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**Social Aspects of the Decrease
in Working Hours
in 19th. Century France**

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Abstract

Social Aspects of the Decrease in Working Hours in 19th. Century France

In 19th century France, the long working hours produced worse conditions for the working classes. In our perspective, and that is new, the labour market produced massive externalities which it could not control. In our view, and it is the purpose of this paper, the analysis of the process of decreasing working hours, consists of identifying the consequences of very long working hours as externalities. The first part is devoted to the reasons why workers did not succeed at first to decrease their working hours: the authority of employers and the lack of social institutions which would have given collective weight to their actions. In a second part, we sustain that internalisation of externalities cannot be achieved without a collective effort to provide information and to produce new concepts of working hours. This historical analysis shows that only interests supported by collective forces are defended.

Résumé

Les formes sociales de la réduction de la durée du travail en France au XIXième siècle

Au XIXième siècle en France, les longues durées du travail sont à l'origine de très mauvaises conditions de vie pour la classe ouvrière. Dans notre perspective, - et cela est nouveau- le marché du travail a produit des externalités massives, sans pouvoir les contrôler. A nos yeux - et c'est l'objectif du papier- l'analyse du processus de réduction de la durée du travail, consiste à identifier les conséquences des très longues journées de travail : ce sont des externalités. La première partie de l'article est consacrée aux deux raisons pour lesquelles les ouvriers n'ont pas réussi à diminuer leur nombre d'heures de travail. Il s'agit de l'autorité des employeurs et de l'absence d'institutions sociales qui auraient donné de la force à l'action collective. Dans une seconde partie, nous soutenons qu'il n'est pas possible d'internaliser les externalités sans un effort collectif pour fournir l'information pertinente, et pour produire de nouvelles notions de durée du travail. L'analyse historique montre que seuls les intérêts soutenus par des forces collectives peuvent être défendus.

Key Words: Labour market, working hours, economic history, externalities.

Mots clés : Marché du travail, durée du travail, histoire économique, externalités.

CLASSIFICATION JEL: H23, J7, J22, J5, N33

1. Introduction

At the end of the First Industrial Revolution (1840-50) working hours reached an historical peak. The French Revolution hoped to create a greater freedom of work by suppressing the corporate organisations, which controlled and monopolised access to different kinds of employment, thus developing a more accessible, egalitarian labour market. In actual fact, the labour market established as a result of the French Revolution was one of extreme exploitation and poverty during a period of increasing overall prosperity.

We consider an analysis of the determining factors of working hours an important element in explaining this contradiction. In 19th. century France, as working hours increased, working and living conditions worsened for the working classes. This occurred because the labour market produced massive externalities which it could not control. In destroying the existing corporations, the French Revolution also destroyed both the professional and familial forms of integration into society. Subjected to the pressures of, objectively, extremely unequal economic relations, fierce competition and increasing rationalisation of the work force these new urban workers were extremely vulnerable. In 19th. century France, there was an increase in illness, the handicapped and mortality rates even though the national wealth increased.

The question can be asked why, given these conditions, it took a century for working hours to decrease not only in France but in Europe as a whole? Working hours began to decrease from the middle of the century and resulted in the 10 hours a day law in 1900. We consider this to be an example of how social regulation operates in reality. It does not involve exclusively price levels and wages but also the establishment by society of the individual's rights and of institutions to defend them. The purpose of this text is to show that in order to reduce externalities, it is necessary to create conceptual frameworks and institutions whose purpose is to enforce a more social usage of time.

We will first present the different types of long working hours and the conditions in which they developed. For this purpose an analysis in reference to externalities is required. We will then analyse two reasons why workers did not succeed at first to decrease their working hours, that is the authority of employers and the lack of social institutions which would have given collective weight to their actions. Finally, we will present the view that internalisation of externalities cannot be achieved without a collective effort to provide information and to produce new concepts of working hours. This historical analysis shows that only interests supported by collective forces are defended.

2. Forms and Prerequisites of Excessive Working Hours

1. Forms of Excessive Working Hours

In this first section, we shall describe and analyse examples of excessive working hours in the 19th. century. The notion of working hours is composed of three practical issues:

- Working hours can be observed over different periods such as a day, a week, a year or the whole life.
- Working hours implicitly refer to an average and as such can be highly variable.
- Similar working hours refer to highly different working conditions and work intensity.

In the 19th. century industrial growth was accompanied by extremely hard working conditions. The working day was extremely long, the only weekly rest day was Sunday and many religious celebrations and the number of public holidays decreased as a result of the suppression of many religious celebrations¹.

