

***5th International Conference on the
History of Occupational and
Environmental Health***

***under the auspices of the International Commission
on Occupational Health (ICOH)***

**FRAMING
OCCUPATIONAL
DISEASES**



PROGRAMME & ABSTRACTS

**Erasmus University Rotterdam
24th and 25th of April, 2014**



De IJzergieterij [The Iron Foundry] (1900) by Pieter Josselin de Jong

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INTRODUCTION

The Organizing Committee of the 5th International Conference on the History of Occupational and Environmental Health is happy to welcome you to Rotterdam.

The Conference takes place on Thursday 24th and Friday 25th of April 2014. The Conference is hosted by the Erasmus University Medical Centre (ErasmusMC) in Rotterdam, the Netherlands. Hosting Professor is Prof. Alex Burdorf, Chair Determinants of Population Health, Department of Public Health, Erasmus University, Rotterdam.

The organization is in the hands of the Yellow Factory, in co-operation with the Erasmus University and the Arnold Leuftink Foundation. As the previous ones, this conference takes place under the auspices of the ICOH Scientific Committee on History in Occupational and Environmental Health.

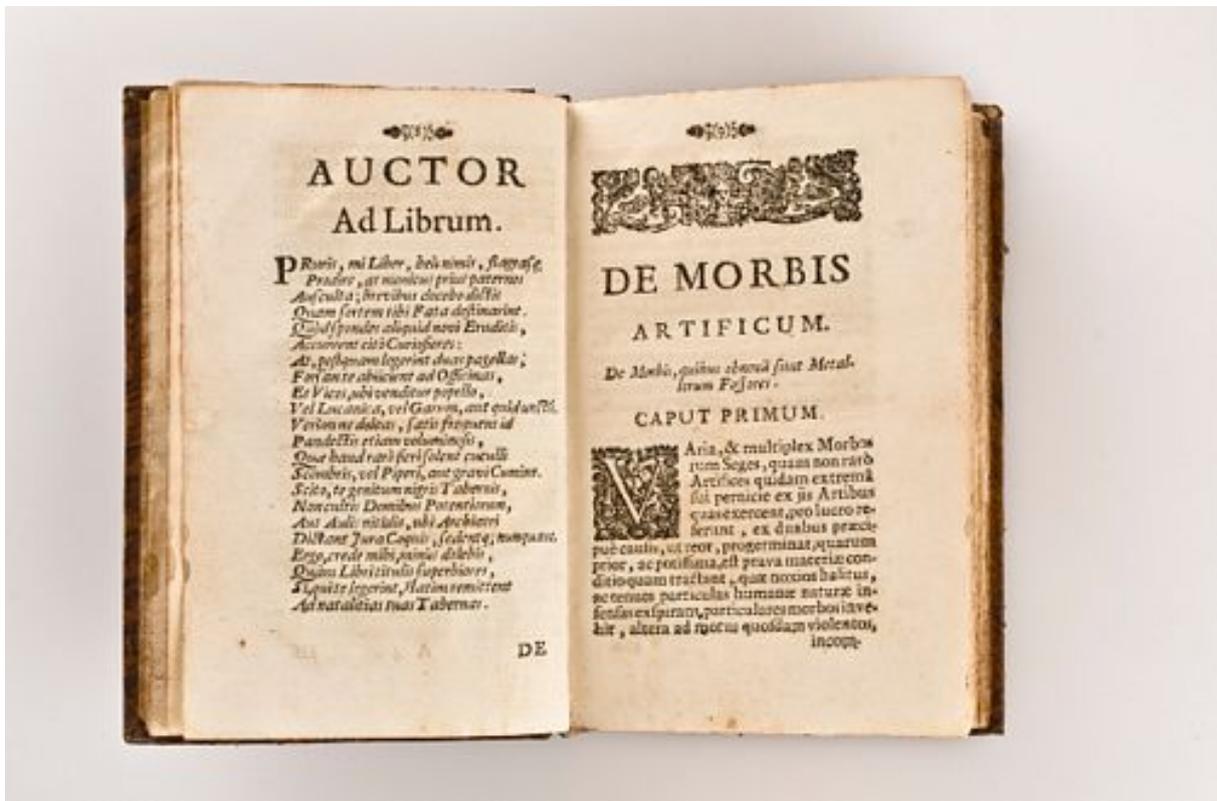
This is the first conference in the Benelux, after the previous events in Europe (Rome 1998; Norrköping 2001; Birmingham 2007) and the United States (San Francisco 2010).

2014 is a particular year for those interested in the history of occupational medicine. In this year we commemorate the third centennial of the death of **Bernardino Ramazzini (1633 – 1714)**. After 30 years of close examinations of workers and workplaces, and 10 years of lectures for students, Ramazzini was at the height of his professional life with the publication of his *magnum opus* **De morbis artificum diatriba** in the year 1700. This book was so successful that it has been translated from Latin into many other languages.



On the strength of his new epidemiological insights regarding the role of work as a factor for the origin of diseases, Bernardino Ramazzini has created a new medical

paradigma: the occupational disease. To the classic anamnesis of Hippocrates, Ramazzini has added a new question: “*Quam artem exerceas?*”. “What kind of work do you do?”.



For one and a half century **De morbis artificum diatriba** has been the standard for occupational medicine. At the beginning of the industrial revolution in Great Britain around 1850 the living and working conditions for workers changed dramatically, and new demands were made on the protection of occupational health. However, Ramazzini has continued to influence our thinking about occupational diseases, by his accurate observations of workplaces and workers, and his clear descriptions of diseases of artisans. **De morbis artificum diatriba** is considered to be one of the classics of medicine, comparable with *De humani corporis fabrica* (Vesalius 1543), *De motu cordis* (Harvey 1628), *De sedibus et causis morborum* (Morgagni 1761) and *Anatomie générale* (Bichat 1801).

The main theme of the current conference is the process of framing of occupational diseases and occupational and environmental risk factors for health and safety (Rosenberg CE and Golden JL [ed]: *Framing disease, studies in cultural history*. New Brunswick NY: Rutgers University Press, 1992). A brief quote from the introduction of this book may clarify what is the approach of these authors:

“... But “disease” is an elusive entity. It is not simply a less than optimum physiological state. The reality is obviously a good deal more complex; disease is at once a biological event, a generation-specific repertoire of verbal constructs reflecting medicine’s intellectual and institutional history, an occasion of and potential legitimation for public policy, an aspect of social role and individual – intrapsychic –

identity, a sanction for cultural values, and a structuring element in doctor and patient interactions. In some ways disease does not exist until we have agreed that it does, by perceiving, naming, and responding to it.”

