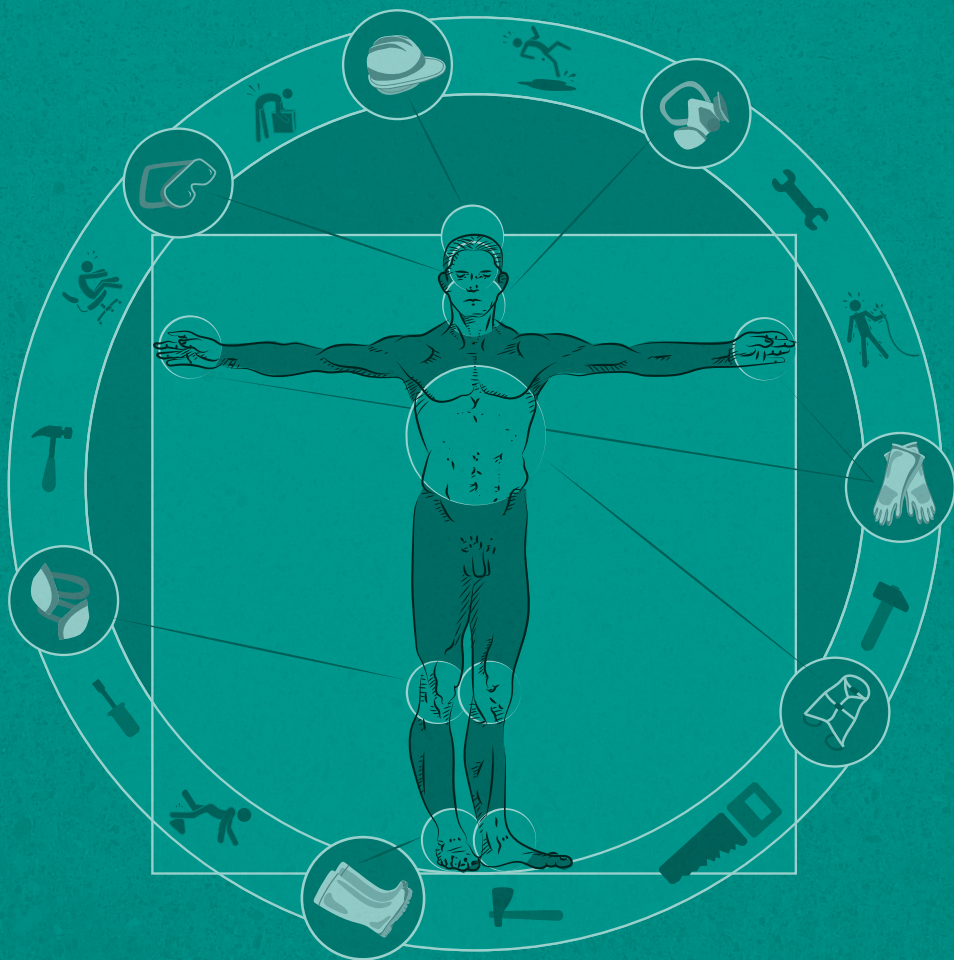


Occupational health in the 20th and 21st centuries

–On the denial of the right to health
and freedom from sickness–

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OCCUPATIONAL HEALTH IN THE 20TH AND 21ST CENTURIES:

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Calle 51 N° 55-78, Medellín

Tel: (57-4) 513 3100

fondoeditorial@ens.org.co

www.ens.org.co

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Editors

Oscar Gallo: Historian and Master in History from the National University of Colombia. PhD in History from the Federal University of Santa Catarina (Brazil).

Eugenio Castaño: Graduate in Social Sciences, Master in History and a candidate for a PhD in History from the National University of Colombia.

Translators:

Ricardo Gómez and Jimena Londoño

Copy editor: Daniel James Hawkins

Editorial coordination: Minkalabs – Digital agency

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PREFACE

OCCUPATIONAL HEALTH IN THE 20TH AND 21ST CENTURIES: On the denial of the right to health and freedom from sickness

There have been meaningful advances in the field of history of health/sickness during the last four decades in Colombia. In spite of this, if our production is compared to that of the richest countries in Latin America (Brazil, Mexico and Argentina), the task of supporting these types of studies in our context still remains urgent. Especially as it is a complex and rich field, in which there is still a lot to be done.

This field has renewed its ways of questioning, its methods, and its objects of study. Consequently, new problem areas have emerged, and new broader time and space frames have been covered. For instance, professional historians practically showed no interest in the history of the health of workers until very recently. At least in Colombia, it still remains a relatively new field within history. Three pioneering works should be mentioned in their respective order: Libia Restrepo de Quintero's *La práctica médica en el ferrocarril de Antioquia 1875-1930* (Medical practice on the Antioquian Railroad 1875-1930) (Medellín, Universidad Nacional de Colombia, Master's Thesis in History, 1992); Oscar Gallo Vélez's *Modelos sanitarios, prácticas médicas y movimiento sindical en la minería antioqueña: el caso de la empresa minera El Zancudo 1865-1948* (Sanitation models, medical practices and the trade union movement in Antioquia's mining sector: the case of El Zancudo mining company 1865-1948) (Medellín, Universidad Nacional de Colombia, Master's Thesis in History,

2010); and Jairo Luna García's *Configuración de la Salud Obrera en la Tropical Oil Company: Barrancabermeja 1916-1951* (The Configuration of Workers' Health in the Tropical Oil Company: Barrancabermeja 1916-1951) (Bogotá, Universidad Nacional de Colombia, Faculty of Medicine, Doctorate's Thesis in Public Health, 2011). These three theses are case-studies, that is, they specifically researched a company and its area of influence. The authors have continued with similar academic endeavors. Their most recent research shows the transformation of historiography concerning the relationship between work and health.

New studies approach more complex problems. They deal with the insertion of each specific problem area into international frames and the general history of the world of work. Their authors are connected with research networks organizing international events; in these, research findings from diverse regions worldwide are contrasted. They are not restricted to historical studies; rather, they are used to update problem areas and to provide new arguments for the defense of labor rights.

All of this has encouraged a new way of undertaking historical research into the relation between work and health. And the present book is a good example of this. The works found within deal with a representative variety of nations (Germany, Argentina, Brazil, Colombia, Chile, Spain, France, Italy), and through their periodizations, cover a great part of the 20th century. And they are not exclusively dedicated to historical problems; instead, they frame them within the general problem of international struggles for the right to health within the world of work.

The foci of interest, which this book's articles cover, show that the field of study has been enriched with new viewpoints. Policies, health institutions, and legislations created to regulate the world of work are some of the issues traditionally discussed within this historiographical field. Here, they are part of a broad range of problems, and they are studied for the extent to which they help in the understanding of other issues, mainly those

that emerge when the interrogation is done in the presence of actual worker struggles.

The studies compiled in the present volume emphasize different and unconventional aspects of social history. Firstly, workers, their mental health, the human factor, workplace accidents and so on. An emphasis on workers' bodies also becomes evident in studies concerning fatigue and professional rehabilitation. In terms of politics, it is worth highlighting the papers that focus on the capital/labor relation and on occupational health under different regimes, even non-democratic ones. Other very important and highly topical issues addressed are work accidents, professional diseases and their victims, as well as research on risk, security and working conditions. This book addressed certain social themes which are not frequently dealt with, including the issue of gender and the sexual division of labor, workers' struggles for their right to get sick, to attain compensation and to work in a favorable environment. In this same sense, themes such as the resistance to workplace control strategies were not left untouched, and neither was the right to health or the controversial use of asbestos and its victims, both in Colombia and worldwide.

If one searched for a guiding line within the diversity of the contributions contained in this book, it would revolve around law, medicalization and the transnational character of problems. In a globalized world, conquests which are apparently local will unavoidably have, sooner or later, an impact on the most distant places. In this regard, the texts collected in this book will generate questions concerning the processes of modernization and rule standardization within the world of work, as well as others concerned with the relation between the fulfillment of labor rights and the globalization process.

The novelty of these contributions is quite visible in their significant use of very different archive and publication sources within the periods' examined. Their situation at the forefront of

what is currently being done in regard to health/labor relations, in history and other fields of knowledge, becomes evident in the thorough reading undertaken by the respective authors, not only of articles in specialized journals and books, but also of university theses. The latter shows how true schools of thought may already be taking shape within this area, whose current and future fruitfulness is beyond any doubt and which, for the same reason, in the near future there should be ample efforts to begin comparative research on health/labor relations, hopefully covering different continents and countries.

The present book is an original tool, given that historical knowledge, rather than being considered merely as akin to an antique dealers' curiosity, but rather as the production of new knowledge aimed at re-thinking the relationship between health and work for Latin American and European workers, as well as contemporary trade union struggles.

Jorge MárquezValderrama

Historian

Full Professor

Faculty of Human and Economic Sciences

National University Colombia

Medellin, 9-9-2016

INTRODUCTION

OCCUPATIONAL HEALTH IN THE 20TH AND 21ST CENTURIES: From the denial of the right to work to health and freedom from sickness

Oscar Gallo¹

Eugenio Castaño²

The *Escuela Nacional Sindical* (National Trade Union School) held, between November 23 and 26, 2015, the First International Seminar on Health and Labor in Colombia. This event included the participation of scholars and activists from Argentina, Colombia, Chile, Peru, Brazil and Germany. The issues discussed at that time were: health related rights, spaces and mechanisms to defend rights, collective negotiation, accident rates, labor related diseases, and psycho-social risks. At the end of the event there was a proposal to release a book problematizing the issue of workers' health in Colombia and Latin America. We then proceeded to issue a call among the people participating in the meeting, and to open an invitation to colleagues

1 Historian with a Master's degree in history from the Universidad Nacional de Colombia. Doctor in history from the Universidad Federal de Santa Catarina (Brazil). He currently coordinates the thematic area on labor health from Escuela Nacional Sindical.

Email address: investigacionsaludtrabajo@ens.org.co.

Further information at: <http://orcid.org/0000-0002-7567-2464>

2 Historian with a Master's degree in history from the Universidad Nacional de Colombia and doctoral student in history at the same institution. Researcher from Escuela Nacional Sindical.

Email address: memoriahistorica@ens.org.co

from different places around the world, or to researchers who, due to their intellectual trajectory, we thought could contribute to the reflection.

As compilers, our training as historians shaped the horizon from where we wanted some of the book's contributions to begin. Nevertheless, beyond any sectoral stubbornness or intellectual endogamy, we thought it was appropriate to extend the call to demographers, economists, physicians, political scientists, journalists and psychologists. The proposal departs from the following assumptions:

First, the historical approach is not merely theoretical or illustrative, and the power of "archives is impressive" (Rosner and Markowitz, 2009)³.

Second, diseases have history, unlike wonder and incantation; in fact, from a clinical point of view, occupational diseases are the result of a slow process of bodily decay after decades of work, hence the impossibility of taking some kind of picture of illnesses thus ignoring their historicity.

Third, no book has been published in Colombia or in Latin America dealing with labor health from an interdisciplinary perspective; in two words, it is *publishing news* in a country where everything related to the subject has been seized upon by law and medicine. Besides, in our opinion, an interdisciplinary approach was the only way to understand that health and disease are biological, social and cultural phenomena. In other words, it is only through an interdisciplinary perspective that it is possible to understand that the issue of health and disease is individual, epistemological and sociocultural (Márquez, 2014).

3 T. N. Unless it is stated otherwise, all quotations from this book have been translated specifically for it from a Spanish version and do not correspond to official English translations of the works cited.

Fourth, to accept that a pathological phenomenon was not reduced to what is strictly biological, implied accepting that the solution to any of its dramatic aspects depended on the capability of both researching and acting simultaneously in fields such as medicine and history, or sociology and economics. In a few words, we agreed with Diego Armus (Palmer and Armus, 2010: 35) who claims that health and disease cover a territory in which physicians are not the only players or experts.

Fifth, a reflection on the issue of health/disease within the world of work had to aim for a global scope. In that sense, on the one hand, it had to suggest the importance of approaching workers' health in a context of circulation, flow and global transference of ways to manage and organize labor. On the other hand, the call for papers and their location should allow, if possible, us to understand similarities and differences in historical processes, transformations of labor, and the arenas of struggle in each specific context.

According to these five premises, contributions were arranged into three parts, entitled: *On denying the right to health and disease*, *The human factor in industry*, and *Rights, struggles and realities*.

The first two parts propose a historical analysis on themes as diverse as pneumoconiosis, labor legislation, labor statistics, rehabilitation of diseased and injured workers, sexual diseases, psycho-technical tests, or industrial physiology and psychology.

In *On straight lines and crooked lines: the recognition of pneumoconiosis of coal miners in Spain (1930-1944)*, Alfredo Menéndez Navarro examines how the "international models and debates on silicosis" and "the special national political circumstances" interacted along the difficult path to medical and legal identification of damages caused by coal dust. In this sense, the international consensus on the risk of inhaling silica dust which undermined the acceptance of the risk implied by other types of dust

inhaled in the world of work, should be highlighted. Spanish physicians even endorsed the hypothesis of coal dust being harmless. In response to the revision of the ILO agreement on professional diseases, the Second Republic legislated *avant la lettre* in 1936, thus extending the list of acknowledged diseases with the inclusion of anthracosis. During early Francoism, Menéndez identifies a moment of continuity with the republican past, ending in 1941 when the “international guidelines restricting the field of intervention exclusively to silicosis were endorsed”. The restrictive elements in this policy suppressed “all preventive encouragement” to favor economic compensation of the ill, but it did not restrain the Francoist propaganda from leading militant sectors of mining by advertising the benefits of their social policies.

In Statistics and industrial death: Manufacturing the number of victims of silicosis in coalmines in France from 1946 to the present, Jean-Claude Devink and Paul-André Rosental’s analyze “the causes and the kinds of social effects of manufacturing biased statistical series” on silicosis. Their conclusion is that “strategies of statistical opacity implemented by coal miners underlie the minimization of the silicosis tragedy”. In a few words, it corresponds to a corporate strategy through which science becomes functional to the interests of capital. Understanding how silicosis has been objectified by means of statistical figures, also becomes a reason to revise the contemporary use of figures in social sciences. In this sense, rather than “deconstructing” the categories of statistical analysis, the proposal is to measure the interplay between institutional, social and political forces determining their definition and measurement. It is worth noting that, according to what has been claimed by Devink and Rosental in their paper, included in this volume, a structural feature of the history of labor disease in France is “the approximate nature and the deplorable quality of quantitative data” both between the two world wars and in the present.

It is worth highlighting in this paper its reference to the corporate use of other strategies to avoid financial responsibility over work-related disease. One of them consisted of hiring Moroccan miners for short periods of time, who were deported as soon as they became sick. Another strategy used was the hardening of compensation acceptance and rejection mechanisms, whose consequence was the support of a “micro-transaction system”. Therefore, silicosis was “rapidly embraced by miners as a predictable event in their careers” which could guarantee a pension to the recipients in the case of death, and a high likelihood of them leaving the mine, a strategy “of hopelessness and impotence”.

In *Legislation on labor accidents and diseases. A breakthrough in labor relations in Argentina (1915-1955)*, Karina Inés Ramaccioti examines parliamentary debates leading to the enactment of Law 9688 of 1915 on Labor Accidents and Professional Diseases. Her aim is to identify the reasons and the social and political context allowing the step from charity to the right to health. For the author, Law 9688 is a breakthrough in Argentinean legislation as “the view on labor contract as a kind of juridical relation with particular features began to blossom and became a leap forward in the history of labor legislation”.

In the paper, *The “in-between” of sexual differentiation and the division of labor: the medical health record program of the IWW in Chile. 1924-1927*, Nicolás Fuster Sánchez and Pedro Moscoso Flores reflect upon the role of the Industrial Workers of the World’s (IWW) Sanitation Sheet in the dissemination of a medical program in which labor and sexuality “join together to shape individualization processes of modern workers”. According to Fuster and Moscoso, the Sanitation Sheet is part of a Chilean tradition dating back to the 19th century’s anarchist press whose aim was to “feed the masses’ intellectuality”. As a body for the dissemination of IWW’s Sanitation Committee and, later, as a publication by *Policlinico Obrero Nocturno* (the Night-time Workers’ Polyclinic), the Sanitation Sheet intended

to disseminate “knowledge on hygiene, mental health, sexual education, infectious-contagious diseases (STD, tuberculosis, smallpox, rabies, pediculosis, scabies, epidemic typhus, etc.), issues related to pediatrics and child care, nutrition, mouth and dental disease, among others”.

In *Reclaiming bodies for capital: Professional rehabilitation during the Brazilian military dictatorship (1964-1985)*, Ana Beatriz Ribeiro Barros centers her attention on the military dictatorship, thus highlighting its context and its features. Based on this, she analyzes how labor de-regulation and the decrease of purchasing power, among other aspects, went hand in hand with the increase of productivity experienced throughout those years, as well as the labor accident rate and professional diseases, and the implementation of a policy of professional rehabilitation aimed at readapting workers to labor devices.

In *Light on the phenomenon of an apparently tireless heart: The fatigue of the working class in Colombia, 1898-1946*, Oscar Gallo analyzes the phenomenon of fatigue within the world of work, and its discontinuities with regard to other ailments typical of the turn of the century, such as neurasthenia. The objectification of fatigue becomes a very valuable element for analysis as it allows glimpsing into how the transit was experienced, from a physiological approach on the issue, to an eminently psychological and sociological one. This transit from the physiological to the psychological and the sociological may be approached, according to the author, as a kind of step from the human engine metaphor to that of the human factor.

In turn, in *“Pursue man!”: Problematizing the human factor in the explanation of labor accidents. Argentina, between the present and history, 1920-1970*, Victoria Haidar approaches the phenomenon of the rate of labor accidents in Argentina during a great deal of the 20th century. She shows how the concept of the human factor became a matrix of analysis aimed at objectifying these kinds of issues in the light of the psychological and social

registers. Concern about accident rates from the human factor approach did not focus on the environmental conditions of workplaces, but on the alleged predisposition existing among workers to make mistakes and on their bio-typology. Beyond the fact that typology and predisposition have become outdated, Haidar underscores the fact that human error still exists as an explanatory coefficient of labor accidents, next to other elements such as distraction and systemic defects.

Finally, in *Bodies and souls for labor: Psychologization of wage earners in Colombia, 1958-1968*, Eugenio Castaño examines how a process of analysis of workers' behavior began in the second half of the 20th century in Colombia, based on psychological and psychoanalytical discourses. If in the early 20th century workers had been pointed at from moral-religious discourses, if some mental ailments affecting individuals dedicated to intellectual work had been identified, such as neurasthenia, the analysis became a lot more detailed in the second half of the century. The fact of the greater importance attributed to private life and the discourses regarding the unconscious, key elements of the emerging psychoanalysis in Colombia during the 1950s and the 1960s, allowed the development of an arsenal of pathologies and alleged complexes affecting proletarians, especially trade unionists.

In the paper *Health, safety and the work environment in the 20th century: The Italian case*, Franco Carnevale centers his analysis on the role played by the Italian trade union movement in the vindications on a much broader preventive system of health attention, which benefits Italian workers. After World War II, and in spite of Italy being at a disadvantage in relation to other European countries, such workers' struggle would find expression in the main industrial centers, such as Turin. The debates between physicians and workers' organizations gradually centered on the need to dig deeper into issues associated with labor medicine and the treatment of new professional diseases. In the late 1970s, this movement for workers' health gradually

lost impetus due to economic crises and the employers' counterattack. Carnevale's text explores the changes that took place in the early 1990s after the links established with the European Union, which increased the employers' obligations to protect workers' safety. Those kinds of actions resulted from a context marked by the opening of markets and the continuous flow of migrants.

The chapter, *A look at health in the world of work in contemporary capitalism from a historical perspective*, by Enrique Rajchenberg, is interested, first of all, in the increasingly precarious conditions faced by the world of work on a worldwide scale. For him, this situation is due to a context of the increasing irruption of neoliberal logics, which tend to blame the individual for the social and economic issues faced by the contemporary world. To account for the latter issue, the text reviews the way industrialized labor has configured in Mexico, as well as the forms of solidarity, the modernization of labor relations through what the author regards as risk and compensation theory.

In the chapter titled, *New risks for health in flexible capitalism. The response from trade unions in Germany*, Klaus Pickshaus reveals how the configuration of a flexible form of capitalism within the world of work, as well as precarization and austerity, have impacted the health of workers in recent decades. In this regard, the increase of psychosocial risks, due to factors such as work intensity, had its counterpart, on the one hand, in the emergence of new managerial strategies; and, on the other hand, in the irruption of union demands in regard to the creation of new regulations, promoting standards of psychosocial protection and caution in work environments.

In the chapter, *The Red Vidaviva (Vidaviva Network): Trade union strategies to face new forms of control in the workplace*, Mara Lira reflects upon the changes that have taken place in the world of work in recent years. This phenomenon was marked by

growing de-regulation, precarization, and labor outsourcing, besides the incorporation of *Toyotist* strategies in contemporary companies. In such a context, the author analyses how Brazilian trade unions have resisted this kind of managerial device, besides showing how a reactive strategy began being implemented, which was aimed at dealing with physical and psychic ailments at the workplace. Amidst a landscape characterized by the monetization of the health system, Lira bases his argument on the achievements after creating certain spaces for collective reflection on worker health, and the need to de-commercialize, humanize and collectivize it, as has been the case of the *Vidaviva* program. Additionally, the author outlines the difficulties posed by such a program, its challenges, and the ways it has been implemented in different countries, among them Colombia, as a way to strengthen union strategies from the grassroots.

Through the chapter, *Collective action for the right to health at the workplace: The case of Asotrecol*, Mauricio Torres Tovar, Jairo Ernesto Luna, Jorge Parra and Paige Shell Spurling analyze the way in which the implementation of strategies of de-regulation and precarization, through some normative strategies, such as Law 50 of 1990, and Law 100 of 1993, brought with them significant impacts over the lives and health of workers in companies such as *Colmotores Asociados*. Given this kind of scenario, some organizations started actions vindicating labor rights and the struggle for collective health, within a strategy of politicization marked by several periods which have been approached in detail by the authors. The dynamics of mobilization for the right to health was reflected in the fact that even diseased workers came together and defended their rights, as in the case of the Association of Ill Workers of Colmotores (Asotrecol, after its name in Spanish). Thus, the second part of the article deals with the conflicts, the claims, the damages on workers' health in this company, and with the circumstances which led to the creation of the association, as well as its forms of collective grouping.

In the paper entitled, *Colombit: A case of social responsibility towards the withdrawal of asbestos?*, Jairo Ernesto Luna García, Carlos Julio Castro Fraume and Guillermo Villamizar inquire about the phenomenon of asbestos, its incorporation into the industrial economy, its value as a construction material and, of course, the role this material has played in the health of those workers who are exposed to it. Additionally, the authors describe the influence of asbestos in the Colombian economy through the historical development of companies such as Colombit S.A., their practices in the management of asbestos, and the consequent risks posed by its manipulation. The latter aspect is reflected in the way in which the authors account for the government's responses to such risks, the conflicts generated within the company by the workers' claims regarding better health and social security conditions, such as a special pension due to high risk.

In the chapter, *Working conditions, psychosocial demands and health in the Latin American population*, Vivioa Gómez Ortiz and Arturo Juárez García analyze the importance of psychosocial diseases in this region of the world in recent years, within the framework of professional risks. This situation goes hand in hand with the unequal and excluding working conditions, which show, on the one hand, the relation between effort and reward, that is the way in which labor precarization and informality imply a series of consequences which can be perceived in the field of health. On the other hand, how the general health conditions of Latin American workers are also expressed in high mortality rates in the region.

From the reading of the chapters included in the present volume, the conclusion can be drawn that there were important changes in the ways labor, risks and health were perceived within the world of work. Although it is not intended to disregard the advances and setbacks in the acknowledgment and the acceptance of workers' health/disease, we claim that the title, *Workers' Health in the 20th and 21st Centuries: On the denial of the*

right to health and freedom from sickness, reflects upon the process of social and legal change which occurred throughout the short 20th century.

Indeed, research carried out in different countries has shown the legislative similarity which prevailed throughout the first decades of the 20th century. Thus, between 1910 and 1920, the Latin American countries, without exception, created diverse legislations on labor accidents, the same as had previously been done by Germany (1884), Austria (1887), Spain (1900), France (1898), Norway (1894), Italy (1898), Netherlands and Sweden (1901), Luxemburg (1902), Belgium (1903), England (1906), Hungary (1907), Serbia (1910), Switzerland (1911), Romania (1912) and Denmark (1920). Likewise, there were also legislations on work accidents in Guatemala (1906), El Salvador (1911), Peru (1911), Colombia (1915), Venezuela (1915), Cuba (1916), Chile (1916), Panama (1916), Mexico (1917), Brazil (1919), Uruguay (1920), Ecuador (1921), Bolivia (1924) and Costa Rica (1925). In spite of the differences, it is possible to claim that, the same as in Spain and France, the accident law introduced the principle of professional risk and made the companies economically liable, as they accepted the principle of financial reparation of labor accidents (Rodríguez and Menéndez, 2006; Rosental, 2009).