No source exists for a statistical study of the evolution of actual working hours in 19th. century French industry. The only systematic study was conducted by the Office du Travail in 1896 although Rist (1897) mentions two additional surveys previous to the 1841 law on child labour. The other sources of the period were essentially monographic and well summarised by Rist (1897). The image they give of the subject is currently biased because of their later use for political purposes (Engels) and for literary works (V. Hugo, Zola). Nevertheless, according to Rist 15 hour working days were common in the first half of the 19th. century² in the textile industry³ and in mining.

Women and children were also forced to work similar hours in particularly unhealthy conditions. In mining it was a common occurrence for children to die during work. Charles Benoist⁴ writes that " the miner at the coal face starts working at 13 and by 45 he is worn out " and the miner's life was particularly harsh.

However, these working hours are neither standards nor averages. According to L. Faucher⁵, who wrote an essay on child labour in Paris, " the ordinary working hours in the workshops " were 13 hours. The idea of actual working hours is ambiguous and it is difficult to define

¹Cf. J. Gershuny (1991). "Allons nous manquer de temps?", *Futuribles*, July/August, 3-18.

²Cf. Villermé (1839), E. Levasseur (1907), E. Buret (1840), Dewerpe (1998), Noiriel (1986).

³Cf. C. Fohlen (1956).

⁴ Charles Benoit (1905), p.186.

⁵Cf. The proceedings of the Académie des Sciences Morales et Politiques, 1844, quoted in Rist (1897).

them retrospectively⁶. There was a great number of supplementary hours (sometimes these hours were underpaid even though they were forced on the workers) but there was also lost hours, public holidays and necessary breaks which structured the work day. In addition, absenteeism was common and took various forms (Saint Lundi, procrastination in the work place...).

Given these provisions, the general trend concerning working hours, measured both on a daily and a yearly basis, reached a peak in 1840. After 1840, working hours decreased and at the end of the century the working day was 10 hours⁷. The improvement of working conditions and the decrease of working hours occurring from the middle of the 19th. century seems to be well established⁸.

However there was a constant discrepancy between wage increases (which reflect only partially productivity increases) and the improvements in working conditions and hours. This is what G. Boyer (1998) points out in his commentary on the sources that led Marx to write the "Communist Party Manifesto".

The extremely long working hours had consequences on French society as a whole. The most direct consequences were physical fatigue and professional illness. The other consequences were more indirect displaying themselves in a general feeling of social and moral disorder.

Generally speaking, the population was suffering the effects of being "worn out" which manifested themselves in an increase of work related illnesses⁹, mortality rates¹⁰ and in the number of industrial accidents. A decrease in the height of conscripts can also be observed due to malnutrition¹¹. The specific effects of working conditions in the textile industry has been well documented. Michelle Perrot (1972) points out that the National Military Service entry examination boards population records gave very poor results in the textile areas. In 1879, the exemption rate reached 18% in certain districts and the national average was 11%. This was a worsening trend

⁶ As far as England is concerned, Voth (1996) attempts at providing such an objective measurement, which neither relies on the statements of employers or of workers. He uses legal archives and witness statements concerning their occupations at the time of the facts to obtain actual working hours. The results he obtains for Great Britain confirm that working hours strongly increased in the first Industrial Revolution and decreased from 1840 onwards.

⁷Rist associates long working days with heavy industry, which is a well documented case. However, there are indications that long working hours also concerned other sectors. Levasseur suggests that workers working at home had worked even longer hours in order to survive and in extremely bad conditions. Confronted with large scale industry and machinery this form of production only persisted because the wages were low and the working hours very long. Craft industry was not spared. In bakeries, for instance, L. and M. Bonnef (1914) note that unbearable working conditions remained until late in the century.

⁸Cf. P. Fridenson (1992).

⁹L. and M. Bonnef (1914) describe the "hellish life of weavers" they observed in Lille, where the textile industry was important: "death from tuberculosis accounted for 25% of deaths".

¹⁰J. Vallin & F. Meslé (1989), "Reconstitution de tables annuelles de mortalité pour la France au XIXième siècle", Population n°6. Cf. also J. Bertillon (1892).

¹¹Cf. D. Weir (1991).

since, according to Paul Pic, in Mulhouse 1898 there were 100 conscripts recognised as fit whereas 166 were deemed as unfit (that is, an exemption rate of 62%)¹².

The children who had no choice but to work were deprived of any form of education and many often died in nurseries where they would be raised while their parents were working. A less dramatic effect was that working hours were such that it was practically impossible to organise any family life. Cross (1989) shows that the issues of shop opening hours and of Saturdays off were raised to solve this problem.

