017); Dale Southerthorn, 'Analysing the temporal organization of daily life: social constraints, practices and their allocation', *Sociology* 40 (2006), 435–54; Ignace Glorix et al., 'Exploring the stable practices of everyday life: a multi-day time-diary approach', *The Sociological Review* 65 (2017), 745–62.

19 For example, there were 49 eyewitnesses who reported work as their main activity for the timeslot 10:00–10:59, 11 eyewitnesses mentioned household chores, 2 eating, 3 sleep, 2 religion, 1 mobility, 1 hygiene, which was converted into 37 minutes of payed work, 8 minutes of household chores, 2 minutes for eating, 8 minutes for leisure and so on. Later on, the figures were aggregated on a 24-hours base.

20 For this common methodological flaw, see Voth, 'The longest years', 1056–82; Voth, 'Time and work', 29–58.

21 Logistic regression and the start-stop methodology have also been applied by Hans-Joachim Voth on the Old Bailey material. Over the years, these methodologies were slowly but surely finetuned: Voth, 'Time and work', 29–58; Voth, 'Time-use', 497–9; Voth, 'The longest years', 1056–82; Voth, *Time and work*.

22 Voth, *Time and Work*, 166–9; Voth, 'The longest year', 1069.

23 Contrary to our expectations, the time-budget for unpaid work slightly increased during the eighteenth century, from 1.27 hours (before 1750) to 1.52 hours (1776–1790). This is at odds with de Vries' suggestion that these tasks were ever more contracted out. De Vries, *The industrious revolution*, 87.

24 Based on the estimates for the different periods: 9:28 hour (>1750), 8:45 (1750–1775), 9:07 (1775–1790).

25 Today, it is one of the most widely used methodologies in sociology of time-use: Glorieux and, 'Exploring the stable practices of everyday life', 745–62.

26 There are 62 statements about the start of the workday, while 106 refer to the end of the workday. Lunch is recorded in only 25 observations. For a similar methodology: Voth, *Time and work*.

27 Due to small-number statistics (there are only 25 observations about lunch), it is impossible to calculate the exact length for the lunch breach for each sample. Especially for the early eighteenth-century, data are lacking. Hence, we took an average for the whole period. Lunch started, on average, at 12:12 (mean 12:00) and ended around 13:43 (mean 13:30). For the whole period, the lunch has been calculated at 1:30.

28 Night- or evening workers such as innkeepers, watchmen or cesspit cleaners have been removed from the sample as they usually worked until deep in the night. Drawing evidence from the Quarter Sessions in South-West England, Mark Hailwood recently came to a similar conclusion that work frequently dragged on into the evening or even the night. Hailwood, 'Time and work', 87–121.

29 FeA, V 122, *Examination of Matheys Merckx*, 5 May 1789.

30 Voth, *Time and work*, 166–7. For other estimates on the length of the working day: G. Dohrn-van Rossum, 'Time', in Hamish Scott ed., *The Oxford handbook of early modern history, 1350–1750* (Oxford, 2015), 145–64; Anne Murphy, 'Clock-watching: work and working time at the late eighteenth-century bank of England', *Past and Present* 236 (2017), 99–132; Judy Stephenson, 'Looking for work? Or looking for workers? Days and hours of work in London construction in the eighteenth century', *Discussion Papers in Economic and Social History* 162 (2018) 1–31.

31 Rosenband, 'The industrious revolution', 213–43.

32 Edward Thompson, 'Time, work-discipline, and industrial capitalism', *Past and Present* 38 (1967), 56–97. David Landes copy-pasted the argumentation in: David Landes, *Revolution in time. Clocks and the making of the modern world* (Cambridge, 2000), 240–42. For a more critical interpretation of the effects of the Industrial Revolution: Hailwood, 'Time and work', 87–121; Vanessa Ogle, 'Time, temporality, and the history of capitalism', *Past and Present* 243 (2019), 312–27; Jeremy Stein, 'Reflections on time, time-space compression, and technology in the nineteenth century', in Jon May and Nigel Thrift eds., *TimeSpace. Geographies of temporality* (London, 2001), 106–19; Dohrn-van Rossum, 'Time', 159–61.