Nevertheless, the Argentinean case analyzed by Ramaccioti is interesting, as it also incorporated professional diseases into this primal social law, such as pneumoconiosis, lung nicotinism, anthracosis, siderosis, lead poisoning, mercury poisoning, copper poisoning, arsenic poisoning, ammoniacal ophthalmia, carbon disulphide poisoning, hydrocarbonism, phosphorism, anthracoid infection, dermatosis, hookworm disease, and brucellosis. It was thus 30 years ahead of other countries such as Colombia and almost a decade ahead of the ILO dispositions on professional diseases. Although the interpretations of labor accident legislation were very elastic and diseases could eventually

be regarded as accidents by some justice court, such a situation does not seem to have been the most common.

Although the list of professional diseases included in the Argentinean law was very broad, none generated as much controversy in the international and local arenas as pneumoconiosis, especially silicosis. In fact, the relevance of this professional disease can only be compared to the one acquired by hookworm disease in the Second International Congress of Professional Diseases, held in Brussels in 1910, with the participation of seven European countries and Peru (Úbeda and Correal, 1914: 11). It may not be appropriate to stop here to note the causes for the difficulty in the process of medical-legal acknowledgment, but it is worth mentioning, first, the medical difficulty of stating the difference between silicosis and tuberculosis. Second, the corporate resistance to the acknowledgment of an incurable disease of high economic cost. Third, the extension of the disease among mining workers worldwide; the studies cited by Menéndez show how, in England and Wales, 1,200 deaths and 4,500 new cases were caused per year by this disease throughout the central decades of the 20th century. In the French case, Devinck and Rosental suggest that at least 78,775 miners requested compensation for silicosis between 1946 and 1958, while it is possible to say that around 40,000 passed away throughout the 1946-1986 period. It seems the situation was similar in other places around the world. Such is the case of Belgium (Geerckens, 2009), Chile (Vergara, 2005), Colombia (Gallo and Márquez, 2011), United States (Rosner y Markowitz, 2006), Japan (Thomann, 2009), and South Africa (Breckenridge, 2015).

Historical analyses on silicosis contribute to the understanding of the present situation in regard to asbestos throughout the world and specifically in Colombia (Carnevale, 2007; Mendes, 2001; Menéndez Navarro, 2007; Tweedale and Hansen, 1998), but they also work with other professional diseases. In this sense, at least six typical positions may be identified in

national debates on the acknowledgment of work-related diseases: i) the harmfulness of the product is not confirmed by the data available for businessmen in that given region at that given moment; ii) companies have assumed the leadership in research, but the outcome is not so obvious; iii) uncertainty and controversy cannot be regarded as a reason to remove the products or reduce the workers' exposition; iv) science requires a slow and winding process of data accumulation before undisputable proof may be delivered to the authorities (Rosner and Markowitz, 2009); v) statistics on the situation do not suggest a high impact among the working population, which is normally explained either by the invisibility or the deliberate opacity of figures; vi) the complexity of these pathologies may be confusing for experts, and the diagnosed cases may result from other diseases. In any case, attempts have always been made to avoid the expenses associated with the mitigation or elimination of risks and to either reparation, rehabilitation or compensation.

Besides the concern for professional diseases and labor accidents, a medical and State interest in the prophylaxis of the so-called social diseases emerged in the first half of the 20th century. Alcoholism, tuberculosis, venereal diseases and child mortality were part of the register of "social hygiene" throughout the world. What has been said by Fuster and Moscoso in regard to the Chilean case suggests that the concern over such diseases was not exclusive to the bourgeoisie, but that it was a generalized idea associating health with progress. There were similar situations in other places of the American continent. Thus, in Brazil, for instance, workers' press became both an instrument for struggle and a way to spread the medical discourse on social diseases, sexual diseases and the *sciences* of good offspring and breeding (Bertucci, 1997). Fuster and Moscoso attempt an explanation of their agreement with the bourgeoisie in their concern for the proper operation of the social organ, and the collective nature of diseases in a process of medicalization beyond class borders, thus following Michel Foucault's line of thought.

But it may be suggested that workers found in health a strategically for their struggle. In the Brazilian case, as suggested by Liane Bertucci (1997: 217), the health of family, children and the young ones was a promise of struggle in the future.

The chapters that make up the second part of the book share a question of how the psychological dimension of workers became incorporated into the analysis of the world of work and the management of labor risk. In this sense, it is worth noting the increasing role of industrial psychology, psychophysiology, psycho-technique, and psychoanalysis in managerial and administrative processes. Especially, they are interesting because they show the discovery of aspects such as industrial fatigue within a context of transit from the human engine to the human factor. The positive and negative things about this process cannot be analyzed in this introduction, nevertheless, we suggest considering bio-typologies of accidents, industrial fatigue, and the proletariat's complexes in relation to the acknowledgment of psychosocial risks within the world of labor. Although it may also be regarded as part of a process which started by acknowledging what was human amidst the industry, and is currently moving on to the management of motivation, emotion, desire, thought, belief and attitude in terms of the companies' performance. All of this within neoliberalism, which has managed to make man an entrepreneur of himself (Laval and Dardot, 2013).

The idea of displacement or discontinuity suggested by the title that says *from the denial of the right* is problematized in an even stronger way in the third part of the book. Several chapters agree that flexible capitalism and new forms of management or control at the workplace implied an increase of health problems and, in many cases, a setback in terms of rights acquired throughout the 20th century. Pickshaus, Lira and Gómez, and Juárez are clear in this regard. If during the first half of the century, social interventionism and the welfare state boom allowed for

the consolidation of labor legislation, during the second one, the State's shrinkage, within the frame of the neoliberal policies of the 1990s, jeopardized and still keeps at risk the acquired rights. Nevertheless, pessimism has given way to the active role played by German unionism, or to research-participation actions as the ones suggested by the VidaViva case; they undoubtedly evoke the Italian workers' movement of the 1960s, and its concern and efforts to democratize health at the workplace, an issue introduced by Franco Carnevale. On the other hand, the associations of sick and ill ex-workers are an indicator of the transformation of the global working class which, by breaking off with Marxist or Polanyian models, mobilizes itself and dis-sents over its marginalization and exclusion from the capitalist system (Silver, 2016).

We do not want to finish this introduction without giving thanks to those who accepted the invitation to participate in this book, even those who, for different reasons, failed to hand in their contribution in time. Everyone showed great interest and a good disposition from the beginning.

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PART I

**ON DENYING THE RIGHT TO
HEALTH AND FREEDOM FROM
SICKNESS**

ON STRAIGHT WRITING AND CROOKED LINES: The recognition of coal workers' pneumoconiosis in Spain (1930-1944)¹

Alfredo Menéndez-Navarro²

A new approach for an old risk: the transnational perspective on the risks of pneumoconiosis

Although pneumoconiosis seems to have disappeared from the collective memory as a threat to workers' health in many countries, the respiratory pathology resulting from the inhalation of various dusty substances has been the main cause of death at work during the twentieth century. In the middle decades of the century, coal workers' pneumoconiosis (CWP) — one of the

1 This work is a translated and revised version of my chapter *Du déni à la flatterie: la reconnaissance de la pneumoconiose du houilleur comme maladie professionnelle en Espagne* (1930-1944), included in Rainhorn (2014). This research has been financed thanks to the support given by Spain's Ministry of Economy and Competitiveness to the project «Políticas de salud, investigación científica y riesgo entre la Gran Guerra y el final del franquismo» (Health policies, scientific research and risk between the Great War and the end of Francoism) (HAR2014-51859-C2-1-P).

2 Professor of the History of Science at the Universidad de Granada (University of Granada). Email address: amenende@ugr.es

pathologies derived from inhalation of coal dust — was responsible for 1,200 annual deaths in England and Wales, with 4,500 new cases diagnosed each year in Great Britain (McIvor and Johnston, 2007). Although this is an obvious underestimation, official French statistics registered the death of between 800 and 1,000 coal miners per year, caused by silicosis, in the thirty years from 1955 to 1985. After being established as an occupational disease, between 1946 and 1958, as many as 78,775 coal miners claimed compensation for silicosis in that country, with annual averages ranging from 5,000 to 7,780 indemnified cases (Rosental and Devinck, 2007).

The medical and legal identification of the damages caused by coal dust has not been, as it has been the case with many other occupational hazards, an obvious or simple process. Since the seminal work by Rosner and Markowitz (1991), historiography has revealed the rich network of scientific, social, political and economic factors that have influenced, at the national level, the identification of these risks and the adoption of preventive and compensatory measures to deal with them (Derickson, 1998, Vergara, 2005, McIvor and Johnston, 2007, Menéndez Navarro, 2008, Devinck and Rosental, 2009, Geerkens, 2009, Thomann, 2009, Mackova and Rosental, 2009, Gallo Vélez and Márquez Valderrama, 2011; McCulloch, 2012, Rainhorn, 2014).

Recent historiography, inspired by a transnational perspective, has highlighted the key role played by international agencies and organizations in the identification and management of occupational hazards, stressing the importance of silicosis in this international framework (Rosental, 2008). The models that approached occupational diseases throughout the twentieth century were intimately conditioned by the influences and competencies established by agencies such as the International Labor Organization (ILO), the League of Nations and the World Health Organization (WHO). The proposed transnational models, aimed both at improving workers' health and at leveling the international competitiveness of the affected sectors,

were appropriated and negotiated in the local scenarios, adding a new explanatory factor to the strategic processes of recognition and management at a national level (Cayet, Rosental and Thébaud Sorger, 2009).

The recognition of CWP in Spain and the adoption of social protection measures provide an appropriate example to explore this unique dynamic of interaction between international models and debates on silicosis and the special national political circumstances. The purpose of this work is to contribute to the enrichment of the fragmentary historiographical view of this process. To this end, I will pay special attention to the acceptance, in our country, of the international scientific consensus that made it difficult to recognize the harmful nature of coal dust. This consensus was challenged in Spain in two exceptional political scenarios. The first, during the final stages of the Second Republic (1931-1936), a period in which transnational dynamics inspired social and labor legislation in combination with the leading role of the labor movement in Spanish political life. In the months prior to the outbreak of the Civil War (1936-1939), the Popular Front government brought together the aspirations of the mining unions and declared silicosis and anthracosis as entitled to compensation under the republican Law of Occupational Diseases issued in 1936, going beyond the 1934 ILO convention itself. The second scenario corresponds to the autarchic period of the Franco regime after the end of the war. In a context of international isolation and self-exclusion from the ILO, the Francoist Ministry of Labor proceeded, in 1944, to include coal mining in silicosis insurance. Unlike other countries in the region, this measure responded to the need to look after a labor group such as the coal miners, key to national energy self-sufficiency. Although the propagandistic use of social policy measures was not alien to other countries, in Francoist Spain it became a constituent element of the model, eager to show the Spanish population the secular path toward the "social justice" of the new regime, apart from its limited effects on the insured labor force.

This paper is based mainly on the study of the Spanish medical literature on the subject and on the valuable materials of the historical archive of the Instituto Nacional de Previsión (National Insurance Institute), kept in Madrid. Also, I have paid attention to the media coverage given to silicosis insurance by the Franco regime and to the recognition of silicosis in coal miners as a compensable disease, with special attention to the Asturian press.

International consensus and local questioning: the debate in Spain on the harmless effects of coal dust

At the beginning of the 20th century, a set of technical, scientific and social factors helped to bring the etiological role of industrial dust to the forefront of discussion. The mechanization and intensification of labor regimes in mining, the accessibility and generalization of radiological explorations as a diagnostic tool, the increasing mobilization capacity of the labor movement and the rise of social reformism restored a degree of prominence to the working conditions (Bufton and Melling, 2005; Melling, 2010).

In one decade, three international meetings of experts focused on this subject were held under the auspices of the *Commission internationale permanente pour l'étude des maladies du travail* (Permanent International Committee on Occupational Diseases) (Lyon, 1929) and especially, the ILO (Johannesburg, 1930 and Geneva, 1938), which made silicosis a strategic objective of the transnational debate. The review of the ILO Convention on the Compensation for Occupational Diseases, in 1934, contributed to the full recognition of silicosis as a compensable disease and encouraged the adoption of social measures at the national level (Cayet, Rosental and Thébaud Sorger, 2009).

These international meetings focused on the harmful nature of silica dust and contributed to minimizing the pathogenic capacity of other inhaled dust in the working environment, in particular coal dust. The so-called anthracosis or black lung disease was mostly conceived as a mere process of accumulation of coal dust in the lungs without pathogenic effect, giving all the causal role of respiratory problems observed in coal miners to the inevitable inhaled silica dust in the various mining tasks (Derickson, 1998, McIvor and Johnston, 2007).

The Spanish medical authors who addressed the problem of silicosis in coal miners during the 1930s mostly subscribed to the thesis of the harmless character of coal dust. Based on the reports of cases of anthracosis present in most of the Asturian medical topographies published in the 1920s (García Fernández, 2005), studies published in the 1930s considered anthracosis as a mere histological finding, with no pathological relevance, granting all the causal role of the pulmonary alterations observed in coal miners to inhaled silica dust. Most of this work was carried out by specialists in phthisiology and pulmonary diseases, from Northern Spain, with experience in providing healthcare to coal miners.

The first monographic approach to the issue was published in 1933 by two Asturian doctors: Plácido Álvarez Buylla, clinical chief of the Hospital Provincial de Oviedo, and Joaquín Pumarino Alonso, a physician from the company Sociedad Duro Felguera, one of the leading mining companies in Asturias. Based on their extensive clinical experience with workers in the sector, the authors subscribed to the international theses on the safety of coal dust. They had not diagnosed a single case of pneumoconiosis among the so-called “*picadores*” (“pick-workers”), that is, those in charge of extracting the coal. On the contrary, the risk was evident for the so-called “*barrenistas*” (“drillers”) who were responsible for excavating with hammer drills in the silica-rich rocks surrounding the coal seams (Álvarez Buylla and Pumarino Alonso, 1933).

In the same vein, in the early 1940s Roger Jalon Lassere (1941), director of the Dispensario Antituberculoso General de Oviedo (General Anti-tuberculosis Dispensary of Oviedo), published the results of his clinical experience with 247 coal miners, studied between 1933 and 1940. The anti-tuberculosis dispensaries had substantially improved their staffing and technical resources after the nationalization carried out by the Republican government in 1931, which contrasted to the poor equipment of the medical services of the mining companies. The availability of diagnostic tools, such as X-rays, and the acquired clinical and epidemiological experience, enabled phthisiologists to claim their competence in the management of pneumoconiosis (Molero Mesa, 2001).

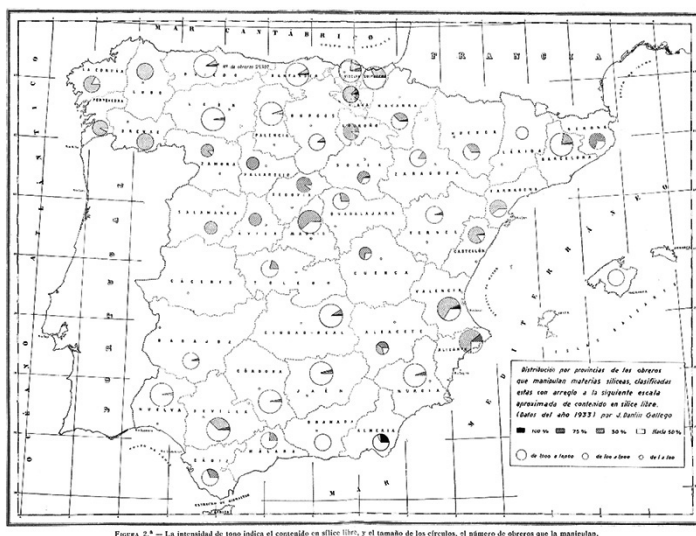
The workers examined at the Oviedo dispensary, all of whom had worked for more than five years in coal mines, were divided into three groups according to the levels of exposure to dust. The first group included the indoor miners who performed work in environments with a presence of coal dust and silica; in the second group were the *pick-workers*, exposed more intensely to the coal dust; and in the third, the *drillers*, who were more directly and intensely exposed to the silica dust. The miners underwent clinical examination, laboratory tests and radioscopic study, and more than half of them had a chest x-ray taken. The recorded incidence of silicosis was 23.8% of the total, although the differences between groups 2 and 3 were strong: only four of the 67 *pick-workers* studied suffered from silicosis (less than 6%), compared to almost 69% registered among the *drillers* (52 out of 76 cases of miners studied). Given the long engagement in coal mining of the diagnosed *pick-workers*, the phthisiologist's conclusion was that the incidence of silicosis among coal miners should only be considered "in workers in charge of stone drilling and in other pit workers who have been working in mining for many years (more than thirty years, in our case)". In addition, Jalon Lassere verified the low incidence of tuberculosis among *pick-workers*, which in his view suppor-

ted the preventive nature of coal dust against tuberculosis (Jalón Lassere, 1941).

Throughout the 1930s, the restrictive view of the problem imposed by the phthisiologists was barely questioned by other academic or official domains. Prominent specialists in occupational medicine such as Antonio Oller Martínez (1934), the main promoter of the specialty in Spain (Rodríguez Ocaña and Menéndez Navarro, 2003), endorsed the concepts concerning anthracosis adopted at the Johannesburg Conference. His colleague, Felipe García Triviño (1931), agreed. He developed a popularization campaign focused on pneumoconiosis in the early 1930s and participated in first-level international meetings such as the 6th International Congress on Industrial Accidents and Occupational Diseases, held in Geneva in 1931. In spite of his initial interest in the pathogenic effects of all types of industrial dusts, his work was eventually limited to silicosis (García Triviño, 1933, 1934). Another prominent specialist, Vicente de Andrés Bueno (1935), a physician from the Compañía de Ferrocarriles del Norte (The Railway Company of Northern Spain) and a founding member of the Sociedad Española de Medicina del Trabajo (Spanish Society of Occupational Medicine), carried out a visit to the coal-mining areas of Asturias and León in 1934. He collected a rich information through questionnaires sent to company doctors. The answers obtained reflected a low incidence of silicosis among the mining population, limiting the risk to the inhalation of silica dust by the *drillers* and denying pathological value to the pulmonary accumulation of coal dust frequently found in the autopsies of miners killed in accidents.

In spite of the prevailing consensus and the absence of statistical records, there were some critical voices and estimates that painted a more pessimistic picture. Jesús Lartitegui Arenaza (1933, 1934), a specialist in occupational medicine in the iron mines of Biscay, estimated that about 100,000 workers were exposed to the risk of silicosis in Spain in the early 1930s.

In his opinion, the problem was particularly relevant in coal and iron mining, given the workforce exposed and the high silica content of the rocks surrounding the coal seams in the Asturian mines and the high percentage of silica present in the iron exploited in the Biscay mining area. Juan Dantín Gallego (1936), professor of Occupational Health and Safety at the Escuela Social de Madrid (Social School of Madrid), made the first provincial estimate of exposed workers in 1936, indicating both the volume of workforce exposed and the free-silica content manipulated in the different risk industries. As can be seen in Figure 1, the most numerous labor contingents were found in the coal mining areas of Asturias and Leon (with more than 37,000 workers exposed) and in the metal mining in Huelva and Biscay (with more than 14,000 workers exposed). However, considering the percentage of free silica as the main risk factor there was greater visibility given to the problem in the ceramic industries, with percentages close to 50%, or to the minority gold mining of Rodalquilar (Almería), with free silica percentages up to 75% (Dantín Gallego, 1936).

Figure 1**Distribution of silica-exposed workers by province (1933)**

Fuente: 2.ª — La intensidad de tóxico indica el contenido en sílice libre, y el tamaño de los círculos, el número de obreros que la manipulan.

Source: Dantín Gallego (1936).

Only from the Inspección de Sanidad Minera (Mining Health and Safety Inspection) was challenged the international consensus and claims were made to address coal dust hazards. This organization, under the Dirección General de Sanidad (General Directorate of Health), was created in 1926 to supervise the campaigns against hookworm disease in the Spanish mining areas, especially in the south and southeast of the Iberian Peninsula. The campaigns were developed with remarkable success until the early 1930s, by which time hookworm disease had been practically eradicated from Spanish mines (Rodríguez Ocaña and Menéndez Navarro, 2006). The disappearance of this health problem allowed the Inspection to expand its competencies to other emerging health problems in the mining

sector. In 1935, inspector Francisco Morayta Serrano (1936) carried out an extensive study on the health status of workers in Spanish coal mines. The report included the situation of 128 coal-mining sites distributed throughout the country — including the main coal mining areas such as those in Asturias, León and Puertollano, in the peninsular center — in which 33,393 men and 601 women were employed. The work combined data obtained from direct observation with the information provided by the medical professionals employed in those 128 coal-mining sites. With regard to pit working conditions, the inspector emphasized the high concentrations of coal and silica dust in the digging drifts. Although Morayta did not provide statistical data, he noted the high frequency of cases of silicosis and anthracosis recorded among the mining population. “We could almost assert,” said the author, “that all the old coal miners are affected by anthracosis.” Despite going against the prevailing medical consensus, Morayta defended the idea of anthracosis as a professional disease caused exclusively by the inhalation of coal dust. This conclusion seemed to have been influenced by his extensive professional experience in the mining area of Puertollano, where he had observed numerous cases of anthracosis in individuals with relatively short labor exposure.

Early Consensus: the republican law on occupational diseases (1936)

The parliamentary procedure of the Law on Occupational Diseases promulgated by the Government of the Second Republic in July 1936 represented the first radical questioning of the harmless nature of coal dust, which had been supported by experts and labor authorities. The inspiration of the ILO guidelines, which informed the impetus to labor legislation during the so-called “progressive biennium”, was combined with the participation of workers in the process of drafting the law, which enabled a more comprehensive approach to dust hazards.

The first measures against silicosis were adopted during the Republican period. These were health care and preventive measures poorly connected to the social policies promoted by the ILO and limited to lead mining in the south of Spain, in particular to the district of Linares-La Carolina (Jaén). This was the sector in which, by the mid-1920s, the first cases of silicosis had been reported, an emergence that was favored by the widespread introduction of mechanical drilling. The Patronato de Lucha contra la Silicosis (Board of Struggle against Silicosis) was created in 1935; it was partially financed by the employers through the so-called Consortium of Lead in Spain (Menéndez Navarro, 2008). The Board launched the first specialized center against silicosis in Spain, in Linares in 1935. Up until early 1939, when it temporarily suspended its activity as a result of the Civil War, the dispensary had attended and examined a thousand miners, estimating the incidence of silicosis in more than 50% of the pit workers of the Linares-La Carolina district (Leal and Leal, 1943).

Also the small sector of gold mining attracted the attention of labor officials. In 1935, the Caja Nacional del Seguro de Accidentes del Trabajo (CNSAT) (Work Accidents Compensation Board), a body responsible for managing occupational accident insurance, carried out a medical study in the mines of Rodalquilar (Almería), which had been operated by a British company since 1930 (Hernández Ortiz, 2005). The introduction of mechanical drilling in the early 1930s allowed a fivefold increase in production, but at the same time it triggered the virulent emergence of the silicosis problem, with an estimated incidence of 35 per cent in the indoor workforce. All the *drillers* involved in the study, who had worked in the mines for five years, had signs of silicosis and half of them had died that same year (Ramallal Rumbo, 1940).

The debate about the need for a Law on occupational diseases gave room for the questioning of such a restrictive view of the problem of pneumoconiosis and, alongside the pressure

exerted by workers, a reconsideration came into being concerning the harmful nature of coal dust. The republican commitment to improving working conditions of the labor force had been reflected in the approval, in 1932, of the new law of industrial accidents and the extension, in 1931, of the accident legislation to agricultural activity (Martínez Pérez, 1992). In 1932, the Republican government ratified the 1925 ILO Convention, concerning compensation for occupational diseases, which stimulated political and social debate around the need for a specific law. The Labor Council (1934), an advisory body of the Ministry of Labor, involved a number of social agents in the debate via the application of a survey of nine business associations and industrial corporations, eight workers' unions (among them the Asturian coal mining union) and a private citizen (Vicente de Andrés Bueno). The most controversial topic was the list of diseases to be included. The business organizations advocated for limiting the list of diseases to those included in the aforementioned 1925 ILO Convention (lead, mercury and anthrax poisoning). Labor unions defended a much broader list. The Mining Union of Asturias claimed the need to contemplate pneumoconiosis and, in particular, anthracosis (Consejo de Trabajo, 1934) (Labor Council, 1934). In November 1935, the Council of Ministers authorized the referral, to the Courts, of the ratification of the 1934 ILO Convention on Occupational Diseases, which significantly had expanded the list of diseases potentially entitled to compensation (*Gaceta de Madrid*, 1935).

The victory of the Popular Front in the elections of February 1936 was decisive in overcoming political and business resistance to the bill, which entered parliament in June of that year, through a Decree of the Ministry of Labor, Health and Insurance (1936). The Ministry's proposal exceeded the list of diseases included in the revision of the ILO Convention of 1934, in which silicosis had, for the first time, been considered as compensatory, adding anthracosis in a novel way. The parliamentary procedure expanded the list of diseases and enabled future coverage of new pathologies. In the section on covered

industries, the following was recorded for pneumoconiosis: “any industry or operation exposing workers to the risk of silicosis”, and explicitly “industries and coal works” (Congress of Deputies, 1936). The law was passed on July 7, 1936, just a few days before the outbreak of the Civil War, which hindered its regulatory development and application (Law on Occupational Diseases, 1936).