A new form of poverty developed in connection to the urban labour market, which at the time was termed "paupérisme". This was manifested by disorganised family life, an increase in unmarried cohabitation, divorce and prostitution¹³. Alcoholism became prevalent amongst the proletarian populations¹⁴. Overwork was accompanied by an increase in the poverty of those excluded from the workplace. This exclusion could be for various reasons such as an accident, the introduction of new machines or the appearance of a cheaper workforce (women willing to accept a very low wage of which male workers did not approve¹⁵). In addition to the rigours of work, workers also had a very unstable status. This instability was increased in the urban areas since traditional networks, and family networks in particular, were weaker and because the law slowed down the creation of professional solidarity networks, which would take nearly a century to form.

The worsening of the working conditions of a large part of the population became an increasingly important issue in political debate and in policies aimed at improving the general situation. Urban poverty generated debate which progressively but considerably altered the revolutionary representation of society. It is not our aim here to classify nor to assess these different outlooks. However, we shall show that they are so diverse that they often contradict each other¹⁶. Work played an increasing part in the way people's views changed on the relationship between society and the economy, and on the role of the state in particular.

¹²P. Pic (1900), p.474, note 4. Cf. also Sachnne (1900).

¹³Cf. Parent-Duchatelet (1989).

¹⁴Cf. J. Bertillon (1913), Sachnne (1900).

¹⁵Cf. Engels (1845), Frader (1998).

¹⁶These contradictions concern the facts as well as their interpretation. Cf. the fact that Senior's point of view on child labour is conflicting with Villermé's. Alain Blum (1990) points out that conflicting points of view can be found on "mortality and living conditions". Similarly, the relation between wealth and mortality which "hygenists" such as Villermé and Benoiston de Chateauneuf established is not widely accepted. Some consider indeed that the excessive lifestyle of the wealthy was the cause of the increased mortality rate.

2. Institutional Background of the 19th. Century French Labour Market

To fully understand the economic consequences of the change in working hours it is necessary to identify the historical and institutional background which made this possible.

At the beginning of the 19th. century the labour market was determined by the new institutional background produced by the French Revolution. The regulatory institutions of the Ancien Régime had been abolished (the hierarchical system known as "maîtrise", the system of workers' representatives known as "jurandes", etc...). The only recognised form of work contracts were those resulting from the free agreements between employers and employees, who were taken as equal in rights. The decrees of the 2nd and the 17th. March 1791 suppressed for good the corporate system, its hierarchy and the representative system. They would be used as a reference to outlaw any form of collective organisation and of collective claims (such as "strikes" and "unions", to use terms which will bear their modern meaning only from the 2nd. part of the century).

The reasoning in the Le Chapelier law on individual freedom to agree contracts was used to determine the labour market:

"It is argued that the legal limitation of working hours for adult male workers is an unjustifiable attack of the principle of the freedom to work. The adult who agrees with an employer to work on a 12 or 13 hours a day basis knows what he commits himself to. His agreement has been freely reached, without any impropriety from one side or the other. It has the force of an obligation and should be applied in accordance to its terms."¹⁷

In particular, this law led to the disappearance of a large number of the public holidays of the Ancien Régime¹⁸. The operation of the labour market was influenced by a desire to guarantee free competition and equal opportunities for contractors. Looking in greater detail at the law, however, we can see that it does not even guarantee this latter advantage. In the situation of a contract being broken, it was the workers who had to prove who was responsible for the problem. In modern terminology, one would say that the work relationship is considered simply as one of voluntary exchange.

Characteristically in the industrialisation of the labour market we have, on the one hand, an increasing concentration of finances and means of production and on the other hand, workers

¹⁷C.f. Pic, p.481

¹⁸According to Jonathan Gershuny, 1991, they amount to as much as 164. As La Fontaine writes in his fable on the cobbler employers were complaining about them earlier.

being deprived of the means to define their working conditions either as individuals or as a group. This is particularly true for workers who had been deskilled as a result of technical progress and were therefore in competition with the unemployed. "When a worker makes a deal with an employer he is neither free nor independent. He does not receive any advance on his salary and he is hiring his services in order for him and his family to live. But the industrialist, because he owns the capital, he can always lead (or rather convince) the worker to accept the conditions however one-sided they might be!"¹⁹

3. Externalities Caused by Long Working Days

Very long working hours had many consequences, many of them unintentional. The reasons why workers were unwilling to spend long hours at the workplace and why employers demanded such long hours were independent of the consequences of these actions.

Our hypothesis is that these consequences are externalities. We consider that one way to analyse the process of decreasing working hours is to describe how these external effects were partly internalised through a collectively organised decrease in working hours which was then progressively imposed by the state. The first problem raised by this analysis concerns the concept of externalities in the context of the 19th. century labour market. At first sight, it seems that such a market did not favour the development of externalities since it was based upon the agreement of free parties, a clear cut distinction between property rights (those of the capital and those of the labour) and because only a few costs were endorsed by society through institutions (such as unemployment benefit and health costs). The first step of our approach consists in showing that this superficial analysis is flawed.

