Creating the Social Question: Imagining Society in Statistics and Political Economy in Late Nineteenth-Century Denmark

ANNE LØKKE*

Practices such as surveys, guided by scientific statistics and the discourse of political economy, were indispensable tools in the construction of "the social" as a field in Denmark in the late nineteenth century. Leading Danish statisticians were able to create new representations of the structures of society that could be accepted as truth by conservatives, liberals, and socialists alike. Two episodes serve as examples for close examination: the establishment of the "workers' question" as a social problem in the 1870s, and the new categorization of death in infancy as a social problem around 1900.

Des pratiques telles que les enquêtes, éclairées par des statistiques scientifiques et le discours de l'économie politique, ont été des outils indispensables dans la construction du « social » en tant que domaine dans le Danemark de la fin du XIX^e^ siècle. D'éminents statisticiens danois ont été en mesure de créer de nouvelles représentations des structures de la société que pourraient accepter comme la vérité tant les conservateurs que les libéraux et les socialistes. Deux épisodes permettent d'examiner les choses de près : l'établissement de la « question des travailleurs » en tant que problème social dans les années 1870 et le nouveau classement du décès durant l'enfance comme problème social vers 1900.

IN THE LECTURE of honour delivered in 1896 at the commemoration of the founding of the University of Copenhagen, Professor Harald Westergaard (1853–1936) talked about "the social question in the early political economy". It was a victory speech. What he celebrated was that "the social question in our generation has come to the front as the great problem of our time, which throws all other tasks into the shade".[1] Westergaard knew very well that, when he used the words "has come", he was not referring to something that had occurred by mere chance, through the universal spirit, or by any other self-propelled development, but was the result of complex and oppos-

* Anne Løkke is associate professor in the Department of History at the University of Copenhagen, Denmark. Thanks to Deborah Licht for English language revision.

1 Harald Westergaard, *Den ældre Nationaløkonomis Opfattelse af det sociale Spørgsmaal* (Copenhagen: Schultz, 1896), p. 129.

ing forces, including intended human agency. In fact, he had skilfully contributed his science, statistics, and economy to the task; as a student, he had provided the statistics for a government commission, the results of which strongly suggested that the conditions of workers in Denmark were a problem for society as a whole. He had struggled to use science to provide the basis of knowledge for what he saw as rational political action. A statistical survey which he had undertaken, showing that a quarter of the elderly people in Denmark were forced to be on poor relief, had paved the way for legislation making provision for the elderly. Further, his work *Die Lehre von der Mortalität und Morbilität* (The Lessons of Mortality and Morbidity) of 1882 played a part in establishing infant mortality as a social problem.

Westergaard was of course not a heroic genius changing the world all by himself, but he was a central character in a generation of intellectuals, young in the 1870s, who were formulating the social as a question in need of solutions. To a large degree, these non-socialist intellectuals produced the sphere, the vocabulary, and the arguments that provided the basis for widespread support from the upper strata of society for social legislation and social institutions as a response to the challenge from the rising labour movement. For the most part, these responses were taken over and further developed by the social democratic governments taking office for the first time in 1924.

Moreover, Westergaard's political engagement did not prevent him from having a brilliant academic career. He was appointed as professor in *statsvidenskab* (political economy) at the University of Copenhagen, was appointed *rektor* (Vice Chancellor) of the university in 1914–1915, and was an honorary member of a whole range of scientific societies including National Økonomisk Forening (Danish), the (British) Royal Statistical Society, and the American Statistical Association.

The Social as a Means of Re-imagining Community

Westergaard's time was an epoch open for re-figuring, renegotiating, and re-struggling with the definition of a good society. It was a time in limbo, when old discourse and practice ceased to be ethically or economically satisfactory, but no new way of thinking had yet shown supremacy. This formative epoch came to an end when the discourse of the social had won. In Denmark, it happened rather spectacularly as the era of social democratic governments began in the 1920s. From that time, the social ceased to be a way for intellectuals of the opposition to formulate utopias, dreams, and counter-power. Instead, it became one of the leading principles in governing. This principle had obvious advantages for a broad majority of the population, who until very recently had suffered from a lack of material safety and political power. For a long time, any voice that criticized the actual forms of the new social institutions was suspect as the voice of reactionary opponents of freedom and equality.

In the last 20 to 30 years, however, a wide range of studies have come to light that focus on the social control elements of welfare institutions and the

power relations and value struggles taking place inside the institutions of the social, which hitherto had appeared to be the obvious, humanitarian, and value-free solutions to pressing problems. One is obliged to mention the enormous influence of Foucault, but others, too, have opened the field for new research perspectives.[2] Further, the unquestioned level of trust placed in the ability of science to solve any problem has been studied in several contexts.[3] Many fruitful studies have evolved from these traditions.

This argument, however, is based on Benedict Anderson's well-known observation of the imagined dimensions of communities: "In fact, all communities larger than primordial villages of face-to-face contact (and perhaps even these) are imagined. Communities are to be distinguished, not by their falsity/genuineness, but by the style in which they are imagined."[4] I study the ways society was imagined in statistics and political economy while the social was developing in Denmark. An examination of the practices in these fields — surveys and population statistics, for example — help us to establish the concrete ways in which the social was constructed. Such an extensive phenomenon as the social has obviously grown from many roots. Nevertheless, at least in the Danish context, the discourse of political economy and the facts produced by statistical scientists such as Westergaard played a major role in turning the social into a key concept and argument in discussions of community, society, and government. A discourse was constructed that changed the way community was imagined.

Two episodes in which statistical science played a role in establishing the social as a legitimate government perspective serve as examples: the workers' question; and the transformation of infant mortality into a social problem. Westergaard was involved in both of these.

By focusing on Westergaard and the creation of two social fields in which he and other prominent statisticians played a major role, one can avoid narrowing the scope to either structures or actors, either the general or the specific. I follow Bourdieu in the wish to reintroduce the agent in history without losing sight of the importance of the systematizing functioning of social structure:

> Action is not the mere carrying out of a rule, or obedience of a rule. Social agents ... are not automata regulated like clocks, in accordance with laws

2 Jacques Donzelot, *La police des familles* (Paris: Minuit, 1977); David J. Rothman, *Conscience and Convenience: The Asylum and its Alternatives in Progressive America* (New York: Harper Collins, 1980).

3 Karin Johannisson, *Medicinens öga: sjukdom, medicin och samhäälle: historiska erfarenheter* (Stockholm: Norstedt, 1990); Marika Hedin, "I deet allmännes tjänst: Vetenskapen och socialpolitikken", in Marika Hedin and Ulf Larsson, eds. *Teknikens landskab. En teknikhistorisk antologi tilägned Svante Lindquist* (Lund: Atlantis, 1998), pp. 159–178; Carl-Axel Gemzell, *Om Politikens förvetenskapligande och vetenskapens politisering. Kring välfärdsstatens uppkomst i England* (Copenhagen: Stougaard Jensen, 1993).

4 Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London and New York: Verso, 1983; 1990), p. 15.

> which they do not understand. In the most complex games, matrimonial exchange for instance ... they put into action the incorporated principles of a generative habitus. ...I am talking about dispositions acquired through experience, thus variable from place to place and time to time. This "feel for the game", is what enables an infinite number of "moves" to be made.[5]

A number of other agents, doctors, statisticians, and politicians, for example, are introduced, but Westergaard is chosen as the focal point for this study because he possessed a highly developed feel for the game at least in three fields — the scientific, the political, and the religious. Analysing the work of a critical scientist involves studying his conscious struggle with the limitations of his mind and his perceptual capacity. This struggle is comparable with our struggles today as historians and social scientists trying to understand the games of our world. It involves "the question of the social conditions of possibility — including the social conditions of possibility of critique itself".[6] Westergaard's texts and life point to confusing, productive, and unpredictable tensions and alliances created when he played the game with a commitment to seek the Good and the Truth. This is a history that must be told as concrete stories, as paradise is always lost: the unintended effects of intended human agency most often outnumber the good intentions. A history that does not take into account these wild shots, good intentions, and dedicated wills is a false history, however; the will to find the truth and build a better world certainly played a role in the making of the social.

A Chronology of the Making of the Social in Denmark

As Westergaard's lecture shows, the concept of the social had won predominance in Denmark by 1896, when the task was to speak about responsibility for the well-being of the lower social strata and humans in all kinds of distress. What earlier in the century had been conceived of as *Almenvellet* (the common good), *Borgerånd* (civic spirit), poor laws, and moral flaws among *Almuen* (the common people) were now reformulated as a discourse of the social.

The word itself was not new in Danish, but prior to the 1870s it meant in a more diffuse way relations among humans or it was used synonymously with *selskabelig*, which refers to those with whom one associates.[7] Around 1900, however, the social was a symbolic word, used by those who strove to organize society in such a way that normal dedicated workers could have their basic material needs fulfilled. This usage of the word was so well established that it is part of the definition in the distinguished Danish encyclopae-

5 Pierre Bourdieu, *In Other Words: Essays Towards a Reflexive Sociology* (Oxford: Polity Press, 1990), p. 9.

6 *Ibid.*, p. 25.