The return to international orthodoxy: Silicosis insurance during the First Francoism

Despite the image of a rupture with the republican past promoted by the Franco regime and the abandoning of the ILO by Spain in 1939, the first measures against silicosis adopted after the Civil War were characterized by a strong degree of continuity with the Republican approach. In October 1940, the Ministry of Labor sent to the Instituto Nacional de Previsión (National Insurance Institute) (INP), an organization in charge of managing social insurance, a project to extend the occupational accident insurance that would include the various kinds of pneumoconiosis. The project was inspired by the Francoist Labor Charter (1938), a key text in understanding the social policy of the new regime and its commitment to social insurance as the main instrument of social framing alongside repression (Pons Pons and Vilar Rodríguez, 2012; Molinero, 2006). However, it also recognized the Republican law on occupational diseases as a precedent. In fact, the project included a comprehensive list of hazards caused by dust of mineral, plant and animal origin and contemplated a vast array of risk industries. In addition, the project paid special attention to prevention, focusing on the technical means of dust suppression, the provision of masks, the creation of lavatory and shower facilities in the workplace and the establishment of previous and periodic medical examinations. In a novel way, the project obliged companies with more than 100 workers to create a “medical service for the examination and prevention of pneumoconiosis” attended by a

specialist doctor. In addition, it obliged employers and business owners in risk sectors to extend accident insurance to cover for pneumoconiosis (Historical Archive of the National Insurance Institute³, 1940a).

The commission of experts of the INP in charge of evaluating the project pointed out the convenience of using a more restrictive concept of pneumoconiosis and reducing the list of risk industries. They also expressed serious reservations about the impact of the implementation of medical examinations, because of the cost and the need of professionals and medical diagnostic tools, and because of the effects of the possible declaration of worker disability. In addition to the high cost of compensation, there would be a problem of ‘forced unemployment’, given the difficulties in relocating patients suffering from pneumoconiosis to safe work and even a ‘high health policy’ problem in dealing with the treatment of affected workers. Despite the absence of reliable statistics, the commission had no doubts about the magnitude of the problem, which in the case of silicosis reached “truly alarming figures” (Archivo INP, 1940).

The recommendations of the INP were only partially accepted by the Ministry of Labor, which in March 1941 issued regulations for the prevention and compensation of silicosis as an occupational disease (1941). The regulations covered almost all activities exposed to mineral dust, including coal, and excluded work involving the risk of inhalation of plant and animal dusts. Preventive prescriptions and compensation did not change from the original project.

The arrival, in May 1941, of José Antonio Girón de Velasco (1911-1995) to the Ministry of Labor radically changed the approach to the pneumoconiosis issue in Spain, enhancing the compensatory dimension to the detriment of the preventive

3 Hereafter, Archivo INP

dimension and, paradoxically, endorsing the international guidelines which restricted the field of intervention exclusively to silicosis (Menéndez Navarro, 2008). In September 1941, a decree was issued establishing the Silicosis Scheme (1942), whose regulations were approved in November 1942 (*Boletín Oficial del Estado*, 1942) (Official State Bulletin, 1942). Unlike the regulations issued in March 1941, the silicosis scheme was created with extremely narrow coverage. Based on the alleged need to prioritize the most affected industries, this insurance was applied only to three risk sectors: lead and gold mining and ceramic industries. Undoubtedly, the most remarkable absences were coal mining and iron mining. Besides its limited coverage, the insurance helped in making other kinds of pneumoconiosis invisible, which, in accordance with the prevailing international consensus, gave complete prominence to the etiological role of silica dust. From this point of view, not only was coal workers anthracosis excluded from the insurance coverage, but so was the widely recognized risk of contracting silicosis by the *drillers* who perforated the siliceous rock in the coal pits. Although the labor authorities were not unaware of this fact, they hoped that cases of silicosis in non-covered sectors would be compensated as work-related accidents.

How was the exclusion of the silicosis scheme received in the coal mining areas? The absence of criticism in the press, subjected, like the rest of the media to the rigid control of the Franco regime (Sevillano Calero, 1998) was not surprising. *La Nueva España*, a newspaper published from December 1936 by the Spanish Falange in Oviedo, gave coverage to the approval of the regulations of March 1941 and the creation, months later, of the silicosis scheme, which was presented as a further example of the magnanimity and the social efforts of the regime (*La Nueva España*, 1941, 1942, 1942a). Without questioning its exclusion from insurance, some reports highlighted the incidence of the problem in the coal sector, pointing to coal and lead miners as the most exposed groups after granite workers (*La Nueva España*, 1942b).

Some local Asturian groups of the so-called vertical union carried out protest actions, which were more rhetorical than effective. In January 1943, the local delegation of Sindicatos de Sama de Langreo (Trade Unions of Sama de Langreo), in Asturias, sent a letter to coalmining companies expressing their radical rejection to the exclusion of coal mining. Appealing to the Republican Law on Occupational Diseases, the letter demanded that there was a the need to provide coverage for silicosis and nystagmus of coal miners and pointed out how to handle the cases of those affected in the companies (Central Nacional Sindicalista - Delegación Comarcal de Sama de Langreo, 1943)

Some critiques of the legislation on silicosis were made from within medical fields. The phthysiologists from Bilbao, Silvano Izquierdo Laguna and Eusebio García Sanz (1945), both with long experience in the study of silicosis in the mining area of Biscay, pointed out the error of the restrictive insurance coverage, because it permitted the companies which were not included to circumvent any health prevention and surveillance measures. Their frustration is understandable given their dedication to the study of silicosis in Biscay under the auspices of the Confederación Nacional de Sindicatos (CNS) (National Confederation of Trade Unions). The first results of the study, which included the examination of 3,000 iron miners, were published in February 1942 (Izquierdo Laguna and Garcia Sainz, 1942). In their opinion, the average rate of incidence of silicosis observed, which came to 3.23%, underestimated the real rate, since only active workers had been examined, and retired workers were not taken into account, also ignoring the fact that most miners studied (almost 85%) worked in open-pit mining. The incidence of silicosis among pit workers, representing only 3.4% of the workers examined, ranged from 11.1% to 50%, depending on the period of exposure. Following the publication of the provisional results, the CNS of Biscay published them in the newspaper *Hierro de Bilbao* as a clear example of the “advances of the national-sindicalist revolution” and as a determined contribution to the well-being of “producers”, an

euphemism of the regime to designate workers. *La Nueva España* also echoed the results of the study and announced the imminent expansion of the insurance, but without establishing any connection with the problem of the Asturian mining areas (*La Nueva España*, 1943, 1943a, 1943b). As the phthisiologists themselves pointed out in 1945, despite the propagandistic display, iron mining was not included in the silicosis scheme (Izquierdo Laguna and García Sainz, 1945).

From denial to flattery: the inclusion of coal mining in the silicosis scheme (1943-1944)

Coal mining, key to the country's energy self-sufficiency, fared better than iron mining. Its inclusion in the scheme was adopted after carrying out a large-scale health survey including more than 10% of Asturian miners, a task entrusted to the CN-SAT by the Minister of Labor in June 1943, just six months after the scheme came into force (*Boletín oficial del Estado*, 1943) (Official State Bulletin, 1943). The study was designed in two phases. A first examination, eminently clinical, permitted the identification of the workers affected by any bronchopulmonary disease. These workers were subjected to a second comprehensive examination by specialists in occupational medicine and respiratory diseases, which included a radiographic examination and clinical analysis (Archivo INP, 1943).

The examinations took place during the second half of 1943, which necessitated a considerable deployment of medical professionals and economic resources (Archivo INP, 1943a). Initially, 3,233 miners were examined, almost 10% of the total census of workers in the sector in Asturias. Somewhat less than half of those selected, 1,545 workers, were rock drillers, that is, potentially the most exposed workers. The rest consisted of 591 *pick-workers* (18% of the total), 486 timbermen (workers who shore up mines) (15%), 332 mine shuttle car operators (10%) and 279 outdoor workers (8%). Within each professional group,

workers were selected according to the time they had dedicated to the sector: 50% of workers with more than 10 years in the job, 30% with a dedication of between 5 and 10 years, and 20% with less than 5 years working as a miner. After the initial examinations, in-depth examinations of workers with evidence of bronchopulmonary disease were performed. This second examination stage was carried out by two small teams of physicians to achieve the application of homogeneous assessment criteria (Archivo INP, 1944).

The preliminary results of the study confirmed the high disease rate among the Asturian miners, something the CNSAT officials took for granted. However, the high level of incidence of silicosis recorded among the *pick-workers* (theoretically a group exposed only to coal dust) was a clear surprise. Consequently, the specialized teams carried out a medical examination of a new sample of around one thousand *pick-workers*. This time, 1,021 *pick-workers* were examined, all of them with more than 10 years in the job, and as such the final number of workers examined came to 4,254.

Table 1 shows the results of the examinations included in the report, in which the *pick-workers* presented higher incidence rates of silicosis than the *drillers* themselves.

Table 1**Incidence of silicosis in Asturian mining (1943)**

Professions	Total examined workers	Total negative	Workers affected by silicosis, by degrees				Total positive	
			I	II	III	Silicotuberculosis		%
Drillers	1.545	983	331	164	30	37	562	36,3
Mine shuttle car operators	332	315	13	4	0	0	17	5,2
Pick-workers	1.612	963	417	187	21	24	649	36,8
Timbermen	486	348	91	46	0	1	138	28,3
Other indoor workers	176	118	37	18	0	3	58	32,9
Outdoor workers	103	103	0	0	0	0	0	
Totals	4.254	2.830	889	419	51	65	1.424	

Source: Report of the CNSAT (Archivo INP, 1944).

The director of the CNSAT attributed the unexpected silicosis rates among the *pick-workers* to the long dedication to mining of those examined in the second group. Since no assessments of environmental level of dust were made in the production areas and the labor history of the workers studied combined several destinations in more than half of the cases, the main explanatory factor of the incidence rates was the time

of exposure. Table 2 shows the incidence rates according to the years of exposure.

Table 2

**Percentage of workers affected by silicosis in
Asturian mining according to years of exposure
(1943)**

Number of years served	Total examined workers		Total negative	Workers affected by silicosis, by degrees				Total positive	
		%		I	II	III	SilicoTuberculosis		%
0	103	2,4	103	0	0	0	0	0	-
1 to 5 years	711	16,7	708	2	1	0	0	3	0,4
6 to 10 years	354	8,3	335	18	1	0	0	19	5,3
11 to 15 years	470	1,04	414	36	17	0	3	56	11,9
16 to 20 years	606	14,2	432	134	35	0	5	174	28,7
21 to 25 years	622	14,6	318	205	77	12	10	304	48,8
26 to 30 years	685	16,1	290	243	126	8	18	395	57,6
More than 30 years	703	16,5	230	251	162	31	29	473	67,2
Totals	4.254		2.830	889	419	51	65	1.424	

Source: Report of the CNSAT (Archivo INP, 1944).

The incidence rate of silicosis recorded among the *drillers* was 36.3%, and the average exposure time for the appearance of first degree silicosis among this group was estimated at between 10 and 11 years. After 30 years of exposure, 78.3% of the drillers suffered from the disease. The results obtained among the *pick-workers* hardly differed. For the total of *pick-workers* examined, the incidence rate was 36.8%. After 30 years of work in the mines, 66.6% of the *pick-workers* examined had silicosis. Consequently, the director of the CNSAT concluded:

[...] it can be determined that the profession of coal pick-workers is, after that of the drillers, the most dangerous in terms of silicosis, showing a percentage of affected workers very close to that of the drillers, although the exposure period of the illness is slightly longer (Archivo INP, 1944).

The evidence showing the high incidence of pneumoconiosis among *pick-workers* did not imply the questioning of the medical consensus concerning the harmless nature of coal dust. The director of the CNSAT blamed the geological characteristics of the Asturian mining areas for these surprising results. The narrowness of the coal seams and their inclusion between sandstone and slate, explained, in his view, that the work of the *pick-workers* was seldom carried out exclusively on pure coal. In any event, the report concluded that there was a risk of silicosis in all pit work and, given the magnitude of the problem, strongly recommended the inclusion of coal mining in the silicosis scheme. Likewise, the report noted the scarce attention of the companies to the reduction of concentrations of dust in the coalmining. Finally, it advised for the creation of specialized teams of radiologists, pulmonologists, analysts and medical examiners to successfully carry out diagnostic, assistance, research and preventive tasks (Archivo INP, 1944).

Despite having a similar scope to those studies developed in the late thirties in other countries with important coal mining areas, the CNSAT medical study had three distinctive features. First, workers were not involved in the genesis of the study

in the face of the key role played by labor union movements in other national environments (McIvor and Johnston, 2007; Derickson, 1998). Secondly, the coal industry did not have an obstructionist attitude, as had occurred in Belgium or France, but instead it merely complied with the regulation (Geerkens, 2009, Devinck and Rosental, 2009). Thirdly, the Spanish labor authorities were not involved in the debate, which other national administrations undertook, concerning the nature of the disease. Far from questioning the harmless nature of coal dust, the labor authorities continued to hold silica dust responsible for the onset of the disease and kept using the term 'silicosis' to refer to the lung fibrosis detected among coal workers, including those with little or no exposure to silica dust. This position remained unchanged even after the UK Medical Research Council or the US Department of Public Health issued their reports, which gave rise to international recognition of CWP (GarcíaCosio and Pumarino Alonso, 1946).

The CNSAT report had an immediate effect. On January 26, 1944, two days after arriving at the Ministry, Girón de Velasco signed the order that included coal mining companies in the compulsory insurance system against silicosis, with effect from January 1 of that same year. The order included the obligation to carry out an initial medical examination of all the workers in the sector in the next three months, allowing the scheme to designate the clinics and dispensaries that could collaborate in this task. In addition, a period of three months was allowed for miners affected by silicosis, or their descendants, in the event of death, to claim the corresponding compensation, according to the principle of retroactivity of the insurance policy (*Boletín Oficial del Estado*, 1944).

The inclusion of coal mining in the scheme as well as the medical study, both received wide coverage in the Asturian press. During the second half of 1943, and in the days leading up to the extension of the insurance to coal mining in January 1944, *La Nueva España* published sixteen reports on silicosis.

In addition to pointing out the significance of these measures for Asturian local policy, the news items were abundant in their consideration of examples of the social concerns of the regime and the Minister of Labor, in particular (*La Nueva España*, 1943c, 1943d, 1943f, 1943g). Other news items seemed to be aimed at minimizing business reluctance to embrace the extension of the insurance, highlighting the future benefits for the industrial sectors' included (*La Nueva España*, 1943e).

The propagandistic and popularization work carried out among the working population and the mining entrepreneurs was completed with the so-called "Silicosis Week", a series of lectures by CNSAT experts, organized by the Ministry of Labor, which was held in September 1943 in various locations in the Asturian mining fields. The lectures ended with the screening of the informative short film *Silicosis*, produced by the National Health Office and shot in the lead mines of Linares. The press coverage highlighted the attention given to the medical and technical prevention of silicosis, which would allow it to be converted into an avoidable disease, and to the social policy measures designed to "defend and protect" sufferers (*La Nueva España*, 1943h; 1943, 1943, 1943k).

In addition to advertising the benefits of its social policy, the propaganda apparatus was thoroughly applied to show the affection of the workers for the "Francoist Spain". The "unshakable" adherence to the Head of State by the Asturian miners, a highly combative labor collectivity, as well as the sense of "gratitude" for the "increased protection of the working class" -- with explicit mention of the silicosis insurance -- were in the front pages of the newspapers in November and December of 1943 (*La Nueva España*, 1943l, 1943m). The press justified the initial exclusion of coal mining because of the urgency of the problem in lead mining and the lack of scientific evidence in coal mining fields. The press also emphasized the "revolutionary" application of the principle of retroactivity, which permitted compensating workers who were already retired when the order of the

ministry was issued, extending the tutelary action of a “protective and farseeing State” (*La Nueva España*, 1944, 1944a).

The public staging of the Asturian miners’ adherence to the social policy of the Ministry of Labor reached its apotheosis in mid-June 1944, when Girón de Velasco visited the Asturian mining areas, and the main event was held in Mieres. Just three weeks earlier, Girón had another important event in Linares, where he was awarded the gold medal of mining in front of more than 10,000 miners, according to the press. The visit included a brief stay in the silicosis dispensary, set up in 1935, and a survey of the area where the future silicosis hospital would be built. The foundation of this hospital had been announced during Franco’s visit to that mining district in May 1943 (*La Nueva España*, 1944b). The event in Mieres received generous coverage in the written press, which emphasized the “grandiosity” of the ceremony, with an unusual attendance, calculated at “more than 70,000 souls”, which was “proof of the gratitude to the Government for its social laws and their great benefits for the producers class.” The minister pointed out the “disciplined” reception given to the circumstantial authorization of Sunday as a day of work, in 1940, in the Asturian mining fields, a measure justified on the grounds of national urgency. The huge gathering showed the supposed workers’ approval of this measure (*La Vanguardia Española*, 1944). An even bigger impact of this event was made by the news items of the Noticiario Cinematográfico Español (Spanish Official Newsreel), NO-DO, the only source of audiovisual information at the time (Medina Doménech and Menéndez Navarro, 2005). The item focused in the striking tribune of the speaker, surrounded by Spanish flags and a huge portrait of Franco, in a magnificent ceremony and with the enthusiastic participation of “seventy thousand producers” (Asturias, 1944).

The propagandistic display of the regime was not accompanied by a satisfactory implementation of the insurance for the workers. Certainly, once the inclusion of the sector was approved, the coal industries opted for “formal” compliance with the

regulation. In 1944, 517 companies affiliated, providing coverage to 72,395 miners, almost the entire sector. The affiliations grew in parallel with the labor force employed. In 1951, the affiliation amounted to 690 companies and 88,767 miners. The absence of employer resistance could be explained by the changes introduced in insurance management in December 1944, which made it possible to reduce the economic burden on companies. The levy applicable to companies were also compensated by the imposition of surcharges on the price of coal for the domestic market (Archivo INP, 1951).

An entirely different issue was the implementation of the scheme. The medical examinations were carried out very slowly and with noticeable disparity between the different mining fields and the sectors included in coal mining. By the end of April 1945, more than a year after the inclusion of this sector in the scheme, only one of every eight workers affiliated in the major sectors of coal and anthracite had been examined. In addition, the percentage of cases of silicosis diagnosed in these examinations, 3.03%, was much lower than that detected in the CNSAT health survey in Asturias. Although the reason given for delays was the difficulty in obtaining radiographic plaques, they were also an expression of the reluctance of companies to get rid of skilled workers in a situation as favorable to business interests as this, in addition to minimizing the cases receiving compensation (Archivo INP, 1945). The application of the 'revolutionary' principle of retroactivity only allowed 128 applications, a small proportion of all the potential applicants (García Piñeiro, 1990).

The number of cases of silicosis compensated also reflected a very restrictive application of the insurance. Between 1946-1950, only 3,750 coal miners were compensated for silicosis, representing 4.6% of the affiliated workers (Archivo INP, 1951). This percentage is significantly lower than the disease rates detected in Asturian mining by the CNSAT study. The discomfort of the Asturian coal miners began to be channeled

into Franco's institutions, particularly through a rising number of disputes about the failure to enforce the labor legislation made before the Magistraturas Provinciales de Trabajo (Provincial Labor Tribunals), created under the Labor Charter (1938). Between 1945 and 1949, the number of lawsuits for cases of occupational disease in the Asturian labor tribunals amounted to 1,216, an upward trend which became consolidated throughout the 1950s (Benito del Pozo, 1993).

In conclusion

The study of the recognition of pneumoconiosis/silicosis of coal miners as a disease entitled to compensation in Spain shows a unique interaction between transnational and local dynamics. It was during the Second Republic that the onset of the concern about the risks of pneumoconiosis emerged, linked both to the consensus promoted by international agencies on this pathology and to the local desire to ratify the Spanish legislation at an international level. Similarly, the idea, with broad international support, about the innocuous character of coal dust, found great support among Spanish medical professionals, including those who worked in health centers or companies in the coal mining fields. Only the opening of a process of debate on the reparation of occupational diseases in Spain allowed workers to begin questioning this dominant view. The transfer of the workers' demands to the legal system during the brief government of the Frente Popular (Popular Front) allowed Spain to incorporate anthracosis as a compensable pathology in the Law on Occupational Diseases of 1936, a regulation that went beyond the requirements contemplated by the ILO in its 1934 revision of the Convention on the Reparation of Occupational Diseases.

The alleged rupture of the regime that emerged after the Civil War, with the republican policies, was not reflected in the field of occupational diseases. Despite the Spain abandoning

the ILO, attention to pneumoconiosis in the first Francoist legislation of March 1941 was marked by continuity. The conversion of social insurance into a key instrument of political action in the hand of the Minister of Labor, Giron de Velasco, brought about a change in the approach regarding pneumoconiosis. The creation of the silicosis scheme in September 1941 was inspired by the more restrictive theses defended by the body in charge of managing social insurance and in the employers' resistance, both of which significantly reduced the scope of the insurance. In addition to curtailing all preventive encouragement, insurance was limited to the compensation of those affected by silicosis in a small number of productive sectors. Some medical professionals and the so-called *vertical unions* criticized the exclusion of such large numbers of workers with a high rate of sufferers (such as iron and coal mining). The urgent need to guarantee self-sufficiency in energy and the granting of economic advantages to the sector, which helped to reduce insurance costs, facilitated the extension of the insurance to coal mining in 1944. Its implementation was very deficient, which did not prevent the regime from using, in a propagandistic fashion, this measure as a means of gaining favor and the adhesion of the coal miners. In this way, the local factors determined a *sui generis* elaboration not very different from the new consensuses that began to be reached in the middle of the 1940s in the transnational scenario.

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LEGISLATION ON WORKPLACE ACCIDENTS AND SICKNESS. A breakthrough in labor relations in Argentina (1915-1955)

Karina Inés Ramacciotti¹

Introduction

In Argentina, discussions about labor relations appeared between the end of the 19th and the beginning of the 20th centuries, and followed diverse ideological and professional perspectives. The social and political agenda was influenced by the social

1 Doctor in Social Sciences from University of Buenos Aires (UBA). She currently works as an independent researcher of CONICET in the Interdisciplinary Institute for Gender Studies of UBA's School of Philosophy and Literature, and as a professor of Social History at Quilmes National University. She wrote *La política sanitaria del peronismo* (Peronism's Sanitation Policy) and, together with Carolina Biernat, *Crecer y multiplicarse. La política sanitaria materno infantil argentina (1900-1960)* (To be fruitful and multiply The Argentinean mother-child sanitation policy (1900-1960)). She compiled *Generando el peronismo. Estudios de cultura, política y género* (Generating Peronism. Culture, politics and gender studies); *La Fundación Eva Perón y las mujeres: entre la provocación y la inclusión* (The Eva Peron Foundation and women: between provocation and inclusiveness); *Políticas sociales: entre demandas y resistencias* (Social policies: between demands and resistance); *Historia de la Salud y la Enfermedad. Bajo la lupa de las ciencias sociales y Salud Pública y la Enfermería en la Argentina* (History of health and disease. Under the scrutiny of social sciences, public health and nursing in Argentina). She has published papers in her specialty in national and international journals.

transformations associated with urban growth, migration, the growth in industrial work and, especially, the development of the trade union movement. From the beginning of the 20th century numerous laws that sought to improve worker protection were sanctioned –such as the Sunday-day-of-rest law, passed in 1905, or the labor law for women and children, in 1907-. On the other hand, in 1904, the first project for the enforcement of a Labor Code was submitted. Nevertheless, in 1915, after the approval of the Workplace Accident and Sickness Law (law 9688), the view regarding the labor contract as a kind of juridical relation with particular features began to blossom and became a breakthrough in the history of labor legislation.

The ratification of the Workplace Accident and Sickness Law, which implied an important change in the legal doctrine, attempted to alleviate the effects of injuries in the workplace. Before the approval of such a regulatory framework, the legal principle ruling the labor/management relation was called the “Boss’s Responsibility”, and it was covered by the Civil Code (1869).

The application of this norm had only compensated for a scarce number of workplace accidents, only 25% of all reported cases, given that –as claimed by the radical deputy for the province of Buenos Aires and ex-president of the Industrial Union, Alfredo Demarchi- workers had to go “from pillar to post²” to prove their employer’s guilt. This expression refers to the long journey they had to go through until attaining compensation after the accident; it was a difficult and burdensome procedure, due to the expenses the claimants had to meet while, they also had to cover the expenses related to their medical attention, rehabilitation and medication (Congreso Nacional, 1915:565).

2 Translator’s note: the original quote was: from “Herod to Pilate”, in reference to King Herod and Pontius Pilate but the exact meaning of the phrase is as stated in the English translation above.

Recurring labor accidents manifested the need to reform the existing legislation. Likewise, technological changes in factory spaces, without the necessary training of factory workers or the rules concerning safety and prevention, increased the likelihood of workers suffering injuries or getting ill (Recalde 1997; Armus, 2007). The contents of the law referred to professional accidents and illnesses afflicting industrial workers and, until the 1930s, the discussion of particular accidents produced in markets or in rural zones was absent from the political debate, thereby excluding a large amount of workers from social protection (Pérez, 2015; Queirolo, 2016).