In actual fact, even though such social institutions were not fully developed, the social costs of the deterioration of the workforce were tolerated by society. When an employer imposed very long working hours upon his workers in health threatening environments, the workers would develop illnesses and have to be supported by their family or by society (through charity or public care). Therefore very long working hours had a negative external effect diminishing social welfare. Because the employer only partially suffered the cost (he may have donated money to charitable institutions) he did not internalise the effects of long working hours and tended to demand longer hours than was socially desirable. That is, from Hirshman's point of view on self interest, if the

¹⁹C.f. P. Pic, p.483

employer was taking into account the consequences of his actions and wanted to internalise them he would cease to be competitive.

At the time the basic argument of liberal economists in favour of a decrease in working hours was to show that it was the employer's responsibility to reduce working hours. John Rae in England and Rist in France were the most active advocates of this point of view. According to these authors, the employer must internalise the effects long working hours had on the productivity of his workers and therefore feel these effects on his profits. Thus Rae discovered the concept of an efficient length of working hours (although without formulating it clearly) which is similar to what we now refer to as optimal wage. During the 19th. century there was wide debate about the decrease in productivity caused by fatigue from overlong hours. The decrease of working hours would be only the result of employers discovering more efficient means of production and by following their best interests. This kind of analysis should not be disregarded. All practical surveys on the decrease of working hours conducted in the 19th. century mentioned examples of private initiatives towards reducing working hours, usually concerning the most modern companies (Rist, Rae). The directors of these companies explicitly put forward arguments of efficiency to justify their decision of reducing working hours and often also in reorganising the working day (such as replacing the early morning break for a snack). Such directors, however, were a minority and only internalised a small part of the externalities and therefore were only affected by a portion of the consequences (they could always, and at a low cost, get rid of workers who were prematurely worn out).

4. Forms of Resistance Rather than True Internalisation

The only individuals in a position to internalise all the consequences of very long working hours were those who suffered from their consequences. Confronted with these excessive working hours, workers offered resistance to industrial labour in various ways. The most obvious were strikes and the creation of May Day. According to M. Perrot, between 1871 and 1890, 13% of strike motives concerned claims for reducing working hours²⁰. The Federation of Organised Trade and Labour Unions, proposed at its 1886 Chicago congress, to establish May Day as an international action day for promoting the 8 hour working day. This action was supported by the International Socialist Congress in Paris, which decided in July 1889 to organise a demonstration in every country on the 1st. May 1890 to support the 8 hour working day. Workers "lounging about" or taking public holidays were the less obvious ways workers protested against increased labour (Saint

²⁰M. Perrot (1972), p.284

Lundi, although decreasing in popularity, was still very common in the 19th. century. Cf Cross (1989).

Resistance to work obviously reflects the workers protest against the authority of employers and its consequences. It did not, however, contribute towards a decrease in working hours. This resistance can also be interpreted as an attempt at internalising externalities. However, such attempts should be considered as only a rough and approximate internalising process because it is difficult to prove that they resulted in a decrease in working hours. The first difficulty consists in choosing between the short term and the long term as a reference period for assessing efficiency. Resistance to work can indeed fail to decrease externalities in the short term but succeed in the long term due to protests leading to a change in the conception of work methods. Also, is it because these protests were illegal that they had on consequences? Indeed these protests constituted either a breach of law or of the companies own regulations (striking was an offence until 1864).

2. Why Workers had Difficulty in Decreasing their Working Hours ?

We consider that workers were unable to easily decrease their working hours for at least two reasons. First of all, they were submitted to the authority of their employer. Secondly, there were no institutions to support them and give their protests a collective strength.

1 The Subordination of Workers (Through the Control of Working Hours), an Obstacle to Internalisation

Workers were unable to easily reduce their working hours because they were subject to their employers' authority. What was new in the 19th. century, which was also related to the Industrial Revolution, was that the new methods of controlling workers emerged in which time was a major factor. Amongst the regulations defined and imposed on workers by employers²¹ the following were of major importance: the timetable, the intensity of work, the time devoted to breaks and conditions for interrupting work. In this context, Roland Trepé (1971) has shown that in Carmaux, employers had strictly imposed working hours to prevent miners from having more than one job as was often the case. Increasing the output and capital profitability were not the only aims of impos-

²¹E. P. Thompson developed his famous thesis on "Time, Labour and Capitalism" from this idea. He showed that the idea that "time is money" is, in fact, a recent historical consequence proper to the Industrial Revolution and to the work methods within the firm (in particular to the clock providing a measure of time). Cf. E. P. Thompson (1967).

ing long working hours. In addition, the employers wanted to make it difficult for miners to be devoted simultaneously to a rural activity, which was prejudicial to mining in many respects. At harvest times in particular, workers were less available for mining and generally speaking were less efficient because of this additional work load. Also, this additional activity would make workers less dependent on the mine.