7 *Ordbog over det Danske Sprog* (published by Det Danske Sprog- og Litteraturselskab, Copenhagen, Gyldendal, 1993).

dia *Salmonsens Leksikon*, first published in 1906, and repeated verbatim in the next edition in 1926: "Social, that which concerns society, in a narrower sense, that which concerns the working class, the wage labourers ('the social Question' etc.)."[8]

This broad acceptance that problems concerning material existence faced the whole population of workers was not old, however. Mid-nineteenth-century Denmark was turning from a patriarchal absolute monarchy to a democracy dominated by national liberal politicians. The majority of the new politicians and the public sphere trusted liberalism. Although the fathers of the new constitution wrote in 1849 that it is an inalienable right to be provided for by the public if one is unable to do so oneself, they also added loss of the franchise to the existing humiliations associated with receiving poor relief. The poor law was designed to prevent people from asking for benefits, not to prevent the rise of poverty. When a freedom of trade law dissolving the guild system was passed in 1857, it was broadly believed that problems associated with poverty would be solved automatically for all who neither were lazy nor had a tarnished reputation. What remained of problems associated with the sick and the old would be left to self-help organizations and charity. This position was reflected in the legislation as well as in a number of white papers concerning poor law, health insurance, old age pensions, and similar matters.

In the 1870s, concurrent with violence and bribes being used to control the first small socialist workers' movement in Denmark, new voices could be heard in government circles. A commission was set up in 1875, later known as The Great Workers' Commission (the commission in which Westergaard, as a student research assistant, got his first experiences with social statistics), with the mandate to examine the possibility of a compulsory insurance financed jointly by workers and employers. The majority of the commission was opposed to the idea and pleaded again for the principle of voluntary participation. A prominent minority, including the chairman, however, declared:

> It is the opinion of these members of the commission that the questions regarding workers' conditions are of the utmost importance. They increasingly appear to be the greatest social challenge of our era; the solutions to which will have crucial significance for the steady development of social conditions, and therefore for which even significant sacrifices must not be avoided. The premise that the solution to these problems can be found in the free market domination of the labour market seems to run counter to what has previously been stated. If real improvement of conditions is to be expected, it will not suffice to merely expect workers to get by on what they can manage to accomplish on their own, or through self-help. *State aid*, and society's arranged intervention, will become, in a number of areas, an unavoidable necessity.[9]

8 *Salmonsens Konversationsleksikon*, Chr. Blangstrup, ed. (Copenhagen, 1915–1928).

9 *Betænkning afgiven af den ifølge kgl. Resolution af 20de September 1875 til Undersøgelsen af Arbejderforholdense i Danmark nedsatte Kommission* (Copenhagen: Schultz, 1878), p. 7.

In short, the 1850s and 1860s were dominated by a complacent belief that if workers had problems it was because they were lazy, on the bottle, or immoral. The 1870s were dominated by discussions about whether or not there was a workers' question, as the spokesmen for socialism postulated, and whether it was the responsibility of the state to do something about it. An act setting a minimum age of ten years and a maximum working day of six hours for children working in factories was passed in 1873. In the 1880s a succession of social statistical enquires was carried out on the private initiative of prominent scientists, who showed that there was a problem also for well-disciplined, hard-working workers. As a result, the workers' question was turned into the social question. From the late 1880s, a succession of *sociallove* (social legislation) was passed, starting with supervision of foster children in 1888, followed by a whole range of laws aiming to reduce the number of people dependent on the humiliating poor relief: old age pensions and a new poor law (1891), a health insurance act (1892), a children's act (1905), unemployment funds (1907), home visiting of unwed mothers (1907), widows' children's aid (1913), and a reform of social laws (1922). Their commonality was that they were all meant to prevent the misfortune that starts a spiral of poverty.

A further consolidation of the social, no longer as a question, but as a mission to be fulfilled, took place when a *Socialministerium* (Ministry for Social Affairs) was set up immediately after the first Social Democratic government had taken office in 1924. An official periodical *Socialt Tidsskrift* was among the first initiatives of the new ministry. The purpose was to create a forum for scientific discussions of social legislation and for publishing empirical studies concerning the effects of social legislation at home and abroad. A new peak was reached in 1933 with the great social reform, which systemized the social legislation of the previous 50 years. The Scandinavian welfare state was emerging in Denmark — and with it the specific forms and styles of solidarity, social control, and reflexivity that still dominate the field.

In retrospect, it is easy to chronicle the creation of the social and the welfare state as a story with inherent logic building up and reaching fulfilment, with small differences from country to country in the western world. For some of the central agents in the Danish case, however, the very problem of describing or mapping society in a way that could guide political and administrative action was a main challenge.

A Nineteenth-Century Reader on the Making of the Social Question

The scope of Westergaard's lecture overlaps to a large extent the scope of this collection: to understand better the historical processes that had produced the categories in which society is conceived, in this case the social. Westergaard's method was to read through a tremendous amount of literature in English, French, and German in the fields of political economy, *Staatswissenschaft*, and moral philosophy. He was very explicit about the need to examine the whole range of literature, not only the few authors who had gained general recognition as founding fathers of economic science. He was

not celebrating his own generation as representing the peak of human spirit, but trying to understand the patterns of interpretation of his predecessors.[10]

Westergaard described the works of the great-grandfathers and grandfathers of the eighteenth century with a sympathetic insight for the historical context in which they worked. The fathers, on the other hand, who preached the inherent harmony between worker and capital, were turned down with impatience. However, he stopped his story just in time to avoid the necessity of mentioning Marx and Engels — a choice that must have been conscious, as Westergaard in a narrower context of economic writing showed a detailed knowledge of the works of Marx. The vocabulary and concepts of Marx, however, are present also in this text. He must have decided that referring to Marx by name was beyond what could be said in a gala lecture — if it were to remain a festive event.

What was the Social Question for Westergaard?

Westergaard did not try to give a plain or full definition of his use of the concept "the social question". It is possible, however, to circumscribe his use of it. In a summing up, he wrote:

> Thus, we see France and England each with their social task. In France the crafts are in chains and the peasants are ground down by taxation, in England a class of factory workers who need protection and sympathy has already grown up, and in the countryside there is an impoverished and cowed class of day-labourers, whose misery is worsened by a disadvantageous and demoralising poor-law.[11]

Throughout the text, in no specific order, he mentioned innumerable examples of bad practice, which he included in the social question: lack of political rights for the peasantry, corruption in public administration to the misfortune of the inhabitants, the death of a slave by beating, the suffering of slaves under transportation, and lack of respect for the human and the human life.[12] He continued with legal discrimination of Jews; violence against the insane; forceful recruitment of sailors; punishments that mutilated or caused illness, including capital punishment; working conditions that incapacitated workers or that were in some way injurious to health;[13] prohibitions against labour unions; legislation adscripting people or otherwise limiting their possibilities of seeking better living conditions by moving; serfdom; conditions fostering ignorance, laziness, or demoralization; and, not least, unemployment.[14]

In short, he included all bindings of a juridical, political, economic, or

10 Harald Westergaard, *Den ældre Nationaløkonomis Opfattelse af det social Spørgsmaal* (Copenhagen: Schultz, 1896), pp. 2–4.

11 *Ibid.*, p. 21.

12 *Ibid.*, pp. 4, 5, 9, 10.

13 *Ibid.*, p. 15.

14 *Ibid.*, pp. 16, 19, 22, 23, 135.

other kind that in a structural way hampered humans from gaining material or spiritual fulfilment. It is worth remarking that he compared lack of juridical and political freedom with problems concerning material existence. The structural problems of capitalism, for example unemployment and underpayment, were treated alongside other forms of lack of freedom.

The Genealogy of the Social in Westergaard's Lecture

Where did Westergaard find preconditions for conceiving the social as a question in need of a solution? At least five fields were of importance to him:[15]

1) the ideals of human equality and inviolability, most importantly those formulated politically as human rights (from the French Revolution and the American Declaration of Independence);
2) the new material power in economic life, in conjunction with increasing trade and the first industry;
3) every attempt to perceive society as a whole, whose well-being depends on the well-being of every member, which he found first and foremost in the writings of moral philosophers and political economists;
4) tools, especially scientific tools, able to identify structural inequalities and to calculate the effects of possible remedies, the most important being statistics;
5) the political will and power to implement remedies against the found inequalities.

Westergaard, like Donzelot much later, saw the clashes between political ideas of human rights and wild capitalism as the sources of the social, but other fields were important, too. In the organization of his text, Westergaard went into most detail regarding the second and third points: his lecture is a social history of the social question in the early political economy. He began his story in the material world: "Economic life began to display a hitherto unseen power, so that with necessity a breakdown of the old forms had to take place."[16] The political economists were then described as people who attempted to develop models that reflected the new economic development with the degree of precision necessary to guide political action.