The morning sessions will be mainly working sessions, focused on how descriptive historical studies may be transformed to an approach that provides a better understanding of underlying mechanisms that shape the history of Occupational Health Care and Care for the Environment.

Prof Eddy Houwaart, medical historian at Maastricht University, will introduce the issue of framing in two plenary lectures. He will comment the oral presentations and contribute to the discussions from the perspective of the framing approach.

The afternoon sessions will host contributions of ongoing research.

In the discussion sessions we will explore whether and where contributions may benefit from insights developed in the morning sessions.

The conclusions ('Proceedings') of this conference will be presented and discussed at the 31th International Conference on Occupational Health of the ICOH that is scheduled for May 31 - June 5, 2015 in Seoul, South Korea. A further pathway as to research and publications will be discussed there.

The Organizing Committee is very grateful to the institutions that have financially supported this 5th Conference:

The Arnold Leuftink Foundation
The Erasmus University Rotterdam
The European Forum on Occupational Health
The Foundation Historia Medicinae
The International Commission on Occupational Health
The Netherlands Centre for Occupational Diseases
The Netherlands Society of Clinical Occupational Medicine
The University of Amsterdam
The Yellow Factory BV

The Organizing Committee of the 5th International Conference on the History of Occupational and Environmental Health:

Dr Dick Spreeuwers, Yellow Factory, chairman
Dr André Weel, Yellow Factory and Arnold Leuftink Foundation, secretary
Jurjen Breedijk MD, Diatriba BV
Prof Alex Burdorf, Erasmus University Rotterdam
Prof Eddy Houwaart, Maastricht University
Prof Ben Nemery, Catholic University of Leuven
Dr Teake Pal, University of Amsterdam
Dr Jan Popma, University of Amsterdam
Dr Alfons Vernooy, Netherlands Journal of Occupational and Insurance Medicine

PROGRAMME

Thursday, April 24th

Chairman: Prof. Alex Burdorf

- 09:00 h Opening of the conference and introduction of the first conference day
Prof. Alex Burdorf, Erasmus University Rotterdam
- 09:15 h Framing occupational diseases: introduction of the concept in relation to
other approaches of medical historiography.
Prof. Eddy Houwaart, University of Maastricht
- 10:15 h Case study: silicosis
Dr. Dick Spreeuwens, Yellow Factory Leusden
- 10:30 h *Coffee / tea break*
- 11:00 h Plenary discussion, chaired by Prof. Ben Nemery, University of Leuven
- 11:45 h Oral presentations
- 11:45 h Liliana Rapas (Bucharest): Occupational diseases
evidence
- 12:00 h Kjell Toren / Bengt Jarvholm (Gothenburg/Umea): The
workers' compensation in Sweden: laws and negotiations
- 12:15 h Gert van der Laan (Amsterdam): The rise and fall of
Chronic Solvent-induced Encephalopathy (CSE)
- 12:30 h *Lunch*
- 13:30 h Oral presentations
- 13:30 h Silvana Salerno (Rome): Women occupational diseases:
Italian women pioneers and their publications
- 13:45 h Michele Riva (Monza): Ancient mortality registers as tools
to investigate workers' health conditions
- 14:00 h Emanuela Sguazza (Milano): Work-related bone
alterations in human remains
- 14:15 h Alessandro Porro (Brescia): Tools against electrical risks:
historical remarks
- 14:30 h Harald Miedema (Rotterdam): Incidence of low back pain
related occupational diseases in the Netherlands
- 14:45 h Ebba Wergeland (Oslo): Banning asbestos: the Norwegian
experience
- 15:00 h Franco Carnevale (Firenze): Health of workers in Italy in
the 50s and 60s of the twentieth century and the birth of
the "Union line against the harmfulness"
- 15:15 h Nico Plomp (Amsterdam): The contribution of health
professionals to occupational health standards: the Dutch
asbestos case
- 15:30 h *Coffee / tea break*
- 16:00 h Plenary discussion, chaired by Dr. Teake Pal, University of Amsterdam
- 17:00 h Business Meeting of the ICOH Scientific Committee on History in
Occupational and Environmental Health
- 19:30 h Conference Dinner, Hotel New York, Koninginnenhoofd 1, Rotterdam

Friday, April 25th

Chairman: Dr Dick Spreeuwers

- 09:00 h Introduction of the second conference day
Dr. Dick Spreeuwers, Yellow Factory Leusden
- 09:10 h Framing occupational diseases: elaboration of the framing approach.
Prof. Eddy Houwaart, University of Maastricht
- 10:10 h Case study: burnout
Dr. André Weel, Yellow Factory Leusden
- 10:25 h *Coffee / tea break*
- 10:50 h Plenary discussion, chaired by Dr. Alfons Vernooy
- 11:30 h Oral presentations
- 11:30 h Max Lum (Washington): Embracing and fearing the beauty of work: a historical review of the framing of work and workplaces by American impressionists, 1870-1910
- 11:45 h Daniela Fano (Milano): In memory of Antonio Grieco (1913-2003): birth and development of ICOH SC on History
- 12:00 h Leslie Nickels (Washington): Alice Hamilton and the Illinois survey 1910-1911: shifting paradigms in documenting workplace disease
- 12:15 h Heikki Vuorinen (Helsinki): First thesis on occupational health in the Imperial Alexander University of Finland
- 12:30 h *Lunch*
- 13:30 h Oral presentations
- 13:30 h Rod Noble (Hamilton NSW): The Trickle up effect: safety activists and the stake holders 1800-1920
- 13:45 h Ebba Wergeland (Oslo): Medical research traditions may delay prevention
- 14:00 h Paul Swuste (Delft): From Heinrich to Haddon, Winsemius and beyond
- 14:15 h Plenary discussion and conclusions, chaired by Dr. André Weel
- 15:00 h Closing of the scientific part of the conference
- 15:15 h Farewell drinks
- 16:00 h Visit to the Maritime Museum Rotterdam
Leuvehaven 1, 3011 EA Rotterdam

LIST OF PARTICIPANTS

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Mrs. Marjatta Vuorinen, City of Helsinki, Finland
Dr. André Weel, Arnold Leuftink Foundation and Yellow Factory Leusden, the
Netherlands
Mrs. Ebba Wergeland, MD, Labour Inspection Authority, Oslo, Norway

ABSTRACTS

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1. Liliana Rapas (Bucharest): Occupational diseases evidence

The occupational medicine physician is involved in various business segments at the enterprise level or at the health authority, in public or private medical sector, in insurance systems for labor events, in coordination of the programs for the promoting of public / occupational / environmental health, in occupational medicine clinics and applied clinical research.