The case of supplementary hours supports the theory that workers had no control over their working hours. Supplementary hours were common practice in large industries and workers were in no position to refuse them. Supplementary hours were most often employed with the maintenance of machinery, which primarily concerned the textile and clothing industry and often took place on Sundays²².

According to a survey by the Office de Travail on "Wages and Working Hours in Industry" (1896), 77% of firms (representing 81% of workers) in Paris and 40% of firms in provincial areas²³ were demanding supplementary working hours²⁴. In addition, supplementary hours were seldom paid at an increased wage rate. According to this survey, only 24% of provincial companies and only 18% of parisien companies paid a higher rate for supplementary hours²⁵.

When the employer's authority was well established, the employer himself defined the working times and conditions. The principal methods employers used to enforce their power were firm cooperatives, fine systems²⁶, the church clock and the internal regulations. These methods all contributed to establish discipline at the factory and impose long working hours. The workers were obliged to buy what they needed to live on at the firm cooperative which was dearer than ordinary shops but the workers either lived too far from the latter or were forbidden to shop there. As a result, workers would quickly find themselves in debt to the company and so obligated to continue within the firm. The worker was then entirely under the control of his employer. It was therefore practically impossible for him to strike as the firm cooperative would no longer allow him to buy on credit thus depriving him of the basic essentials of food.

This exploitation did not develop instantaneously and the process was not self-evident. In the 19th. century, factories remained most of the time open buildings without controls. M. Perrot wrote: "domestic space and work space were still intermixed. Tramps came to the machinery fur-

²² A. C. Découflé & N. Stevenson, 1984, n°20, p. 62, note 7. In France, the idea of supplementary hours first occurred in the decree of the 17th. May 1851.

²³ The lower frequency of sudden increases in demand in the Provinces explains why the rate is lower.

²⁴ Office du Travail, t. 4, p. 130-131.

²⁵ *ibid.*

²⁶ Fines for being late or for absenteeism were still in force at the end of the 19th. century. According to the 1896 survey, 22% of institutions were making use of them in the provinces and 6% in Paris.

naces to get warm. The factory was a kind of night shelter for tramps"²⁷. It is important to mention this situation because it helps us to understand why workers took so long to question the conditions of their salaries. Berg (1991) showed in his analysis of the emergence of the factory system that, various forms of work methods coexisted for a long time²⁸. The following case gives an idea of how difficult it is to analyse factory work. In heavy industry, and in metallurgy in particular, one expects to find the early developments of the work methods mentioned earlier. What is actually observed, even in the 19th. century, are internal contracts in which the employer puts energy and heavy equipment at the workers' disposal and the workers provide their own tools and pay for their place and the use of gas and energy. The terms of working hours depended on the internal organisation of the companies.

2. The Lack of a Legal Framework for the Collective Action of Workers

We consider that workers could not reduce their working hours because there were no institutions to support them and to give their actions a collective aspect. Unions were illegal until 1884 and striking itself was illegal until 1864. There were no laws to protect wage-earning workers, their contracts being regulated by the principle of free choice.

An understanding of how industrial accidents were dealt with in the 19th. century, before the 1898 law clarified matters, is necessary to assess the true impact of this lack of institutions. It is well known that in the 19th. century, industrial accidents were a major externality. We consider that the lack of institutions greatly contributed to the submission of the working classes, even if it was a result of the ordinary worker's attitude. In 1895, P. Hubert-Valleroux described this attitude in the following terms: "Formerly, if the worker was slightly injured, he was often taken care of at his employers expense, since his employer was generally his landlord, and when his condition improved, he took back his post (...) If he was severely injured, he received assistance from his profession's guild. In those days, the craftsman, with a different view on life and accustomed to hardship, would suffer in silence. He was grateful for the assistance he received, as limited as it may have been, and it was uncommon for an injured worker to take his employer to court for deficient responsibility"²⁹.

²⁷M. Perrot, (1983), p. 6.

²⁸The author notes in passing that there is no agreement among historians on the definition of the "factory system". This is because there are some difficulties intrinsic to historical research and because information is difficult to collect. In addition, the phenomenon has various forms and the historical process of organising work-specific relations within the factory was slow.

²⁹P. Hubert-Valleroux (1895), p. 255.

The way the law was to solve the problem of industrial accidents (by performing an assessment of the employer's liability and awarding compensation for the injury) provides a fairly accurate idea of the prevailing conceptual framework adopted in dealing with the externalities of labour. This is why we consider that the presentation of the evolution of case-law a useful detour.