The passing of this law definitively ratified the notion of professional risk in force in Europe and in the labor legislations of other American countries. This implied that the employer had to legally prove that the accident had been caused by negligence or by the risks inherent to certain activities. Therefore, after the law of Workplace Accidents and Sickness was sanctioned, it did not matter much whether the employer was guilty or not, the important thing was the existence of a risk, by virtue of which the employer was bound to resolve the situation, as he was responsible for workplace accidents, or to prove the worker's grave negligence or guilt if he did not want to compensate him.

With Law 9688, the employer's guilt stopped operating as a legal foundation and gave way to reparation in the case of accident or illness produced by risk derived from the act of working. Now, the sole cause/effect relation between an accident and doing a job became evidence and forced the employer to support mechanisms for the worker's medical attention, treatment, cure or rehabilitation. It was also stipulated that it was the State, through its agencies, which was bound to safeguard labor relations. The enforcement of this law challenged the Civil Code as it tested its capabilities of responding to the problems associated with labor relations, and made way for a debate on

the possibility of creating a new specific code for settling conflicts emerging in the workplace. Labor courts were constituted in the mid-1940s and, as claimed by Andrés Stagnaro (2016), their creation engaged in a dialogue with the debates generated by the law for workplace accidents.

Our contribution to this theme will be an analysis of the projects prior to the sanctioning of the law for workplace accidents, the constitutional debate and the changes that occurred after its approval, after which this legislative frame began to be put into practice up until the mid-20th century. Parliamentary debates materialize some of the representations a given society has concerning specific phenomena. Besides, they are privileged documents which assist in recovering the positions assumed by different opposing political sectors and allow for the reconstruction of possible implicit recipients of social policies. In the projects presented in the Chamber of Deputies, national and international statistical inputs were provided which proved to be useful in the parliamentary discussion. In order to complement such contributions, other kinds of documents will also be revised: specialized journals, newspapers and documents from the labor and sanitation agency.

In the same vein, reviewing this theme will allow for the clarification of how workplace accidents and professional illnesses gained ground in the political sphere during the period of time studied, by virtue of which the way to approach social issues was also developed. Studying the historical processes which pushed forth social legislation, in this case associated with workplace accidents and professional illnesses, also implies examining how specific and professional knowledge was developed and linked to the study of some of the problem issues which such legislation was attempting to respond.

Precedents of legislative projects

From the beginning of the 20th century, different political and medical voices advised of the need to push forth a law that

protected workers from workplace accidents. In the words of Pierre Rosanvallon (1995:21): “industrial economic evolution progressively showed the limits of a social regulation system governed only by the principles of individual liability and contracts”.

Therefore, the approval of the first Workplace Accident and Sickness Law may be seen as the realization of a set of projects that preceded it, and of ideas that went beyond the national borders (Ramacciotti, 2015). In 1902, the deputies Belisario Roldán, from the National Civic Union, and Marco M. Avellaneda, submitted the first project, which set a crucial legislative precedent as it introduced issues such as the notion of accident, the employer’s liability, the importance of considering compensation, and the regulation of insurance to benefit workers. Every time one of the ten following projects was submitted, such precedent was revisited; it was never adequately discussed by the parliament. As part of his argumentation, Roldán referred to Bismarck’s legislation and picked up his idea of the importance of channeling such legislation “to avoid possible protests by means of farsighted laws” (Congreso Nacional, 1902:145). He argued of the need to enforce a workplace accident law in order to relieve the potential danger this issue could pose in Argentina, where most workers were foreign, which became an obstacle for their integration into the institutional order. The project of 1910, submitted by Adrián Escobarin, a congressman from the province of Buenos Aires and a member of the *Unión Nacional* (National Union), reinforced this idea:

We should not forget that the Republic of Argentina is a country of migrants, and that Europe passes laws for countries with their own idiosyncrasy, with defined social types (...) but here in Argentina we should not only legislate for the natives, but for all races, for all humanity, for all men in the world who come to this laboratory of life, from where a typical ethnic type emerges, which announces the vigor, courage, intelligence and greatness of our race (Congreso Nacional, 1910: 80, 145).

In such a manner, there was a double foundation to the interest in this legislation: it was both a means to respond to the social question, and a way to build national identity, which was considered at risk given the foreign element of the workers.

In terms of that element, Roldán and Avella sustained that there was a need to adjust the national legislation to the deep transformations suffered by the country in recent years, due to the enormous growth of the working population, nourished by an intense wave of migration. They described injured workers as “disabled by work”, and whose economic situation impeded them from taking legal action; therefore, it became urgent to demand employer’s responsibility as a means of alleviating their misery. In order to support the need to enact such a law, the idea of social prevention was pushed forward. Legislation would hinder the “germ of protest” and keep workers and their families from joining the “libertarian ranks”. For this reason, the State was supposed to participate because “the best fuel for protest among the ones below is inaction by the ones on top”. The reforms aimed to improve the living conditions among the working population would also help in preventing social conflict, as well as ensuring that workers would “always feel the invaluable benefits gained from their action and foresight” (Congreso Nacional, 1902: 145).

In 1904, the executive power submitted a project for a National Labor Code to the Congress, which was supported by Joaquín V. González and which aimed at defusing the increasing unrest of the trade union movement. In this proposal, consisting of 14 titles and 466 articles, the need to regulate accidents at the workplace was included as it was acknowledged that neither the Civil nor the Commercial Codes were adequately adapted to be able to offer the protection workers required. Unlike B. Roldán and M. Avellaneda’s project, compensation was made extensive not only to operators, but also to day laborers, farm workers and industrial employees, and included

workers from the primary and tertiary sectors working with an inanimate force. In this sense, it encouraged the inclusion of a higher number of workers under legislation. According to Mirta Lobato and J. Suriano (2014: 18), the project of law supported by Gonzalez was frustrated for two reasons: on the one hand, the lack of interest of most legislators from both chambers of the National Congress, displayed by the fact that they did not even deal with or discuss it; on the other hand, there was strong opposition from some of the trade unions which were decidedly anarchistic in their leanings (Argentinean Regional Workers Federation) as well as from the businessmen (Argentinean Industrial Union, UIA).

In 1906, the UIA –the core employer’s association - introduced a project supporting a mandatory insurance to be paid by employers, whose coverage was limited to industrial workers. The goal of this proposal was to regulate a practice which was already being implemented by big companies: hiring private or mutual insurance companies to deal with the payment of compensation, medical assistance and rehabilitation.

In 1907, two projects were submitted. One of them, written by the National Department of Labor and its president, José Matienzo, followed the guidelines of the employers’ plan. In fact, UIA sent a note to the National Department of Labor in which the submission of the project was praised “as long as new dispositions, which could be burdensome for the industrial sector were not introduced” (Panettieri, 1988: 59)³. Such growing interest in the issue of workplace accidents, and in the need for State intervention in labor relations, was also reflected in publications by the National Department of Labor, in which there was a deep interest in understanding and controlling labor relations, as well as great sensitivity about releasing (in their quan-

3 This excerpt is also present in UIA’s newsletter (*Boletín de la Unión Industrial Argentina*; año XI, n° 462, 15 de junio de 1907)

titative reports on occupational accidents that had occurred in the Federal Capital) statistics on the trade sectors with the highest amounts of accidents, and the number of insurance policies hired by the industrial sector. Many of these quantitative and qualitative reports were taken into consideration as inputs for the arguments found in the projects and in their legislative debates (Lobato y Suriano, 2014; Maddalena, 2015).

As an informing member of the Commission of Deputies, the socialist deputy Alfredo Palacios, the most important local reference point for the studies on labor processes and their effects on workers' bodies⁴, submitted a project which, based on social solidarity and the acknowledgement of the political advances of the working class, expected to go beyond bourgeois law, which was considered individualistic and privatist. In his interventions at the parliament he combined a critical undertone related to workers' social conditions with arguments which were grounded more in academic rigor. Among other things, he showed concern about industrial work and for the need to establish a scientific method to assess labor-related fatigue (Graciano, 2008). In the debate, Palacios appealed to a "modern criterion, more generous and equitable, to establish that the expenses involved in protecting workers' lives and health should be logically included in production expenses" (Congreso Nacional, 1907:110). He clearly stressed the need to think about a workplace accident law with broad jurisdiction, contemplating a system to benefit industrial workers and employees, under state supervision (Congreso Nacional, 1907: 112). Four more projects were submitted between 1912 and 1915, and they were all based on the one submitted by Palacios, but the law was only discussed in September 1915.

4 These lines will be resumed in his book *La fatiga y sus proyecciones sociales* (Fatigue and its social projections) (1922) based on the monitoring of the job of workers at the National Workshops for Sanitation Works

Therefore, in spite of the existence of a political consensus to sanction the legislation, years went by and the laws were not passed. Two different kinds of variables may be mentioned to interpret this delay: the ones linked to the operation of the parliamentary field, and the ones linked to a particular theme. Among the first ones it is worth noting the complex and lengthy procedures undertaken to discuss and approve laws; the brief period of ordinary sessions (May – September); the strategy of not making the quorum which could be interpreted as displaying opposition to the projects under discussion; and the enforcement of the so-called Olmedo Law (1890), which regulated the expiration of projects which had not been enacted in one of its chambers during the parliamentary year or the following one. Among the ones associated to a particular theme, it is worth mentioning that the interest in labor accidents was also associated with the demands of socialism. The lay, liberal and republican nature of such a political tradition generated certain apprehension among conservative and catholic sectors, in spite of the fact that there were not substantial technical differences between the broad terms of the projects submitted⁵. The support of catholic sectors in 1915 –represented by Deputy Arturo M. Bas from Córdoba- is an element to bear in mind in the analysis of causes linked to the sanctioning of the law: after the second decade of the 20th century, social catholic groups had been associated with a more pro-worker profile and showed more interest in a active State intervention, with the belief that charity was not enough to respond to social issues. Besides, the introduction of an insurance system allowed them to overcome the fear of socialism and anarchism.

5 In the same spirit, the argument of radical deputy Rogelio Araya in his presentation of a project of law in 1912 in which he claimed that the contents of the law were “anti-socialist, because they intend to break the existing differences between classes, blend capitalists and workers, and mix powerful and working classes [...and] because they tend to erase the furrows ploughed by sectarian tendencies and by prejudice which divide society” (Congreso Nacional, 1912:129)

From projects to legislative realizations

Therefore, even though there were several legislative precedents and, as of 1900 labor accidents were seen as a terrible consequence of industrialism and deserving of special treatment, it was only in 1915, at the end of the parliamentary term, that the first Workplace Accident and Professional Illness Law was discussed and approved. It is probable that the so-called Riachuelo catastrophe (which occurred on May 23 of 1913 in gasholders belonging to the Ministry of Public Works) put on the stage a situation that required the necessary attention of the public powers. An explosion caused the death of 13 workers and others were seriously injured. Later, another explosion occurred which destroyed the gas plant's surrounding facilities. This episode "the most dreadful disaster recorded by us, plunged a whole neighborhood into pain and orphan hood" (Anónimo, 1913: 1), generated important discussions in the parliamentary sphere, within the executive power and in the press, as the issue of how the State should compensate for an accident that had taken place under its responsibility was being brought into question. The funeral rites in the Buenos Aires neighborhood of La Boca became an important way of communicating and denouncing, before the public opinion, the fragility and poverty which the workers and their families were exposed to during their daily toil. Private ceremonies associated with death became public events and acquired a meaningful visibility in the city. At first sight, these anonymous deaths did not seem to be politically motivated; nevertheless, they became political as they contested and challenged the State's power and demanded that the authorities in office took measures concerning the issue (Gayol, 2013: 134). The mechanisms of contributions and solidarity set around the popular aid commissions were insufficient to meet the urgent demands associated with such event, and as such, they appealed for the active intervention of the State. The context in which the deaths occurred, how different actors became publicly involved with this event, the capacity

of those deaths to be associated with other similar deaths and to remain relevant news in the mass media and, also, the fact that the causes of death were affronts to cultural practices and social expectations of what a “good death” and a “good funeral” should be, turned this “catastrophe” into a political event that implied breaking bonds and also generating a process of social communication and interaction (Gayol, 2013: 134).

Consequently, through the passing of Law 9085, the State repaired the injured and the families of the dead workers. Compensation payments were agreed upon according to legislation covering navy employees. Additionally, the rule allowed the legislative power to proceed in the same manner in similar cases. This fact revealed the emerging social conflict, and led to reflections on the urgent need to enforce social legislation contemplating workers’ rights, and also the need to transfer the obligations that used to be covered by the State to the private sphere, in the case of such misfortune (Anónimo, 1913a:10).

This event, revisited during the 1915 legislative debates, was mixed with arguments aimed at reaching a balance between the parties and at curbing the “exaggerated demands of the world of labor”. Radical Deputy Celestino Marcó, from Entre Ríos, and an informing member on behalf of the Legislation Commission, claimed:

The text of the project of law forewarns of a certain spirit of benevolence, but it is also founded, especially, on equity, and thus responds both to a concept of justice and to the collective hope of guaranteeing both the rights of capital over the exaggerated claims of labor, and the rights of labor over the tyrannies and demands of capital.

Justifying himself with arguments taken from Catholicism and in clear contrast with the lay rhetoric of socialism, Marcó believed that the “true Christian brotherhood” would lead to:

The renouncement of the grievances we all harbor against each other, poor and rich, capitalists and workers, only because in those spheres where we struggle and persevere, we lack a stable measure, maybe utopian, to equitably distribute common joys, both material and spiritual, let alone deprivations and pains. (Congreso Nacional, 1915: 551). The law was seen as a means of “removing from society some of the motives that disturb it so gravely, because the economy of individuals and families is always so affected”, and in different passages it referred to the features of the law, which aimed at “conciliation and prevention”. In this sense, the preventive and conciliatory nature of B. Roldán and M. Avellaneda’s project was recovered.

During the debate in the Chamber of Deputies there was a discussion over some of the sensitive issues which had been mentioned from as early as the beginning of the century and many of which continued to be debated in politics throughout the 20th century. Some of them were the constitution of compulsory and facultative insurances, the features of compensation limits, the criterion of coverage according to the type of workers, corporate, labor and State responsibilities, which workplace accidents and illnesses would be covered, and how to control and fund the system.

Socialism’s sole hope consisted of the enforcement of compulsory insurance; it was included both in a project by Palacios and in a proposal by UIA. Nevertheless, the arguments made in both proposals displayed important differences. Whereas socialism intended to guarantee State-funded compensation for the worker or his family –in line with the labor movement and social solidarism pushed forth by the parliament-, the UIA’s proposal sought to safeguard corporate assets and proposed outsourcing the responsibility for compensation to the insurance companies. In the same spirit, the project submitted by A. Escobar (1910) clearly enounced the fears of corporate sectors related to what was seen as excessive State intervention: “compulsory insurance leads to State insurance, and it is not possible

to always demand everything from the State as if it were providence” (Congreso Nacional, 1910: 82). Paraphrasing Pierre Rosanvallon (1995:20), they feared that the “natural” feeling of individual responsibility would be undermined and immoral behavior and perverse calculations would be encouraged. Diametrically opposed to this argument, socialist deputy N. Dickman claimed that the compulsory insurance, given that it regulated compensation for the injured and guaranteed a common fund to support it, restrained employers from declaring bankruptcy in order to avoid paying compensation; besides, it encouraged State intervention based on a social provision with more solidarity-related criteria (Congreso Nacional, 1915). In spite of these opinions, the law established facultative insurance and set a maximum limit and tariff for compensation payments. Besides, the worker’s choice of common law actions was implemented and, as will be discussed later, remained active until the most recent reform of 2012.

With respect to the search for strategies to expand the limits of social provisions, the socialist deputy and physician Nicolás Repetto, made a clear intervention, synthesizing a long-standing complaint –which lasted for most of the 20th century– and which responded to evolutionist proposals made by socialism. According to the physician, although the sanctioning of a legal framework contemplating work accidents had been celebrated and supported, it also reverted to a previous political discussion, which implied reflecting on the expansion of social security and achieving the approval of a law that first safeguarded against illness, and then, legislated on workplace accidents, as every labor accident implied, in his understanding, an illness:

We entered social insurance legislation along a path that is not the best. We should have made the sickness-insurance precede the accident-insurance, [...] as a workplace accident, in its first phase, is practically an illness; then, when the illness overlaps with a functional disability, the injured person appears [...] So I would have wished that we had started with a social provision on sickness

insurance, which is the most urgent and the first thing to do, and that then we could have proceeded to complement sickness insurance with accident insurance, and then we could continue with disability and old-age insurance (Congreso Nacional, 1915: 560).

During the congressional debate, Deputy Repetto stated his shock about the common situation of being with men who had become “disabled” due to workplace accidents, and whose support fell on the public welfare system, on charity organizations or on the State coffers. So it became essential to create a body of social provision, which could organize help collectively. Besides the “public burden” these “disabled” people represented, the fact of leaving them in misery implied they would consume less (Congreso Nacional, 1915). When the legislation was approved, they were very careful not to overload expenses under public services, not to increase the employers’ expenses, and not to dock potential workers and consumers from the national economy. In order to maintain such a delicate financial balance, an individual insurance system was implemented, which was neither corporate nor compulsory, and according to which employers could shift the burden of compensation to insurance companies. Such a situation legitimated a habitual practice that had been used since the beginning of the century by big companies and had paved the way for the growth of private insurance companies. With the incorporation of the legal idea of professional risk, the field of compensable accidents broadened, and the new goal became repairing a varied range of professional ailments and illnesses. The economic parameters would be proportional to the wage, determined by a fee and payable through an administrative procedure; the higher the salary, the higher the compensation. Nevertheless, there was a limit on compensation and it was set down as three thousand pesos a year (Congreso Nacional, 1915). However, the salary limit was arbitrary, as it did not consider the percentage of the family economy such an amount would cover or the fluctuations of the cost of the basic family basket. In this way, broad social inequities were reproduced, and deep wage gaps preserved. Among “partial inabilities”, the loss of arms and hands received a compensation

of up to 60% of the wage; the loss of fingers ranged between 6% (phalanx of the ring finger or toe) and 24 % (right index). 60% of the amount was paid for the loss of a leg; for blindness and deafness, 42%; for a hernia, between 18% and 12%. A value was assigned to the body through subjective criteria, which did not always correspond to the effective practices of people (Amillano, 1939: 336).

So, how did funding work? Through an income system: employers and insurance companies deposited the compensation into a special section: the National Retirement and Civil Pension Fund (Congreso Nacional, 1915). This institution invested in national securities and paid the recipients monthly. This system of monthly payments was designed with the purpose of protecting the compensated workers, based on the idea that if all the money was given to injured people or their relatives, they could not manage it properly and as such they would remain destitute, thus becoming “a burden on society and the State”. Criticism appeared quickly as the monthly payments made by the Fund were not enough to live on. For this reason on July 25 of 1918, another decree was adopted according to which compensation would be received in 120 installments, that is, for the period of ten years.

Some insurance companies, by playing a series of tricks, did not meet their obligations towards injured workers: The most frequent ones were looking for spelling errors in the names, their employers' failure to register wage records, or the inexistence of their signature in the accident report; there were also extrajudicial settlements and attempts to prove the victim's fault in the accident, due to their recklessness or to a prior injury (*Crónica Mensual*, 1928: 2386). Besides, the intervention of multiple insurance companies made the scenario of legal actions and compensation over injuries more complex. Companies became an additional actor, as their goal was to insure people, but try not to pay them or to pay them as little as possible

for their injuries. As the lawyer Eduardo Maglione (president of the National Department of Labor in 1930) claimed in regard to the labor laws, the one that was most obeyed was the labor accident law, as it also favored the interests of insurance companies (Rubinzal, 2014: 224).

The law considered that employers had to cover the medical and pharmaceutical assistance expenses of the injured worker, as well as those costs associated with the funeral and burial, in case of death, and the compensation due the worker's legal family. Following in the footsteps of the insurance companies, employers also resorted to diverse tricks in order to avoid paying economic compensation: accusing the worker of drinking too much alcohol, of breaking the workplace rules, of leaving the working place, of doing leisure activities, of not following prevention notices, of delaying the report of the accident –if it exceeded a year, it could not be enforced–, of denying there was any relation between the performance of their job and the injury, claiming the worker had prior injuries, thus transferring assistance and recovery expenses to the free social services in hospitals (Mordeglia and Francone, 1950: 14-15). The regulation was on their side as it released them from any responsibility for accidents caused by reasons “beyond work”. In the chamber of deputies, C. Marcó claimed, based on a technical report from Germany, that 16% of accidents were the employers' fault, 25% were intentionally caused by workers, and 20% were due to *force majeure* beyond work (Congreso Nacional, 1915). In this case, international technical certification was used to protect employers. The social catholic A. Bas sustained: “the commission does not accept liability in most cases in the farming and livestock industries, or in domestic service, and it only assumes liability in the very special case when machinery or other inanimate objects are used in a manner which introduces a real risk, previously unknown to agricultural industries” (Congreso Nacional, 1915: 582-583). Consequently, it was impossible for most workers to thereafter claim compensation for a labor accident.

The congressional debate much emphasis was made of the suggestion that the law explicitly stated “at work and due to his work” (Congreso Nacional, 1915: 556) in order to avoid any doubt as to its spirit and interpretation. Marcó gave an example: “If the gun of a worker, held on his hip, discharges unintentionally and that shot injures another worker operating in the workshop, we will not be witnessing a labor accident, as guns are not shot as a result of work and, especially, the employer cannot foresee that a worker will use dangerous weapons during the time he is undertaking work activities” (Congreso Nacional, 1915: 557). Such an extreme example helped him to justify that only those accidents or diseases produced by the performance of labor would obtain compensation.

A. Bas claimed: “if an individual has any kind of accident on his way to the workshop; such as a brick falling on his head and killing him. Has this accident been produced within the scope of work or not? Some will say it has, because he was on his way to work; others will say it has not, because the accident would have occurred anyway, whether he was going to work or somewhere else”. In the face of such difficulty, the commission decided it would only cover accidents that occurred “at the workplace and due to work” (Congreso Nacional, 1915: 562). A. Demarchi, in representation of the industrial sectors, defended serious guilt as exculpatory of the employer’s liability, when he claimed:

In order to check or repair any given motor, especially those operating at great speed, it is prescribed to wait until it stops running. If the worker does any repair or revision while the motor is still running and an accident occurs, there is clear recklessness and by breaking the basic rules of foresight, the worker would be guilty, and his employer should not be held liable (Congreso Nacional, 1915: 566).

Contrary to these positions, N. Repetto, inspired by the French legislation and embracing the ideas in Palacios’s 1907

project, attempted to debate the fact that those accidents “due to and in the performance of work” would be compensable, which would give more room to maneuver when defining the compensation:

We do not want workers who mutilate themselves at work to be excluded, under the pretext that they have not been included in legal classifications; neither do we want a law that requires the double circumstance of being at the workplace and performing work in order for an accident to attain legal recognition. We want an accident law in which its national jurisdiction is clearly and explicitly stated (Congreso Nacional, 1915: 560).

His approach was not taken into consideration and A. Bas’s statement prevailed. There were some exceptions related to the political context which were considered at the judicial headquarters. It is no coincidence that in August 1918, at a moment of bitter social conflict, the Federal Capital Courts decided to repair the accident of a worker “who went to work in the middle of a strike, and commuted in his employer’s vehicle”.⁶

A. Unsain questioned, in 1928, the idea of labor “recklessness” which was so harmful to workers. According to this important labor lawyer, the due diligence a worker pays to his tasks and to accident prevention during his first days of work dissipates with the passing of time, worries disappear and carelessness derives from the usual work routine. Many actions that resulted in accidents –previously blamed on industrial labor– remained, in this perspective, under the employer’s responsibility. That is, workers could break the rules or work habits; nevertheless, the employer could not argue that this was an element that should exempt him from liability. If a worker, for example, is reckless when erecting a scaffold, this is not to be considered

6 Law 9688 concerning Labor Accidents interpreted by the Federal Capital Courts since its enforcement until 1921. *Avocación de Aseguradores Argentinos. Cámara Seccional de Accidentes*, 1922, pp. 5, 587. (Certiorarito Argentinean Insurers. Sectional Chamber of Accidents)

a serious fault, as if that were the case, it would be necessary to check whether or not precise indications had been given by the employer or the builder. Therefore, recklessness became a part of professional risk, as the employer had the obligation to previously check the materials' tightness and strength (*Crónica Mensual*, 1928).