The evidence of the occupational diseases is made at national and county level in a National Registry (electronic and paper support) by the health authority (Ministry of Health - Directorate of Public Health) and by the insurance system under the Ministry of Labor through the National Pensions House Institution. The incidence of occupational diseases is a statistical indicator reported every year under EUROSTAT. The frequency of the occupational diseases was always less than 2200 cases per year, for approximative 6 millions employees, in the last 20 years.

The „Occupational Diseases Event” can be detected during the workers' health surveillance program related to occupational risks management, diagnosed and treated, investigated, recorded and reported by the occupational physician, payed within the insurance system, used in individual prevention program or occupational applied research, a subject for social dialog or labor conflicts and for the negotiations of the labor contract, a determinant for individual disability, for the development of the new biological and environmental monitoring methods, used in the ergonomic design of workplaces, a target for workplace health promotion programs or for facilities programs for maintenance of occupational health at the enterprise level and the community.

2. Kjell Toren / Bengt Jarvholm (Gothenburg / Umeå): The workers' compensation in Sweden: laws and negotiations

Kjell Torén
Sara Stendahl
Bengt Järholm

From University of Gothenburg (Dept of Occupational and environmental medicine and Dept of Law) and from University of Umeå (Dept of Occupational and environmental medicine), Sweden

The workers' compensation law came late into effect in Sweden – it was in effect first in 1901 quite late compared to other industrialized countries. It was the result of a negotiation between the conservatives and the liberals. The liberals accepted to give more resources to the army and to set up a conscript army which was part of efforts to keep Norway in the Swedish- Norwegian union. The conservatives accepted a law about the workers' compensation. There was a long preceding history as the first bill was proposed in the Swedish parliament in 1881. That bill reflected the German workers' compensation system, and the anxiousness for the new socialist ideas. This and several bills that followed, however, were rejected by parliament. Sweden was an agrarian country at the time, and the resistance to pass these bills reflected a coalition between well-to-do farmers and rural industrialists. The bill that passed in 1901 was based on no-fault principle, the qualifying period was 60 days and the daily allowance was 30% of the salary of an ordinary worker. This was one of the least generous compensation laws in Western Europe and the single labour party member of the parliament voted against it expressing that this bill shamed Sweden.

The law was out of date already when it came into effect. Its low compensation levels prompted the creation of a number of local mutual insurance schemes between labor unions and employers. This resulted in pressure from employers to modernize the workers' compensation law. Accordingly, the law was replaced in 1916 with a law obliging the employers to insure their workers and stating that compensation levels should reflect the worker's previous annual wage. The compensation covered only accidents, and only in 1929 were occupational diseases covered by the legislation. The law applied only to listed diseases or exposures and this schedule was valid until 1976.

In 1976, the Swedish parliament, with the support of all parties, passed a new occupational compensation law. This was a unique law, as it stated that all diseases and accidents should be regarded as occupational "if there is not considerable evidence against an association". With this Act Sweden abandoned the system of listed occupational diseases and transitioned to a system where in principle all diseases could be certified as occupational. The system required certification, preferably but not necessarily, from a physician, outlining the scientific evidence for the association between the disease or condition and the occupational exposure. The Swedish medical profession was unprepared for this task: civil servants in regional social insurance offices soon assumed the task of reaching conclusions regarding

causal associations, often supporting such associations. By late 1980s, 90% of all reported diseases were certified based on an underlying opinion that the burden of proof should not be worn by the individual but by society. In 1993, the parliament passed a new bill, now outlining a more restrictive scheme. Fewer and fewer diseases were compensated and it was during late 1990s shown that women had a lower percentage of compensated diseases (compared to number reported to Social Insurance). The law was again changed in 2002 with the purpose to have somewhat more diseases compensated and to eliminate the difference in compensation between men and women. ...

Along with the legal system for compensation for diseases and accidents there was an agreement between unions and employers organisations to have an insurance which also covered the liability of employers to compensate according to tort law. This agreement started in 1974 and is regularly negotiated at all collective agreements. It covers all workers who are in companies where a collective agreement are in place independent if the worker is a member of the union or not. This is a non-fault insurance which compensate both for additional economic damages and pain, discomfort according to general principal for compensation for damages in Sweden. It is estimated that the insurance covers about 90 % of the working population. The insurance includes a tale prohibition, i.e. the work can not go to court for compensation for the damage. The rules for compensation according to the negotiated insurance contains similar criteria as the law, but has during years some exceptions that varies over time. When the damages of asbestos started to be in focus in the late 1970s and 1980s a compensation of pleural plaques due to asbestos was compensated with a fixed sum even if they did not cause and decreased function or symptoms. It was changed when it was obvious that pleural plaques were very common and for a period pleural plaques with a lung function below 85 % of expected was compensated. A few years later it was negotiated that stop the compensation for pleural plaques. In recent years the compensation for accidents has been more generous to the injured persons. This was also changed in a negotiation. The workers who are not insured belong to firms which has no collective agreement, but there is extremely few cases in court from such workers.

3. Gert van der Laan (Amsterdam): The rise and fall of Chronic Solvent-induced Encephalopathy (CSE)

Gert van der Laan¹, Markku Saino², Evelien van Valen¹

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Long-term occupational exposure to organic solvents may for some workers result in the development of a brain syndrome known as Chronic Solvent induced Encephalopathy (CSE). It took many years before CSE was recognized as an occupational disease. In the 1970s and 1980s there was growing awareness, especially in the Nordic countries, that there was a pattern in symptoms and complaints reported by workers related to long-term solvent exposure. Since then, a large number of researchers have found evidence of impairments in neuropsychological performance in workers exposed to solvents. The assessment of patients with suspected CSE requires a multidisciplinary approach. Especially the fact that neuropsychological testing is one of the cornerstones of the diagnostic procedure made that 'painters encephalopathy' is considered as a 'pseudoneurotoxic disease' by some scientists and physicians. There is reluctance to embrace psychological methods in occupational health.

