

Medical Opinion and Sociopolitical Control in the Case of Occupational Diseases in the late Nineteenth Century

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RESUMEN

En este trabajo se identifican los riesgos para la vida y la salud de los trabajadores industriales en el contexto del seguro obligatorio de accidentes establecido en Alemania a comienzos de siglo. En el contexto del desarrollo industrial y los cambios sociopolíticos apareció el problema de definir riesgos y problemas crónicos, en particular las intoxicaciones. La inclusión de las enfermedades ocupacionales en el seguro de accidentes enfatizó la dimensión biográfica del padecimiento, pero dificultó el desarrollo de la función preventiva del Reglamento de enfermedades laborales de 1925.

Occupational diseases in Germany today are those diseases for which compensation is granted in the same way as for accidents, if they are caused by particular influences to which certain groups of people, through their work, are subjected to a greater degree than the rest of the population (1).

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They are defined by experts in line with the latest developments in industrial medicine and specified in lists in the Occupational Disease Ordinance (2). It is incontestable that workers affected by such diseases and doctors have known about them and the suffering and distress associated with them since the late 17th century (3). However, according to German social insurance (4) as it was established in the early 1880s, these occupational diseases did not exist. For the purposes of this insurance there existed either diseases which manifested themselves as organic defects and were treated and assessed as such, or accidents, which were defined as sudden events brought about by unforeseen circumstances. This distinction was first made in the 1870s and incorporated medical knowledge into legal proceedings, making juridical and medical definitions interdependent (5). By the end of the century, however, risk, legal proceedings and medical knowledge no longer matched (6). Doctors had to form an opinion on connections between causes and effects in the legal sense, the construction

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- (2) Cfr. MILLES, Dietrich (1988). Occupational illnesses to be compensated, or worker's diseases to be eradicated? *Dynamis*, 7-8, 275-305; (1993). What are Occupational Diseases? Risk and the concept of risk in the history of industrial medicine. In: COOTER, R.; LUCKIN, B. (eds.), *Accidents in History. Injuries, fatalities and social relations*, (forthcoming).
- (3) Cfr. KARBE, Karl-Heinz (1978). *Die Entwicklung der Arbeitsmedizin in Deutschland von 1780 bis 1850 im Spiegel der zeitgenössischen medizinischen Literatur*, Diss, Leipzig; BUESS, Heinrich (1961). Die Erforschung der Berufskrankheiten bis zum Beginn des industriellen Zeitalters. In: BAADER, E. W. (ed.), *Handbuch der gesamten Arbeitsmedizin*, Berlin, Bd. 2/1, pp. 15-36; WEINDLING, Paul (ed.) (1985). *The social history of occupational medicine*, London, Croom Held, 267 pp.
- (4) For an international comparison see HENNOCK, E. P. (1987). *British Social Reform and German Precedents. The Case of social Insurance 1880-1914*, Oxford, Clarendon Press; RITTER, Gerhard A. (1982). *Sozialversicherung in Deutschland und England. Entstehung und Grundzüge im Vergleich*, München, Oldenbourg; MOMMSEN, Wolfgang; MOCK, Wolfgang (eds.) (1982). *The emergence of the welfare state in Britain and Germany 1850-1950*, London.
- (5) Cfr. BARTA, H. (1983). *Kausalität im Sozialrecht. Entstehung und Funktion der sogenannten Theorie der wesentlichen Bedingung*, 2 vols., München, Duncker & Humboldt.
- (6) Cfr. MILLES, Dietrich (1990). Industrial Hygiene: A State Obligation? Industrial Pathology as a Problem in German Social Policy. In: LEE, Robert W.; ROSENHAFT, Eve (eds.), *State and Social change in Germany*, London, Berg, pp. 161-199; MILLES, Dietrich (1990). 'Künstliche' und 'natürliche' Risiken in der Geschichte der Arbeitsmedizin. In: Hamburger Stiftung für Sozialgeschichte des 20. Jahrhunderts (ed.), *Arbeitsschutz und Umwelgeschichte*, Köln, Volksblatt Verl., pp. 101-118, 192-194.

of which corresponded less and less with their field of knowledge and increasingly conflicted with their medical duties (7).