In some judicial sentences, the nature of work and the determination of subjective elements such as profession and age were taken into consideration (Riva, 1942). This could have been the case of a worker from the Mihanovich Argentinean Shipping Company Limited in San Fernando, in 1941. The worker was 56 years old and had spent twenty years working in a specialized activity. These two elements, his specialization and age, influenced the decision to compensate him, as it was determined that his loss of vision in both eyes was a permanent disability (*Boletín Informativo*, 1943). Another case was narrated by Legal Medicine professor Ariosto Licurzi, from Córdoba, who, based on his intervention in over seven thousand accidents, stated how arbitrary the compensation nomenclature was, the so-called "butchery fee". He exemplified his point with the case of a construction worker who had lost his big toe and had been compensated with 6% of his salary. According to the physician from Córdoba, such compensation did not consider that his ability to work had decreased severely; balance is crucial for these kinds of jobs, and this injury would prevent this worker from climbing on a scaffold in the future, given his loss of stability. In these cases, the reeducation and rehabilitation of the injured worker was proposed to ensure that they could take on other tasks. This argument's justification was correlative of the fear generated by the fact that these people, in his opinion, would slip into poverty once they lost their jobs and their chances of reintegration, and that this—in a single blanket statement—would be a slide into delinquency. Back then, according to this medical argument, the momentum towards social reforms was legitimated by the fear of social conflict and delinquency (Ariosto, 1938).

Law 9688 outlined an assorted range of professional diseases; as such it understood these to be caused exclusively by the victim's performance of the job undertaken as part of his occupation. It thus acknowledged pneumoconiosis, lung nicotine, anthracnose, and siderosis; lead, mercury, copper and arsenic poisoning; ammonia related ophthalmia; carbon disulfide, hydrocarbon and phosphorus poisoning; anthrax, dermatosis, hookworm disease and brucellosis. Law 11544 on Working Days (1929) declared that any activity involving stale air, and either gas or toxic dust emissions were unhealthy. Confirmation of such conditions would result in a 6 hour long working day instead of 8 hours long, without a wage cut. The cases of workers with bubonic plague and anthrax gave way to juridical presentations. Neither of the two diseases was counted as a professional disease, and both were regular illnesses within the milling and meat processing industries, respectively. Courts allowed compensations when it was possible to prove a direct relation with the scope of work.

Ten years after its implementation, labor legislation suffered diverse changes, both administrative and conceptual. These transformations show the ways professional practices and knowledge intertwined to produce changes in labor policies, and to reduce the negative impact of accidents and/or diseases among workers and their families. After 1936, pathological disorders generated by radioactivity and epitheliomata emerged from handling tar, pitch, bitumen, paraffin wax and mineral oils were included. Regulatory decrees were also established, by means of which the criteria for application were meant to be completed, and telegrapher's professional cramp and Weil's disease were also included. In the Province of Buenos Aires aniline poisoning, *caisson*⁷ disease, lung emphysema, lumbago and tuberculosis were also admitted. The latter, after the reform, was included in the professional injury list (as long as

7 Bell shaped work tools used in underwater works.

the relation between the work atmosphere and the start of the disease were proven). Tuberculosis, a high rate of which occurred among the working population, was among the disorders that the 1915's legislation did not cover, as was the case for its regulatory decree. Since it was so hard to determine whether the disease predated the beginning of a worker's job, it was frequent for workers whose state worsened to spend long periods away from work, or to, directly, stop working, after which they remained without any economic or welfare coverage. The aim of this modification was to solve this problem in those cases in which the aforementioned proof was produced (Armus, 2007).

Perspectives that signaled tuberculosis as being an illness that had a possibility of being compensated warned that changes in temperature, soakings, cold chambers as well as anti-hygienic and poor conditions tended to worsen this disease, or to increase one's predisposition for catching it. Right on time, the First Civil Appeal Chamber ratified that if "the bacillary process originated in the tasks performed by the worker worsens, it should be considered a labor accident and consequently he should be compensated" (Boletín Informativo, 1942:59). As years passed, case law emerged with a number of criteria, and tuberculosis was declared the result of the site's environment and the conditions in which the victim undertakes his tasks, and therefore it generated employer's liability.

With regard to cardiac disorders, positions changed throughout the discussions. In the 1940s, some verdicts denied the causal link between work and heart diseases; nevertheless, medical experts emphasized the importance of keeping heart diseases under both public and private tutelage, considering the disability they produce and the resulting inability to undertake tasks (Bosco, 1942).

Around 1940, Law 12631 incorporated the principles embraced by the International Labor Organization into the legislation. There were two main points: the inclusion of poultry,

forest, cattle and fish farming; and of worker accidents that occurred before or after the working day. Regarding the former, even though 50% of the working population was involved in rural activities around 1915, they were not safeguarded as only—as has been pointed out earlier—accidents caused by machines were covered. The argument was that agriculture was not a dangerous activity and that pharmaceutical and medical attention was not easy to find during the campaign (Riva, 1942). Such omission made rural workers' injuries invisible again as they were, of course, also exposed to labor risks. Then, general traumatisms, radiation due to atmospheric electricity, poisonous snakes and arthropodbites were left to the judges' discretion, which somehow generated case law and a background to cover such workers (Ariosto, 1938). In the same line, hydatidosis was considered either a professional or a rural disease in labor accident policies. Given that hydatidosis was considered a public danger, the State had to protect those who suffered from it, either temporarily or permanently. Nevertheless, drawbacks emerged regarding which employer was responsible for the payment of compensation, as it was the usual thing to have workers move from one field to the other to undertake certain tasks. Such assignment of liability was hampered by the fact that the moment of the disease's appearance of the disease hardly ever coincided with its start and it was not easily detectable.

In relation to the second inclusion in the legislation, a broad range of questions and hesitations, which had already been present when the law was debated in 1915, reappeared. The rule enshrined the principle of proving the relation between place and accident: if the accident occurred at the workplace, the tendency was to grant compensation, if it happened outside the workplace, the claim was usually denied. Conflicting verdicts were found at the Second Civil Chamber. On July 24, 1923, this Chamber claimed that risk on the street was common to everybody; therefore, it was not compensable. This

verdict was reached after a law suit made by a worker's wife at the beginning of that year. After being fired, her husband had an accident, bumping into something, after which he died. The judge did not accept the request, as "he found no necessary connection between the accident and work" (*Crónica Mensual*, 1926:1737). A different case, involving a worker from a moving firm who, after unloading a truck, got off the car, fell and was left with a foot disability, received better luck. The employer, in order to avoid payment of the compensation, claimed that the worker had got off the truck to drink a beer and not to water the horses, as he had argued. As we had anticipated, alcoholism was an argument commonly used by companies to avoid paying compensations. Nevertheless, this accident was covered by the legislation, as it had taken place during the working day (*Crónica Mensual*, 1926).

Eight years after the aforementioned cases, changes were introduced in judicial verdicts regarding labor accidents that had occurred outside working hours. On April 22 of 1931, a verdict from the First Civil Chamber claimed that accidents were compensable if the injured person was on his way to work. "A worker got run over by a tram when he was on his way to work, moments before he started his duties, as such there is a causal link between work and the accident and therefore it should be compensated as a labor accident and not a transit accident". The *Entre Rios* High Court proceeded similarly on August 13 of 1941, in relation to a worker's death due to wounds received when he got run over by a car as he rode his bicycle along the only street that had access to the factory, and just a few minutes before he was due to start his labor (Riva, 1942). It is probable that the increase of traffic in urban areas, in the light of the modernization of the automobile fleet, will bring about an acknowledgement of the danger implied by the journey between the house and the workplace. Such uncertainties were remedied in the 1940 reform, when traffic accidents were included.

From that moment on, it was the employer's responsibility to compensate the worker who had been a victim of an accident on his way from home to his workplace, and vice-versa, at the end of his work shift. Likewise, accidents would be compensated if they happened due to the dangers inherent in accessing the workplace, such as crossing railroads, rivers or bridges.

The enforcement of the Labor Accident Law, its implementation and the different modifications it went through, displayed the State's acknowledgement of the terrible working conditions that different labor unions and political groups had been criticizing since the end of the 19th century. Legal prescription boosted the emergence of an institutional framework—both within the private and the public spheres— which, while expanding, generated conflicts over who had more attributions and resources to get involved in such labor relations. Such a scenario became more complex by the mid-20th century, due to ideas supporting the creation of social security systems that were based on principles of citizenship rather than only on the wage relation. Next, we will check how these arguments, which covered the whole western world after the Second World War, blended with each local political process.

The scope of social security

During the post- Second World War period, proposals related to social security systems reach public arenas both at national and international levels. That is, the protection of people should be ruled by principles of social solidarity, and not by self-help systems, mutual aid or private companies. The international references mentioned in the official publications and in the regulatory designs were William Beveridge's Report in Great Britain (1941), Canada's March Plan, Wagner-Murray-Dingell's plans by the Social Security Board and the U.S. Planning Board (1945), and England's Public Sanitation Service Law (1946).

Two countries from the whole of Latin America worked as references in the Argentinean discussions: Chile and Peru. Chile was regarded as a pioneer throughout the Americas in the enforcement of laws intended to protect periods of disability and disease. 1938 saw the passing of the Preventive Medicine Law, by means of which the aim was to broaden the coverage to the general population, and not only to those who were members of a given occupational group or linked to a sector fund (Ortúzar, 2013). In Peru, the 1940s represented the most active period in terms of the implementation of social policies involving, mainly, the areas of health and education. In 1936, the workers' social insurance scheme was created; its most important realization was the opening, in 1940, of the Workers' Hospital in Lima, funded with contributions from Peru's National Social Security Fund (Drinot, 2011). Framed in these international debates, both in the Labor and Provision Secretariat (1944) and in the Public Health Secretariat (1946), technical and political discussions revolved around the constitution of Social Insurance. The ideal aim was universalizing social and sanitation assistance among the working class population, which implied not only an economic provision after the injury, but the improvement and broadening of medical-social assistance and the incentive to reeducation strategies among injured people.

In 1944 two relevant institutional changes took place which affected the field of labor accidents. Those cases which could not be handled administratively entered the scope of the Labor Courts; in this way Labor Justice was separated from civil law (Stagnaro, 2016). A long-hoped-for step towards the constitution of the social security project was taken when the National Social Provision Institute (INPS) was created, under the domain of the Labor and Provision Secretariat, as it intended to cover both individual and family risks in a broader sense than the one conveyed in previous social laws. Its aim was unifying the range of funds existing at that moment, among which retirement, maternity and labor accidents stood out because of their volume.

The Central Institute for Preventive Medicine (ICMP) was created under INPS's jurisdiction. ICMP, guided by the ideal of preventive medicine and under the control of the Health Secretariat, intended to control certain afflictions that impact both the worker's physical and technical capabilities, such as tuberculosis, cardiovascular diseases, syphilis, rheumatism, professional ailments, goiter, malaria, and hookworm disease; while also focusing on the detection of diseases which could cause clinical problems in the future and hinder one's capacity to work. Some of its concerns were dental cavities, septic foci, gastric infections, obesity and diabetes (Archivos de la Secretaría de Salud, 1949). Controls made by ICMP included a clinical examination, research on allergies, radio-photography, dental examination, and thought was also given to include the realization of several studies related to a range of regional pathologies. A National Dispensary was founded in Buenos Aires to run these tests; it was located on the city's west side, where many workers, coming from the city's slaughterhouse and refrigerated warehouse, or from a textile company, as well as some students, were examined. Utopia for preventive medicine consisted in conserving health and, in the future, eradicating other diseases. As such, every expense set out for hospital works was thought to center on "caring for, molding and watching human material". Looking for the potential illness and curing it could avoid the irreversible: an army of "beggars" (Silva *et al.*, 1947). In the face of such panorama, the building of a Workers' Hospital was thought to be necessary, it should work as a center to heal and prevent workers' pathologies. The future hospital would be built in the industrial district of *Nueva Pompeya*, to facilitate worker access, and it would focus on those suffering from labor accidents, as well as on research related to professional diseases. An optimistic outline by phases was proposed, starting with public officers and then moving on to the student population and, further on down the line, reaching the most distant areas through mobile equipment (Silva, 1947).

Therefore, ICMP, as it supposedly realized the ideal of preventive medicine, had both a social (prevention of illness and the rehabilitation of the ill) and an economic goal. With regards the latter's aim, what was established during the *Second Quinquennial Plan (1952-1958)* is interesting, although it remained unfinished due to a military coup which overthrew the Peronist government. In this plan, it was made explicit that:

If the number of people disabled by chronic diseases continues to rise, the retirement funds will not be capable of continuing to fund such disabled people who live, consume and yet do not produce. Given its technical improvement, medicine can extend the life of disabled people for many years. Funds bear the social burden for longer than expected. The way to avoid the deficit of the funds and the loss of working bodies is to struggle against and to prevent early disability (Carrillo, 1974:25)

Such reflection revolved around one of the problems of funding modern social policies: how to blend a more ample broadening of the logics of inclusiveness and social solidarity, with more efficient redistributive mechanisms.

The amount of tests performed was far from ideal. One of the goals of the *Analytical Public Health Plan (1952 – 1958)* was the performance of about 1.250.000 sanitation controls by 1952, and 3 million by 1958 (Carrillo, 1974). So, if consideration is given to the periodical testing of the working population which was actually performed between 1948 and 1951, the picture clearly benefitted the Federal Capital, where 764.716 medical tests were performed. In the interior of the country, where tests were undertaken by means of mobile equipment, 250.493 were made. After 1951 the number of controls made in the country's interior began decreasing, until the difference with Buenos Aires was eightfold. Even though the amount of studies decreased in Buenos Aires, the drop was not as abrupt. It is probable that this policy was not conclusive due to the declining political and budgetary capacity of the sanitation agency during Peron's

second term in office. What more, the prerogatives of the trade union hospital works and the prominence of the Eva Peron Foundation's medical buildings limited the realization of the sanitation plan. The restraints imposed by the lack of specialized technical personnel needed to perform the sanitation controls should not be undermined; between 1948 and 1951, only 98 undergraduate physicians specialized in Labor Medicine at the Technical Improvement Institute of the sanitation agency, out of a total of 590 who pursued other specializations. That is, only 16% of all undergraduate physicians chose to specialize in labor medicine (Ramacciotti, 2009).

The project of achieving broader social security coverage was dashed by Law 14236 of 1953. The INPS definitively lost its attributions and remained under the jurisdiction of the General Direction for Social Provision. Labor Accident and Maternity Funds, which had been under the control of the INPS agency, recovered their organic and functional autonomy, their legal capacity and their administrative and financial autonomy. In practice, the ideal of a universal social security system was stressed by the strength that the union movement had attained, in terms of its capacity for political interlocution and intervention. After the 1940s, some unions started opening their own hospitals, focusing attention for their members and their families. One example of this is the Railroad Hospital, created in 1954, funded with sectoral contributions, and also supported by State funding (Belmartino, 2005).

Even though the building of special assistance centers for pathologies found in the world of labor was not done –as it had been in the union experiences in Chile or Lima– both hospitals became an ideal to reach; the idea that it was the State which should propose guidelines for sanitation policies, departing from the building and funding of hospitals and educational institutions, and from disease prevention, remained engraved in the popular imaginari as it had never been beforehand. Undoubtedly, it was in those years that health was conceived as a

social right, and that a free sanitation system settled in social imaginaries.

Conclusions

If 13 years passed between the first project submitted and the final approval of the first Labor Accident law, the parliamentary discussion and the subsequent reform required a further seventy-six years. Contrary to what happened with many issues, the arrival of democracy in Argentina in 1983 did not activate political debate; therefore, the cases were regulated by rules debated and enforced in the first decades of the 20th century, with some modifications and extensions. Both in the 1988 and 1991 reforms, effort was made to preserve the model designed in 1915, as the most important change was limiting objective and price liability for work-related damages, but the option remained for the worker to resort to common law if common reparation was insufficient. Due to this situation, labor accident situations and professional diseases still ended up in court, which led to long lasting paperwork, loaded with administrative procedures and with several instances of bureaucratic mediation. Until 1995, in spite of the two existing modifications to the 1915 law, the existence of a priced scheme for compensation loss prevailed, and the option for the victim to take legal action, usually during a long period of time, was kept.

Law 24557, called Labor Risk Law, passed in 1995, was framed by neoliberal reforms, whose main focus was the re-articulation of relations between State, market and social protection, which led to the progressive weakening of social welfare policies. From the beginning of 1990 until the 2001 crisis, the main feature of social policy was the privatization of social security, the territorial decentralization of health and education services administered by provincial governments, and the proliferation of actions aimed at poverty reduction (Repetto, 2014). A compensation system for labor misfortune was implemented

in such a context, as a means of avoiding judicial intervention; the basis for this change was a type of negotiation between the rights of workers and those of employers. The latter were considered liable for claims associated with work activity, regardless of their guilt, and such liability became the obligation to pay an insurance premium. Such a premium was calculated through an actuarial mathematical formula establishing the risk of working in a given economic activity, and not the priced per injury or per professional disease scheme, which is why the aliquot was not the same for every employer. In the same spirit as Rosanvallon's (1995: 34) ideas, risk continued to exist, but it stopped being pure chance; it becomes more individualized and likely to be quantified through a formula. In this way, the statistical methods and their mathematical formalizations were interweaved, more than in any other moment in history, with the core of social policies, but the statistical approach on social issues was questioned by another model which placed more importance on personal behavior. In order to face risk at the workplace, companies hired insurance policies with private operators, the Labor Risk Insurers (ART), whose financial regulation was under the responsibility of the Labor Risk Superintendence. Workers obtained, after administrative procedures, medical provisions, monetary compensation, and, in the case of death, funeral expenses. Once the compensation was obtained from the ARTs, they still had the option of resorting to legal action.

In 2012, the rule was changed via a project by President Cristina Fernández de Kirchner; deep changes to the provision and family allowance systems were promoted during her government, as had been done by her predecessor, Nestor Kirchner. A social protection matrix was developed, its main feature was that the State recovered, progressively, control over social security management, thus hoping for a broader universalization. Nevertheless, the labor accident area did not modify the spirit

of the 1995 law. The new law intended to limit legal action to solve labor conflicts and, therefore, those who chose the administrative way could not then pick the legal avenue. The intention was to reduce the number of claims placed before courts, as well as a pushing forth a more timely collection of compensation, as a 15 day period was granted, from the moment of the accident, for the worker to collect the corresponding compensation. To keep economic compensation up to date, a biannual updating method of compensation limits was established.

The 100th anniversary of the ratification of the first labor accident law in Argentina invites us to reflect upon the question of how a given society creates the mechanisms needed to ward off social misfortune and achieves more solidarity-based social protection systems. When the bonds of proximity are insufficient to offer protection and assistance, it is the State who should support, legitimize, and fund intervention mechanisms to limit the most hostile consequences work can cause in people's lives. The solutions, in their general outlines, included the creation of collective mechanisms for social protection and rehabilitation, and the support of mechanisms led by a commercial logic. The goal of a universal social security system –of which labor accidents and professional diseases are only an aspect–, has been a political target from the early 20th century and was embraced by a broad range of political actors. Even though legislative and judicial frameworks supported the State's mediation in labor relations, in order to aim at a more equitable and fair system, delays in trials, late payments and the commercialization of justice relegate what should be the main focus of the debate to the background: the support of solidarity-based social protection mechanisms. Paraphrasing Robert Castel (2004), even though we will never be certain of being free from danger, we will gain the chance to reside in a less unfair and more humane world.

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THE “IN-BETWEEN” OF SEXUAL DIFFERENTIATION AND THE DIVISION OF LABOR: The medical health record program of the IWW in Chile. 1924-1927¹

Nicolás Fuster Sánchez²

Pedro Moscoso Flores³

The hoja sanitaria and the new worker (body)

In his book entitled *La Prensa Obrera en Chile. 1900-1930*, (The Worker's Press in Chile. 1900-1930), Osvaldo Arias Escobedo (1970: 72) cites the following information:

Hoja Sanitaria I. W. W. Santiago, 1924-1927.

Monthly publication of the Health Committee.

Imprenta Libertad, Nataniel 1057. 4 pages by 3 columns.

Nº 1 of the month of June to Nº 24 of the month of November, year III.

Secretary: Manuel Oñate. Treasurer: Francisco Urbina.

Free distribution.

Provides teaching exclusively on anatomy and human physiology and hygienic advice aimed at avoiding diseases.

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- 1 The present text is part of the introductory study of the book *La Hoja Sanitaria. Archivo del Policlínico Obrero de la IWW Chile 1924-1927* (Fuster and Moscoso Flores, 2015). However, the subject of analysis has been shifted to the discourses on sexuality and work present in the IWW *Hoja Sanitaria*.
 - 2 Doctor of Social and Communication Sciences, Universidad de Valparaíso. Email address: nicolas.fuster@uv.cl
 - 3 Doctor of Philosophy, academician of the Faculty of Liberal Arts of the Universidad Adolfo Ibáñez. Email address: pmoscosoflores@gmail.com

Almost four decades later, the physician, Fabián Pavez (2009) published an article in the *Revista Médica de Chile* entitled «Experiencias auto-gestionadas en salud: El legado de Gandulfo en la Hoja Sanitaria y el Policlínico de la Organización Sindical Industrial Workers of the World (1923-1942)». [Gandulfo's Legacy on the Hoja Sanitaria and the Polyclinic of the Industrial Workers of the World (1923-1942)]. In both of these works, this bulletin is scarcely mentioned. Between the publication of the last issue of the Hoja Sanitaria and Arias' *La Prensa Obrera en Chile* we find only a sustained silence.

In contrast to the brief mention of the Hoja Sanitaria, cited in Arias's book, Pavez's work analyzes, from a historical perspective of redress, the role played by both anarchist physicians⁴ and anarcho-sindicalist organizations in the dissemination of hygiene and health at the beginning of the 20th century. It is precisely its instructive nature that gives this document its political efficacy, namely: on the one hand, it reinforces the biological and racial theories that characterized the formation of medical institutions in Chile's 19th century and, on the other hand, it establishes the *politics of naming* that operates by organizing the organs of the body. This allows us to establish a kind of inscription surface in which the body lends itself to an exercise that orders, classifies and delimits,⁵ thus establishing a taxonomy

4 The role played by Juan Gandulfo, a medical hygienist and director of the Policlínico Obrero who functioned in the same premises where the Hoja Sanitaria was printed, was also highlighted in the organization and maintenance of health care given to the workers. About Gandulfo, Pavez points out: "Perhaps one of the the most memorable figures linked to this experience is Dr. Gandulfo who, along with other professionals (Pedro Sáez, Luis Soza, Segundo Pereira, Pedro Calderón, Francisco Urbina, Luis Pinto, Manuel Oñate, etc.), dedicated their most noble efforts to the improvement of health conditions of the workers." (Pavez, 2009).

5 All attempts at definition, Patxi Lanceros explains, "are the implementation of limits and frontiers in the establishment of a habitable territory and in the correlative hetero designation of an inhospitable or hostile environment (operating, with the coming of Derrida, as the constitutive

that will assign a correlative assessment of the whole and the parts that are now visible in the modern worker. This operation enables the transit from a level of macro organization (factory, school, population, etc.) to a micro organization (the body and its interior), generating the epistemic conditions that permitted the establishment of causal relations between health and environment, disease and society, sexuality and work. This is precisely our hypothesis: the Hoja Sanitaria as a network represents one that links a number of discourses, individuals, institutions, practices, etc.; a medical and political *program* in which sexuality and work are interwoven to form processes of individualization of the modern worker.

Medicine and Work

In 1857 the hygienist physician, Juan Bruner exhorted Chilean politicians and intellectuals; «Give the people healthy and robust food and you will have active populations that are suitable for all types of work-related fatigue and resistant to all the epidemic threats.»(Bruner, 1857: 307). With this affirmation, the relationship between the so-called social issue and the decline of the workforce was revealed. In the struggle to make health a public policy (Fuster, 2013), the need to make academic medicine an effective instrument for the study and regulation of the biological processes inherent to the productive mass was added. In this direction, the alliance between workers' organizations and medicine fostered the emergence of a new reflection on the body, and its relationship with work and health.

The first processes of widespread articulation go back to the internal reorganization after the independence of the country

exterior of the constituent interior). Definition, even if exercised in the realm of discourse, or precisely because of it, is an exercise of power, a political act (in a broad sense); if only by the fact that it defines or delimits whoever can do it, whoever has the power to do it and occupies a certain position that tends to impose itself." (Lanceros, 2005: 114).

(1810-1930). During this process, the Chilean craftsman was positioned in the political scene with a discourse focused on the defense of his rights. After the victory of the conservative aristocratic phalanx, the manual workers continued with their demands, but this time they assumed a more conservative and moderate position. However, by 1840, thanks to the influence of the liberal bourgeoisie that sought to broaden its political base, craftsmanship became more refractory and widespread. The radicalization of a part of the liberal dissent, which considered the notion of equality of the utmost importance in the construction of a democratic republic, penetrated deeply into the most educated sectors of manual workers. Thus, towards the end of the first half of the nineteenth century, in an approach to the "civic values founded on enlightened principles of social redemption," the artisans adhered to a "popular reading of liberalism" which proposed the "regeneration of the people" as a project" (Pinto and Salazar, 1999: 110-111). In this sense, it is understandable that the first mutual organizations grouped the elite sectors of the manual workers (Grez, 1994: 296), because, thanks to their greater proximity to the liberal bourgeoisie, they assimilated the enlightened discourse better. In this context the Typographical Union of Santiago emerged, founded on September 18, 1853, and two years later, in May 1855, the Typographical Society of Valparaíso was formed.