A substantial reduction in the occupational exposure to solvents has been achieved in recent years in several Western European countries, as a result of a series of legal measures and agreements at sector level. In The Netherlands the results of the multidisciplinary 'Solvent Team Project', with visibility of the 'victims' in the media did have an accelerating effect on the improvement of working conditions in different industries. It resulted for example in a ban on the use of solvent-rich paint and glue for indoor activities in 2000. The Solvent Teams are participating in information-related activities in sectors that are at risk and in consultation with representatives of employees' and employers' organizations. Screening programmes in industries at risk were developed. The findings of the Solvent Team assessments are used as a monitoring instrument for evaluating the preventive measures. In the meantime the number of new cases of CSE dropped down towards less than 5 cases/yr in Finland and The Netherlands. The more recent detected patients have been working in 3-D jobs: dirty, dangerous, demanding; especially in sectors that are underserved with proper occupational health care or in unexpected areas, like artificial nail studio's.

CSE is now recognized as an Occupational Disease in the European and ILO List of Occupational Diseases. The different milestones in the acceptance of this condition will be presented. This example shows the importance of recognition of work-related diseases for accelerating preventive measures.

Literature

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Spurgeon A. Watching Paint Dry: Organic Solvent Syndrome in late-Twentieth-Century Britain. Med Hist. 2006 April 1; 50(2): 167–188.

Schaumburg HH, Albers J. Pseudoneurotoxic diseases. Neurology 2005;65: 22-26e

4. Silvana Salerno (Rome): Women occupational diseases: Italian women pioneers (medical doctors, trade unionists, philanthropists) in an international view of their first publications

ENEA- Italian National Agency for new technologies, energy and sustainable economic development

Scientists, oriented towards the building up of Italy as a nation (1839-1847), discussed in their fifth meeting (Milan, 1844) (1) a technical report on the importance of age limits, working hours, workplaces, workload and education to reduce unhealthy impact of factory work among children (mostly girls) and women. They also discussed etiology of malaria, pellagra, scorbuto, ancylostoma duodenalis, clorosi, neurosis together with the importance of food. No women scientists attended those meetings: the University closure to women's education the major cause. Many years later, *Ernestina Paper Puritz-Manasse* was the first woman medical doctor of the new Italian nation. Among few information about her life, we know that she worked at the telegraph office in Florence since 1886 where she performed medical examinations on employed women (2). New others female doctors, such as Anna Kuliscioff, Maria Montessori, Gina Lombroso, studied how to improve women and children working conditions together with Ersilia Majno Bronzini, philanthropist, who participated at the first International Congress on Occupational Diseases (Milan, 1906). Her important role has been already discussed (3). Relevant women contributions followed at the fourth national Congress on Occupational Diseases (Rome 1913) (4) where *Irene de Bonis de Nobili* published an outstanding communication on "*Some occupational diseases among women*". De Bonis claimed the high risks and lack of scientific studies on working women's health particularly in out of factories activities such as sewing, embroidering, lace making, washing cloths, ironing, etc. *Romelia Troise* presented also a paper on the unhealthy conditions of women working in telegraph office and telephone switchboards where women had no maternity facility and canteen. Teresita Sandesky a roman physician was also attending the Congress together with many others. Such important women's participation was probably due to the fact that the first Congress of Italian women (1908) was also held some years before in Rome. In 1911, Linita Beretta, probably the first medical doctor attending the "Clinica del lavoro", published in the Devoto's journal "Il lavoro" a paper on the importance of maternity facility in the tobacco manufacturing in order to prevent infant mortality among working women in Milan. Livia Lollini, Emilia Sorrentini, Alessandra Grignaschi also published in the journal *Il lavoro* but this was later on in the twenties. Fascism was coming out and the contribution of women's in science and life suddenly changed

Cited Italian women papers are compared with the contribution of Florence Kelley (1859-1932), Jane Addams (1860-1935) Alice Hamilton (1869-1970) among others.

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4. Ranelletti Aristide (eds) Atti del IV Congresso delle malattie da lavoro (Roma 8-11 giugno 1913). Tipografia Nazionale, via Gregoriana, 9 Roma, 1913.

5. Michele Riva (Monza): Ancient mortality registers as tools to investigate workers' health conditions in past populations

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Ancient mortality registers are generally looked upon by historians of medicine as valuable tools to investigate health conditions in past populations. Since these records may also provide information on the last occupation of the deceased, they could be used to examine the working condition during the past times, focusing on the health of workers and their relatives. Indeed, the analysis of death causes among some classes of workers may allow to identify fatal work-related injuries or the prevalence of potential occupational diseases. Moreover, examining these registers, the perception of some occupational hazards in ancient populations could be also better evidenced. Our analysis is mainly focused on mortality records of the city of Milan and its surroundings (particularly, Brianza in the northwestern Lombardy). In this area, two kinds of registers could be found: the “Libri Mortuorum” and the “church books”. In particular, the “Libri Mortuorum” (“Books of Dead”) were first established by the duke of Milan, Francesco Sforza (1401-1466). The use of the parish registers was instead imposed in the surroundings of Milan by the archbishop Carlo Borromeo (1538-1584), according to the prescriptions of the Council of Trent. Therefore, these registers seem to be more ancient than the better-known London bills of mortality, used by John Graunt (1620-1674) for his epidemiological analysis conducted during the seventeenth century. Furthermore, some registers have been drawn up until recent times. So, their analysis allow us to study less-investigated and very wide historical period, ranging from the 15th to the 19th century.

6. Emanuela Sguazza (Milano): Occupational overload and work-related bone alterations in archaeological human remains: how to interpret them?

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The study of archaeological human skeletal remains from a paleopathological and functional point of view can lead to the identification of the possible habitual postural and occupational behaviour of past individuals. Different skeletal markers are used to provide information for the reconstruction of the lifestyle (e.g. musculoskeletal stress markers). Studies concerning the relationship between occupational overload and work-related bone alterations are hindered by many difficulties. The first problem is the scarcity of standardized scoring methods, which negatively affect the reproducibility of observations and the comparability of results. However, the main difficulties concern the interpretation of the results, since bone alterations often have a multifactorial origin: the effects of physical activity, sex, ageing processes etc. can overlap. Moreover, the functional consequences of skeletal pathologies, as well as the meaning of skeletal markers of activity are not univocal, leading to the impossibility, in most cases, of a specific functional interpretation of bone alterations. Studies in modern Occupational Health can be very helpful, although caution should be used in applying them to past people. Aim of the authors is to point out the interpretative difficulties regarding occupational factors in the osteo-archaeological record. In this perspective, the authors review results from circa 3.000 ancient skeletal remains from Roman times to the 17th century in Milan and Lombardy, so suggesting the possible significance of the evolution of degenerative traits in time as concerns correctly assessing work-related bone changes.