Until 1841 case law refused to consider industrial accidents an issue. Instead, it referred to "theory of contractual risk" according to which the contract is self sufficient and self regulatory. The application of article 1384 on civil liability was therefore deferred. Consequently, in reference to case-law, the action brought by the injured worker against his employer for liability was inadmissible. The reasoning was that "he who accepts to provide assistance in any work, in exchange of wages or unofficially, also accepts the hazards involved (...) With the wages specific to the worker's post, the employer compensates for the risks involved in the work"³⁰.

From 1841 onwards, case-law rejected this approach to salaried contracts and adopted the contrary stance: contracts are regulated by law. As a result the articles 1382 to 1384 of the Code Civil (common law civil code) could be applied and in particular the first paragraph of article 1384: "the "maîtres" and directors are liable for injuries caused to their employees in the exercise of the duty for which they have been employed". The employer's liability relied on the idea of criminal negligence of which the injured worker had to give evidence. There needed to be a definite and direct injury, an event implying the employer's liability and the establishment of a causal link between the two. The employer as a result must compensate for the damage caused to the injured worker. This state of affairs, which prevailed until 1898, was not legally satisfactory because it could not provide for cases where the cause of the accident was unknown and when the victim themselves caused the accident. It was only with the Industrial Accident law of the 10th. April that this aspect was dealt with. It establishes the notion of liability without offence which includes the token responsibility of the directors. By doing so, the 1898 law departs from the essential principles of civil law. This constitutes a radical departure from the previous framework since by acknowledging the liability of the directors, the lawyer acknowledges as well that the subjects are not equal.

In this context, with the lack of a legal framework for collective action, the individual who makes an attempt at contesting working hours puts himself outside the law and de facto puts himself in a subordinate position since his behaviour is inconsistent with the prevailing ideology as it is understood in the case-law approach to industrial accidents.

³⁰Judgement entered by the Court de Cassation and quoted in Ewald (1981), p.5.

3. Internalisation Presupposes Collective Action

1. The Production of Relevant Information or the Collective Definition of the Assessment of Externalities

The idea of fighting against excessive working hours only developed when workers, as a group, became aware of their shared working conditions. A prerequisite to this situation was that relevant information was produced and interpreted. We shall now analyse how society acknowledged the abnormal tiring effects of the work patterns of the time. In the 1830s, both in France and in England, the social issues as outlined by R. Castel (1995) appeared. More specifically, the Académie des Sciences Morales et Politiques³¹, taking a strong stance on issues of morality and hygiene, researched the development of pauperism. It was in this capacity that it commissioned two reports on the condition of the working classes: one was commissioned in 1835 to Villermé, a member of the Académie de Médecine, and the other to Buret in 1839³². Between 1830 and 1850, surveys on pauperism greatly increased in number³³. From an international point of view Engels' survey (1845) stands out because it had a considerable effect on the development of a class awareness thanks to the international circulation of *Capital*. In addition, there are such close links between the surveys that some specialists have said that Engels may have plagiarised the work of Buret³⁴. It is true that both surveys rely on a report by the same English physician, Dr. Kay. Finally, Buret was the referee of Villermé at the Académie des Sciences Morales et Politiques.

It is not our purpose here to report the content of these surveys. We shall instead: 1) Show that the work of Villermé, Buret and Engels contains information on real working conditions, which had not been produced before; 2) Explain why these reports had a real effect on society; 3) Describe mechanisms that led to an awareness of the issue of excessive working hours. The legitimacy of these studies accounts for some of the effect that they had on society, however this is insufficient to explain their full influence. It is outside the scope of our analysis to explain all the reasons why legitimate endeavours are more efficient.

We consider that physicians played an essential part in the social awareness of this issue. They translated a vague social discontent "the issue of pauperism" into a realistic picture of the misery of the working classes. Although the importance of Villermé's report is well established

³¹The Académie was founded by the Convention in 1795 and suppressed in 1803, then re-established in July 1832. Villermé was the director of the political economy and statistics section (Cf. Villermé, p.21).

³²Cf. R. Castel, p. 227.

³³They can be found in the list contained in the Villermé's *Tableau* edited by Francis Démier, p.77-79.

³⁴It is H. Rigaudias-Weiss (1936) who raises the issue in his book entitled "Les enquêtes ouvrières en France, entre 1830 et 1840", Paris, Librairie Felix Alcan.

today, we believe that the real reasons it had such a dramatic effect on society are not well known. It is surprising that it should be physicians who were making society aware of the excessive working hours and dreadful working conditions of the working classes. Why did physicians end up as investigators of social hardship? Why were the position they took so persuasive, and probably more so than in any of the other investigations? What exactly did Villermé do?