The construction of risk, which it owed to the particular role of accident insurance in Germany, is the central issue of this paper. Accident insurance represented the heart of the German social constitution, as it regulated the new and serious health problems and hazards which modern industrial society imposed upon itself (8). Accident insurance, which was discussed in the Reichstag before the establishment of general statutory health insurance in 1883, but was only settled in 1884, relieved employers' of liability, which had been the cause of massive social conflict. Henceforth, if a sudden, temporally determinable event in the course of insured employment led to an ascertainable impairment of health, then the person concerned or their surviving dependents could claim an accident pension proportionate to the determined degree of incapacitation. This confirmed that industrial enterprises concealed certain unavoidable health risks; it also assumed that these could be regulated in terms of the definition of an accident.

This regulation was intended for the type of health risks which were characteristic of heavy industry, steam boilers and transmission belts as well as manifest social inequalities (9). It was set up in the early 1880s in the midst of a particular historical situation which I shall only mention with reference to

— the growth of the iron-producing and processing industry accompanied by an changing conception within the field of engineering of risk and production planning;

— or the development of natural sciences and the corresponding legitimization of political intervention.

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- (7) Cfr. BEHRENS, J.; MILLES, D.; MÜLLER, R. (1990). Zur Medikalisation sozialpolitischer Konflikte. Gutachtermedizin zwischen Sozialstaat und Individuum. In: DRESSEL, W. et al. (eds.), *Lebenslauf, Arbeitsmarkt und Sozialpolitik*, Nürnberg, IAB BfA, pp. 151-173.
- (8) Cfr. EWALD, Francois (1986). *L'État providence*, Paris, B. Grasset; BECK, Ulrich (1986). *Risikogesellschaft. Auf dem Weg in eine andere Moderne*, Frankfurt/M., Suhrkamp.
- (9) Cfr. BARTRIP, Peter (1987). *Workmen's Compensation in Twentieth Century Britain: Law, History and Social Policy*, Brookfield, Vermont, Avebury; in general FREVERT, Ute (1984). *Krankheit als politisches Problem, 1770-1880. Soziale Unterschichten in Preußen zwischen medizinischer Polizei und staatlicher Sozialversicherung*, Göttingen, Vandenhoeck & Ruprecht.

This particular historical situation was legally generalised within the social insurance system.

Towards the end of the century, the mediation between institutional assumptions of normality and individual concepts of life and entitlement to state benefit was precarious: the historical situation was characterized, among other things, by

- a profound change in work processes and work organisation as typified by Taylorisation and the increased use of chemicals;
- the so-called «negative integration» of the workers movements, especially via the social insurance system;
- and the end of the Bismarck era and the attempts at social integration in order to make the German national economy competitive.

This was reflected in discussions among affected workers, Social Democrats, social reformers, employers and their associations, representatives of the trade associations, factory doctors, hygienists and officials over industrial, occupational or workers' diseases. One considerable problem was the growth of complex and latent hazards and, hence, chronic diseases, which was above all discussed in relation to intoxication (10). This growth conflicted with individual expectations and with insurers' assumptions.

Now and again the question of a fundamental reform of social security was raised, however it lacked political support because at the time the social security system contributed a great deal towards sociopolitical stability and it was not possible to find acceptable sociopolitical institutions and actors to implement far-reaching reform (11).

The problem was therefore how to reconstruct certain diseases to reconcile the medical and legal definition of occupational diseases within the framework of social security as it already existed. Discussions focussed

(10) Cfr. ROTHE, Christian (1987). *Erkrankungen von Chemiearbeitern und die Entwicklung der Berufskrankheitenverordnung von 1925*, Frankfurt, [Diss. med.]; HIEN, Wolfgang (1988). *Chemiearbeit, Anilinkrebs und Dispositionsmythos am Beispiel der BASF Ludwigshafen*. 1999. *Zeitschrift für Sozialgeschichte*, 3, 31-59.