What Westergaard did not highlight, but described as a matter of course, is that he saw the social thinking as born of a government rationality. He looked at society from the perspective of the rulers. The suffering people are not *we* but *them*: the population, the peasants, the Jews, that is, the subjects of the ruler. This self-evident central perspective in Westergaard's narration points to the government rationality of the social as a very fundamental characteristic. The rationality of political economy was a pastoral rationality: just as the

15 Calling what Westergaard is examining "a genealogy" is of course inspired by Foucault. Michel Foucault, "Nietsche, Genealogy, History", in Donald F. Bouchard, ed., *Language, Counter-Memory, Practice: Selected Essays and Interviews* (New York: Cornell University Press, 1977).

16 Westergaard, *Den ældre Nationaløkonomis*, p. 13.

good farmer tries to create a thriving farm, the good government tries to create a thriving country. What Westergaard's political economist heroes did was to point out that a thriving country consists of thriving inhabitants, just as a thriving farm consists of thriving plants and animals. To promote thriving, from a farmer's or ruler's point of view, knowledge is essential: knowledge about the life, well-being, requirements, costs of the animals or population. This feature has been observed in several studies by Foucault and others. Nevertheless, it is a central assumption in Westergaard's text. It could not be just any knowledge, but the uncompromising truth found by science.

The Social and Science

For Westergaard, science and the reflexive use of science played a major role in creating the social as a question. The text as a whole is part of an attempt to use history as a reflexive science, and Westergaard showed repeatedly that the results and models from political economy return to the analysed society to change it.[17] But how did he tell his story of the making of the social?

Westergaard found the seeds of the social in the very political economists whose later reputation was often seen as being indifferent advocates for selfishness because they prepared the way for the liberalism of nineteenth-century economic policies. In Westergaard's story, however, the political economists of the eighteenth and early nineteenth centuries had not yet seen the dark sides of liberalism and could not be blamed for what happened later.[18] Their thinking had to be understood as an attempt to comprehend the functioning of the economy of their world and what to do when old, well-tried economic regulators no longer worked in the way intended, but seemed to produce the deprivation they were supposed to remedy.

Westergaard, for example, emphasized that Adam Smith clearly described the conflicting interests of workers and employers. Further, he strongly criticized the old but scrupulously forced regulations that prevented workers from taking care of their own interests by forbidding them to unionize, a right both Adam Smith and Westergaard believed they needed badly because their situation was very fragile compared to that of their employers.[19] Westergaard, however, called attention to the fact that Smith's position on this issue had not been retained in the mythological character created by his supporters and people who had their own agendas. Nevertheless, what had been done with and against Smith's text did not justify throwing the baby out with the bath water: "The perception that Ad. Smith held of the social tasks, as they were at his time, was clear enough. Had not the social relations developed very much faster than science, and had his teachings not been considered as doctrines, fatuously repeated instead of brought up to date", he could have been freed of many later reproaches.[20]

17 *Ibid.*, p. 116.
18 *Ibid.*, p. 52.
19 *Ibid.*, pp. 48–51.
20 *Ibid.*, pp. 56–57.

Westergaard blamed "the parrots" of the nineteenth century, as he called them, who in their derivative work mimicked inane sentences from Smith, Malthus, and others to legitimate a *laissez-faire* policy regardless of its consequences for the weakest.[21] The real villain in his story was the economist believing in a fixed sum of values available for wages (wage fund theory). This theory had no scientific basis and no coherent theoretical underpinning. However, for several decades it did cement the notion that it was a necessary and inevitable evil that workers must be poor when the population increased: "Time passed, precious time, in which relations developed at a dizzying pace, and theories could only follow slowly afterwards."[22]

What upset Westergaard most was that he saw no real science here. He was explicit in his claim to real science, which demanded "energetic attempts to consider the truth and follow the causes in their effects".[23] When characterizing German sixteenth-century economic literature, he stated: "It lacks scientific strength, originality and powers of observation and not least that deep understanding of the heart with the distress of society, which was so prominent in many French and British authors. ...The German National economy was still too premature to give impulses to the development of Society."[24] For him, science was the struggle to establish new knowledge and, he added, the courage to speak freely. Dogmatism was as disgusting as failing to grasp the most pressing problems on the agenda of the time.

Westergaard had no illusions, however, about the guarantee for the quality and the scientific foundations of what was accepted as science: "In a field such as national economy, where casual remarks and pictures are so easily regarded as supposed evidence ..., expressions that fall into habitual usage by an author are handed down and used in turn, until they are no longer even questioned, examined, or criticised."[25] Much of what was called theory of political economy he saw as based on the power of words in too literal readings of the predecessors. Thus, according to Westergaard, not all science was good science, but good science was nevertheless necessary to understand how present society functions. Further, the understanding of the functioning of society was a precondition to conceiving a policy able to create a society that did not sacrifice the weakest. Bad science was of no use for his purposes, although good science was no guarantee of a good society.

As a young man, Westergaard, the son of an internationally recognized Orientalist, experienced a very severe religious crisis, which made him a devout Christian. From a modernist point of view, it can be understood as a conservative or backward trait of his character. After the postmodern discussions of the 1990s, however, it seems more like a characteristic that saved

21 *Ibid.*
22 *Ibid.*, p. 57.
23 *Ibid.*, p. 31.
24 *Ibid.*, p. 72.
25 *Ibid.*, p. 55.

him from believing in science as a religion. His almost desperate desire to understand how the human world was functioning can be understood as a moral imperative binding him to strive for a society good enough to fulfil God's plan for humanity. To do so, it was of utmost importance to free science from narrow class interests and old world views and to find methods enabling him to see something new.

Episode One: Investigating the Workers' Question

Surveys played an important role in the way the workers' question became articulated and eventually turned into the social question. The design and methods of the surveys, however, changed during the process. The Great Workers' Commission of 1875, as mentioned, was the first government initiative, after the repeal of the absolute monarchy, to investigate the conditions of the working classes. The Commission was meant to analyse a comprehensive survey, initiated by the Ministry of the Interior in 1872, and, on the basis of the results, to conclude whether measures had to be taken against structural injustices to this part of the population. In the words of the commission:

> In consequence of the great attention attracted by the workers' question, in this country as well as abroad, and the attention maintained by the frequent work stoppages, the Ministry finds it of utmost interest if it would succeed in producing information concerning the conditions of the workers in Denmark to form the basis of later debates and possible steps to remedy such shortcomings which may be discovered.[26]

The survey had been initiated shortly after the Battle of the Northern Green in May 1872, an event of mythical proportions in the history of the Danish labour movement. A great gathering of workers originating in a bricklayers' strike was forbidden by the chief constable of Copenhagen. When the meeting was convened anyway, the police and the Hussars battled violently and successfully against the gathering workers. The socialist organizers were imprisoned and, when they were released in 1875, their tickets to America were paid for by the police.[27]

The shock waves sent through the Danish establishment from the government and civil servants to normal, law-abiding, middle-class citizens were tremendous. As the above quotation indicates, the Ministry barely bothered to hide that the whole idea of examining the conditions of workers stemmed from a fear of future possible incidents having a less successful outcome. Reports of the bloody events of *la Commune de Paris* contributed to the urgent approach. Precisely because the situation was experienced as a seri-

26 *Oplysninger om Arbeidernes oekonomiske Vilkaar i Kongeriget Danmark i Aaret 1872*, published by Indenrigsministeriet (Copenhagen: Schultz, 1874), p. i.

27 Lorens Rerup, *Danmarks Historie. Tiden 1864–1914* (Copenhagen: Gyldendal, 1989), p. 111.

ous threat to the order of society, the very form of the survey, the way in which it was conducted, and the report that followed offer insight into the tools the government perceived as optimal to gain an understanding of the situation.

The 1872 Survey

The most striking feature to a modern reader is that the 1872 survey was not a scientific study.[28] Instead, the Ministry reacted in the old style of the absolute monarchy, asking the servants of the king to report the state of the kingdom as seen from their corners of the country. The young democracy had inherited the central administration from the absolute monarchy, including local residing officials: the clergy, prefects, officers of health, joint district judges, and chief constables in the towns acting as mayors as well. All of them were still under obligation to report to the government, yearly and when asked. It was this mechanism that was mobilized. The circle of reporters in this case, however, was extended. Besides the above-mentioned officials who were asked about their professional knowledge concerning the workers (for example, clergy were asked about age of marriage), the Ministry issued the circular with three different questionnaires attached to all parish and town councils. These were expected to identify all manufacturers employing workers (outside their own family members) and to supply them with questionnaires. The old concept of household jurisdiction was reflected here in the fact that a manufacturer was expected as head of a "household" to be knowledgeable about and responsible for his folk.[29] The employers were asked about industrial workers and the councils themselves about agricultural labourers.