7. Alessandro Porro (Brescia): Tools against electrical risks: historical remarks

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On December 26, 1883 in Milan the first power plant of continental Europe went into operation. It was thermoelectric and used the Edison system. It opened a new era also for electrical risk. The development of the industrial use of electricity promoted the study of the means to prevent and intervene in cases of electrocution. The means of prevention were studied in depth, whereas few data seem to be available in regard to the construction and spread of tools to be used following an electrical accident. We analyzed forty catalogs of European and U.S. industrial production, between 1897 and 1940. Only in three cases is given marketing of instruments for the electrical injured treatment. In the 1906 catalog of the *Odelga* company of Vienna we find a first aid kit containing general devices of assistance. A Milanese firm, the *Idrofila*, in a 1910 catalog offers a set of insulating tools for the first intervention. More interesting is the box for the electrical emergency "revivator" present in the 1926 *Odelga* catalog. It was set up by Stefan Jellinek (1878-1968), then professor of electro-pathology in Vienna, who would set up an electro-pathological Museum, still existing. The Jellinek box could be used in case of electrical injury and as a training tool for the specific personnel. In 1931 the ICOH reported to ILO Jellinek experience as a model for training and intervention against accidents. Jellinek, jew, was forced to leave Austria in 1939. In the U.K. he devoted himself to studies on resuscitation.

8. Harald Miedema (Rotterdam): Incidence of low back pain related occupational diseases in the Netherlands

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Background: Until recently no evidence based criteria were available to determine the work-relatedness of low back pain (LBP) in an individual worker. Hence, determination in individuals which low back complaints can be qualified as occupational disease was difficult and arbitrary to a large extent. Incidence figures for occupational disease (OD) due to LBP are scarce. We developed and implemented an instrument for the assessment of work-relatedness of non-specific LBP (NLBP) in 2004 (Kuiper, et al. Criteria for Determining the Work-Relatedness of Nonspecific Low-back Pain <http://www.occupationaldiseases.nl/content/criteria-nonspecific-low-back-pain-published>). This instrument was accompanied by an OD-registration-guideline of the Netherlands Center for Occupational Diseases (NCOD), that executes a register for notification of OD's by occupational physicians. We studied the trend in the number of OD-notifications due to LBP in the Netherlands and estimated incidence rates of LBP-related OD-notifications.

Methods: We analyzed the trend in LBP-related OD-notifications in the Netherlands from 2004-2011 and estimated incidence rates for LBP-related OD-notifications in the period 2009-2011 (Miedema, et al. 2013 Eur J Pain).

Results: After implementation of the instrument and guideline, we noticed a huge increase in numbers of OD-LBP-related notifications, from 0.7% of all notified ODs in 2004, via 8.6% in 2005 and 13.6% in 2008, to 9.1% in 2011. We estimated the incidence rate of ODs due to NLBP at 24.1 per 100,000 worker years (19.2 for NLBP), with a large difference between men and women (31.3 and 3.2 respectively).

Conclusions: The instrument for the assessment of work-relatedness of NLBP played an important role in the recognition of LBP-related ODs. It provides a basis for a uniform and objective evaluation of the role of work-related risk factors in the occurrence of NLBP. This knowledge can be used to initiate or direct preventive actions towards subgroups with higher incidence rates.

9. Ebba Wergeland (Oslo): Banning asbestos - the Norwegian experience

Ebba Wergeland, Gunnar Mowe. The Norwegian Labour Inspection Authority

Background

Asbestos import started in Norway during the 1920s, increased after the war (1940-45) and peaked sometime around 1975. The causal association between asbestos exposure and bronchial cancer and malignant mesothelioma was internationally accepted in the 60s. For mesothelioma, the latency period between exposure and diagnosis is around 40 years. The annual number of new cases of mesothelioma and the annual incidence per 100 000 men recorded by the Cancer Registry in Norway, has been steadily increasing over the last fifty years (1958-2011). However, the annual incidence for men 25-44 yrs started to decrease from around 1985 and for men 55-66 yrs from around 2000.

Norway was one of the first countries to ban the import and use of asbestos, in 1984. The decision was based on scientific information that had already been available for some time. Comprehensive regulations could have been introduced and enforced at least ten years earlier, and lives could have been saved.

The paper examines risk perception, knowledge and contributions to the public debate by stakeholders such as the medical establishment, the regulatory agency and the trade unions, in order to identify driving forces behind the ban of asbestos.

Material and methods

Documentation from the private archives of the two authors and the Labour Inspection Authority have been examined, in addition to newspapers, trade union publications, medical journals and medical textbooks.

Results

The political and social context in the 1960s and 70s were favorable to social reform. Workers were more concerned about their work environment. This was a time of low unemployment, and a period when several welfare reforms were introduced. The old Factory Law was thoroughly revised, and reemerged as the new Work Environment Act of 1977. Before and after 1977, there was much public debate about “dangerous work”. Several epidemiological studies of occupational cancer in Norwegian industries lead to an increase awareness of chemical risks.

The unions of insulation workers in the Scandinavian countries were well aware of the health hazards from asbestos already in the 50s, and discussed the problem at several Scandinavian trade union meetings. But the warnings from the insulation workers were totally ignored in Norway, because the medical establishment, with a few notable exceptions, were ignorant. Together with the trade unions of construction workers and of metal worker, the insulation workers in Norway called for a ban on

asbestos from the early 70s. Many workers also reacted locally by refusing to handle material they identified as asbestos. The Labour Inspection Authority underestimated the problem, partly because they relied too much on their own, incomplete notification system. This slowed down the process of regulation.

Conclusion

Trade union knowledge and their willingness to put pressure on the authorities were probably the most significant contributing factors behind the enforcement of the new asbestos regulations in Norway in 1984, which included a ban on import and use. Greater attention from other stakeholders to the available scientific information could have reduced asbestos exposure efficiently already in the 70s, and prevented disease and death.