(11) Cfr. BALDWIN, Peter M. (1990). *The Politics of Social Solidarity. Class Bases of European Welfare State*, Cambridge, Cambridge Univ. Press; HENTSCHEL, Volker (1983). *Geschichte der deutschen Sozialpolitik (1880-1980). Soziale Sicherung und kollektives Arbeitsrecht*, Frankfurt/M., Suhrkamp.

on the extension of accident insurance to include disease processes, and this was finally realised in the Occupational Disease Ordinance of 1925 (12).

Due to its pacifying effect (13), the social insurance system was still not standardized or reorganized during discussions over the Imperial Insurance Ordinance in 1911. Leaving aside the protective measures following the implementation of the Industrial Code, the differentiation within the social insurance system can be illustrated by the following examples. The problem centred around long-known and new forms of chemical intoxication.

Long-recognised forms of intoxication were for instance those caused by phosphorus, lead and mercury. The exact connections are made clear by the following example of phosphorous poisoning (14).

The discovery that phosphorus can be specifically ignited when mixed with non-flammable substances goes back to the early 19th century. At first white phosphorus was used exclusively to manufacture matches in home industry and in factories. An awareness of the health hazards involved grew up almost immediately. As early as 1843, Prof. Dietz of Nuremberg pointed out the injuries phosphorus caused to health and in 1845 Prof. Lorinser of Vienna brought out a publication on bone diseases brought on by the effect of phosphorous vapours which he named phosphonecrosis. In 1847, chemists in Bibra and the clinician Geist described «the diseases of the workers in phosphorous match factories, especially the condition of the jaw bones caused by phosphorous vapours» (Erlangen). In the same year the first protective regulations were issued (15).

In the late 1870s public attention was roused by the conditions and diseases existing in the match factories at Lauenburg, where there were no less than four large factories processing white phosphorus. On investigation the factory inspector discovered that workers often contracted phosphonecrosis

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- (12) Cfr. HOHMANN, Joachim S. (1984). *Berufskrankheiten in der Unfallversicherung. Vorgeschichte und Entstehung der Ersten Berufskrankheitenverordnung vom 12. Mai 1925*, Köln, Pahl Rugenstein.
- (13) Cfr. RÖDEL, U. et al. (1978). *Sozialpolitik als soziale Kontrolle*, Frankfurt/M., Suhrkamp; SACHSSE, Ch.; TENNSTEDT, F. (eds.) (1986). *Soziale Sicherheit und soziale Disziplinierung. Beiträge zu einer historischen Theorie der Sozialpolitik*, Frankfurt/M., Suhrkamp.
- (14) Cfr. TELEKY, Ludwig (1955). *Gewerbliche Vergiftungen*, Berlin; HAMILTON, Alice (1925). *Industrial Poisons in the United States*, New York.
- (15) Cfr. DEHN, Paul (1882). *Arbeiterschutzmaßnahmen gegen Unfall und Krankheitsgefahren*, Berlin; BRAUN, Adolf (1890). *Die Arbeiterschutzgesetze der europäischen Staaten*, Tübingen.

and had bad teeth and inflamed jaw bones. His report expressed in official terms what people in the area commonly and clearly felt to be a health hazard. On 27.6.1879 the Reichstag requested the Chancellor «to give orders for the preliminary steps to be taken to prohibit the manufacture of matches with white phosphorus». The Imperial Office for the Interior dealt with the matter further and, as was usual in such cases, asked the federal governments for their comments. The vast majority of governments held the opinion that a prohibition «was not necessary and, in consideration of the national economy, questionable». Instead, regulations should be issued on the production of matches. For this purpose the State Secretary for the Interior appointed a commission (16).

Public discussion continued, however, and political speculations on relations between the Imperial Chancellor and industrialists prompted official enquiries. In reply to one enquiry, the Ministry of Commerce reported in 1881 that the question «had been debated... for years». The subject of debate had been the inflammability of German matches especially in relation to Swedish matches and how great the threat of phosphonecrosis was to workers. Apart from an account of official procedures the relevant principles of the matter were reduced to passages in the industrial doctor's annual report. There was no knowledge of public disquiet and the authorities had only applied for a prohibition because of the increase in fires and not because of phosphonecrosis.

In 1893 an ordinance was issued which stipulated that the endangered workers should be kept under continuous medical observation and examined once every three months. This tied in with the selective practice of industrial hygiene which is implied by the catchphrase «vocational choice and physical aptitude».