There were both quantitative and qualitative questions. The quantitative questions pertained to the number, age, sex, wages, and hours of the workers of the establishment or parish.[30] The purpose obviously was to estimate the real size of the workers' population and thereby the potential strength of the socialist movement. The censuses could not provide these estimates because the categories used since the 1787 census (*Production immatérielle, Agriculture etc., Pêche et navigation, Métiers et industrie, Commerce, Journaliers et domestiques inclassables, Vivant de leurs moyens, Assistance publique, Profession non indique*[31]) did not distinguish between employers and employees. Only workers employed in regular industry could be recognized with certainty as workers. The interest reflected in the census categorization was the physiocratically inspired wish to know how many individuals were supported by different sectors of the economy and referred to older systems

28 *Oplysninger.*

29 *Oplysninger*, pp. xl ff.

30 Many towns in Denmark were so small that farm work was not excluded for town inhabitants.

31 The Danish censuses were published in Danish with French translation of the main categories. *Befolkningsforhold, Statistisk Tabelværk 5. rk. Litra A, no 5*, (Copenhagen, 1905), pp. 158–175.

of meaning. The individuals were counted household by household, and everyone in the household of, for example, a baker (wife, children, servants, apprentices, relatives) was reported in the category *Métiers et industrie*. Age, sex, and marital status could be distinguished inside this main category, but not whether the head of the household was a baker in the sense of a master artisan, a journeyman, a skilled worker, or even an unskilled married worker regularly employed in a bakery. The division between agricultural workers and farmers owning their own farms was no less impossible to discern from the censuses. A census categorization consequently highlighting how many individuals were employers and how many were employees was introduced in 1901 following some less successful attempts.[32]

However, the 1872 survey did not succeed either. Questionnaires showing a total of 40,209 workers of both sexes and all ages were returned. This was fewer than the 50,393 industrial workers reported in the 1870 census, and for that reason it was obvious that it did not include all workers in all lines of occupation in all cities, towns, and rural districts. The method had failed. Even though most councils had answered the questionnaire, manufacturers had not. They did not respond as patriarchal masters of the household, subjects loyally reporting to the king, on the scale anticipated by the Ministry. Further, as no mechanism of control was built into the survey, no one knew how many employers were actually identified to receive questionnaires and, therefore, no one could have a well-founded idea of what proportion had completed the survey.[33]

The qualitative component of the questionnaire was meant to establish whether workers were able to maintain a simple living from the wages provided and whether they did anything to ensure security for illness and old age. The employers were asked to give their impression of the conditions of "their" workers:

> Are the workers usually engaged in an extra job? What kind of job and how much does it pay? Do the wives of the workers engage in wage-earning trade? In what occupations? Does the manufacturer provide any pensions, health insurance, schools etc.? To what scale do the workers become self-employed?[34]

Employers with more than 20 employees and the councils were asked questions concerning the workers' consumption:

> 1: How do the expenses of a worker-family spread over the following items of expenditure a) rent, b) food, c) clothes, d) tobacco and brandy? 2: How much

32 *Befolkningsforholdene*, pp. 158–175.
33 *Oplysninger*, p. II.
34 *Ibid.*, questionnaire A.

does a worker's family on average pay in tax? 3: Is the income of a well-regulated worker's family sufficient to provide a simple living?[35]

No method or procedure was given to standardize the answers or to help establish the average implicit worker referred to in the questions. Despite the many problems this vagueness caused for the respondents, many councils worked carefully on the answers. In larger towns, special committees were appointed to take care of the survey.[36] Many of them individually tried to cope with the built-in problem of representation and representability. Some asked non-socialist worker's associations, some the poor law authorities; some were able to produce household accounts from a worker family or two.

The problems of the respondents were minor, however, compared with those facing the people hired by the commission to analyse the material. In the final report, the unnamed author groans under his breath in an attempt to generalize the uneven but huge amounts of information. In contrast to the composition of the questionnaires, the author brought a scientific gaze to the material. He made use of scientific language and tried as a trained statistician to carve out the level of significance of each item of information. The solution chosen in the case of the qualitative questionnaires, however, was to print a selection of replies and to regret that nothing else was possible.[37] Information about the number of employed workers, wages, and hours distributed by province, sex and age, and age at marriage was given a genuine statistical treatment and presented in tables in spite of the problems.

Thus, two systems of representation collide in the report: a hierarchic, bureaucratic report system and a scientific, statistical survey system. The ideal style of the first was the narrative, with emphasis on the qualitative, and the quaint could be as interesting as the ordinary. The ideal style of the second was the table: the whole idea was to establish a quantitative knowledge of the average, the normal, and the range of variation.

To ask loyal local officials to report their conception of whatever the central administration wanted to know about the country and population was a well-proven method and rather efficient when there was no disagreement concerning the parameters. In this case, however, there was no consensus between the truth as seen by the officials and that experienced by the working population whose conditions were under scrutiny.

Reactions to the 1872 Survey

Even before the report was published, the first protests arose in the press and in letters to the town councils and the Ministry contesting the validity of the results. Some workers' associations even collected and published their own

35 *Ibid.*, questionnaire C.

36 Will. Scharling, "Den danske Arbejderstands økonomiske Vilkaar", in *Nationaløkonomisk Tidsskrift*, vol. 4 (1874), pp. 218–252, 321–353.

37 *Oplysninger*, p. xxviii.

surveys concerning the level of wages, which was the main issue of dispute. The workers claimed that the manufacturers had overstated wages by reporting the absolute maximum wages for workers with special skills employed without interruption.[38] After publication of the report, the public debate about the validity of the survey results continued.

Provoked by the protests and debates, professor in *Statsøkonomi* William Scharling (1837–1911) discussed the report in a paper published in *Nationaløkonomisk Tidsskrift* (Journal of Political Economy) later in 1874.[39] Scharling was a conservative, a member of parliament (1876–1898) for *Højre* and Minister of Finance in 1900 for the same party. He was very critical of the methods of the survey. The results could not be believed as long as the workers continued to protest. The quarrel must be brought to an end by investigation of manufacturers and workers from the same factory and by continuing to question both parties until a detailed agreement was reached regarding the level of wages at every single factory surveyed.[40]

Scharling, however, despite his methodological reservations, did offer his interpretation of the results of the survey. He questioned the image given, that the majority of workers' families in Copenhagen were on the brink of poor relief in 1872, even though he admitted that the budget of the workers was so inelastic that even a minor increase in expenses must provoke debt.[41] That unfortunate situation he explained away by citing the irresponsibly young age at which workers married and the miserable housekeeping of their wives. Likewise, he refused to believe that there was a problem in the provincial towns. However, he believed the information from the countryside about a prevailing, traditionally very low wage level, supplemented with frequent alms and loans, so that even the strong and young labourers got used to receiving charity and relief. Scharling argued that this system was comparable to the English poor-law system from earlier in the century and very injurious to a sound economy. He concluded by urging the coming commission to concentrate on improving the conditions of the farm labourers by doing away with the traditional, old-fashioned, and harmful wage system in the countryside.[42] Not exactly a bold conclusion by a political economist: the only thing to be done was described and approved by the classic liberal economic theory, and nothing new had to be conceived. The survey had obviously not inspired Scharling to new perceptions, nor did it change his old causal explanations of poverty (the irresponsible conduct of the poor). Nevertheless, his work was approved of in government circles. Although he was not a member

38 *Oplysninger om Fabrik- og Haandværks-Arbejdernes Fortjeneste i Odense, meddelte af Arbejderne selv*, collected and published by the Danske Arbejderforening, Odense, May 1873; *Skematiske Oplysninger om Fabrik- og Haandværks-Arbejdernes Fortjeneste i Odense. Med en Skrivelse til Odense Byraad fra D'Hrr. Fr. Krebs og Fr. Christophersen*, Odense, October 1873.

39 Scharling, "Den danske Arbejderstands økonomiske Vilkaar", pp. 218–252, 321–353.

40 *Ibid.*, p. 222.

41 *Ibid.*, pp. 241–247.

42 *Ibid.*, pp. 342–353.

of The Great Workers' Commission from the start, Scharling was called to join it in 1875.

The main conclusions of the commission have already been mentioned: the members could not reach an agreement. The majority concluded that the workers' problems were not so severe that the government should desert liberal ideals. They considered it still wisest to leave it to the market, free will, and charity to develop society in these matters. The minority can best be described as social conservatives. They argued that dissolution of the guilds, legislation passed in 1857, had left the workers in an insecure position that had not been foreseen. Now they suggested that the state should stimulate and in some cases even decree new forms of organization to take care of such issues as wage bargaining, sick benefits, old age pensions, death grants, apprentices' indentures, and improvements to education. As can be seen, the minority was as little stimulated by the survey as was the majority to reconstruct their world views. Instead, they looked back to the positive features of the guilds and suggested a reconstruction of these lost benefits.