33 Robert Darnton, *The business of enlightenment. A publishing history of the encyclopédie* (Cambridge, 1979), 220–7. A classic read is also Sidney Pollard, 'Factory discipline in the industrial revolution', *The Economic History Review* 16 (1963), 254–71.

34 The break/work ratio evolved from 2.4 before 1750 to 5.4 in 1750–1775, to 3.1 per cent from 1776–1790. Unfortunately, comparable figures are missing for London, as Hans-Joachim Voth did not retrace this information. Voth, *Time and work*.

- 35 More on the specific timing of breakfast in the early modern period: Alison Smith, 'Family and domesticity', in Kel Albala ed., *A cultural history of food in the renaissance* (London, 2012), 135–50; Gerrit Verhoeven, 'Dining out! Food culture and social practices in late eighteenth-century Antwerp', *Food and History* 14 (2016), 3–19.
- 36 FeA, V 122, *Examination of Matheys Merckx*, 5 May 1789.
- 37 Some illustrative examples: FeA, V 124, *Examination of Francis Zander Mertens* (13 September 1791); FeA, V 104, *Examination of Abraham de Laet*, 20 July 1753; FeA, V 109, *Examination of Francis Elhofs*, 14 July 1773. It is at odds with the classic stereotype of lazy and slothful early modern labourers. A more critical analysis: De Vries, 'The industrial and industrious revolution', 258.
- 38 Voth, *Time and work*, 129–32; Voth, 'Time and work', 34–5.
- 39 Some classic literature in this regard is Douglas Reid, 'Weddings, weekdays, work and leisure in urban England, 1791–1911: the decline of Saint Monday revisited', *Past and Present* 153 (1996), 135–63; Mark Harisson, 'The ordering of the urban Environment: time, work and the occurrence of crowds, 1790–1835', *Past and Present* 110 (1986), 134–68; David Landes, 'Debate: the ordering of the urban environment: time, work and the occurrence of crowds, 1790–1835', *Past and Present* 116 (1987), 192–9. According to the German expert Gehrard Dohrn-van Rossum, Saint-Monday was also widely observed in other parts of Europe. Dohrn-van Rossum, 'Time', 154.
- 40 Note that, even on Sunday, work did not completely come to a standstill. For similar evidence, see Hailwood, 'Time and work', 87–121. Judy Stephenson argues that Saint Monday was also only rarely observed among the construction workers of St. Paul's Cathedral in London: Stephenson, 'Looking for work', 16–7.
- 41 FeA, V 103, *Examination of guilielmus Colember*, 17 December 1752. Thanks to research by Johan Paukens on inns in the Austrian Netherlands, we know that Sunday was the most popular day to visit a public house. Monday was somewhat more popular than other weekdays, but the differences were fairly small.
- 42 Hans-Joachim Voth introduced this methodology in: Voth, *Time and work*, 125–8. Various tests show that the Antwerp findings are robust. For instance, the predictable value rises from 57.9 to 60.1 per cent between block 0 and block 1, while the Omnibus Test has a value of 0.00 and the Nagelkerke R square is 1.
- 43 Various indicators in the logit show that Monday was rather an ordinary weekday than a weekend day. The Wald values were, for example, much lower than on Sunday, while the Exp (B) (or the odds ratio of finding people at work were much higher during weekdays (including Monday) than on Sunday). Moreover, low significance levels reveal that these results are significant.
- 44 Looking at the incidence of pub-going in Hasselt (to the east Antwerp), Johan Poukens concluded that Monday was not really deviating from the norm. Pub-crawling traditionally reached its zenith on Sunday, while attendance was much lower on Monday. Johan Poukens, 'Tijdspatronen van herbergbezoek in Hasselt en het prinsbisdom Luik (1500–1800)', *Jaarboek van het Limburgs Geschied- en Oudheidkundig Genootschap* 146 (2010), 163–95.
- 45 Stephenson, 'Looking for work', 16–7; Rosenband, 'The industrious revolution', 227; Hailwood, 'Time and work', 87–121.
- 46 The Exp (B) – the odds ratio of working – shows a steady increase. Only Friday is a bit out of tune.
- 47 Voth, *Time and work*, 126–7; Landes, 'Debate', 196.
- 48 Calculations based on: FeA, IB 2584, *Labourers at kasteel Ravenhof (1775–76)*.
- 49 Both the Wald as the Exp (B) values suggest that the odds of working on Monday decreased significantly during the late eighteenth-century.
- 50 Voth, *Time and work*, 127.
- 51 It is in line with Leonard Rosenband's conclusion that early modern craftsmen were already accustomed to long and strenuous hours long before the onset of industrialisation. Rosenband, 'The industrious revolution', 213–43.
- 52 More background on the importance of these holidays: Herman Freudenberg and Gaylord Cummins, 'Health, work, and leisure before the industrial revolution', *Explorations in Economic History* 13 (1976), 1–11; Schreiner, 'Abwertung der Feiertage', 257–303; Vries, *The industrious revolution*, 85–8; Dohrn-van Rossum, 'Time', 154; Rosenband, 'The industrious revolution', 231–3; Ronald Hutton, *The stations of the sun. A history of the ritual year in Britain* (Oxford, 1996). For the Austrian Netherlands: Lambrecht, 'Les fêtes religieuses', 43–62.