The enthusiasm for social policy which grew in the mid-1890s after the downfall of Bismarck coincided with increased pressure brought on by various denunciations of the so-called «devil's kitchens» (Giftküchen) in the Reichstag and at union meetings, and offered an opportunity for the matter to become politicised (17).

(16) File in: ZSTA Potsdam RK 374, Bl. 167.

(17) Cfr. SCHNEIDER, Heinrich (1911). *Gefahren der Arbeit in der chemischen Industrie*, Hannover; WURM, Emanuel (1905). *Die gewerblichen Vergiftungen*. *Die Neue Zeit*, 23, pp. 24 ff.

A match factory worker named Grünig from Pfungstadt, for example, handed in a petition to the Reichstag and demanded «that various diseases occurring in the matchmaking industry, such as phosphonecrosis, be included in the provisions of accident insurance». The petition committee also acknowledged this demand to be equally justified for other forms of intoxication, as they really were a form of industrial accident. A recommendation to this effect passed on to the Imperial Chancellor had no initial success, however (18).

At last on 10.5.1903 the use of yellow phosphorus was prohibited, with effect from 1907. Industrial hygienists had drawn attention to the health hazards; but at the same time it became clear how little room for the considerations of industrial hygiene there was in the field of social policy.

In the mid-1920s Ludwig Teleky, who contributed greatly to the enrichment and politicisation of the field of industrial hygiene, discussed two difficult aspects of international efforts to prevent work-related phosphonecrosis: firstly he made it clear that even the prohibition which had finally been decreed was not aimed at the production but only at the use of the hazardous substance in certain circumstances. Secondly he pointed out that the minimalisation of hazards was far more often pursued for the protection of the consumer (today we would add environmental protection) than for the protection of the worker. Teleky accounted for this with the fact that all measures aimed at production would logically lead to a prohibition of the production or the use of the substance. However, according to Teleky, such demands could only be made if, on the one hand, there was a technological and economic substitute for the substance, and if on the other hand the disadvantages of using the substitute were smaller than the extent of injury avoided by its use (19).

Both considerations were realistic and «practical», but at the same time they signified the annulment of health protection in industry, for why should industrialists look for possible substitutes and who was to calculate when a substitute was potentially more economical?

(18) Cit. HOHMANN (1984), *op. cit.* (n. 12), pp. 42 f.

(19) TELEKY, Ludwig (1926). Begriff, Diagnose, rechtliche Stellung der Berufskrankheiten. Verhütung gewerblicher Gesundheitsschädigungen. In: GOTTSTEIN, A.; SCHLOSSMANN, A.; TELEKY, L. (eds.), *Handbuch der sozialen Hygiene und Gesundheitsfürsorge*, Berlin, J. Springer, vol. 2, pp. 41 f.

The branch of German social security in which workers' health protection (20) are derived from the Industrial Code (especially paragraphs 107 and 120) had little sociopolitical scope ever since the principle was adopted in the 1870s not to extend state control but to rely on the self-regulation of the trade associations, which were organised along the same lines as guilds. For this reason even those doctors committed to fulfilling their state functions, as was the case with Ludwig Teleky, first regional industrial doctor in Prussia, placed their hopes in getting the problem recognised and dealt with by way of insurance.

An endeavour was made to address the responsibility of employers or at least apply financial pressure via trade associates (i.e. employers of particular trades organised within trade associations) by establishing the definition of work-related diseases as accidents. But as long as phosphonecrosis was defined as a disease, there were neither the knowledge within the field of industrial hygiene nor the financial pressure to coerce employers into using a substitute.

This last point can be illustrated by one concrete instance concerning an appeal decision made by the Senate at the Imperial Insurance Office on 2.5.1887 (21).

A worker at a match factory sued the trade association of the chemical industry for not meeting her claim for compensation. The worker had phosphonecrosis and had had to undergo «the surgical removal of the right half of her lower jaw».