10. Franco Carnevale (Florence): Health of workers in Italy in the 50s and 60s of the twentieth century and the birth of the “Union line against the harmfulness”. The role of Ivar Oddone (1923 – 2011)

Franco Carnevale, medico del lavoro, Firenze

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Dealing with health and safety at work, more in Italy than in other countries , there have been zenithal moments, when workers engaged strongly with their organizations, with the struggles , to enforce better working conditions. One of these moments, in the early sixties of the past century, saw the prominence of Ivar Oddone, as well as in the past other periods were led by Bernardino Ramazzini at the turn of the XVIIth into XVIIIth centuries, and Luigi Devoto at the beginning of the XXth century.

The benefits acquired with the struggles of the early twentieth century run aground during the Fascist period that were also the years of so-called “authoritarian” modernization, crucial for the take-off of Italian industry . The War of Liberation, to which Ivar Oddone gave relevant contribution fighting in the mountains, was tough and restored peace , first denied rights and democracy , but it must be recognized that the disasters of war with a bewildering continuity was followed by the worst experiences in terms of serious injuries , occupational subacute and acute diseases, as if the war was not yet over and fight on the battlefield were followed by everyday war of employees of workshops, yards and fields. It has established the "strategy of progressive democracy " and thus the legitimacy of the "primacy of business interests " replacing lack of capitals for investments in technology and rationalization of the production processes with a large supply of altogether docile, confident, low- cost labor. This was the price paid for the "Reconstruction" and immediately after that for the so-called "Boom" period, for the benefit of all, but more for a narrow and privileged class of citizens.

In the '60s , the line of CGIL union, the main antagonist and trade union center , on the issues of health and safety is characterized by the following statements: the monetization, the health risks related to technology were to be “monetized” because they were not amendable; strengthening Labor Inspectors; legal recognition of the committees and safety representatives ; prosecution of offenses relating to the negligence and incompetence of employers; abolition of the exemption of liability of the entrepreneur. The radical left is too engaged in analysis , reports , initiatives aimed at destabilizing the " capitalist" structure of the country, looking forward to the solution of all problems, including those of workers' health and safety thanks to the advent of a different political and social order. In this climate, the first initiative, concerning the possibility of the working class to control and manage , in first person, the harmfulness within the factory was carried out in 1961 at Farnitalia, a pharmaceutical factory in Turin. The survey-intervention was leaded by Ivar Oddone , a physician with solid clinical training but stranger to the

official world of occupational medicine, and by the group around him at the Chamber of Labor, and it focused the essential elements of a theory and practice of technical policy - that will be used in a more updated in following years at Fiat plants, but also in hundreds of factories in Italy.

The cornerstones of this original method are: the emphasis on disorders referred by the workers themselves to show analytically a situation of risk and harm; the fact that some technicians sympathizing for the workers' claims are involved within the company; and , last but not least , the fact that the methodology used and the results capture the interest of the local unionists that somehow recover the experience of workers and build a platform of demands that will then national value. The "official", academic Occupational Medicine, should have been overthrown. In reference to social psychology existing tools, more common in other countries than in Italy, as that of the " T-group " and " action research " needed to be reset and redirected. It was " just" to reverse the meaning to one of the cornerstones of scientific management, imported from the United States , the " Humans Relations". On this basis, a model was established either from political and technical viewpoint, a behavior "line" is "required", " understandable ", that becomes hegemonic also because it renders in simple and effective sentences complex concepts, coining slogans like: " health is not for sale"; the "four groups of risk factors"; " the non-delegation"; "the homogeneous group"; the " consensual validation; the "health risk booklets"; the "records of environmental and bio-statistical data". Tangible results in gaining of health and therefore on the basis of the finding , made by those directly concerned, the workers, that the struggle pays off and that working conditions are not "objective" , given once and for all, but can be modified with appreciable effects also immediately, contributed to the spread of the model.

Ivar Oddone described the success of the union line on health with an aphorism : "There is no salvation for workers without them they want" and he quoted the episode of a sewer worker described by Ramazzini: to protect his eyes, even if none has ever told him , he learned to reduce the exposure time in the sewers, draining more drinks as soon as possible, to go immediately to rest in the dark, doing compresses on the eyes. Oddone commented the aphorism with the following words: "there is no safeguard of the workers' health if there is no clear consciousness, by the worker himself, of what it means his own health, how it should be preserved and what are the instruments used for its protection in the factory."

11. Nico Plomp (Amsterdam): The contribution of health professionals to the genesis of occupational health standards: the case of asbestos in the Netherlands

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Background

In the Netherlands, as in other Western countries, there is a great time lag between the evidence of the carcinogenicity of asbestos (1949) and the launching of first legislation that reduces the occupational exposure (1971) and finally the complete ban of the production and application of asbestos (1993). So there was a serious health risk while effective protective regulations were lacking. This implied a serious ethical dilemma for occupational health professionals: according to their code of ethics they ought to contribute to a safe and healthy working environment while companies are not strictly obliged to do so. This study explores retrospectively the viewpoints of health and safety professionals with respect to asbestos between 1930 and 1990. We focus on the impact of the code of ethics in the statements and behaviour of the professionals.

Methods

Systematic content analysis was carried out on the publications on asbestosis, pneumoconiosis and mesothelioma in the three main journals of health and safety experts in the Netherlands in the period 1930- 1990.

Results

The associations of safety and health professionals did not promulgate any position on the prevention of harm due to asbestos. Nor did the uncertainty about the health impact of asbestos obviously cause an ethical dilemma for individual professionals. Professionals were usually involved in discussions on diagnostic methods of asbestos exposure in the human body (X-ray or detection in sputum), the existence of safe limits, the scientific basis of risk assessment and effective prevention strategies. Only a single professional and the physicians of the Labour Inspectorate advocated for preventive action.

Conclusions

Occupational hazards pose political and social challenges to occupational health professionals. It might support or undermine their position. In the case of asbestos health risks professionals as a group did not make a position with respect to the prevention of health risk of asbestos because the interests and political views of members were too divers. The claim promote healthy working environment is not reflected in the behaviour and should be put in perspective because of their credibility.

12. Max Lum (Washington): A photo essay: Embracing and fearing the beauty of work - A historical review of the framing of work and workplaces by American impressionists, 1870-1910

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Background

This brief historical snapshot will present a photo review (slide show) of early American Impressionist painters' representations of workers and work sites in portraits, landscapes and genre paintings.