- 53 Voth, *Time and work*, 142–9. This is at odds with Judy Stephenson's findings that the construction workers of St. Paul's had few if any holidays. Work only ceased around Christmas and Easter. Stephenson, 'Looking for work', 12–3.
- 54 Lambrecht, 'Les fêtes religieuses', 43–62; Schreiner, 'Abwuerdiging', 257–303.
- 55 Calculations based on: FeA, IB 2584, *Labourers at kasteel Ravenhof (1775–76)*.
- 56 Thijs Lambrecht came to a similar conclusion in his research based on regulation, lists of fines and other sources: Lambrecht, 'Les fêtes religieuses', 43–62. For similar observations in Britain: Stephenson, 'Looking for work', 12–3.
- 57 Unfortunately, due to small-number statistics the predictable nature of the model is less reliable. With 0.000, the Omnibus test is good, but the Nagelkerke R Square is only 0.54 (while it should tend to 1). Likely, the instability of the model is caused by the low number of observations on feast-days (with 0.275, the results are not really significant).
- 58 Some examples in: FeA, V 105, *Examination of Mathias Sicoti* (24 December 1761); FeA, V 105, *Examination of Pierre Baraux* (24 December 1761).
- 59 Moretus' payrolls were used for the best-case scenario, while the worst-case scenario was based on the gloomiest estimates from Catholic areas. Schreiner, 'Abwuerdiging', 257–303.
- 60 Lambrecht, 'Les fêtes religieuses', 43–62.
- 61 De Vries, *The industrious revolution*, 105–11; De Vries, 'The industrial and industrious revolution', 257–61.
- 62 Voth, *Time and work*, 149–52.
- 63 Allen and Weisdorf, 'Was there an industrious revolution', 715–29; Horrell, Humphries and Weisdorf, 'Working for a living', 1–59; Humphries and Weisdorf, 'Unreal wages', 1–18.
- 64 Ibid.
- 65 Rosenband, 'The industrious revolution', 215, 237.
- 66 Note that these figures are much higher than the traditional estimates about female labour participation. In a recent paper, Horrell, Humphries and Weisdorf estimate that women only worked one or two days a week (20–40 per cent of the male work load), while the Antwerp estimates point at more than 80 per cent. See Horrell, Humphries and Weisdorf, 'Working for a living?', 1–59.
- 67 Blondé and Van Damme, 'Retail growth', 639–40; Laura Van Aert, *Leven of overleven? Winkelhouden in crisistijd: de Antwerpse meerseniers (1648–1748)* (Antwerp, 2008), 95–9; 156–7; Lis and Soly, *Disordered lives*, 44–50. For an international perspective on the debate about the inclusion or exclusion of women on early modern labour markets: Sheilagh Ogilvie, *A bitter living. Women, markets, and social capital in early modern Germany* (Oxford, 2003), 115–6, 141–55; 171–2; Laura Gowing, 'The freedom of the streets: women and social space', in Paul Griffiths and Mark S. R. Jenner eds., *Londinopolis: essays in the cultural and social history of early modern London* (Manchester, 2000), 130–51.
- 68 Women spent 3:52 hours on average on leisure, while men reported 6:33 hours. Hans-Joachim Voth also saw some highly gendered variations in paid work, household chores and leisure in London. Voth, *Time and work*, 149–52.
- 69 For instance: Judy Wacjman, 'Life in the fast lane? Towards a sociology of technology and time', *The British Journal of Sociology* 59 (2008), 64–5; Glorieux, Minnen and Van Tienhoven, 'Exploring the stable practices', 745–62.
- 70 Van Aert, *Leven of overleven?*, 95–9; 156–7; Laura Van Aert, 'The legal possibilities of Antwerp widows in the late sixteenth century', *History of the Family* 12 (2007), 282–95.
- 71 De Vries, *The industrious revolution*, 87, 111. More evidence on this hypothesis: Horrell, Humphries and Weisdorf, 'Working for a living?', 1–59.
- 72 De Vries, *The industrious revolution*, 54–6.
- 73 Hans-Joachim Voth encourages such an interpretation: Voth, *Time and work*, 167–83, 280–96. Later on, these findings were integrated in de Vries' hypothesis. De Vries, *The industrious revolution*, 92–3.
- 74 Allen and Weisdorf, 'Was there an industrious revolution', 715–29; Horrell, Humphries and Weisdorf, 'Working for a living', 1–59; Humphries and Weisdorf, 'Unreal wages', 1–18.
- 75 Freudenberg and Cummins, 'Health, work, and leisure', 1–11.
- 76 Rosenband, 'The industrious revolution', 213–43.
- 77 Stephenson, 'Looking for work', 26–8.
- 78 More on sixteenth-century consumption: Blondé and Ryckbosch, 'In splendid isolation', 105–24; Inneke Baatsen et al., 'At home in the city: the dynamics of material culture', in Bruno Blondé ed., *City and society in the low countries, 1100–1600* (Cambridge, 2018), 192–219.