Subsequently, following the cycle of liberal governments (1861-1891),⁶ political conditions became extremely suitable for the formation of new mutual funds. The first of this period - and vital due to its educational work - was named the Union of Artisans' Society. Founded in Santiago in 1862, its purpose was to install a savings bank to help its members in case of illness or disability and to provide them with primary education (Grez, 1994: 297). Slowly, mutual funds laid the foundation of a civilizing ideology grounded not only on the health and well-being

6 The stage before the so-called "liberal governments" was characterized by the repression that the Montt's government applied against workers' organizations, a product of the 1859 civil war.

of the workers, but also on their moral and civic education. If assistance to misfortune was what prompted its creation, the moral and political instruction of its associates was the strategic objective that gave greater solidity to its project. They emerged to replace the state's absence in terms of health services, but also to pursue the emancipatory aspirations of the libertarian utopians, creating a base of social support for the illustration of the emerging Chilean workforce. It is within this social education project that academic medicine played a fundamental role.⁷ In the face of negative population growth and diseases that depleted the workforce, mutual aid societies developed an educational strategy. Through lectures on hygiene, the prevention of sexually transmitted diseases, alcoholism or vaccination programs, doctors of mutual funds explained to workers and their families the importance of self-care. To this end, mutual funds established a contract for health services with a number of doctors, practitioners and apothecaries. The coordination of the medical services and the supervision of patients were carried out by visiting committees. They were in charge of filing all the details of the case and making them known to the Directory of the mutual fund;⁸ thus generating a detailed health record of the

7 As María Angélica Illanes points out, the work of the physicians in mutual funds was constant and well recognized by the workers' leaders. "Physicians such as Daniel Cruzat, Ricardo Cortés Monroy, Elías Fernández, Eloísa Díaz, César Martínez, Moisés Amaral, Luis Felipe Salas, Manuel Calvo Mackenna, Francisco Landa, and others, carried out their work with a spirit and vocation of service, charging meager fees, constantly deserving the admiration and gratitude of members of Mutual Aid Societies" (1993: 45). In this sense, their influence was not inferior in the formation of a discourse and practices aimed at the welfare of mutual associates.

8 In other mutual funds, the task of supervision, registration and information destined to the knowledge of the Directory was carried out by the heads of welfare entities. In the Lira Chilean Society, these officials were in charge of visiting the home of the sick to help them, requiring a medical certificate as evidence that they were unable to work, giving timely notice to the president and secretary of the sick associate, and submitting the receipt for expenses to be signed, paid by the treasury; then the Board of Directors was to be notified for approval, and the name of the sick per-

associates.⁹ This supervision was also subject to a control system of health units where every doctor, visitor or other official of the organization was assigned surveillance over a certain sector of the city. In this way, Chilean mutualism generated a kind of document archive¹⁰ on the morbidity and mortality rates of its associates, which in the end allowed it to guide strategies and objectives in the health field.

son or persons was to be posted on the bulletin board together with the corresponding addresses. The Board was provided with a list of all those people who became sick during the month together with a complete and detailed report of the expenses paid to them during the semester. (Philharmonic Mutual Aid Society and Chilean Lira Foot Ball Club, 1917: 24-25)

- 9 As Illanes points out, "All hired personnel were subject to periodic inspection by the Board, which reported to the Ordinary Assembly regarding the movement of the service and state of the sick" (1993: 42).
- 10 On the problem of the Archives and the Latin American colonial and postcolonial corpus, we ascribed to the reflections of the Chilean academics André Menard and Andrés Tello. In his research on Manuel Aburto Panguilef, entitled "Diario del Presidente de la Federación Araucana" (Diary of the President of the Araucanian Federation,) Menard points out that "it is not enough to consider it [the archive] as an aggregate or as an organized system of records (records that, as we have seen, exceed the restricted Alphabetic writing and encompass the extensive constellation of brands ranging from proper names to uniforms, through tattoos, textile designs, petroglyphs and even tones of voice). An archive implies something more, something that we will leave here in the lack of definition of a law, a decision or a force, and that not only determines the order or the relation between the elements that compose it, but, and above all, endows these elements with an efficacy; legal, political or economic efficiency that accompany its reading" (2013: 43). Along the same lines, Tello in his work entitled "*On the (in)possible contemporary archival-ology*" explains, with regard to the overflow of the venue of the archive, that "it is in the archive, as a condition of possibility of discursive events, where institutional limits and regulations are set; in other words, the archive is the place where what is said and the facts institutionalized in a society, its minutes and actions, what is said and what is made visible" (are stored) (2014, n.p.). Although it is true that the discussion of "the archive" precedes and goes beyond the works mentioned here, we believe it pertinent to read from the present receptions that locate the problem in the comparison of a series of colonial archives.

Mutualism

After the fall of governmental liberalism toward the end of the nineteenth century, new political and ideological regulations were introduced that permeated the development of workers' organizations. The political position of many of its leaders within what was called the "extreme ideologies of socialism and anarchism", among other factors, gave a more syndicalist profile to national labor. As Sergio Grez explains:

Without neglecting the great importance of mutualism and other forms of pre-union organization in the genesis of the Chilean popular movement, the strikes of July 1890 heralded the beginning of a new phase in which mutualism gradually diminished its importance in the face of the fighting organizations that would flourish among the main nuclei of the mining and urban proletariat (1994: 305).

In the view of this historian, the excessive repression the official sector exerted against the popular demands and the strategy of working class struggle, generated within the workers the belief that mutualism had already fulfilled its historical role.

During the first years of the twentieth century, the poor living conditions of the popular sectors remained the endemic ailment that prevented producers from having a healthy and active labor force for the development of the country's economy. The Parliamentary Republic in power, after the fall of the last liberal president, ensured that the social projects would remain dormant for years in Congress, placing constant obstacles for their approval. The radicalization of the workers' discourse, fostered in part by political and financial corruption, the lack of distribution of saltpeter surpluses and the accumulation of the proprietary oligarchy, enabled the development of new forms of popular organization:

Resistance societies (with a significant anarchist presence) were the seeds of syndicalism, and joint efforts (mostly democrat and

socialist) created after 1900, expressed an original mixture of trade unionism, mutualism, working class recreational and cultural societies and sometimes even of cooperativism (Grez, 1994: 306).

In addition, the particular structure of the working class realm determined the development of the organization and the future of national mutualism. Artisans, middle-class employees and workers from different productive sectors, conditioned not only ideologically but also by the prevailing social structure, were differentially organized: the craft industry and some sectors of the middle class and employees recently incorporated into the mutual system maintained the validity of this type of organization as a privileged means to improve the social condition of the working class world. On the other hand, workers in the mining sector, port workers and bakers, among others, organized themselves in communal and resistance societies motivated by the nascent trade union activity and by the discourse of class struggle (Grez, 1994: 307).

However, the enlightened logic of mutualism continued to structure the ideology of workers' societies. Beyond the immediate objectives that mobilized them, and their position in the wide political range of dissent, the leaders of popular organizations inherited the civilizing project (with some nuances) installed by the *egalitarians* of the mid-nineteenth century. In this regard, Eduardo Devés states that:

In Chile the workers have been strongly organized and, in addition, whether mutual, communal, union or democratic, communist, socialist, libertarian or catholic organizations, all of them have been predominantly enlightened; in general, the ideological or political labor leaders towards the end of the century clearly belong to the civilizing current in Latin American working class struggles. [...] Chilean leaders are not kingpins but educators, officials of the workers' organization; they are men who wield the pen and not the sword; they belong to newspapers and elections: for them there is no real working class struggle that is not subject to education and organization (1991, 132).

Their real work was focused on teaching the workers about moral and material emancipation—as Bilbao points out—and not on the revolutionary class struggle; because its ideological foundation was based on the need to “rescue the true values of the dominant culture ... the values of scientific knowledge or political and social democracy betrayed by the oligarchy”. Thus, as Deves explains, a type of working culture “marked by enlightened and romantic heritage, assimilated through the prism of naturalistic modernism, came into being from the mid-nineteenth century, thanks to the economic and political conditions already described. The swans of these poets are the newspapers and the princesses are the battles of social struggle” (1991: 131-132).

In this context, workers’ organizations found in the working-class press an effective instrument to feed the intelligentsia of the masses (Cruzat y Tironi, 1987: 151). Since the formation of Typographical Societies, the propaganda of the mutual project was reinforced through the development of a stable and professional press committed to the objectives of the organization. In the twentieth century, the press was transformed into the privileged weapon of joint and mutual resistance societies to convey their project or ideology. A clear example of the marked instrumental character attributed to the press by the working class is found in the person of Luis Emilio Recabarren, a prominent, founding leader of the Socialist Workers Party and the newspaper *El Despertar de los Trabajadores* (The Awakening of Workers) from Antofagasta. According to Recabarren:

...the workers’ press has the sacred mission of contributing to the enlightenment and spreading of culture regarding the customs of the people. A newspaper that arrives in the hands of a child of labor, must be a book where he finds the vivifying sap to strengthen the spirit when, downhearted by the struggles of life, he dozes off. It must convey in its typescript, words of teaching and example, in a clear and correct style that reveals the worthy intention of

the pen that traces them (Recabarren, cited by Cruzat and Devés, 1985: 5).

Recabarren, as Devés mentions, "as civilizer, is fully representative of actions as well as of concepts of the character of Chilean working class struggles." (1991: 132). In turn, the above denotes a sort of cultural proselytization of leaders, inserting their profiles within a rationality that makes this labor group definable and identifiable.

The Hoja Sanitaria of the IWW

In September of 1924, in the third issue of a newspaper of an anarcho-syndicalist tendency called *Hoja Sanitaria*, a text appeared entitled *El cuerpo humano y las grandes leyes de la salud* (The Human Body and the Great Laws of Health). The article begins with the following paragraph:

A machine is made of many different pieces, all assembled to form a single mechanism. Similarly, the human body is made up of many different parts, which together form a whole. The machinist must know when his machine needs coal and water, and how to supply them. So we must also know the needs of our bodies and how they should be satisfied. The machinist has to know how to remove the dirt and dust that accumulate in the machine parts, and how he must lubricate these parts so that they do not grind against each other. In the same way we must know how our bodies should be kept free from the germs that cause disease, and how they should be given the exercise and rest necessary for health (*Hoja Sanitaria*, 1924, N°3).

The body, as an object of reflection and practice, began to reveal not only its powers and affections, but also its organization. The call for self-management of the body - which always implies a correlative examination of the latter - was consistent with the self-management of the trade union organizations that were consolidated during the first decades of the twentieth century.

Between 1924 and 1927 the Chilean section of the anarchist union organization Industrial Workers of the World (IWW)¹¹, founded in the United States of America in 1905 and arriving in Chile in 1919, published, in the city of Santiago, the *Hoja Sanitaria*, a newspaper issued monthly that provided knowledge of human physiology and anatomy, basic principles of hygiene to avoid diseases and some literary creation intended for pedagogical purposes (stories, dramaturgy, etc.). The publication was printed at a printing press in Santiago that also functioned as a Worker's Polyclinic, self-managed by the organization, thus forming an effective setting for the teaching and practice of public hygiene. To this end, the operation of the Polyclinic was carried out by a head physician and two auxiliaries (senior medical students), a midwife, a dentist, a practitioner and a delegate on duty. Consultations, injections, treatments, baths, tests for the diagnosis of syphilis, examinations of gastric juices and urine, extractions and dental treatments were all performed. The laboratory tests, certainly the most expensive, were worth

11 For the historian Víctor Muñoz the IWW "was undoubtedly the most remembered libertarian organization of the Chilean region. It is neither the greatest nor the most effective of all, nor were there many years of its effective transcendence in the national social movement, but its three letters became an emblem of generational rebellion that lasted many decades after its peak. The IWW not only impacted the workers who chose its ranks. Many students and teachers felt drawn to its ideas, business suffered its effectiveness and the State had to invent set-ups to suppress it and ensure social order. Revolutionary, conflictive, internationalist, the IWW and its acronyms, embodied in themselves the subversive imagery of the 1920s." As Muñoz explains, this organization not only carried out remarkable union work, but also was a relevant actor in the political and cultural diffusion of the labor movements of the twentieth century. In this regard, the IWW was in charge of the anarchist publishing house LUX and created, in the cities where it operated, a series of newspapers among which were *Mar y Tierra* in Valparaíso; *Acción Directa* in Santiago; *El Azote y El Proletario* in Talca among many others. In 1921 the Second National Convention of the IWW was held in Valparaíso, where a series of agreements were made that would be published in the newspapers *Acción Directa* and *Claridad*. These would constitute the political and social ideals of the IWW (Muñoz, 2013).

five pesos at the time for those not members of the organization (Hoja Sanitaria, 1924, N°3). Later on, dental services would be extended (Hoja Sanitaria, 1926, N°13), which included extractions under anesthesia, fillings with amalgams, gold or cement, root canal treatments, gold teeth, crowns, plates, patches, gold hooks, etc. (Hoja Sanitaria, 1926, N° 14).

The fact that Hoja Sanitaria was free ensured that it would be extensively distributed during its first year. However, in December 1925 the end of the surplus -generated by the work of the Polyclinic for financing the publication-, forced them to set a price of ten cents per paper to cover a print run of two thousand copies. Subsequently, when the IWW was declared an illegal organization by the authorities of the time¹², the Polyclinic was left adrift without a known administrator. In the last available issue of the Hoja Sanitaria (dated November, 1927), and after a silence of 5 months destined to the reorganization of services, the news is released that the Repartición Sanitaria Popular (Popular Sanitary Division) had become the property of Dr. Gilberto Zamorano, and would be directed, as before, by Dr. Juan Gandulfo. As explained in issue No. 24, despite the setbacks, the Polyclinic

...continues, as always, to care for the workers and all those who request health services. And, despite this change and lacking in subsidies from philanthropists or from anyone, it has not changed its altruistic aim for social good in exchange for petty mercantilism ... We guarantee that there are no distinctions or class preferences in the service; only equality throughout, and the prices are very reasonable. We ask the public to support this Polyclinic and protect its publication (Hoja Sanitaria, 1927, N°24).

12 During February 1927 and July 1931, the dictatorship of General Ibanez pursued, imprisoned and confined the main organizers of the IWW. After the fall of the dictatorship, there were a series of attempts of reorganization which were not very successful. However, the Policlínico Juan Gandulfo (named after its founder who died in 1932) continued to function until 1954.

Thus, the Hoja Sanitaria would no longer be the communications outlet of the IWW Sanitary Committee for the propagation of hygiene among popular sectors; it would become the publication of Policlínico Obrero.

For the Chilean physician Fabián Pavez, the importance of the Hoja Sanitaria, understood as an means of educating workers in matters of their health, resided in

the advanced concepts of comprehensive health that were dealt with: their conception of the importance of hygiene, clean air, physical exercise (including swimming lessons through texts and photographs), mental health and nutrition. Regarding the latter, workers and mothers were educated in the creation of an accessible and nutritious weekly menu, and the purchase of energy-efficient and high-energy foods (2009: 428).

With valuable formative and informative elements, this publication was designed as an effective instructional manual aimed at promoting the self-care of workers and their families, disseminating knowledge among them about "hygiene, mental health, sex education, infectious diseases (STDs, tuberculosis, smallpox, rabies, pediculosis, scabies, exanthematous typhus, etc.), pediatrics and childcare, nutrition, and dental health to name a few" (Pavez, 2009: 428).

The Medical Program of the IWW

In a lecture given in 1982 at the University of Vermont, Michel Foucault pointed out:

In 1779 the first volume of a work of the German Johann Peter Frank appeared; it was entitled *System einervollständigen Medicinischen Polizey* [Complete medical police system], followed by five additional volumes. And when the last volume came off the printing press, in 1790, the French Revolution had already begun. Why compare an event as famous as the French Revolution with

that obscure work? The reason is simple. Frank's work is the first major systematic program¹³ on public health for the modern State. It indicates in detail what an administration should do to ensure general supply, decent housing and public health, including the medical institutions needed for the good health of the population, in short, to protect the lives of individuals (Foucault, 2015: 293).

In this respect, we consider it important to highlight the notion of *program* used by the French philosopher in two respects: first, it refers to a set of documents – five volumes – which, organized systematically, constitute the fundamental guidelines for establishing the conditions of Public Health. Secondly, it is of great interest to understand the principle that organizes what we can think of as a very heterogeneous set of documents, theories, names, definitions, prescriptions, etc., namely those “protecting the life of individuals”. That is, the program is a particular mandate whose general purpose is the administration of the population, and the life of the individual as a specific object.

In this sense, the Hoja Sanitaria is not just a periodical aimed at the diffusion of public and private health; it is also a complex network of collaborators and institutions that go beyond the limits of the medical field of the period, evolving in its programmatic function in techniques of subjectivation, modes of government, identity representations, among others. Thus, for example, in its intent to raise awareness about health and diseases that affect the workers, the Hoja Sanitaria added an organized campaign addressed to the family regarding childcare: “keep in mind that children can be educated, that is, taught to form habits, but without the need to punish them, as is usually done by many mothers.” (Hoja Sanitaria, 1924, N° 2). Through its section *El ABC de la Puericultura Moderna*, (The ABC of Child Care) the Hoja gave mothers relevant information about breast feeding and other related topics. However, the effectiveness of these campaigns was linked to the incorpora-

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tion of families into the organization; thus, as in the case of the mutual organizations, women and mothers were pressured to join the association:

Leave aside the prejudices that surround and chain you to spiritual and economic poverty; get up from your despondency: face and drive your spouse towards the organization that makes you better and redeems you; and if he does not want to, you go out to seek the salvation of your home and leave him behind in your place (Hoja Sanitaria, 1924, N° 2).

Self-management, the fundamental pillar of worker organization, was instilled in the families with the purpose of "fostering the organization and showing, with facts, that the producers, closely united, are capable of ensuring [...] their own health and lives as well as that of their families" (Hoja Sanitaria, 1925, N° 11).

Furthermore, hygiene in the worker's home was also considered a priority; thus, articles that describe poor health conditions experienced by workers in the slums of the city were published, denouncing the dangers that these installations pose for public health. In addition, assuming its advocacy work, the Hoja Sanitaria highlights the increases in leases and the proposed solution to them: *Refuse to pay more than 50 percent and demand the necessary sanitation!*" (Hoja Sanitaria, 1925, N° 7).

In this direction, the programmatic character of the Hoja allows for the joining of a series of discourses related to health and work, whose pivot would be the worker's body open to medical inspection and to biological knowledge governed by the laws of nature. This inscription will determine the appearance of a molecular dimension that renders observable - and apprehensible - those spaces bearing an unprecedented material truth. The irruption of this new dimension of the corporeal enables the moralization of the organic nature that composes the body of the worker, that is to say, a voluntary ascription to a normative regime. In this way, we begin to see in the pages of

the Hoja Sanitaria a unique relationship between life and work where the body becomes an identity aware, both of the natural origin of the organic arrangements donated by Nature, and of its conditions of survival. The emergence of this new awareness of identity subverts the laborious relationship between life and work, where the latter acquires a new sense as a drive to action in order to achieve a life of fulfillment:

It is so difficult to meet all the needs of the body that the human race spends most of its time working to get things that are indispensable for life and comfort. It is necessary to take care of our body; otherwise we will not be able to obtain from the world the happiness it holds for us, nor give others the pleasure that our lives must produce (Hoja Sanitaria, 1924, N° 3).

As with household hygiene and child care, the Hoja Sanitaria included the expert voice of scientific medicine in the field of sexuality. In its first issue of June, 1924, this publication pointed out:

Nature, in its wisdom, produces in adult human beings of the opposite sex a desire to mate, an irresistible attraction that determines the possession of the female by the male, that is to say, coitus, during which the desired beings satiate their sexual appetite when they are deliciously shaken by orgasm or genital spasm. Such is essentially true love: material attraction of the male sex for the female, illuminated and maintained by the INTELLECTUAL AND MORAL COMMUNION of a man and a woman who love each other (Hoja Sanitaria, 1924, N° 1).

Subsequently, in the issue of January 5, 1925, sexually transmitted diseases are addressed in depth: syphilis and gonorrhea. Under the title *Protéjase usted contra las enfermedades venéreas y proteja también a sus hijos*, (Protect yourself against venereal diseases and protect your children too) the reader is introduced to the characteristics of such diseases. In addition to accomplishing its educational task, the article establishes a kind of prescription directed to the worker:

alcohol and disorderly life considerably increase the disastrous effects of syphilis [...] It is possible to guard against venereal diseases. The safest medium is the one advised by morality: to abstain from sexual relations with someone other than your partner. Continence does not harm health at all, while venereal excesses deplete it. Sobriety helps maintain continence [...] There are no embarrassing diseases, but it is shameful not to medicate oneself and become a danger to others (Hoja Sanitaria, 1925, N° 5).

At the end, a box with the following sentence is presented as an epilogue:

The unhygienic man and woman only inspire feelings of disgust. More often than not, failure in life is due to these causes and many times without the interested party realizing it and without anyone daring to tell them (Hoja Sanitaria, 1925, N° 5).

In this sense, if sexuality functions based on a homeostatic, self-regulated system, it is possible to think of a configuration of social life that follows the same guidelines: "Sexual instinct is one of the most important needs of the human organism; few can understand the powerful influence that sexual life wields on the feelings, thoughts and on the individual and collective actions of humanity" (Hoja Sanitaria, 1924, N° 4).

It is in this context that sexuality occupies a strategic place within the program outlined by the Hoja, since it begins to operate as a fundamental phenomenon of human life that will have to be considered for the proper operation of the social organ. It establishes sexuality situated, on the one hand, in the natural, biological, instinctive context, displacing the taboo of sex as a practice hitherto relegated to the private order; and on the other hand, in the practical order, with reference to the promotion of practices that ensure the maintenance of a natural link between sexuality and health.

This program is projected in three instances, linked in a sort of dialectical transit. The first is oriented to *showing the body* and

its operation, stressing its strong, instinctive and animal nature. In this line, sexuality enters the sphere of positivist, neutral and predominantly descriptive medical knowledge. A second instance, linked to the previous one, indicates the emergence of a significant relationship between this biological body, its conditions and needs, and sexuality from its pure negativity, that is, from *disease*. This condition is understood not only as simple individual suffering, but it also emerges as the symptomatic translation of the diseased social body. That is, there would be an epistemic shift that would allow the displacement of the disease, from the field of the purely individual to the collective subject. Here, for example, the notion of "social disease" or "disease of the republic" gains strength. In a third instance it is possible to perceive the emergence of a narrative about sexuality, no longer understood exclusively in terms of its inscription in the order of natural context, necessary for the proper development of the biosocial dimension of the human being, but in function of the incorporation of an ethical-normative element with explicit character. In other words, inscribed in the individual body –a subsidiary of the social body– is a heteronormativity centered on the recognition of rules that become a process of "individualization". Ultimately, a new body emerges whose order is strongly determined by *a psychological dimension of human life*. The problem of disease thus moves from pathologies centered on bacteria and germs to neurosis as an explanatory resource for the organization of the masses and class struggle.

It is relevant, then, to ask ourselves: is it possible to describe the cartography of connections that the *program* of the Hoja traces between a heterogeneous set of discourses, practices, institutions, professionals, collaborators, images, among others? Apparently, such a task becomes unsustainable to the extent that such connections are constantly evolving. However, it is plausible to describe what appears as the unifying criterion of these elements, namely, a specific way of understanding the health of the body and its relation to disease. The above is observed, first

of all, in the urgency of medical and literary language, oriented to the precise and detailed description of a biological body, its constituent parts and its modes of functioning. This singular scriptural way allows a body that has, until now, been considered strange – paradoxically, it resides within oneself – to become its own, thus achieving the internal solidarity of the organs with the external union of the social body. Thus, the medical field of the early twentieth century develops a scriptural mode in which the positivist scientific description appears full of allegorical filtrations, and succeeds in inscribing the rhetoric of the *community* in the *microscopic* interiority of the body. In this regard, Gandulfo pointed out with respect to spermatozoids:

And since we are well aware in terms of the birth and texture of this animal, let us follow it – in curious pilgrimage – along the male genital tract; let us feel the accidents of his path and note the cooperative action of the adjoining glands that – as Joseph of Arimathea – lubricate the ordeal of this little being that – when he is fortunate enough to fall into a woman's vagina and penetrate the uterus or belly, overcoming its other spermatozoid brethren – dies, gloriously, beheaded by the female egg, its head perpetuated in the formation of the new embryo, while its tail is expelled, sadly, with the detritus, in urine that empties into sewers or ditches [...] Let us go forth, fraternally riding on a spermatozoid, out of the spermatid duct, in whose wall was born our old hack (Hoja Sanitaria, 1924, N° 2).