In the 1870s when the young artists who became known as the American Impressionists were, beginning their careers there was a strong demand for specifically American subject matter. Many of these painters immediately moved to embrace the theme of work and worksites in their paintings. This presentation will consider which artists were pre-disposed to depicting labor and will describe the little known effort of several painters of the period to aid workers who lost their jobs during the social upheavals of the late 1890s. In addition, and perhaps more importantly, it will visually show how these artists responded to the fears of the general public and potential clients to the depiction of the more disturbing aspects of labor by using creative artistic techniques developed and refined in this era and still in use by artists today. The fear exhibited by an overly anxious public of depicting the more realistic aspects of work and workplaces is a continuing historical theme exhibited even today by the more conservative elements of American society.

Focus

Art historians seemed to have skipped over the American Impressionists as overly European, sanitized, gentrified and nostalgic. American Impressionists were not as loved as the later Urban Realists who had no problem showing the gritty side of labor and workplace conditions. However, a great deal of national iconography can be found by a closer look at how these earlier pre-industrial painters who gave visual voice to American subjects at work and the dignity of manual labor. Few American scholars address the labor theme of American Impressionists with the major exception of William H. Gerdts who concluded that in comparison to their French Impressionist counterparts “. . .it is the American Impressionist attention to forms of labor and allusion to commerce and industry that may give the Americans their greatest distinction.”

Summary

Although festive scenes, dancers and particularly the brighter aspects of daily life inspired many paintings by French Impressionist artists of the period with a few exceptions these were not the significant themes embraced by the American Impressionists. Clients urged American artists to show Americans “as more pronounced art picturesque human types” a preference to depict manual labor, the work of common folk in the city and the countryside, bricklayers, shipbuilders, quarry workers, road crews, watermen, Yankee farmers, and the sunny view of factory workers enjoying their well-earned breaks. An overriding purpose of their art was giving support to the dignity of common labor. In the difficult troubled climate of the socioeconomic upheavals of the later 19th Century, the American Impressionists reconciled the labor theme with a bright outlook associated with their chosen style. Nevertheless, they were keenly aware of the hostility of a public concerned about worker strikes and increased violence and developed specific techniques in their paintings to deal with the more bleak elements of work and workplaces of the period.

13. Daniela Fano (Milan): In memory of Antonio Grieco (1913-2003): birth and development of ICOH SC on History

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The ICOH Scientific Committee (SC) on “History of Prevention of Occupational and Environmental Diseases” is today a reference for anyone interested in the history of Occupational and Environmental Health. The tenth anniversary of the death of its founder and first chairman, Antonio Grieco (1931-2003) is a fortunate opportunity to recall the SC origin and role in the development of a multidisciplinary network of international scholars interested in this subject. The original nucleus of the Committee was the “International Network on the History of Occupational and Environmental Prevention” (INHOEP), activated in 1993 by Antonio Grieco with the valuable support of ISPESL. In 1996 a Scientific Working Group (SWG) on this issue was established within ICOH, with the aim of promoting historical research and international meetings. Only one year later, the SWG officially became an ICOH SC. Thanks to efforts of the newly born SC, for the first time in 2000 “HISTORY” was included into the main topics of an ICOH Congress. Over the years, the SC produced a number of activities ranging from active participation in conferences and seminars to publication of several articles and books, and organization of special sessions within ICOH Congresses. The major activity, however, was concerned with the organization of four international conferences (Rome 1998, Norrköping 2001, Birmingham 2007, San Francisco 2010), whose proceedings are here analyzed. As Antonio Grieco used to say: he who ignores the past has no roots and he who has no roots has no future.

14. Leslie Nickels (Washington): Alice Hamilton and the Illinois survey 1910-1911: shifting paradigms in documenting workplace disease

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Considered a pioneer in occupational health in the United States, Alice Hamilton, MD (1869-1971) was a physician and activist who devoted her life to addressing human rights and social justice issues of workers in the United States. Hamilton ultimately employed, on a large scale, a framework for associating and documenting workplace exposure and disease. In 1909, Hamilton made a commitment to engage full-time in the identification, control, and prevention of hazardous exposures in workplaces. In becoming the principal investigator on the first comprehensive study of work and disease in the U.S., The Illinois Survey, her work became the model for characterizing workplace exposures which still informs practice today. Her work formed the foundation of the disciplines of industrial hygiene, occupational medicine and toxicology in the U.S.

Hamilton characterized her opportunity to work on the Illinois Survey as a “pioneering, exploration of an unknown field.” The Illinois Survey focused on industrial poisons and heat, as opposed to physical, biological, or traumatic exposures. The commission which oversaw implementation of The Illinois Survey was charged with defining and finding poisonous occupations and gaining access to those workplaces to conduct exposure assessments. Hamilton’s knowledge of languages, and skills in community organizing and persuasion enabled her to access almost every workplace she approached. Her research skills resulted in the first comprehensive report in the U.S. on “the causes and conditions relating to diseases of occupations”. Hamilton became recognized as the expert not only in understanding and documenting occupations, but also in communicating with workers, supervisors, and owners on ways to control exposures.

A paradigm shift took place during this period. The shift added the social dimensions for occupation to the cognitive dimensions of illness. Hamilton’s work might be considered the single greatest influence on moving from diagnosis and treatment to prevention using industrial hygiene principals in the U.S. Her recommendations for solutions stood out as she maintained employers and workers as her audience. Hamilton never left a facility without reporting her findings and recommendations to the manager and getting some assurance that conditions would change.

Hamilton reflected in her 1943 autobiography that “thirty-two years ago, in 1910, I went as a pioneer into a new, unexplored field of American Medicine, the field of industrial disease. It was while I was at Hull-House and working in bacteriology research that the opportunity came to me to investigate the dangerous trades in Illinois [A State Commission was appointed by Governor Deneen in 1910 to report on

“occupational diseases” in Illinois] not those where violent accidents occurred, but those with the less spectacular hazard of sickness from some industrial poison. It was a voyage of exploration that we undertook,... American medical authorities had never taken industrial disease seriously, the American Medical Association had never held a meeting on the subject, and while European journals were full of articles on industrial poisoning, the number published in American medical journals up to 1910 could be counted on one’s fingers.”