In accordance with the medical report, the Senate viewed phosphonecrosis as the «critical point of a chronic disease». According to industrial hygienists it was an «established fact» that «not all workers who are exposed to phosphorous vapours to an equal degree» contracted phosphonecrosis; further, «if one quits one's work in time the symptoms of chronic phosphorous poisoning which are already present disappear and necrosis does not occur». Most important was their view that «it is not possible to determine a particular moment when the inhalation of phosphorous vapours cause the outbreak of necrosis; rather, necrosis is the result of a long period of exposure to the vapours». Thus the Senate ruled that phosphonecrosis, like

(20) Cfr. PENSKY, Angelika (1987). *Schutz der Arbeiter vor Gefahren für Leben und Gesundheit*, Bremerhaven, Wirtschaftsverlag.

(21) *Amtliche Nachrichten des Reichsversicherungsamtes* (AN) 1888, p. 147.

mercurial or lead poisoning, was an «industrial disease» and, in contrast to conditions such as «the destruction of the lung tissue of a worker due to the inhalation of escaping chloric gases, or blood poisoning as a result of phosphorus entering a wound», could not be regarded as an accident. The appeal of the worker, who had been unable to work for a long period and was now deformed, was declared «not legally founded». The employer and his trade associates were cleared.

Nevertheless, in 1891, prompted by an increase in similar cases and by public pressure, particularly under the influence of Social Democrats, the Imperial Insurance Office under Bödicker compiled a number of remarks made by the Supreme Court and asked: «Can so-called industrial diseases be classed as industrial accidents as defined in the Accident Insurance Act of 6th July 1884?». This brings to light the intrinsic sociopolitical element of accident insurance: the redefinition of social problems as private misfortunes related to waged employment.

On 6.7.1888 the Third Civil Senate of the Imperial Insurance Court ruled that the term «accident» be defined in a narrow sense as a «temporally determinable occurrence». They argued that the occupational disease in question, however,

«could not be attributed to the gradual onset of the effects of a particular occurrence, but was an intoxication which had developed over a number of years as a result of constantly handling white lead, i.e. it was a chronic disease caused by continual exposure (to white lead). This is directly connected with the occupation of the Plaintiff and must be regarded as an occupational disease, the nature of which is unalterable even if, as the Plaintiff asserts, the Defendant failed to meet the regulations and make the necessary provisions to avert the danger. Diseases arising gradually out of the effects of industrial production are however not accidents, but the common and foreseeable drawbacks of an inherently unhealthy industry which must be taken into account by everyone participating in that industry. The Accident Insurance Act does not provide for insurance against such diseases or invalidity resulting from them» (22).

With that, occupational diseases fell through all the meshes of the social security net. Not only did accident insurance provide no protection, but neither did liability according to Civil Code, which sought to combine

(22) *Entscheidungen des Reichsgerichts in Civilsachen*, B.C. 21, 1889, pp. 77 ff; AN, 1891, p. 254.

liability with the acknowledgement of moral obligation, and not even the Industrial Code. Consequently, there was no intrinsic reason why the state should intervene against industrial pathogenicity by any other means than poor relief policy, that is providing benefits for the deserved poor in cases of distress, or within the accident paradigm, that is, acting in acute cases to restore industrial production to its «natural condition».

Any sociopolitical claims, according to the Civil Senate, could only be derived from the «contract of service» or wage contract. Within the wage contract, however, the principle was upheld of «higher wages for greater risks», and it also contained the obligation to protect health «as far as possible» in accordance with the Industrial Code. These were important concomitants of the «freeing» of industrialists from any form of sociopolitical responsibility for the consequences of industrial production.

Of much graver concern was the fact that neither the Factory Inspectorate nor liability insurance had the means to control these new forms of health hazard. On the contrary, by virtue of social insurance (i.e. an intermediary to relieve the state of the burden of factory inspection and to release employers from liability), that mechanism had to be relied on for sociopolitical control although it had proved to be inadequate.

The case of nitrobenzene poisoning, which later gained horrendous significance in the munitions factories in World War One and was the first occupational disease to be recognised within the framework of accident insurance, clearly shows the predicament of risk in the early twentieth century, as illustrated by the following case (23).