79 More on this hypothesis: Trentman, *Empire of things*, 74–5; Blondé and Ryckbosch, ‘In splendid isolation’, 105–24. Whether industriousness was really triggered by new consumption patterns remains also an open issue in: Humphries and Weisdorf, ‘Unreal wages?’, 18.

80 For this hypothesis: Bruno Blondé, ‘The straw mattresses of a love triangle: economic growth, social inequality and early modern consumer changes in the eighteenth century low countries’, ALCS seminar 2016.

French Abstract

Tardivement à la mode ? Temps, travail et révolution industrielle à l'époque moderne, en ville d'Anvers (1585–1795)

L'étude repose sur l'enregistrement des audiences tenues en Cour de justice pénale d'Anvers (*Hoogere Vierschaer*). L'auteur est amené à contester certains éléments clés de la thèse de Jan de Vries sur la révolution industrielle: hypnotisé par une variété infinie de biens de consommation à la mode et exotiques, le monde du XVIIIe siècle aurait drastiquement réduit son temps libre de diverses manières. Le travail aurait été intensifié et prolongé sur une base quotidienne, hebdomadaire et annuelle. Cependant, à Anvers, l'analyse du budget-temps des rythmes de labeur apporte une image beaucoup plus complexe qui ne met vraiment pas en évidence la moindre révolution industrielle mais révèle plutôt un comportement industriel invariable.

German Abstract

Modisch verspätet? Zeit, Arbeit und Fleißrevolution im frühneuzeitlichen Antwerpen (1585–1795)

Ausgehend von Aussagen in den Verfahren vor dem örtlichen Strafgericht in Antwerpen (*hoogere Vierschaer*) stellt dieser Beitrag einige Kernpunkte der von Jan de Vries formulierten Hypothese einer Fleißrevolution (*Industrious Revolution*) infrage. Hypnotisiert von einer endlosen Vielfalt modischer und exotischer Konsumgüter, hätten die Menschen im 18. Jahrhundert ihre Freizeit auf vielfältige Weise beschnitten und ihren Arbeitseinsatz täglich, wöchentlich und jährlich hochgeschraubt. Aus einer Zeitbudgetanalyse der Arbeitsrhythmen in Antwerpen ergibt sich jedoch ein komplexeres Bild. Es gibt keine wirklichen Hinweise auf eine Fleißrevolution; vielmehr zeigt sich ein unveränderter Arbeitseifer.