The final white paper of The Great Workers' Commission was followed by more discussions but no immediate action.[43] As a means to obtain knowledge that appeared to be accurate and could thereby guide action, the survey had failed. It was neither a report reflecting the perspective of the king's loyal civil servants nor a modern scientific sociological investigation. Nothing stabilized what kind of knowledge it contained, which meant that no one needed to be convinced by its results. Nevertheless, the survey and The Great Workers' Commission played an important role in the political process. It helped the workers establish themselves as agents in the political process, whose voices must be heard, and it provoked economists and statisticians to face the questions posed in more methodically scientific ways.

A Scientific Approach

For Th. Sørensen (1839–1914), a general practitioner of the tiny town Hobro, the failure of The Great Workers' Commission to establish trustworthy knowledge regarding the ability of the normal worker to maintain a simple living became almost an obsession. He set out in 1880 to interview personally the members of 22 working-class families and their employers from his hometown to establish income as well as expenses for the families in the previous year. He visited their homes and examined their furniture, their larders, and their clothes. The families chosen had a reputation neither as extremely skilful nor as lazy or improvident, and all had four or more members.[44]

43 Fr. Krebs, "Arbejderspørgsmålet. Et Foredrag holdt i patriotisk Selskabs Møde 21de Dcbr. 1874 i Odense", *Nationaløkonomisk Tidsskrift*, vol. 5 (1875), pp. 81–99; review of Lujo Brentano, *Das Arbeitverhältniss gemäss den heutigen Recht*, in *Nationaløkonomisk Tidsskrift*, vol. 8 (1877), pp. 443–459.

44 Th. Sørensen, *Et Bidrag til Belysning af Kjøbstadsarbeidernes Vilkaar* (Copenhagen: Reitzel, 1880).

Sørensen concluded that workers with regular employment could provide a simple living, including health insurance, but not security in old age. Casual labourers, on the other hand, could hardly make ends meet in good times with industrious wives and few children. Every episode of unemployment meant debt, and illness was a catastrophe, as it was impossible for them to afford health insurance.[45] This came as a surprise to Sørensen; he had spent ten years of his life trying to organize and propagate voluntary health and old age insurance as a moral education and solution to the material problems of the workers.

In 1881 Sørensen published a similarly careful study of 53 field hands. The conclusion was that a farm labourer with a small plot was more or less on the same footing as a regular worker in town. Families of landless labourers, however, were very badly off because a big part of a man's wage was provided in board by the employer, so the food he could afford for his wife and children was poor and scarce. Moreover, the majority of landless labourers relied on gifts even in good years.[46] Here Sørensen's study confirmed Scharling's reading of the 1872 survey.

In 1882 Sørensen conducted a survey concerning industrial accidents based on questionnaires sent to all 220 doctors in a region.[47] Armed with new statistical methods published in Westergaard's mortality study in 1882,[48] Sørensen was ready to engage in a large-scale study of infant mortality, stratified by social class based on parish registers (1820–1879). The explicit written purpose was still to examine who was right: spokesmen for social revolution, or opponents claiming that the social order was blamed for what ought to rest on the shoulders of the individual.[49] This time, Sørensen tried to see whether it was possible to demonstrate an above average mortality among working-class infants. The conclusion was that, while a decrease and social equalization had taken place in infant mortality in the countryside, infant mortality was increasing in the capital and the towns, and infants of the working class suffered most. This study is still one of the best investigations of infant mortality in nineteenth-century Denmark.

From 1884 to 1891 Sørensen maintained the same breathless speed. He published approximately 20 scientific papers examining the social question using statistics. He also published many articles explaining proper statistical methods for his fellow doctors and several articles in a popular form com-

45 *Ibid.*, pp. 65–68.

46 Th. Sørensen, *Markarbejdernes Vilkaar i Jyske Hedeamter* (Copenhagen: Reitzel, 1881).

47 Th. Sørensen, *Statistik over Ulykketilfælde under Arbejde* (Copenhagen: Reitzel, 1882).

48 The most important among them was the method of calculating the expected number of deaths. For the history of this method and the role Westergaard played in its development, see Niels Keiding, "The Method of Expected Number of Deaths", *International Statistical Review*, vol. 55, no. 1 (1987), pp. 1–20.

49 Th. Sørensen, *Børnedødeligheden i forskjellige Samfundslag i Danmark* (Copenhagen: Reitzel, 1883), p. 10.

municating his results to the public.[50] One might ask how he managed to take care of his practice as a doctor: his own answer was that he did not.[51] His devotion was to the social question and statistical science.

Fortunately, Sørensen's surveys brought him recognition. At first he was alone, a provincial doctor not belonging to the scientific establishment. However, as early as his first survey of 1880, his work was reviewed admiringly in *Nationaløkonomisk Tidsskrift*.[52] The reviewer recommended the study as a trustworthy description of the standard of living of average workers in small towns, a remark not without an edge in reference to the 1872 survey. Only a few years after his first survey, Sørensen had inscribed himself as one of the three leading social statisticians in Denmark, with personal connections to the two others — Westergaard and political economist Marcus Rubin (1854–1923).

Sørensen was appointed a leading member of a government commission of 1885–1887 that considered health and accident insurance. Here he showed that his own statistical works had changed his mind. As late as 1878, he had argued for voluntary, independent, self-help health insurance. Now he recommended sick-benefit associations subsidized and controlled by the state. The commission agreed, and the Health Insurance Law was passed in 1892, following the commission's recommendations. In 1892 Sørensen was recommended for appointment as the first head of the new Health Insurance Department.

Old Age Pensions

The history of the first Old Age Pension Law is a parallel to the Health Insurance Law. Both subjects had been discussed for years and continuously rejected by middle-class politicians who firmly argued that the problems would be solved the day the workers began to act as responsible citizens, saving in good times what would be missing in bad. Both laws, when they finally were passed, were passed with support from all parties in Parliament, despite a very tense parliamentary situation in which all other legislation was obstructed.[53]

The lobbying and negotiations that preceded the Old Age Pension Law can be followed closely through letters, diaries, and memoirs. The process took place in the relatively narrow milieu of the Copenhagen bourgeoisie, which meant that the statisticians were close to the rest of the opinion-moul-

50 Erik Strange Petersen, "Th. Sørensen (1839–1914). En bibliografi", in Th. Sørensen, *Social-statistiske Undersøgelser*, vol. 1 (Copenhagen: Selskabet for udgivelse af kilder til dansk historie, 1984), pp. 53–62.

51 Erik Strange Petersen, "Th. Sørensen (1839–1914). En biografi", in Sørensen, *Social-statistiske Undersøgelser*, vol. 1, pp. 7–52.

52 "Kjøbstadsarbejdernes Vikaar", *Nationaløkonomisk Tidsskrift*, vol. 16 (1880), pp.372–377. The review is signed "A. P."

53 The *Højre* (Conservative) government was in a minority in the *Folketing* (Lower House), but denied the power of government to the *Venstre* (the freeholder farmers' liberal) majority; *Venstre* in return declined to pass the budget. *Højre* answered by putting a curb on every bill sent from the Lower House to the *Landsting* (the House of Lords), where *Højre* held the majority. This situation lasted from 1881 to 1894, but the three first social laws were passed. Lorenz Rerup, *Danmarks Historie*, vol. 6 (Copenhagen: Gyldendal, 1989), p. 195.

ding elite. Patterns of thought, alliances, and controversies spread in a context of family networks, personal acquaintances, dinner parties, and visits.

The first Danish medical statistician of any significance, C. E. Fenger, who played a principal part in the episode involving infant mortality, had become a powerful lord mayor in the 1870s. He used his influence to set up the Copenhagen Statistical Bureau. The staff consisted of one man, Marcus Rubin, recruited by Fenger through his liberal parliamentary colleague, N. C. Frederiksen, professor of political economy. Fenger, who was an old national liberal and conservative, used all his authority to clear political obstacles out of Rubin's way so that he could build up modern statistics for Copenhagen. Fenger also supported Rubin's wish to add "unseemly" questions about procreation and marriage to the census of 1880.

In 1885 Rubin and Westergaard attended the same meeting of the Association for Political Economy, where the director of the National Bank offered to finance a statistical study relevant to handling the burning social question. They decided to conduct the study together, and the result was *Mortality of the Rural Population in the Diocese of Fyn*, published in 1886. Rubin and Westergaard subsequently sent the study to the conservative Prime Minister Estrup, requesting funds for an analysis of the data on childbirth and marriage in the 1880 census. Despite the tense political climate, Estrup granted the funds to the politically radical Rubin, after assuring himself that the liberals were not opposed.[54]

Scientific statistics were thus very closely associated with contemporary politics, but the clue is that statistics were used in the political game as if they were apolitical. Simultaneously, the involved parties could use the statistics to reach agreement across established political differences. Statistics enabled politicians to change their opinions without losing face.

It could perhaps be said of people like Westergaard and Sørensen that the will and delight they showed in searching for the truth by aiming at impersonal objectivity made it relatively easy for them to challenge the general bourgeois pattern of thought and world view — provided, of course, that the analyses they viewed as scientifically consistent could convince them that the truth was different from what they had believed. Their desire for new knowledge found a tool in the theory of objective science precisely because it allowed them to see something new in relation to the world view with which they had grown up.