Villermé was concerned with establishing facts. He would visit the scene, conduct the enquiry himself, and observe and take notes of what he saw. This important work lasted four years. For the first time, it was shown that the working classes lived in a state of acute destitution and were subjected to very long working hours. Child labour was so accurately described that as soon as the report was published, the government passed the first law, in 1841, aimed at limiting children's working hours. This shows that the knowledge of facts has no weight unless it is backed up by the work of experts. From this perspective, Villermé's work consisted, in fact of translating a limited and rather vague awareness of the condition of the working classes into a realistic representation.

One of Villemé's strong points in his *Tableau*, was that he approached the condition of the working classes from a scientific point of view. He used new tools (such as demographic and social statistics), which developed considerably over the first third of the 19th. century, thanks to Quételet in particular³⁵. No previous survey had used these particular methods.

We consider that another strong point of Villemé's *Tableau* is that he used his medical expertise to study a social issue which is, strictly speaking, out of the scope of medicine. The medical world was intrinsically bound to encounter, at some point, the issues of public health generated by the industrial work of the 19th. century. The more medicine developed as an independent body with its own values, the more ineluctable it was to take an interest in this field. In addition, it was officially appointed to do so³⁶. Since the medical world was approaching this issue from an independent point of view, its expertise could not be accused of bias by its economic status and interests, not the case, for instance, for those who had a political standpoint. It is important to stress this independence in understanding the weight which these physicians' arguments carried³⁷. In this case, the information required the filter of legitimate knowledge to have social consequences.

Similar cases concerning the independence of medical expertise can be observed in other countries. In Belgium and England, for instance, reports on child labour were conducted by the

³⁵On this point we share the view of H. Rigaudias-Weiss (1936) and also F. Demier (1989).

³⁶Legitimacy is the corollary of independence.

³⁷The analysis should be refined. One should analyse what was the role of medicine in the scientific world. In one way, it is the most moral-oriented of the hard sciences. One should also analyse what was the position within the medical field of doctors who took a stance on the subject.

various medical academies. In Belgium, members of the Royal Academy conducted a *Survey on the Conditions of the Working Classes and on Child Labour*³⁸, on behalf of the Ministry of domestic affairs (1848). It denounced the practice of excessive working hours for children: children are unable to benefit from "normal" schooling; it is difficult for them to reap the benefits of evening classes at schools because of exhaustion; finally, children are exposed to risks by having to travel during the night. The Royal Medical Academy of Belgium notes that "evening classes, especially in the winter, have many moral drawbacks"³⁹. Marx widely used the English *Children Employment Commission* reports (the first of these dated from 1829) when he denounced the exploitation of children⁴⁰.

We consider that it is impossible to understand the processes which led to the decrease of working hours without taking into account the existence of medical Academies. In conclusion, the decrease in working hours resulted partly from the involvement of social worlds, such as that of physicians, which had developed independently.

The social order which the physicians challenged had no natural component, that is was composed entirely of social forces. Society then reacted according to its own concepts and by setting its own institutions in motion. The medical and physiological records (an unhealthy population and an excessive, physical workload) historically served to put into question the existing economic regulation which was unable to secure an acceptable situation for workers. Here again, the awareness of the lack of regulatory efficiency, does not simply refer to a global or collective concept, nor does it reflect the opinion of the man in the street. It also refers to the actual opinion individuals had of their place as workers. The decrease in working hours emerged from the crisis of this set of concepts. Medical knowledge stands out as an efficient means to introduce public health issues in the conceptual approach to labour.

2. The Bargaining for Control over Social Usage of Time

The collective protection of the workers' interests on the issue of the decrease in working hours was directed towards the control over social usage of time. There was in fact two forms of competition going on.

The first form of competition is the free competition of the labour market. The market sometimes operated through contractual agreements which varied greatly in form depending on the form

³⁸Quoted by Marcel Lecoq (1906), p.45-48.

³⁹Quoted by Marcel Lecoq (1906), p.47.

⁴⁰Cf. Marx, *Le Capital*, Annexe VIII, p. 1309 and following.

of work, the historical period and the economic sectors. However, it certainly implied also that the social usages of time were defined on their economic value and on wages defined by the labour market in particular. Other usages of time are, so to speak, wasted time and do not contribute to the creation of wealth and wages (at least as long as one does not consider labour as a stock, a workforce which has to be regenerated by rest, that is, by non-work time). In this form of competition, the economic approach seems to have the advantage because as a result of its operation it produces an observable and unambiguous indicator of value, that is salaries. Other usages of time cannot compete on this point because they cannot offer such a simple and direct index. In this context, we can reinterpret E. P. Thompson's work (1967) work on the subordination of various social issues to that of economic considerations which, implicitly or explicitly, impose upon these issues a monetary equivalent as a measure of value. The first form of social resistance to this economic interpretation of time was to limit its application: Sunday was made a public holiday for no economic reason and with no connection to economic rationalisation (and sometimes in spite of such rationalisation processes). One can interpret the way firms were actually organised, when the idea of work time clearly imposed itself, in terms of competition between different social usages of time. The course of the workday was paced by breaks whose length and frequency were defined by the firm's internal regulations and were the subject of bargaining. The definition of working time goes one step further in distinguishing between tasks which were relevant to work and tasks which are not. For a long period of time, the workers had to pay not only for their tools but also for the maintenance of machinery. In addition, the time spent in repairing the machinery was not considered as working time. Finally, whatever the definition of tasks considered as work, the working time has no economic meaning if its intensity is not taken into account.