Another possible consequence, derived from the above, lies in the characterization of a mode of organization of the biological body that becomes possible, and even desirable, to replicate in the social body. This, under the premise of the natural order, understood as a repository of laws and principles of organization of relations between the parties. Thus we see in the Hoja Sanitaria a characterization, not only of the individual body but also of the “relations between bodies”, in an instance that circulates in an apparently homogeneous way between the corporality and the forms of organization and preservation of the social

context. The above is evident in the following excerpt from the Hoja Sanitaria, regarding the illness of alcoholism:

We have insisted on the fundamental fact, undeniable and not denied, that alcohol is a poison. We have also shown that it is the most terrible of known poisons: first, because it is worse than strychnine, arsenic or potassium cyanide, which attack the body, while alcohol is venom for the brain; secondly, because it is more widespread than its peers, which also intoxicate the nervous system: morphine, opium, coca, etc.; third, because alcohol, in addition to attacking the spirit, also damages the body, and not to a small degree; fourth, because it directly injures the seed of the race, which is thus born with the stigmata of idiocy, epilepsy or crime, and finally, because alcoholic intoxication directly favors the emergence of venereal diseases, on whose dangers there are volumes to be written. But, as if all this were not enough, alcohol that damages the individual and the family, and also damages the State [...] One does not need the insight of a Talleyrand to understand that everything that causes injury to each of the parts that make up a whole, will also harm the whole; and thus, the State, composed of families, will suffer the consequences of the evil endured by them (Hoja Sanitaria, 1925, N° 9).

It can be seen from the above passage that in the Hoja Sanitaria a singular link progressively emerges between the "nature-culture" poles, marking in its lines the subsistence of a *telos* that will invoke the domestication and adaptation of the former to the latter. In other words, we interpret that it is possible to glimpse in the health leaflet an *original principle*¹⁴ focused, not

14 We refer to the problematic notion of principle, as developed by the Basque philosopher Patxi Lancersos, understood as the imposition of a series of organizational criteria that delimit a field of visibility, a recognition of some conditions (and not others) of possibility based on the establishment of rules that conceal their illustrative conditions, but which allow us to project a sense, a transit towards an end that cannot, in any way, be understood as essential. In his words: "modernity has not escaped the old prestige of an overabundant order, of an absolute, trending and tendentially universal and necessary order. But it has had to be built, produced or invented in a particular context, characterized, among other things, by

on the instinctive nature of man but rather on a *bi-polar* antagonism, that, based on its articulating conditions, prescribes the conditions that safeguard this dichotomous relation, thus securing the interests of humanity linked to contexts provided by the illustrated ideology.

Notwithstanding the above, the particularly penetrating nature of this link lies in the eminently dialectical character of this relationship: nature, as the original source of man's impulse for the construction of his project, needs to be overcome by his own organizing conditions. It is based on the modeling of the order prescribed by natural laws, in this case materialized in the microscopic, functional and systemic operation of the human organism, that a projected social organization can be accessed on the bases of what will ultimately be the overcoming of the mere natural character of instinct.

It is within this epistemic scheme that sexuality emerges as a category of fundamental relevance in the Hoja Sanitaria, considering the articulation between the instinctive-animal nature that appears articulated in diverse forms in the bulletin, and the marked prescriptive-normative character that will begin to emerge progressively associated with that notion, that is to say, as part of a general discourse - of health - that links the biological determinants of sexual life as "adequate development", materialized in the real possibility of establishing significant connections linked to the social issue. This is how the emergence of a moral dimension associated with sexuality could be explained, namely, understood as a dimension of human existence that, in order to articulate itself within a project whose purpose is to form its own civilized "common sense", must be pursued within the intellectual and moral framework proposed by Gandulfo in the inaugural paper. This will eventually lead to a categorization of sexual life based on a series of distinctions

a "disenchanted" world, an ethical multiplicity and an immense technical capacity "(Lanceros, 2014: 12).

grouped in registers that oscillate between the "normal" and the "pathological". Below we will try to narrate the moments or gaps involved in the evolvment of sexuality within the limits of the Hoja Sanitaria.

Firstgap: the open body

The first two issues of La Hoja Sanitaria describe and explain the sexual organs skillfully. Despite the fact that its author, Doctor Juan Gandulfo, points out at the beginning of his work that "in a magazine article we cannot enter into a detailed and exhaustive description" (Hoja Sanitaria, 1924, N° 1), he effortlessly sheds light by means of figures, diagrams, graphs and texts, to those structures and internal functions previously hidden from the laborious gaze of the worker. The text spares no details: spermatozoa, urogenital system, testicles, ovaries, frontal cuts of both devices, etc. are described, all accompanied by didactic and curious data:¹⁵

15 Regarding the composition of sperm, the author points out: "A French author says that if the sperm were cooked, it would be a nutritious and tasty dish, judging by the substances that compose it". (Hoja Sanitaria, 1924, N° 1). Another interesting example is the comparative descriptions with other species: "In birds the testicles are in the abdominal cavity, below the kidneys; in mice they are more or less in the same place and they descend to the sacks during heat; in the human embryo they descend from the same point, as the embryo develops and reach the sacks shortly before birth» (Hoja Sanitaria, 1924, N° 1). Or with regard to the egg, the author explains: "Normally, the female produces as many eggs as offspring: in the woman it's one, while in female dogs, for example, there are several; however, women may have double or triple ovary productions resulting in double or triple twin pregnancies" (Hoja Sanitaria, 1924, N° 2). References to popular beliefs in the sexual field are also very interesting. In the explanation of the structure of the vagina, Gandulfo points out: "It is a tube whose walls (anterior and posterior) lie at rest and separate when the penis enters the vagina. This tube is muscular-membranous and in its inferior part is an atrophied muscle that surrounds it and that, on certain occasions, is very developed, to such a degree that the woman can voluntarily contract the vagina and retain the penis of the man in it"; but then in a footnote, he says: "This is what our people call

If we descend, between a woman's thighs from the Mount of Venus or pubis, we end up in the vulva [...] The mount of Venus is covered with hair in the adolescent woman. Hair covering two large skin folds, called lips [...] Opening the large lips, there are two smaller folds called small lips, whose upper extremities are divided into two stripes joining the outer and upper to form a cap over a new organ: the clitoris, which resembles a small penis, whose frenulum is formed by the lower fringes of the small lips. The small lips and clitoris are made up of erectile tissue, like the penis in the man, and when the woman is aroused they become hard and turgid; during intercourse- the extremity of the clitoris rubs on the back of the penis and produces, partially, the orgasm in women. (Hoja Sanitaria, 1925, N° 2).

This descriptive exercise responds to principles of organization that consider the body as the point of departure and arrival of all reflection, a sort of pristine and original space, whose definition, delimitation and hetero-valuation emerge in La Hoja detached from all those cultural hindrances -inscribed in another type of archive-¹⁶ that operate from criteria of effectiveness different from the racial-biological criteria that shaped many State policies during the process of construction of the nation state.¹⁷ In this respect, the displacement of certain sexual

choco and the women who have the fortune to possess it, are very desirable. In these cases it is an atavistic regression, since this is the normal state of the mare and in the dog, which explains in part the fastening of the bitch to the dog after intercourse" (Hoja Sanitaria, 1925, N° 2).

- 16 In this regard, André Menard points out the differences between Mapuche and State archival logic that "enables us to understand the colonial phenomenon as a problem of superposition of struggles between different archives" (Menard, 2013: 43).
- 17 With regard to the racial factor that determined the process of Chilean state formation in the nineteenth century, André Menard points out that "in favor of registering the relation of filiation first, what is being done is building identity on the basis of biological and natural data, consistent with its preferential will to sanction the problem of heritage: economic, legal and biological heritage. Thus, a kind of inscription surface is es-

taboos that operate in the descriptions of Gandulfo allow the confrontation of popular beliefs with the microscopic detail of the medical viewpoint. Virginity, for example, commonly associated with the rupture of the hymen - in local cultures and elsewhere - becomes questioned in the meticulous description of the membrane:

In virgin women, the outlet of the vagina is sometimes found partially obstructed by a membrane perforated in a different form called a hymen (sic). It is this membrane that is sometimes broken [...] in intercourse, which the people interpret as a sign of virginity in women. [...] That is a gross error, because there are women with elastic and semilunar hymen, who conserve it after repeated coitus and it is only torn during childbirth. In contrast, there are women who have only indications of a hymen at birth; and others whose hymen is very fragile and is torn when riding, cycling or straddling ... So the existence or non-existence of the hymen is not an absolute proof of virginity in a woman (La Hoja Sanitaria, 1924, N° 2).¹⁸

However, in this meticulous work the stern voice of the sage who punishes as idolatry the once popular belief is not observed, but rather (the author) subtly establishes a principle of division of the sexes that responds to a *very wise nature*, that adapts to human progress. In this sense, Gandulfo explains how sexuality, culture and progress are linked together in modernity that moves towards a meeting of the sexes and their natural function:

There were certain peoples in antiquity, where women -during puberty- offered their hymen to the gods. The girls, after the first menstruation, went to the temples and -after ritual prayer-rode

established, defined by the character given by nature, that is, prior to any social, historical or political construction. Here the central importance of the civil registry appears in the State archives, since it operates as the recording of a series of biological data: births and deaths, on a naturally given and homogeneous inscription surface" (2013: 41).

18 Italics are ours.

idols with bronze penises that ripped the famous little membrane. Today, as everything has become humanized, it is men in charge of the rites of certain religions who are destined to replace the cold and cruel idols in a tender and indulgent manner (Hoja Sanitaria, 1924, N° 2).

Second *interval*: social illness

A second moment in this cartography of sexual life is framed by the inclusion of a series of prescriptions oriented to the need of care and health of the body. We found numerous references of medical specialists, including those of the Mexican physician Dr. Manuel Uribe y Troncoso, an outstanding ophthalmologist and researcher known for his work related to the link between public health and school hygiene. In his study called "Enfermedades más frecuentes de los alumnos de los establecimientos de educación primaria del Distrito Federal" (Most Frequent Diseases of Primary Education Schools in the Federal District), presented at the First Mexican Scientific Congress in 1912, Dr. Uribe y Troncoso emphasized the importance of school inspections for the prevention, diagnosis and treatment of infectious diseases of developing students (Granja, 2001). The insertion of the ophthalmologist's writings, in the context of the Hoja Sanitaria, proposes opening an explicit causal dimension between work and health, with the body as a point of convergence. In his words:

The important reason why everyone who wants to enjoy the pleasant and beautiful things of life cannot fully devote their time and their thoughts is that we need good health in order to enjoy the world and that we have to work to be able to meet the needs of our bodies and keep them healthy[...] Nature has given each of us a body, and in this body we have to live while we are in the world. When our bodies are healthy and strong, we enjoy life; we see and feel the beauty of the world; but when sickness and pain come to us, the things that can serve for our enjoyment bring us little pleasure [...] That is why we must be careful with our bodies, if

we want to enjoy the pleasures of life and do the work that awaits each of us in this world (Hoja Sanitaria, 1924, N° 3).

In the following issue of the Hoja Sanitaria, corresponding to number 4 of 1924, the section called "Sexual Instinct" appears for the first time. In this supplement of the anarcho-syndicalist bulletin, the relation between a causal disposition that links the dimension of pleasure with sexuality whose purpose is reproduction, is made explicit. The explanatory formulation of this relationship was based on an etiology of the development of the sexual dimension, thus endorsing the peremptory need to become aware of the importance of satisfying the drives as part of a healthy life project. In terms of Dr. Heinz Starkenburg,¹⁹

Satisfaction of the senses is an absolutely essential condition for the physical and psychic health of man: it dulls, if only in part, this burning fire as much as possible; it causes very serious and most irremediable damages to the physical and moral life of man (Hoja Sanitaria, 1924, N° 4).

It is at this point that it becomes possible to investigate the emergence of a negativity of sexual health, potentially resulting in illness. Thus, the foundation is established for understanding pathology as the interruption –the breaking of an ideal state of natural health through repressive social formations-- of the laws contained in the instinct that permanently summon the man to satisfy his desire: "You must therefore consider satyriasis, epilepsy, madness, hysteria and other evils as a consequence of having neglected sexual life; he also draws attention to the extraordinary quota that celibates provide to asylums (Hoja Sanitaria, 1924, N° 4).

19 Dr. Starkenburg is especially recognized for having been editor of the magazine *Der Sozialistische Akademiker* (*The Social Academician*), which in its issue N° 20 of 1895 published a letter from F. Engels addressed to W. Borgius, with regard to how historical conditions are conditioned by economic relations (Engels and Marx, 1974).

Thus the health bulletin continues its approach on sexual diseases. By issue 5 of the publication in 1925, an explicit discourse that proposes a natural link between sexuality, as the absence or break of the development of the impulse, and the appearance of a series of concomitant diseases is enunciated. It is Dr. Starkenburg himself who proposes a defense of the realization of the purpose given by the sexual nature of men. The above is endorsed by stating that, "Sexual instinct itself is nothing other than nature" (Hoja Sanitaria, 1925, N° 5), in an attempt to show how the urban man has progressively moved away from his natural virtuous condition due to his attachment to moral customs associated with modern living conditions, unrelated to natural instinct:

This comes from the conditions of the civilization of our century, artificially driven to a truly ruinous height [...] modern life, and especially that of educated people, is refined, cynically modeled, prepared for a hypertrophic excitement and for the ruthless oppression of sexual life. Whoever is dragged to live in such an environment is forced to fall into the arms of the most unbridled lasciviousness and to commit acts against nature (Hoja Sanitaria, 1925, N° 5).

Subsequently, a series of diseases related to sexual practice are meticulously described. However, attention is drawn to the fact that at this point these pathologies begin to be addressed in an association within the field of public health. Along these lines, it is possible to observe the emergence of a cartography of sexual disease operating in two stages: on the one hand, by detaching sexuality from its exclusively instinctive condition, as shown in the first publications of the sanitary bulletin, and replacing this understanding by one that emphasizes a sexual practice as a potential source of diseases associated with "public" lifestyles that, in their development, come to affect the private dimension of existence;²⁰ on the other hand, by charac-

20 We see in this a juncture between "public life" and "private life", concentrated around the family like the axis of the articulation of both spaces.

terizing graphically the development of sexual diseases, particularly syphilis and gonorrhea, now understood as issues that mainly affect the social body:²¹ "Protect yourself against vene-

This is evident, for example, in the inserts of the Hoja Sanitaria that warn the population about the potential dangers caused by the absence of treatment of venereal diseases: "IMPORTANT NOTICE. It is of the greatest interest for the patient to radically cure his gonorrhea. The slightest flow that persists (military drop) can have the most serious consequences: 1) for the patient: the flow becomes chronic (military drop) which is much more difficult to heal. It leads to complications of the bladder (cystitis), the testicles (orchitis) and the urethral canal (narrowing). Narrowness can become complicated after a more or less long time, sometimes years with very serious consequences that are usually the cause of death. 2) for the wife of the patient: She is surely contaminated due to sexual intercourse and begins to have stomach pains and white sores. Often the ovaries and the uterus become inflamed and surgery is necessary to remove them; and the woman is definitively unable to have children. 3) For the children: Those born to contaminated mothers are exposed to extremely serious eye injuries; at the time of delivery, the eyes become soiled with the pus of the mother, resulting in an infection of the eyes that usually leads to definitive blindness. In short, gonorrhea is not an insignificant disease. The consequences are always very serious and for this reason this disease must be treated with perseverance until its complete cure is accomplished (Hoja Sanitaria, 1925, N° 5).

- 21 An example of such descriptions can be seen in the following paragraph: "Syphilis, whose first manifestation (hard chancre) does not appear until three weeks after the infection, causes numerous skin conditions (red spots, hair loss), mucous membranes (mucous plaques of the mouth and throat, VERY CONTAGIOUS), of the eyes, etc., and after a variable number of years frequently provokes insanity, paralysis, loss of vision and other serious diseases. It promotes the appearance of tuberculosis and cancer. Many people die as a consequence of syphilis, contracted 17, 20 or 30 years prior, that was either not cured or poorly medicated. In women, it causes abortions, dead or weak children and offspring with malformations (cleft lip, club feet) or other inherited disorders (idiocy, epilepsy, or coral bleb, etc.). Alcohol and disordered life greatly increase the disastrous effects of syphilis. Blennorrhagia or gonorrhea, to which so little importance is attached, can cause serious complications of the joints and of the urinary genital organs. In men, orchitis or inflammation of the testicles may be the cause of definitive sterility. In women, gonorrhea is the common cause of metritis (1), salpingitis (2), which often requires operations and leave women unable to have a family. The pus

real diseases and protect your children too. If you are attacked by them, heal and be healthy. There are no shameful diseases, but it is shameful not to be medicated and become a danger to others" (Hoja Sanitaria, 1925, N° 5).

In this same train of thought the German psychiatrist Richard von Krafft-Ebing,²² whose texts are an important part of allusions to sexuality in the intermediate period of the Hoja Sanitaria, addresses the sexual question based on the consideration of the biological dimension of sexual disease as a potentially conflictive nucleus of social interactions, particularly by conjuring up the ethical-moral dimension of human life. In the words of the psychiatrist:

Man places himself on the same level as beasts in seeking only to satisfy his lust, but rises to a higher position by combining sexual functions with the ideas of morality, the sublime and the beautiful ... sexual feeling is the basis on which social progress is developed [...] There is no doubt that sexual life is the most powerful factor in man's social relations; it reveals the powers of activity, acquisition of property, establishment of a home, the sentimental awakening toward a person of the opposite sex, toward his own affairs as well as those of the entire human race. Sexual feeling is like the root of all ethics, as well as of asceticism and religion (Krafft-Ebing, 1904: 1).

of the gonorrhea on the eye causes serious illness; many children infected at birth become blind. Gonorrhea sometimes continues indefinitely, both in women and in men, as a military drop, which is almost always as contagious as acute gonorrhea [...] Syphilis and gonorrhea are the cause of suffering in individuals, disorganization of the family and weakening of the country» (Hoja Sanitaria, 1925, N° 5).

- 22 It should be noted that his book *Psychopathia Sexualis* (1886), became a fundamental reference for professionals in the medical and legal arenas of nineteenth century Europe; it revealed the benefits suggested based on a causal relation between the natural disposition of human sexual behavior and possible deviations.

Third interval: “Individualization” and the formation of “sexual identity”

After a prolonged silence of more than a year, with respect to the publications on the *Instinto Sexual* (Sexual Instinct) in the Hoja Sanitaria number 17 corresponding to June, 1926, the subject of sexuality is taken up again. However, at this point in time the publications would be dedicated to strengthening the links between this dimension of human life and education. At this moment, the writings of Dr. Gregorio Marañón, a renowned endocrinologist of Basque origin, were brought forth; his ideas would contribute to bridge the physiological-organic processes centered on internal hormonal secretions, sexual differences and their relationship with social roles of both men and women, thus creating a connection between the differentiation of the sexes and work (Castejón, 2013). In other words, this impulse of Dr. Marañón, centered on a biological determinism sustained through a sexualization of the organism, would aim to tie the sexual theme to social life through work: “work is, in a manner of speaking, a function of the sexual order, a true “sexual character”» (Marañón, 1972: 268).

The inclusion of the writings of Dr. Marañón constituted the opening of a new scene in the evolvement of the Hoja Sanitaria. The eminently pedagogical and moral character of his texts displaces the descriptive character provided by the positivist medical discourse, materialized in the first publications of the year 1924. In this new editorial view on sexuality, Marañón’s discourse still allows us to recognize the presence of the natural instinct as the driver of human action, even though it tends to pinpoint its problematic character. This conflicting element, provided by natural instincts, must then be corrected by an orientation towards work:

The instinct to endure in both in the individual and the human species is the hidden motor of his activity in its most varied forms.

But the fulfillment of these inescapable obligations is an endeavor full of difficulties. In order to live he has to work painfully or to commit the transgression of living off the work of others; and to reproduce, he has to endure the dark fissures of the multiple disharmonies of sexual life (Hoja Sanitaria, 1926, N° 17).

The "sexual pedagogy" proposed by Marañón focuses on the social etiology of the sexes, based on an explanatory process centered on the differentiation and progression towards a process of "individualization". We see in it clear indications of a psychoanalytic influence, particularly in relation to the Freudian meta-psychological construction regarding the anatomical differences of the sexes. In other words, Marañón introduces a vision about adequate sexual development based on overcoming an initial state—a natural state—marked by "constitutional bisexuality"²³. It is in this line that the writings of Dr. Marañón

23 The meta-psychological scheme of "constitutional bisexuality", proposed by the psychoanalyst Freud, refers to the idea that every human being is born with a mixture of masculine and feminine traits. This initiatory moment must be overcome in order to achieve an adequate development of the psycho-sexual apparatus. In order to achieve this task, we must go through a series of pre-genital stages whose zenith is found in the Oedipal resolution, based on the differentiated management of the castration complex, thus enabling the progress towards a total differentiation: "Here, the bifurcation of the so-called masculinity complex arises; if it is not overcome, it can bring great difficulties to the prefigured development towards femininity. The hope of ever receiving a penis in spite of everything, thus becoming equal with the male, can be preserved until unbelievably late and become a source of strange, otherwise incomprehensible actions. The process that I would like to call denial, could then take place; in childhood it is not uncommon or very dangerous, but in the adult it would lead to psychosis" (Freud, 2000: 271-272). It is interesting to note that this process is inextricably associated with a repressive process, transforming the partial and autoerotic drives into legitimate forms of channeling these drives, now projected on a complete object based on a notion of genital love that ties the ultimate sexual goal—the union of the genitals—to the reproductive, socially beneficial function of the human species. Freudian psychoanalysis conjures up the function of love as fundamental for the development of psychic life and its interaction with cultural formations, based on the displacement of the

show a marked formative character. In his work entitled "Education and Sexual Differentiation", a text published in full in four issues of the *Hoja Sanitaria*, the relationships between sexual deviations, problems associated with the biopsychic health of individuals and their concomitants for social life are openly described. In these writings, the relationship between the biological body and a new form of organization of the health-disease binomial is consolidated in a novel way, based on an interior psychic perspective, now focused on the problem of neurosis.

Based on the above mentioned processes of individualization, the Spanish doctor centers the discussion around the following: We believe in the need for progressive sexual differentiation, not only in men but also in women. No one can claim today that the essence of masculinity is superior to that of femininity. They are simply different; their excellence depends, precisely, on their differences, which must be carried to the maximum. As Weininger said, the male must suffocate the remains of the female elements that he has and exalt those that are properly male. But in parallel, women should exalt their femininity in order for one and the other to achieve the peak of sexual individualization, which grants the maximum of guarantees so that the fulfillment of the instinct of reproduction does not become a source of misery (*Hoja Sanitaria*, 1926, N° 19).

It is possible to observe in the words of Dr. Marañón a sophistication of the medical discourse, extending the limits of the fields of action of the instinct in relation to the animal condition of the human being, but moving it to new realms throu-

drive that emerges from the struggle between the individual and his environment. These would be, so to speak, the transformations that should be tolerated by the subject in order to become a social being based on the regulation of reciprocal links. With regard to the destinies of the drive, let us recall the difference between "genital sexual love", oriented towards the bond of love that enables the preservation of the species under the monogamous regime, and the "love by inhibited goal", which leads to the configuration of fraternities that will be arranged around productive activities and are producers of cultural developments (Freud, 1986).

gh the definition of sexual disturbances. This makes the instinctive, once related to that which enabled the adequate social development of the individual, to be transformed into a potential condition of pathology and abnormality to the extent that it is not subject to regulation backed by scientific knowledge; that knowledge that enables awareness, perspective, and the ability to distance oneself from the purely animal element contained in the human individual:

Nature commands, but man can discipline his impulses, as he can channel the torrents even if he does not make the waters run upstream. A fundamental principle for the explanation of the variations of the instincts and for their possible pedagogy, is precisely the following: external influences, the environment and therefore education, can act not only on the noble elements of our psychology, on our thoughts and feelings, not only on our developed instincts but also, in a way, on the organic basis where the instincts flow surreptitiously, like a trickle of water flows from the rock and will soon become a mighty river (Hoja Sanitaria, 1926, N° 20).

We understand this displacement of the medical-sanitary discourse as opening up a new opportunity from which to view sexuality, enabling the mapping of connections between points of a markedly heterogeneous character, which in this new scenario begin to become linked in a natural, harmonious and comprehensive way. We thus witness a process of medicalization of the body which, as Foucault puts it, should not be just the "corpus" of healing techniques and the knowledge they require; it will also develop knowledge of healthy men; that is, an experience of the non-sick man, and a definition of the model man. In the management of human existence, it adopts a normative position, which does not simply authorize it to distribute advice for a prudent life, but rather establishes it to govern the physical and moral relations of the individual and the society in which he lives. It is situated in this marginal but sovereign zone for modern man, in whom a certain organic, smooth, passionless and muscular happiness, communicates fully with the order of a nation, the vigor of its armies, the fecundity of its people and the patient development of his work. (Foucault, 2004: 61).

Nearing the last publications of the health bulletin, the references to the studies by Dr. Marañón continue. In number 21, which corresponds to March, 1927, there is an explicit announcement of what could clearly be interpreted as a moral-normative prescription referring to sexual behavior, inscribed in the margins of a civilizational project oriented to the organization of the working population, specifically as regards the most acceptable pursuit of loving relationships:

There is no doubt that the sexual ideal of the normal man must be monogamous love. The only happy solution of the restlessness of the instincts is the couple united by love. A man can find his happiness in a polygamous solution, and the world is full of examples of this type. But this will always be at the expense of the pain and disgrace of many women. It is, therefore, a solution that can only be accepted with a criterion of sexual and individual egoism with which we cannot compromise, and as for the woman who does not aspire to the solution of only one male, she will be either a sterile ascetic or a Messalina; and you cannot be a Messalina without the help of undignified men [...] The monogamous solution is peculiar to man. And it is, therefore, the expression of the maximum degree of loving evolution ... Only man can arrive at voluntary and reasoned monogamy (Hoja Sanitaria, 1927, N° 21).