Episode Two: Death in Infancy, from Natural Cause of Death to Social Problem

The well-being of infants became a core object for the social in the years around 1900.[55] All over Western Europe and North America, it was estab-

54 Marcus Rubin, *Nogle Erindringer* (Copenhagen, 1914), pp. 70, 150–153.

55 This section is based on a major study, the results of which are published in detail in Anne Løkke, *Døden i barndommen. Spædbørnsdødelighed og moderniseringsprocesser i Danmark 1800–1920* (Copenhagen: Gyldendal, 1998). Portions of it are translated and available in English: Anne Løkke,

lished as a case of national importance to provide infants with optimal chances of survival. A low infant mortality rate was accepted as the ultimate evidence of a nation's successful social policy. Within a generation, death in infancy became no longer a regrettable natural phenomenon, but a social, hygienic, and medical problem, the solution being the responsibility of society. Infant welfare measures were set up by private individuals, associations, municipal authorities, and states. This part of the history is fairly well described. The political struggle for the acceptance of costly infant welfare programmes and their contents has been analysed in many countries, including England, the United States, Germany, Sweden, and Denmark.[56] Here, however, I concentrate on the role of statistics in the process that made death in infancy an arena for social policy. My starting point is the observation that statistical arguments crop up in almost every context in which the treatment of infants was discussed in the years before and after 1900. The first publication from the municipal statistics office in Copenhagen in 1877 provoked a veritable feud in medical circles about the naturalness of the level of infant mortality in the city. Statistical arguments were used in England, Germany, France, and the United States, when issues such as the Boer War and women's suffrage put the lives and health of infants on the agenda. Impeccable scientific statistical studies of infant mortality appeared in medical journals, and careless citations of statistical data, of which no one could remember the source, became standard introductions to popular guides to rational child care.

The Infant Mortality Rate

The statistical concept known today as the infant mortality rate (IMR) made it possible in the 1840s to compare the frequency of infant deaths in different places and different population groups in Denmark.[57] To calculate the IMR requires, however, a fairly reliable and uniform registration of births and

---

"No Difference Without a Cause: Infant Mortality Rates as a World View Generator", *Scandinavian Journal of History*, vol. 20 (1995), pp. 75–96; "Infancy and Old Age as Causes of Death", in Ning de Coninck Smith and Signe Mellemgaard, eds., *Childhood and Old Age: Equals or Opposites* (Odense: Odense Universitetsforlag, 1999), pp. 55–73; "Infant Mortality in Nineteenth Century Denmark: Regionality, Feeding Habits, Illegitimacy and Causes of Death", *Hygieja*, vol. 3 (2002) [online journal], http://www.liu.se/tema/inhph/journal/default.htm.

56 Deborah Dwork, *War is Good for Babies* (London, 1987); Gena Weiner, *De räddede Barnen* (Linköping, 1995); Sigrid Stöckel, "Die Bekämpfung der Säuglingssterblichkeit im Spannungsfeld von Sozialer Hygiene und Eugenik am Beispiel Berlins" (Inaugural-Dissertation, Der Freien Universität Berlin, 1992); Richard A. Meckel, *Save the Babies: American Public Health Reform and the Prevention of Infant Mortality* (Baltimore: Johns Hopkins University Press, 1990); Lara Marks, *Metropolitan Maternity: Maternal and Infant Welfare Services in Early Twentieth Century London* (Amsterdam and Atlanta, 1996).

57 The infant mortality rate (IMR) usually refers to the number of deaths before the first birthday per 100 or per 1,000 live births. The child mortality rate refers to the number of deaths during the first five years of life given the number of live births.

deaths. Since the mid-seventeenth century, it had been the responsibility of the church to record these events in Denmark. After many failures, the state authorities managed in the 1830s to achieve sufficient consistency in the categorizing to arrive at nationwide population statistics compiled from the reports of the clergy. From 1835 the statistics are available in print in an uninterrupted series of official statistics (*Statistisk Tabelværk*) every fifth year, with tables of marriages, births, and deaths distributed according to age, sex, region, town/rural district, and, for the births, illegitimacy.

The IMR was calculated in *Statistisk Tabelværk* for the first time in 1842, although the actual term was not used until much later. The very idea of classifying deaths according to age and calculating mortality has roots going back to the seventeenth century. In the eighteenth century, statisticians in different countries worked to find laws for mortality according to age, but only in Sweden was the basic material compiled so systematically that it is still of use for modern purposes. In 1766 Per Wargentin (1717–1783) used this material to calculate mortality according to age, and hence also what we would call infant mortality. These calculations had a great impact in Sweden, where the authorities began a major campaign to reduce infant mortality as early as the eighteenth century.[58] However, Wargentin's work has left no trace in Danish statistics.

In Denmark, the physician and later politician C. E. Fenger, previously introduced, first undertook such calculations. He did so after a study trip around Europe, which aroused his keen interest in the new medical statistics, especially as he experienced the practice at Jules Gavarret in Paris. Fenger was not especially interested in infant mortality. His aim was to detect the natural laws of mortality. Fenger formulated, "the general law is that mortality immediately after birth is very high but falls thereafter until roughly the fifteenth year; it then begins to rise again, at first slowly, then faster, and it continues to rise through all the subsequent age periods."[59] This was the usual way of generalizing about mortality questions at this time — as natural laws without a dimension of time. Also, it was a normally held conception that infants could die because of their tender age in the same way as old people are thought to die from old age. Fenger's purpose was first and foremost to clear the calculations of probable life expectancy of the confounding influence of high infant mortality, so that the new life insurance companies could have a rational basis on which to work.

Fenger's contemporaries, however, were hesitant about accepting the need for his calculations. The next edition of *Statistisk Tabelværk* (for 1840–1845) appeared without any calculations of age-related mortality. Instead, there was a detailed account of the fact that the number of illegitimate births in Denmark was high and rising in comparison with other countries. The authors

58 Anders Brändström, *De kärlekslöse mödrarna, Spädbörnsdödeligheden i Sverige under 1800-tallet med särskild hänsyn till Nedertornea* (Umeå, 1984), pp. 10, 39 ff.

59 Introduction to *Statistisk Tabelværk*, ældste række, vol. 6 (1842), p. xxii.

pointed out that it had been found in other countries that "by denying all tutelary protection to the fallen woman, one sharpens the moral sense of the female sex, or at least causes it to be careful about becoming pregnant".[60] The authors also argued that the right of pregnant women to poor relief and the opportunity to give birth in the royal maternity hospital led to higher numbers of illegitimate children. Members of the Statistical Commission were clearly dissatisfied with the indulgent Danish attitude to unmarried mothers and wanted to see a tougher stance. In their argumentation, they did not say a single word about the conditions of illegitimate children. It was possible at that time to put forward desires for improved morality without reflecting on the harsh destinies of fallen women and their illegitimate children.

In *Statistisk Tabelværk* for 1845–1849, published in 1850, the age-related mortality rates were back again, this time to stay. From the start of the 1850s, calculations of infant mortality have thus been available in official Danish statistical tables, which also show the mortality rates for all other age groups. The interest in infant mortality was still an integral part of the interest in the mortality of all age groups, an interest that can be traced back to the desire of the state to keep population statistics for administrative and military purposes, as well as the eighteenth-century idea that it was possible to discover the laws governing God's creation. It would benefit mankind to understand and act according to these laws, since this would lead to greater happiness and prosperity in society.

The calculations of infant mortality rates, however, gave rise to deliberations about how extensive normal and inevitable mortality in childhood was. The subject had been discussed in the Age of Enlightenment, when it was probably thought that not all child deaths were inevitable, but there were no precise ideas about the magnitude of infant mortality and how much it could possibly be reduced. In 1773 the doctor Johan Christian Lange had expressed the contemporary view in the subtitle of his book on child care: "What are the main reasons that most people die during childhood."[61] What was new in Denmark in the 1840s was that the vague impression of "most people" was replaced by a figure for infant mortality that fluctuated between about 10 and 25 per cent and gave a national average of 14 to 15 per cent. This result immediately demonstrated that the Icelandic rate of 30 to 35 per cent was abnormal and led to state initiatives to reduce it.[62]

Preventable Infant Deaths

The first Nordic Congress on Hygiene was held in 1858. Doctors and hygienists used the now known average level of infant mortality to argue

60 *Statistisk Tabelværk*, vol. 10 (1846), p. xxi.

61 Johan Christian Lange, *Børnevennen* (Copenhagen, 1773).

62 Iceland was part of the realms of the Danish king. No other parts of his countries had an infant mortality rate exceeding 25 per cent. For infant mortality in Iceland, see G. Olaf, *Saving the Child* (Umeå, 2002).

that many of the deaths among infants born out of wedlock were preventable.[63] The initiative was taken by hygienists, physicians, and scientists who had arranged the proceedings in an attempt to convince politicians and officials that it was right to invest in measures to prevent disease and to further public health wherever possible. Their audience consisted of the national liberal governmental, academic, and opinion-forming public.