H., a laboratory technician, worked at a chemical plant (making paints) for six years, where he undertook experimental work with boiling nitrobenzene. On 17.5.1904, the second day of the experiment, the ingredients were more than doubled and also possibly contained bromine. Work went on for two hours without any form of vapour extraction. The laboratory technician felt sick, turned completely blue and collapsed in his chair. He recovered slightly with the help of water or coffee. The factory doctor was sent for, who described him as «sick, pale and weary», and sent him home with instructions to visit another doctor and tell him the reasons for his condition. The second doctor diagnosed «coughing, expectoration, abdominal pains

(23) AN, 1906, p. 437.

etc.» and that the patient had a «chronically anaemic appearance». The doctor, who was obviously in some way connected with the factory, did not ask what the causes of the condition were. He later could not remember the patient being blue, and noted in the patient's file that «no accident had occurred». The lab technician was then examined by two further doctors, the last examination taking place in a clinic, and after a further deterioration in health it was suggested that he had nervous asthma. The trade associations asserted that the final condition was «a natural conclusion to a progressive disease which had existed for a long time».

The case went through the courts and the Imperial Insurance Office sought an opinion from Chief Expert L. Lewin on the connection between the blue colouration and the inhalation of nitrobenzene vapours and whether the lab technician's condition or a substantial deterioration of his condition could be attributed to his activities on 17.5.1904.

In his report, Lewin argued on both sides. On the one hand he tried to prove that the incident on 17.5.1904 had at all events had a considerable influence on the patient's condition. On the other hand he emphatically referred to the peculiar character of intoxications. This is of particular significance for the construction of occupational diseases. Lewin pointed out that every acute intoxication had a different effect according to the individual but was then immensely complicated by the time factor. He states:

«The inexperienced person, or somebody with only a tiny amount of knowledge in the field of toxicology, is easily inclined to contest the link between a condition and a preceding, initial intoxication if the time span between the two is greater than he would generally or in his experience deem possible. The experienced person with a comprehensive grasp of the sometimes wonderful variations in which toxins manifest themselves, would never declare a connection to be «impossible» (as asserted in other opinions — the author), because he knows that *even the sharpest intellect is not able to conceive of as many combinations of symptoms as the human body can produce if its functions have been damaged*» (24).

Lewin thus put forward doubts whether the epistemological foundation

(24) AN, 1906, p. 440.

of the interrelationship between medical and legal decisions was in any way sufficient to deal equitably with individual cases of intoxication.

Lewin summed up his doubts in a lecture on «The fundamental principles of medical and legal assessments of the occurrence and process of toxic and infectious diseases in industry», which he held on 19th and 20th February 1907 at the Imperial Insurance Office.

Lewin pointed out the difficulty of making legal decisions on the basis of medical statements, because in medicine one depended to a great extent on the «often so unreliable inductive inference», as he called it. In individual cases especially, when humans present themselves as sick persons before doctors and institutions, medical science needs «a superior knowledge of the inner life of humans as well as an opinion on the cause of the damage». For this reason, jurisdiction demands to know the «certainty» and «probability» of a connection between cause and effect, but medical science can strictly speaking only reveal «possibilities». Taking industrial toxicity as an example, Lewin listed the essential difficulties of medical diagnosis and medical opinion which are still with us today, and appealed for the recognition of such chronic health injuries as a sequence of individual accidents and for their compensation as such.

In Lewin's argumentation, one can distinguish the two central problems concerning the definition of occupational diseases as accidents which have had a lasting effect on the sociopolitical approach to industrially produced risks:

- a) the time span between cause and effect with regard to individual compensation claims;
- b) the time span between cause and effect with regard to sociopolitical control measures.

These two aspects must be examined more closely:

Up until and well into the first World War, the Imperial Insurance Office, as a government organisation and the highest authority in these matters categorically rejected compensation claims «for injuries and diseases generated at work over long periods of time» on the basis of the Accident Act. Such injuries and diseases ranged from blisters developing in the hand during the course of a day's work, to hearing disabilities brought on by the continual detonations endured by gunsmiths testing and correcting weapons.

Not only was evidence of suddenness lacking, but also evidence of an occurrence which was uncommon within the industry.