The second type of competition between social and economic interpretations of time is more fundamental. It refers to the social reasons explaining why society accepted the dictate of exclusively economic regulation rather than, for example, the dictate of religion. This competition occurred at two levels. It directly involved individual choices which express a "free" submission to one dictate or the other. A good Christian would refuse to work on Sundays whatever the bonus he was offered, favouring his family against his career as a good father should. This competition is also indirectly present in the conflict between two conceptual frameworks, the advocates of market regulation and the advocates of *laissez-faire*. Generally speaking, this fight concerned the building of conceptual frameworks which justified individual choices and provided the foundations of institutions and principles for a legitimate organisation of society⁴¹.

⁴¹It is noted in passing that the relationship between these two views is complex since the same individual can refuse to work on a Sunday and at the same time disagree with any attempt at preventing work on this day.

It is essential to emphasise the fact that this competition for the control of social usages of time implies competition between conceptual frameworks of time. It seems that using changes in conceptual frameworks as an explanation of the evolution of the labour market and the decrease in working hours always results from a kind of idealism grounded in the neglect of realities and material constraints. It seems obvious that the reason why the textile workers of northern France accepted to work more than 15 hours a day in the worst possible conditions for both themselves and their children, is that they had no choice. In addition, having to choose between death from exhaustion, certain but long term, and an immediate death from hunger workers quickly made their decision. It seems at first that this decision is independent of any concept of leisure time and class consciousness. However, this decision is not exclusively an individual decision. This decision is grounded in the institutional background. In addition, because it involves conceptual frameworks, it is also a collective choice. From our standpoint conceptual frameworks not only have an idealistic connotation but a practical one as well. Conceptual frameworks are reflected in practical working conditions, in submission to the employer, in the laws which reinforce them and in the internal regulations of firms, through which they are implemented.

These conceptual frameworks operate in the economic field; and this can be observed in the process of decreasing working-time. The fight for short hours is twofold: on the one hand, it takes place inside the economic field as class consciousness has grown up. As C. Tilly & E. Shorter [1974] have shown, the new tools of struggle were not easy to create: the coalitions of workers and the rise of trade-unions, the rise of strikes. On the other hand, the fight is not only an economic one. It deals with the ability of social fields to give power to the interests vested in the fields; and especially, it gives them some power in the economic field. We have shown how and why physicians had a large part in this process. In our view, this mechanism operates also in other fields because, for example, the defence of time devoted to family life necessarily implies a specific representation of the role of women: L. Frader [1998] has shown that the working class had trouble in the disentangling of the women's work problem.

To be efficient, these new representations had to enter the economic field: they did it through new representations of the working relationship, collective action, new institution, new rules and new laws (It is left for further research to develop this point).

Conclusion

Our approach to the decrease in working hours differs from usual studies of the subject matter (such as those referring to the ratio between work and leisure, the distribution of gains in productivity, the renewal of the workforce, class war, etc...). Our approach consists of identifying the consequences of very long working hours as externalities. In this context, in accepting and in demanding such long working hours, workers and employers did not take into account the implications of their decisions.

We are therefore in a position to identify two necessary conditions for a decrease in these externalities. The first condition was that workers needed institutions to support them and to give their actions a collective strength. During a great part of the 19th century, however, there was a lack of such institutions. The second condition was the production of relevant information and the construction of new conceptual frameworks of working time.

The latter reveals the following additional feature of the decrease in working hours in the 19th century. A prerequisite for such a decrease was that individual and collective rights, which too long working hours threatened, had the support of society which was strong enough to force the labour market to take notice of them. This strength was evident in the new found awareness of health as a social issue. This resulted from the appearance of medical reports which has a scientific and social legitimacy and took its social implementation, first, with the 1841 law which abolished the practice of child labour and, secondly, with the development of work legislation between 1890 and 1900.

Our thesis leads us to propose a more general hypothesis on economic changes, that they necessitate the involvement of social forces belonging to non-economic spheres. For these forces to have an impact on the economic sphere they need to be in a position to produce conceptual frameworks which this sphere recognises. To achieve this, they must have concrete results on behaviour, on institutional regulations and on the laws which regulate the organisation of society.

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