At the congress, the medical professionals highlighted the excess mortality among illegitimate infants by comparing private statistics with the average established in the official statistics. They spoke of this extra mortality as something that could and should be reduced. The professor at the Royal Maternity Hospital presented figures which showed that illegitimate babies placed as foster-children by the hospital in the years from 1850 to 1854 had a mortality rate that was almost three times as high as the national average.[64]

By invoking mortality rates, the organizers of the congress made it difficult for moralists to defend their moral stance. Those who thought that the poor conditions of illegitimate children were a necessary price to pay to maintain good morals in society were made to appear as advocates of infanticide. As long as no one had publicly formulated the above average mortality of foster-children, the extermination of the illegitimate children had gone on unknown to society. They were not deliberately killed, of course, but died a "natural" death. When recalculated as mortality rates, the many deaths among foster-children no longer seemed so natural.

The debate at the congress ended with a resolution that foster-children could and should be treated better and that the official statistics in the Nordic countries should be calculated in such a way that the deaths of illegitimate infants could be compared to deaths of legitimate children. This demand was fulfilled in the Danish *Statistisk Tabelværk* from 1860, but only for deaths in the first month of life. The statistics revealed the expected excess mortality and thereby helped to provide arguments for legislation that from 1888 obliged fathers to pay half of the real costs of supporting illegitimate children and introduced public supervision of foster-children.[65]

The Liberal Moralist and the Social Hygiene Radicals

In the 1860s the leading medical journal published an article that for the first time discussed, in detail, how large a proportion of the deaths among normal legitimate Danish children could be considered biologically conditioned and

63 *Beretning fra den Hygiejniske Kongres i Kjøbenhavn 1858* (Copenhagen, 1858).

64 *Ibid.*, p. 141.

65 The debates and struggles that precede the 1888 law include lobbying from an association of venerable gentlemen, who would no longer accept the pity and criminality of the illegitimate offspring of their less venerable contemporaries, and lobbying from the Premium Society for Foster Mothers, whose patroness was the Crown Princess. Anne Løkke, "Præmierede Plejemødre", *Den Jyske Historiker*, vol. 67 (1994), pp. 38–60.

how much was due to social and cultural factors.[66] The article did not upset anyone and the matter did not really engage the public. That changed dramatically, as mentioned, in 1877, when the subject was contested between radical young physicians and the mature, accountable city medical officer, P. A. Schleisner.

The controversy was about the naturalness of the level of infant mortality revealed by new official statistics of Copenhagen. The statistics showed that infant mortality in the city had risen to about 22 per cent. Armed with this data, the young doctors published an attack on Dr. Schleisner, in the most modern, fashionable, and scientific medical journal of the time, for being remiss in his duties. The young doctors saw the rising infant mortality as a sign that the authorities were losing their control over the development of hygiene in Copenhagen. Dr. Schleisner argued energetically that most infants died of infantile diarrhoea, which any sensible doctor knew to be one of the so-called seasonal diseases "which have no significance whatever as a measure of the state of hygiene in a place, and surely have as little a chance of being influenced by preventive efforts as the north-east polar wind that brings us influenza".[67] Doctors had the power to influence many things, but in his opinion the rise in infant mortality was caused by chance or by factors over which there could be no control, such as the number and conduct of poor people.

Dr. Schleisner's position was not the result of scientific ignorance or statistical barrenness. As a medical officer, he had initiated many hygienic improvements, and he was in fact a more competent statistician than his opponents. In his world view, however, only one-tenth of poverty had structural causes; the rest was the result of immorality and carelessness. The poor themselves were responsible especially for their higher infant mortality rate because they had children without having sufficient means or willpower to nurse and maintain them. Schleisner insisted on a general view of the development of society. For him, actions to help the poor were poor relief, no matter what, and should be regulated by poor laws. He was not prepared to accept more public assistance for the poor just because it was called disease prevention or a means to reduce infant mortality.

Publishing the development in infant mortality rates, however, brought a pressure not seen before on Dr. Schleisner to defend himself. He had to speak about something that had been a regrettable but inevitable fact of life for previous generations. It was no longer possible to assume that it was necessary for children to die of infancy and poverty. For Schleisner's opponents, the decisive point was that infant mortality had been lower in Copenhagen and was lower elsewhere, and that it was therefore possible to reduce it. The

66 N. J. Bentsen, "Dødeligheden i det første Leveår i Danmark", *Ugesskrift for Læger*, 3. rk. vol. 7 (1869), pp. 113–119.

67 P. A. Schleisner, "Orienterende Bemærkninger angaaende Sundhedsvilkaarene og Dødelighedsforholdene i Kjøbenhavn", *Ugeskrift for Læger*, 3. rk. 2 vol. 3 (1877), p. 105.

fact that poverty led to rising infant mortality was no reason to refrain from combatting it. On the contrary, it pointed a way to an effective means of fighting the problem. The actual fight in 1877 ended in a draw, but time was with the young attackers. Within a few years it became impossible to defend Dr. Schleisner's position: at once to acknowledge scientific statistics and to deny that the infant mortality rate could be reduced through measures taken by the health authorities.

No Difference Without a Cause

It was the young, newly qualified Harald Westergaard who closed the debate regarding whether or not average infant mortality could be reduced. He turned out to be the right man at the right time when he published his first scientific work, *Die Lehre von der Mortalität und Morbidität* (The Lessons of Mortality and Morbidity) in 1882. The aim of the book was to provide a review of the methods and results of the international statistical research into mortality. With one stroke, the book established Westergaard as a central figure in the international statistical community. For a whole generation, the book remained the standard work on international mortality statistics.[68]

For the Danish perception of death in infancy, however, it became a watershed. After *Mortalität*, the discussion changed. The problem now was to determine how infant mortality could be reduced most efficiently and most economically. The method used in the book was to compile a catalogue of variables, on the basis of international research, which scientifically tenable studies had shown to be factors influencing infant mortality. Wherever it was shown that there were statistically significant differences in mortality between two groups, the assumption was that it must be possible to reduce the higher level to the lower one. That established once and for all that infant mortality, on the scale found in most places, was not a product of nature but of the way people arranged their lives, and that infant mortality could therefore be reduced, given the necessary will (and resources).

Westergaard's actions were not those of a lonely hero. What he did was a meta-study of the existing statistical literature in all European languages. The compilation of the state of knowledge in the field, however, made it accessible and useful for doctors, politicians, and fellow economists, carrying the results back to statisticians who could use the statement to design new surveys. Before Westergaard's book, even the specialists had found it difficult and time-consuming to interpret the research findings. Individual details had to be sought in various periodicals, annuals, and monographs in a variety of languages.

Following his purely statistical reasoning, Westergaard discussed the subject from the point of view of political economy. He argued that there were two reasons why society should try to save infants: an economic reason and

68 *Dansk Biografisk Leksikon* (1943), s.v. Harald Westergaard.

a moral reason. It was poor economy to bring children into the world and then let them die. The cost of bearing and feeding the infant did not have to be set very high to arrive at a huge sum that society lost in this way. The second reason was that knowledge had changed the moral imperative: it was immoral to continue to let infants die once it was demonstrated that they died as a result of poor care and nutrition and not because of biological necessity.[69]

In 1882 Westergaard found it premature to attempt a ranking of the variables influencing the level of infant mortality. Instead, he reported findings regarding 24 variables, among them country (Norway's IMR 10 per cent, Bayern-Württenberg's 32 per cent, for example), regions inside Denmark (Fyn 8–10 per cent, East Jylland 20–25 per cent), legitimacy (40–50 per cent among illegitimates in some places), order of birth, nutrition (lower mortality among breastfed babies), maternity rest, birth care, social status (working class higher, middle classes lower), climate, season, and heredity.[70]

The decade following the publication of *Mortalität* saw an explosion in the study of infant mortality in the scholarly journals and in special investigations. Roughly twice as many articles and monographs appeared in Danish with infant mortality as a major topic during these ten years compared with the years from 1835 to 1880. Many of these works were by Dr. Th. Sørensen. These works suggested, with increasing precision throughout the 1880s and 1890s, that the average level of IMR could not be regarded as the biological minimum. In 1901 Westergaard, in a new edition of *Mortalität*, ventured that the biologically necessary infant mortality was no more than 7 per cent and probably less. He did so by examining the IMR of royal families in Europe and population groups with low levels of infant mortality.[71]

The view of infant mortality in nineteenth-century Danish statistics thus moved from interpreting the observed average as an expression of a law of nature to calculating minimums under different conditions in order to separate more and more groups. "Natural" infant mortality thus grew smaller and smaller, while the proportion attributed to human responsibility grew steadily. It is worth noting that this change in the perception of infant mortality took place before the measured rate of infant mortality began to fall. Death in childhood ceased to be considered natural even before the real drop in infant mortality. The process in the statistical literature was like a spiral: the statisticians convinced themselves that death in childhood was not solely a natural phenomenon before they tried to convince the rest of the world.