Through Hamilton’s early work she identified four themes that she believed were essential for addressing our understanding of occupational disease: scientific knowledge, evidence, objectivity, and first-hand experience. These themes emerge throughout all her writings: popular, scholarly, and governmental. These four themes ultimately defined her work and a profession.

15. Heikki Vuorinen (Helsinki): The first thesis on occupational health in the Imperial Alexander University of Finland in Helsinki

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Finland was an autonomous Grand Duchy of Russia from 1809 until became independent in 1917. The 19th century was for most part a period of peace, population growth and economic development. 80 % of the population got their income from agriculture and forestry and only 6 % of them lived in urban communes in 1860. Large cotton mills were established in Southern Finland from the beginning of 1820s.

A large factory manufacturing matches was established in the town of Pori in 1851. In the middle of 19th century, several small match-making factories operated in Finland. The first inspection of factories was carried out in 1860; especially cotton mills and manufacture of matches were inspected. A report of the inspection was published in 1862.

The first thesis on occupational health (*Om Periostitis maxilaris hos arbetare i fosfor-tändsticfabriker*) was about damage on jaws of workers caused by phosphorus in match-making factories. It was published and defended in 1856 by Theodor Albert Tigerstedt (1829–1910), eleven years after the first recorded cases of phosphorous necrosis were reported by Lorinser of Vienna in 1845. Tigerstedt became the town physician in Pori from 1857 onwards. The second thesis concerning phosphorus came already in 1867 but it was toxicological and forensic oriented.

Health of workers in the few factories had a surprisingly significant place in the early formulation of national health policy. In 1865 the statute concerning the manufacture and trade of phosphorous matches was the first piece of modern public health legislation in Finland.

16. Rod Noble (Newcastle NSW): The Trickle up effect: safety activists and the stake holders 1800-1920

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Category: Societal response to risks and interplay of stakeholders

This paper is based on recent research and focuses on the response of workers and their communities to risks and disasters in the nineteenth century and early twentieth century.

It outlines responses by workers related to safety concerns both before and after the formation of unions.

It traces aspects of the reaction of key stakeholders as well as engineering and medical professionals. In the process it explores some reasons why sectional or disconnected solutions may have been attempted by some of these groups when confronting the same or similar safety issues in the period under consideration and allows us to contemplate what has changed in the past two hundred years, and crucially, what has not changed.

17. Ebba Wergeland (Oslo): Medical research traditions may delay prevention

Ebba Wergeland, Norwegian Labour Inspection Authority

Background

It is commonly considered that prevention of occupational ill health should be based on scientific evidence. But the relationship between research and prevention is not a simple one. There are different opinions about what questions should be asked, about what constitutes evidence, and about the interpretation of results. Research may sometimes delay preventive interventions. The aim of this study was to identify factors that have influenced the impact of research on the policy and practice of the Norwegian Labour Inspection Authority.

Material and methods

Two case stories have been examined, about two dusty industries (production of silicon carbide and of primary aluminum) established in Norway around 100 years ago, due to the easily available hydroelectric power. The material consists of research papers on occupational exposure and workers health, recommendations issued by members of the scientific community in Norway, policy papers and documents on regulation from the archives of the Norwegian Labour Inspection Authority (NLIA), as well as newspapers and literature on local history.

Results

Methodologically simple research papers identified targets for preventive action at an early stage in both industries: from 1918 for silicon carbide, and from 1936 for primary aluminum. Later and more sophisticated studies of disease mechanisms, and detailed exposure characterizations, do not seem to have added much when it comes to inform preventive practice. Dose response curves have been convincingly demonstrated for the association between fluoride exposure and mortality from obstructive lung diseases in the primary aluminum industry, as well as between mixed dust and cancer in the silicon carbide industry.

Asthma and silicosis has slowly been recognized as occupational diseases in the two industries. The NLIA has insisted on notification of new cases, and on surveillance of respiratory health (spirometry, X-rays). Over the years the NLIA has also continuously revised TLVs for fluorides (primary aluminum), quartz and mixed dust (silicon carbide), but the revisions have repeatedly been postponed for lack of "scientific documentation". Representatives from the employers' organisations and the trade unions have agreed to this in the tripartite negotiations conducted as part of the procedure. One industry recently chose stricter regulation than NLIA, with focus on maximal exposure reduction rather than compliance with TLV.

Conclusions

Regulation of exposure risk by the NLIA was based on research dominated by the clinical medical perspective which is reactive, dealing with cases: Differential diagnosis, pathognomonic signs, disease mechanism, dose-reponse curves and risk estimates. Regulators consequently focused on notification of diseases and surveillance of lung function, and tried to develop TLVs for specific exposures protecting against specific diseases. The public health perspective which is proactive, assuring conditions in which people can be healthy, has rarely been a priority. Requests for “scientific documentation” postponed important exposure reduction. The Norwegian tripartite system for negotiation of TLVs, did not favor strict exposure limits.

18. Paul Swuste (Delft): From Heinrich to Haddon, Winsemius and beyond. The first 75 years of the history of Safety Science in the US, UK and The Netherlands

Paul Swuste, Coen van Gulijk

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Occupational safety started at the end of the 19th century, in a period of on-going rationalisation of production processes. This has created a heavy burden of occupational deaths amongst workers. Engineers were enclosing hazards and fencing heights, shaping up safety technique, and writing practical publications on occupational safety. These publications, mainly from the US, lead to safety metaphors in the 1920s, with Herbert Heinrich's iceberg and domino's as the most famous ones. For the first time, accidents were studied as a process; causes were separated from consequences.

Besides engineers, also psychologists and sociologists entered the safety domain. This resulted in two different safety theories. Crystal Eastman, a US sociologist favoured the environmental hypothesis, explaining in 1910 accidents from long working hours, and dangerous machines. Psychologists from the UK, with their focus on individual behaviour found causes of occupational accident in the workers' capacity to handle hazardous situations, leading to the accident proneness theory in 1919.

After World War II physicians became interested in occupational safety. The Dutch physician Willem Winsemius is father of the 1951 'task dynamics theory'; explaining and predicting accidents from reflex reactions and improvisations of workers during process disturbances and unexpected events. Fifteen years later the American physician William Haddon applied the 'epidemiological triangle' to accident causation, leading to the 'hazard – barrier – target model', and a classification of prevention strategies. In the 1970s up-scaling in the process industry resulted in a series of disasters, and changed the focus of causes of accidents to defects in company's management.