The trade associations welcomed the Imperial Insurance Office's definition because it both created a clear separation from health insurance and restricted accessibility to the enhanced benefits of accident insurance. Accordingly, risky occupations involving exposure to industrial toxins such as lead, phosphorus, mercury, arsenic, aniline, nitrobenzene etc. did not fall under the category of accidents. Likewise, nystagmus, the hearing impairments of boilermakers, skin lesions caused by x-rays, synovitis etc. could be rejected by the trade associations as not constituting accidents.

The time span between cause and effect was in this way conducive to the restrictive management of individual claims on society.

With regard to institutional control it was important to the trade associations that medical experts provide a clear scientific basis for the definition of an accident (25). In 1914 Fritz Curschmann, the leading factory doctor in the chemical industry, stressed that medical science and especially doctors were not yet in a position to cope with the demands of an extended form of accident insurance. At the same time he regarded a «more extensive medical knowledge of occupational diseases» to be a «key requirement for the implementation of a special insurance to cover them».

This he tied up with the view that sociopolitical measures could *not* be taken in the absence of undisputed medical evidence. In his opinion, one must assume that there was no causal relation between occupation and disease unless this could be proved accurately. Until then, the relation of risk to working life and especially its sociopolitical implications was obstructed. The time span between cause and effect thus supported a restricted view of sociopolitical commitment.

While these limited possibilities were one reason for differentiation within the old social insurance system, the time span between cause and effect presented a further complication which is still of particular significance to social policy today.

The definition of an accident lent the discussion over the separation of

(25) Cfr. for Britain BARTRIP (1987), *op. cit.* (n. 9); COOTER, Roger (1993). *Surgery and Society in Peace and War. Orthopaedics and Organization of Modern Medicine, 1880-1948*, London.

accident insurance from health insurance a biographical as well as a temporal dimension in that for the purposes of institutional control, the construction of endangered workers' lives was necessary as a framework within which the temporal relationship between cause and effect could be assessed.

What did the biographical dimension mean for institutional controls, and especially medical and juridical controls?

The biographical dimension of health insurance implied structuring benefits from a financial point of view (i.e. what benefits secure a livelihood at what level, as a function of insurance contributions) — this is what I mean by financial biography. The biographical dimension of accident insurance implied structuring benefits from the point of view of events in a worker's life and health risks which are assumed reasonable or reducible (i.e. what is normal in a working life). The idea of risk biography on an individual level corresponds to the concept of prevention on an institutional level.

The biographical dimension, as a result of this link between risk and prevention (26), makes the discussion on the developments within the social insurance system historically quite interesting from a historical point of view. This is because risk biography within the framework of accident insurance is at the same time tied in with relieving this branch of insurance from liability and thus the commitment to prevention. The extension of accident insurance to cover chronic diseases thus went hand in hand with the recognition of long-term effects and their regulation by means of accident prevention and technological design. The individual life course as a biography of risk legitimates and lays claim to preventive measures (27).

Accident insurance was extended with the implementation of the Occupational Diseases Ordinance in 1925. By adopting the biographical approach to risk in legal proceedings the Ordinance was coupled with the

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- (26) Cfr. STONE, Deborah (1984). *The Disabled State*, Philadelphia, Temple Univ. Press.
 (27) Cfr. DOUGLAS, M.; WILDAVSKY, A. (1982). *Risk and Culture*, Berkeley, Los Angeles, London, University of California Press; PERROW, C. (1987). *Normale Katastrophen. Die unvermeidbaren Risiken der Großtechnik*, Frankfurt/M., Campus; WILDAVSKY, A. (1989). *Searching for Safety*, Oxford. Univ. Press; COUCH, St. R.; KROLL-SMITH, J. St. (eds.) (1991). *Communities at Risk*, New York, P. Lang; BECHMANN, G. (ed.) (1993). *Risiko und Gesellschaft*, Opladen, Westdeutscher Verlag.

sociopolitical strategy that everyone concerned, but especially sociopolitically committed doctors, ensure the institutional implementation of preventive measures.

To conclude one can say that the Occupational Diseases Ordinance opened the first chapter of the biographical approach to the definition of risk and the related control of workers' life courses. Prevention and a new status passage out of employment appeared to reunite risk, legal proceedings and medical knowledge. What happened after that, is a different story.