In 1912 one of the young debaters from 1877, Axel Ulrik, became city medical officer in Copenhagen. In the course of these 35 years, infant mortality had been widely recognized as a problem for society. Chance natural death was no longer regarded as a natural part of childhood. Infant mortality

69 Harald Westergaard, *Die Lehre von der Mortalität und Morbidität* (Jena, 1882), p. 192.

70 For a discussion of Westergaard's variables, see Løkke, *Døden i Barndommen*, pp. 88–92.

71 Harald Westergaard, *Die Lehre von der Mortalität* (1901), p. 403.

was interpreted as a medical, hygienic, and social problem, the scope of which could be measured with the infant mortality rate and for which the solution was possible. There was now widespread consensus that the way to combat the problem was purposeful guidance in rational child care, better public hygiene (milk and water supply, sewage disposal, food inspection), and support and control in the form of home visits to children in the lowest social circumstances. The IMR was routinely used as a measure of a community's hygienic and social standard.

This development was not caused by statistics, but statistics armed people with new arguments and changed old notions about how the phenomenon could be influenced. Thus mapping the actual ways through which death in infancy became a social problem shows that statistics played an important role. But it did so because the statisticians succeeded in designing their surveys with responsiveness to the thoughts of the time as they were formulated in, for example, politics, literature, pedagogy, economics, and medicine.[72]

Discussions and Conclusions: From Local Communities to Social Nation-States

Westergaard's genealogy of the social as well as the two episodes in its history point to the way community is imagined as a key factor in the making of the social. Scientific reflections of the structure and functioning of society were initiated because researchers sought to understand what was going on when established truths ceased to function. That led to the development of new forms of descriptions and scientific tools, again changing the images of society accepted as truth.

If Westergaard's observations of the developments in the seventeenth- and eighteenth-century European economies and societies are interpreted with E. P. Thompson's concepts from his classic article "The Moral Economy of the Crowd",[73] it can be argued that both the early political economy, which gave birth to liberalism, and the creation of the social were reactions to early steps towards globalization. Thompson shows how old forms of protection against hunger and devastation provided by the local elites and local communities ceased to function in their intended way when local marketplaces were ousted by geographically more widespread market economies. According to Thompson, the instantaneous effects of the processes of the de-localization of the economy in the eighteenth century were no less disintegrating for culture and material existence of the poor than were the twentieth-century disembedding processes.[74]

Thompson described the rioting mob looking back to old notions of a just price on food that would enable the poor to exist. Westergaard, on his side,

72 The use of the concept of responsiveness is inspired by Herbert G. Blumer, "Fashion", *International Encyclopedia of the Social Sciences* (New York: Macmillan, 1968), pp. 342–345.

73 E. P. Thompson, "The Moral Economy of the Crowd", *Past and Present*, vol. 50 (1971).

74 Anthony Giddens, *The Consequences of Modernity* (Cambridge: Polity Press, 1990), p. 21.

concentrated on the reactions of another group in society, the political economists, to the same process. He described their attempts to figure out, from a scientific context, what was going on and how to overcome the new structural problems. Their works were meant to inform the king as to how he could make his realm blossom.[75] This goal was of both material and religious necessity. The divines of the times agreed that the wrath of God would befall the king and his realm if it were not governed by wisdom and a fear of God. Of course, most kings had very material reasons for wishing to see their subjects thrive: subjects living a life of plenty were better taxpayers. Taxes were an indispensable necessity to a realm taking part in the life and death warfare of the emerging nation-states.[76] The government rationality, looking at the population and the sum of material resources as variables to be maximized and optimized, was inherent in political economy from the start.

It is broadly accepted that statistics emerged all over Europe in that process. From a government rationale, it was of great interest to know the potential numbers of soldiers and the amount of taxes the inhabitants of a territory were able to pay. The knowledge obtained was often treated as a military secret.[77] A nearly symbolic representation of the purpose of early statistics is that in late-seventeenth-century France, *mémoires* concerning population and wealth were collected exclusively for providing teaching material for the dauphin.[78]

In the nineteenth century, most countries developed official national statistics, collected and analysed by institutions in or affiliated with the central administration. The results were no longer secret information. On the contrary, in most countries they were published on a regular basis. The field of interest had broadened and covered, besides statistics on the population, also such areas as trade, agriculture, manufacture, and crime.

In Denmark, the existence of the official and published population statistics from 1835 offered a new tool with which to imagine society. It also provided new possibilities for people outside the apparatus of the state to interpret what was going on. The collected and published material made it possible and manageable for private persons to undertake statistical surveys of limited fields and thereby throw new arguments into the political process. New statistical knowledge established new arguments, which were sometimes able to tip established balances and redefine old frameworks of interpretation.

Doctors engaged in the fate of illegitimate infants used the new statistical knowledge to reveal that the normal procedures for their care were producing a kind of collective extinction. Once it was accepted that their deaths

75 Theodore M. Porter, *The Rise of Statistical Thinking, 1820–1900* (Princeton, N.J.: Princeton University Press, 1986), p. 18.

76 Charles Tilly, *Coercion, Capital and European State, AD 990–1992* (Oxford: Blackwell, 1992), pp. 67–126.

77 Laurids Bruun, *Officiel Statistisk* (Copenhagen: Gyldendal, 1895); Porter, *The Rise of Statistical Thinking*.

78 Bruun, *Officiel Statistisk*, p. 143.

were preventable, old moral codes as well as more recent ideologies of human rights and innocent children could be mobilized as a barrier against cynicism. Structural infanticide was not acceptable when acknowledged as such. The same procedures were undertaken to show that the higher mortality rates of infants of the poor were not only the parents' problem, but also a problem for society — a social problem.

Preventing infant deaths was, however, relatively uncontroversial. Once it was established in the 1880s that many infant deaths were preventable, most groups in society, from the socialists to the queen, united in the battle against the IMR. Dr. Schleisner was the spectacular exception, daring to argue loudly and in public that the fate of the children was and should remain the responsibility of the parents, even if it could be demonstrated that the causes of a higher IMR among the poor were structural.

The workers' question was different. It was extremely ideologized even in the core of political economics, the science meant to investigate such matters, and the truths from the incompatible scientific schools of economy informed their separate political movements. In the 1870s the situation was at a deadlock in Denmark. Liberal ideas had guided politics for two decades, but the bliss from the abolition of old patriarchal restrictions on economy was not convincing to everyone. Many conservatives had concerns over the disorder resulting from simultaneous population growth, migration from rural districts to urban areas, and the dissolution of the old organizations. Numerous local attempts to solve the problems by educating working-class people to be diligent and thrifty were organized by, among others, Dr. Th. Sørensen. The socialist labour movement, which was suddenly germinating in Copenhagen, claimed revolution to be the only solution to the misery of the workers. The strength of the movement, shown in its ability to organize strikes, scared authorities and middle-class citizens alike and stimulated a sudden joint interest from liberals and conservatives in knowing whether the workers really lived in unmerited misery and how many there were. The old mechanism of investigation set in the work of the Ministry of Interior proved unable to provide trustworthy answers to these questions. A key role was thus left to people like Sørensen, Rubin, and Westergaard, who for one reason or another were equally engaged in developing society and science. They used statistics as a tool to produce representations of how people lived, so close to reality that they could be accepted as such both by the conservative and liberal political elite and by the working-class population, growing larger and more self-assured every day. The statistical surveys transformed many of the demands of the socialists from undue insubordination to a just cause. Once the problems were accepted as scientific facts, it became both economical and politically reasonable to find solutions, not least for conservatives.

Following the creation of the social in historical narratives, as we have done in these two episodes, throws light on the integral role of social science in the making of the social. The social was born reflective. To play this role, science had to be a real science in the sense of seeking the truth. As well, it

had to be conscious of the limitations in the truth it discovered. To the last, Westergaard was engaged in this struggle to make trustworthy representations. In his lecture when retiring from his professorship in 1924, he spoke about spot tests, "the formation of adequate precision to reproduce reality".[79] The idea of being able to make a less expensive trustworthy representation fascinated him. Much poor science and many science-like arguments were of course also present in the process — but they would have been of limited value if they had not borrowed power from the more dedicated sciences.[80]

The two narratives also throw light on the re-imagination of society included in the social. It was an imagining society, in which the nation-state was a premise, as was democracy and government rationality. The social, however, at the same time had nation-building effect by including every single human being within the national border as a member of the community — infants as well as workers. The social thus stabilized the relations within nation-states and provided a new framework for interpreting governmental successes and failures.

79 Harold Westergaard, "Statistikkens Fremtid. Afskedsforelæsning den 28. maj 1924", *Nationaløkonomisk Tidsskrift* (1924), p. 342.

80 For a case in which unreliable statistics based on changing categorization provided arguments for social legislation, see Anne Løkke, *Vildfarende Børn. Om forsømte og kriminelle børn mellem filantropi og stat 1880–1920* (Copenhagen: Socpol, 1990).