In the preceding text we see how sexual instinct becomes an enemy of reason; promoted by other channels different from the purely animal, reason allows man to reach a degree of perfection and happiness centered on the fidelity that ensures the monogamous heterosexual relationship. This suggests a separation of the instinct that, although never completely abandoned, enables moving to a state of refinement and ennoblement donated by fraternity. This, as we have already mentioned, depends on the previous process of individuation – sexual differentiation –, necessary for the adequate development of the bond of affection: “Only man has performed the miracle of deceiving his instinct with friendship, and in its shadow, offering him daily, as a different food, the same bread as always” (Hoja Sanitaria, 1927, N° 21).

The last reference to the problem of sexuality published in the *Hoja Sanitaria* dates from April, 1927. In it the following appears:

What will be the practical formula for this pedagogy of the differentiation of instincts? No doubt, in males, the stimulus of work. And this is not a mere, vague precept of morality, but a concept filled with biological justifications. It is evident, and not long ago we have explained this topic, that the social activity of man, in its legitimate and creative form, is work. [...] That is why intense work is the right path that leads us to monogamy, and therefore, to the affirmation, we might say to the sublimation, of our sexuality [...] And women? [...] The truth is that women cannot give more than that part of their soul that is not absorbed by the pre-occupations of the family, for the creation of masterpieces; or no glory can ever exonerate them from their humble functions as mothers, to which instinct drives them, and to which they are destined by nature (*Hoja Sanitaria*, 1927, N° 27).

In this last extract there emerges what can clearly be interpreted as the synthesis of the ideas of Dr. Marañón. This relates to a strong biological essentialism that becomes an exclusive explanatory modality of social life -from a natural structure of functions and social roles—,²⁴ leaving out any kind of socio-economic interpretation of the link between the body and social context: "Sexual differentiation; to be men and women to their full extent. The sexual progress of humanity must fundamentally lie in this concept, which in part is as good as saying that it is moral progress" (*Hoja Sanitaria*, 1927, N° 27).

24 Marañón points out the following, regarding the male-female variants linked to work: «All anatomical differences [...] clearly indicate that just as a woman is built to perform the complete primary sexual function-conceiving the child, incubating it, giving birth to it and nursing it-the secondary functions are infinitely more important for man than for woman [...] His anatomy and physiology impel him, therefore, to struggle with the environment, to social action» (Marañón, in Castejón, 2013: 4).

In short, in terms of the above we are faced with a transition scheme that generates certain benefits, allowing us to see new - multiple - connections in what we might call a *process of sexual subjectivity of the body of workers*. With this we refer to the position of work within the scheme of sexuality, differentiated and distributed by roles; that is, natural biological triggers with respect to the differential determinations of social life between men and women, namely, what concerns the binomial between public-private life. This could be read as grounds for a biological determination of sexual morality.

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STATISTICS AND INDUSTRIAL DEATH: Manufacturing the number of victims of silicosis in coal mines in France from 1946 to the present.¹

Paul André Rosental²

Jean Claude Devinck³

In demography there is a tendency to objectify the effect of public policies by the use of quantitative assessments. This paper will invert the reasoning and use statistical series collected after the *Liberation*, so that they can reveal the amount of work done by coal mines in order to minimize the sanitary and demographic harm caused by silicosis, and therefore reduce the costs associated with their reparation.

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 - 2 Professor of Modern History at Sciences Po, Paris, associate researcher of the National Institute of Demographic Studies (INED, after its French acronym). Email address: rosental@sciencespo.fr
 - 3 Historian from the School of High Studies in Social Sciences (EHESS, after its French acronym).
Email address: Jean-Claude.Devinck@ehess.fr

Working on the causes, the patterns and the social effects of manufacturing biased statistical series, will also offer the chance to test “post-Foucauldian” common sense related to social control, to control over modern individuals by institutions who regulate and surround their existence by focusing on their transparency. In the field of workplace health, as is the case with many other public policies, what is surprising, on the contrary, is the gap between the social and institutional importance of the issue, and the impossibility to measure it, even if it is through orders of magnitude. How many workers died of silicosis in the 20th century? In spite of the political challenges (particularly that of re-thinking the issue of asbestos in the present), and even if the question is reduced to the coal mine sector, we will attempt to prove that it is impossible to answer that question rigorously. A much underestimated figure of 40,000 miners may be offered, from the time at which the disease was officially acknowledged in 1945. Far from the famous “panoptic approach” made fashionable by Michel Foucault one generation ago, we intend to prove that strategies of statistical opacity, implemented by the coalmining industry, undergird the minimization of the tragedy of silicosis.

Finally, the case of silicosis permits one to review the contemporary use of statistical data in social sciences. Two or three decades ago research on the history of population, such as the one we propose today, would have conformed with reconstructing and making general remarks on statistical series, thus rebuilding the evolution of the disease over time. After a time of “deconstruction”, focused on the genesis of the analytical categories lysis, current historians intend to produce reflective knowledge which blends the critical analysis of the production of figures with a “positive” procedure which detects the studied phenomenon without naturalizing it (Rosental, 2006)⁴. In

4 For some examples of such principle see specially Simon Szreter (1996), Bourdelais (1993) and Brian (2001).

short, the idea is to study the scope of silicosis without reducing it to its apparent statistical evidence, but rather, integrating it closely into the game of institutional, social and political forces determining its definition and its measurement.

A negotiated disease

Even though it tends to vanish in memories, silicosis was the great work-related disease in France during the 20th century, with at least as many current sanitary consequences as those associated with asbestos. In fact, the history of these two diseases is closely related: in many aspects, the institutional treatment of silicosis constitutes the matrix for the one applied to asbestosis. These two diseases, medical and legal neighbors due to their common inclusion in the category of pneumoconiosis, blend two characteristics which bound them to become the two greatest causes of death at the workplace⁵.

From the “social” point of view, due to the amount of workers exposed to risks, both diseases have led to important successive challenges for the diversity of economic sectors involved⁶. The case of coal, a great mass industry and a strategic sector for consumption and for the rest of economy, is a good example from this perspective: at least until the 1960s it can be said that the cost of silicosis was reflected indirectly upon

5 It was necessary to wait until the decree of August 31, 1950 was passed to establish legal separation between the two diseases. The results were detailed by Drs. Mazel and Champeix, *Projet de tableau de l'asbestose professionnelle*, July 7, 1949, CAC 880597, art. 22. It should be reminded that only in 1987 the number of cases of asbestosis acknowledged as professional diseases by the general regime of social security is higher than that of silicosis. See Le Bacle et al. (1995).

6 Infinitely more widespread than could be imagined, silicosis stroke by 1990 on metallurgy, building, public works, (rock and clay) quarries, where it can traditionally be found; but also in the wood, rubber-paper-cardboard, food and trade sectors. Only the book sector is free from it. See Le Bacle et al. op. cit.

the French economy and society. From a medical point of view, the complex nosology and etiology of these two types of pneumoconiosis has restricted research projects from reaching a medical consensus: the variable latency period, even decades long; incurability; difficulties for clinical and, in their early stages, radiological detection; the variability of the conditions of exposure, which makes the identification and weighing of the triggering elements more difficult; the frequency of associated diseases, superinfections and complications, which favors attributing the illness to other causes⁷.

The mix of the cost of “repairing” silicosis and the complexity of the pathology both led employers, beginning with the coal mining industry, to actively attempt to remove their financial liability, while making it easier for experts to blame the cause on other ailments. Particularly significant was the step, which emerged towards the end of the 19th century, taken from the Ramazzian model which classified diseases according to profession⁸, to the universalism implied by the microbial model, which led to the “de-professionalization” of pneumoconiosis. The discovery of *Mycobacterium tuberculosis* led to experts presenting silicosis as a complication of Tuberculosis, and simultaneously, as a disease derived from living conditions external to work (housing, alcoholism), accused of favoring morbidity and mortality associated with inhaling silica dust⁹.

This type of focus, more or less a long-standing approach based on the types of compensation of the disease according to country, has hindered the acknowledgement of silicosis as a

7 For a synthesis on medical silicosis, review Catilina and Roure Mariotti (2003).

8 A presentation of Bernardino Ramazzini’s proposal may be read in Carnevale y Mendini (2005).

9 See Markowitz and Rosner (2005). For classical explanations of professional diseases by reference to the environment and/or the workers’ habits, see Alain Cottureau (1978) and Farge (1977).

professional disease, a process which began in the Anglo-Saxon world in the 1930s, and whose appearance in Belgium did not occur until 1963. But the main thing is that such obstructions have left long-standing traces. In the French case, the Ordinance acknowledging silicosis, on August 2, 1945, which was introduced as a great workers' conquest during the *Liberation*, was in fact a commitment achieved after a lengthy negotiation under Vichy's regime¹⁰. A minimum commitment which opened room for strategies plotted by the employers' spokespeople in order to downplay, and even refute, statistical and epidemiological data, and to offer counter-diagnoses or point to alternative diseases, so that the burden of compensation could be transferred to the social security system.

One particular case, completely exceptional if compared with the 1919 law on professional diseases, is the fact that acknowledgement of silicosis as a work-related disease is conditioned to a five year period of exposure. Such a clause goes beyond the exclusion of the rights of rookie miners; it imposes on the most senior workers the obligation of establishing their employment history, a task that is often hard in the practice. It drags the criteria negotiated with employers, and the equivalence of duration of exposure advantageously agreed upon, into the never ending spiral of the burden of proof¹¹.

At the beginning of the 1950s, such mechanisms were institutionalized in the North through the creation of special commissions consisting of a medical consultant representing the

10 In this regard, see Devinck and Rosental (2007)

11 In this way, in the circular letter of October 8th, 1947, while the CGT (French acronym for General Workers Confederation) is still linked to its direction, French coal mining companies admit that given the fact that their personnel's exact *curriculum laboris* was hard to establish, "a worker who has worked for twenty years in carving has been busy in dangerous jobs for an average of five years and can invoke their right to a silicosis pension". Archivos del Centro Histórico Minero de Lewarde (ACHML), (1947).

Union Régionale des Sociétés de Secours Minières, URSSM (Regional Union of Societies for Miner Relief), a physician leading the Labor Accident and Professional Disease Service (AT/MP after its French acronym) of the mining companies from the Nord Pas-de-Calais mining area, and a professor from Lille's School of Medicine. These "three-physician-schools" have the right to provide any silicosis victim with a pension if they comply with the medical requirements, but not with the administrative ones, as long as they meet a permanent predetermined disability rate. Officially sanctioned and extended throughout the national territory by decree 18 of October 1952, the "three-physician-schools" make coal mining industries both judges and defendants of the fate of the claim for the acknowledgment of silicosis (ACHML, n.d.).¹² Besides, enforcing the decree is paradoxically so hard in Nord Pas-de-Calais (cradle of acknowledgment, given the backlog of cases), that they decided, from 1955 onwards, to return to a reduced version of the "trade commissions" manned by the URSSM medical consultant and the AT/MP physician both from the coal mining industry. In spite of opposition by the Ministry of Labor to such a brutal addendum to the legislation, which reinforced its submission to coal mining interests¹³, "two-doctor-commissions" operated until 1988.

12 Research by the chief engineer in the coal mines, February 29, CAC 19920443 art. 31. To get some idea of the importance of silicosis treatment in Nord Pas-de-Calais, this ex officio commission treated 1,272 out of the 5,755 files presented between September 23, 1950, and December 31, 1951, and only dealt with 602, that is, 47%. This commission played an important role in making more difficult the attribution criteria. The rejection rate, which in 1949 was only 12%, increased to 25% in 1951 and to 40% in 1956.

13 In regard to this creation, see the assessment by the URSSM management council in Nord Pas-de-Calais from January 22, 1955, CAC 19920443 art. 46; as well as the *Note du directeur régional de la Sécurité sociale au ministre du Travail sur le fonctionnement des collèges de trois médecins dans la région du Nord et du Pas-de-Calais*, on October 21, 1955 (same reference). Between 1955 and 1960 out of 6,332 dossiers [files], 5,489 were dealt with by this two-physician ex officio commission.

In general terms, the acknowledgement of a professional disease under certain conditions triggers chain reactions to unprecedented problems. What to do with those sick employees who are excluded from the right to financial reparation? In the case of “acute temporary manifestations”, how to deal with miners with silicosis, diagnosed through x-rays, who comply with the period of exposure but who, thanks to the latency phase, do not show chronic functional disorders? The latter were denied, via a decree of 17 November 1947, a daily subsidy and their right to medical assistance in the case of work interruption. In practice, the decree alleviates the burdens on mining companies, most of them nationalized, by transferring the costs to social security funds.

Rather than multiplying the examples, let us synthesize the general guidelines in this regard. The 1945 acknowledgment, resulting from lengthy and difficult negotiations, due to its conditional nature, opened all kinds of loopholes for employers to reduce reparation to the minimum in cases of silicosis. Due to the reduced length of the present paper, we will focus on a particularly decisive loophole, underreporting. Departing from the broadening of the “exceptional normal” (Grendi) case of silicosis, the present work will be a chance to reconsider an essential aspect of the history of diseases in France. It is a history whose structural feature, from one century ago, is its approximate nature and the unfortunate quality of its quantitative data¹⁴.

By way of demonstration, the main focus will be the mining sector, accounting for the highest amount of quantifiable

14 It is important to clarify that this does not intend to be a retrospective value judgment, but to reference the appreciations expressed by contemporary sources. Given the lack of reliable, quantitative data, one part of the inter-war period legislation was built after foreign statistics. Still in the mid-2000s, official reports produced by IGAS, the Court of Auditors and the Senate continue to criticize the massive lack of reporting of professional diseases. See Buzzi, Devinck and Rosental (2006).

victims. In fact, as will be gradually shown, it is not possible to observe the effects of silicosis directly, by relying on the available statistics. After it was legally acknowledged as a professional disease in 1945, silicosis has been the object of such a complex process of institutional framing and construction that only sector by sector is it possible to approach it seriously, at the expense of an extremely precise contextualization. Here is an example which allows reasoning on institutional organization (miners' social security management by coal mining companies). During the period between 1946 and 1987, statistics on health services in mines show 34,000 deaths caused by silicosis, while statistics by cause of death, in spite of the social protection regimes, show 16,806 deaths caused by "coal miner's pneumoconiosis", that is half as much¹⁵. As will be seen later, due to reasons related to law and practices, none of these two estimates would contribute more than one order of magnitude by default, and probably way below reality.

Given the ambiguity of legal devices and the difficulty of enforcing them, available estimates can only occult or under-value, both massive processes (the expelling without rights of all foreign miners to their countries of origin, the Polish during the inter-war period or during the *Liberation*, and the Moroccans at the end of the postwar *economic boom*), and the micro-dynamics of interaction between miners and coal mining companies in the acknowledgement of silicosis and, if it comes to that, its complications, and of course receiving economic compensation. It refers to a mix of social processes, in themselves a

15 Rubric 500 of CIE 9. The difference is explained by a dilution of silicosis into other lung diseases (pulmonary tuberculosis, for instance) and its study could justify conducting an ad hoc research. We would like to thank France Meslé for kindly sharing this estimate, from the information provided by the INED database regarding causes of death in France from 1925. See http://www.ined.fr/fr/ressources_documentation/donnees_detaillees/causes_de_deces_depuis_1925/, database she authored together with Jacques Vallin. For international classification of causes of death, see Meslé and Vallin (1988).

reflection of power relations between the different institutions involved in the social protection of mines and the very workers, who produce indicators by objectifying, and simultaneously concealing the sanitary and demographic effects of silicosis: morbidity, disability and mortality.

The provision of pensions, an instrument for personnel management?

Rejections and acknowledgments

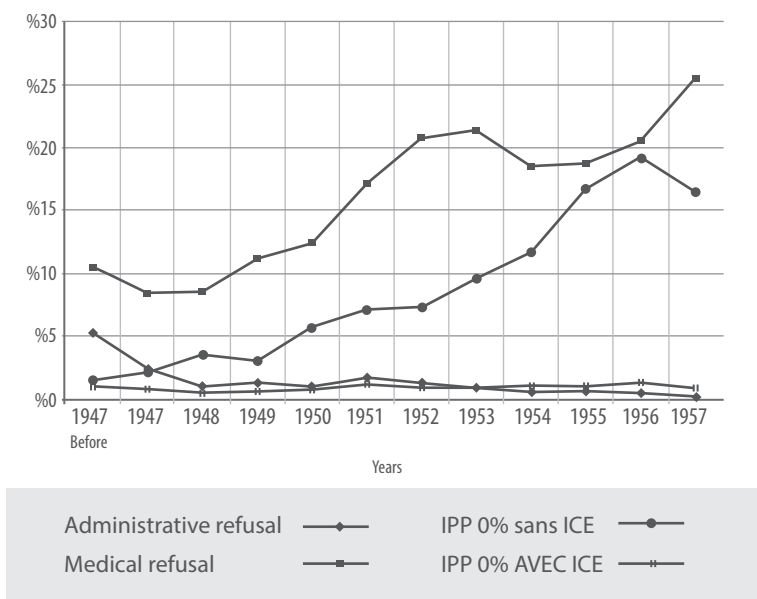
We will examine the modalities and effects of such a process of concealment focusing, principally, on the period of the Fourth Republic (1944-1958). The first variable to consider is the response given to the insurance claims put forward by miners from February 4th of 1946, the date of enforcement of the ordinance of August 2nd of 1945, to December 31st of 1958. Coal mining statistics show a total 78,775 claims during this period, out of which 75% come from the Nord Pas-de-Calais mining area. Along the annual flow of claims, three clear periods may be distinguished: after the 1946 peak of 7,870, linked to the “readjustment” generated by the acknowledgment of the disease¹⁶, stabilization close to 5,000 legal actions between 1947 and 1954, which grew to a figure close to 7,500 in 1958. On that date, this figure represents 5% of workers hired during that year. What happened to those claims? Graphic 1 gives a first idea of the effects of the institutional organization of the statistical measurement of silicosis.

16 But it also included reparation of silicosis in Lorraine, under certain conditions, since 1941, as prescribed in German legislation.

Graphic 1

Results of compensation claims due to silicosis (1947 – 1958)

Issues des demandes de réparation de la silicose
1947 - 1958



Source: Statistiques concernant la réparation de la silicose du début de la réparation au 31 décembre 1958, tableau D1 [figure D1], ACHML, B7 384.

Captions: IPP: invalidité partielle permanente [permanent partial disability]. ICE: indemnités de changement d'emploi [compensated through change of job]

Therefore, after the initial regularization period, the rejection rate decreased to less than 10% until, in 1948, acknowledgment was made by URSSM, whose management councils consisted of two thirds of the workers' representatives, and whose

personnel were linked to miners by strong bonds of solidarity¹⁷. The threshold of rejection reached until that moment was never surpassed. The deficits of the funds, the struggle against absenteeism, as well as political and labor tensions related to the Cold War led to the approval, on September 18 of 1948, of the Lacoste decrees, in which the Minister of Industrial Production tilted the balance of control over temporary disabilities to favor coal mining industries, so that the collusion between miners and the physicians from coal mining mutual insurers could be avoided. In a particularly tense social and political context, such measures played a crucial role in the violent strikes that broke out in October 1948, which left eight dead and dozens injured and led to 3,000 convictions and 6,000 laid off miners. After this, nationalized coal mining companies started “to manage themselves the risk of temporary disability, in order to reduce absenteeism”, as well as the risk of labor accidents and professional diseases (AT-MP, after their French acronym). Although it was conceived as a temporary measure, this disposition lasted for 40 years, until the enforcement of a decree on March 27 of 1987, which restored the management of these risks to the coal mining social security system.

Control exercised by coal mining companies becomes immediately evident in the statistics provided in Graphic 1. If administrative rejections, widely associated with the enforcement of the ordinance, decrease, medical rejections start increasing almost without interruption as of 1949 (they were almost 14% of the claims in 1950, and over a fourth in 1957). As a result of such development, almost 13% of employees were acknowledged as being sick with silicosis in 1958 (ACHML, n.d.).

17 On November 27, 1946, a decree organized nearly 200 mutual aid funds existing in coal mining companies under the form of miners' social security; it officially became operative on January 1st, 1948. Its local and regional funds manage, together with the subordination of workers, massive hiring, especially among coal mine employees, and give the new personnel the same status as miners.

The first sign of such development is clearly less associated to the epidemiological evolution than to instructions given by physicians dependent on coal mining companies; the changes in medical rejections were closely associated with what we will call by the convenient name of “white acknowledgments”: null rate of permanent partial disability (IPP after its name in French), without payment of compensations for change of job (ICE, after its French acronym). We will return to this singular *a priori* category, which registers medically and administratively acknowledged cases of silicosis, but does not give the least access to compensation.

After this short phase of parallel hardening (1949-1950), coal mining companies used both tools in a complementary fashion: the phases of the acceleration of medical rejections (1950-1952, 1956-1957), corresponded with a slowdown, even a decrease, in the *white acknowledgments* and vice versa. Clearly, those phases in which possible silicosis was denied, alternate with those in which it was acknowledged without any immediate financial expenses. We will later return to what is nothing less than a management option.

Other factors reinforce the idea that compensation for silicosis is the result of a guideline set out by coal mining companies, rather than of the sole evolution of such a disease. From the start, regional diversity shows the existence of true “compensation regimes” (Table 1), completely different from one mining area to the next. For instance, during the whole period, medical rejection shows a fourfold variation (from 12.7% in Nord Pas-de-Calais, to 44% in the Cévennes); and the rate of white acknowledgments displays a variation of 35 times (0.3% in Dauphiné to 10.5% in Nord Pas-de-Calais).

Table 1

**Number of claims of acknowledgment of silicosis
according to mining area (1947-1958)**

Medical Rejection			
% of white acknowledgments	Weak (< 15%)	Medium (from 15 to 25 %)	High (+ de 25 %)
Weak (< 5%)	Dauphiné	Lorraine, Blanzly, Aquitaine	Provence, Auvergne
Strong ($\geq 5\%$)	Nord Pas-de-Calais	Loire	Cévennes

Source: Statistiques concernant la réparation de la silicose du début de la réparation au 31 décembre 1958, chart A.

But beyond this regional variation, which could also be related to differences in the geological environment and working conditions, depending on the mining areas in question, temporary discontinuities are hard to attribute to anything different from the management instructions of coal mining companies. That is why, in the mining area of Nord Pas-de-Calais, where the statistical predominance of the number of employees became evident, it could suddenly be seen that decisions concerning the assignation of compensation payments increased from less than 40% in 1954 and 1955, to two thirds in 1956.

Disability rate

The count concerning the assignation and rejection of compensation payments, understood globally, is just part of a broader policy. In order to understand the politics of silicosis management by coal mining companies, it is also important to enter into the realm of the recognized permanent partial disability rates (Graphic 2). We realize then that, during the period in question, most cases of silicosis were acknowledged at the *minimum* amounts: the almost parallel increase of weak IPP rates (between 0% and 19%) corresponds to the collapse of intermediate rates (20–49%) and the perfectly continuous erosion of rates above 50%. Therefore, the policy of coal mining companies has, structurally, consisted of progressively adopting an extensive regime which gradually acknowledges more cases of silicosis that are supposedly disabling only to a small degree, but which also hinders access to the IPP rates, while it approaches or exceeds the general disability rate (65%). In such extreme cases the compensation paid to miners, for a rate equal to or above 80%, fell from 8% in 1948, to 1% in 1957.

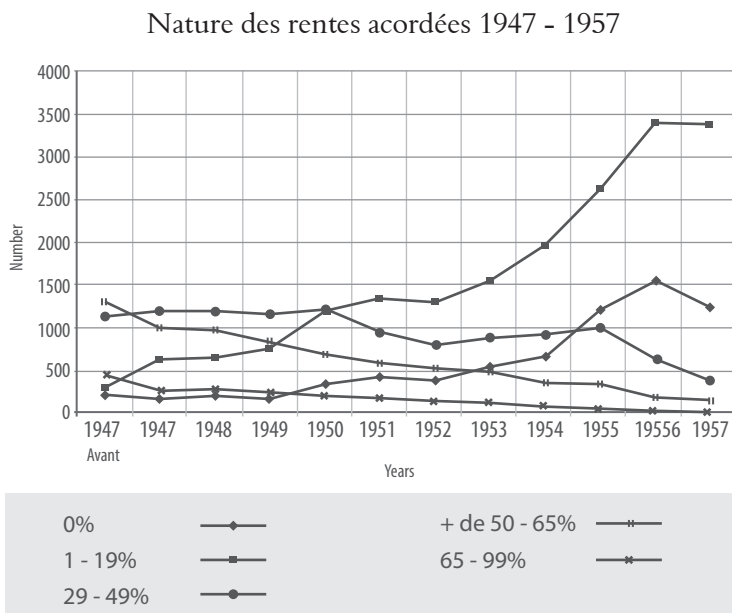
It is hard not to see, in this evolution, an accounting logic aimed at reducing the reparation costs associated with silicosis; weak IPP rates result in compensation levels that may seem low, given the effects of the disease (500 francs a year in 1975, for example, for a 5% rate, that would be the equivalent, currently, of 300 Euros)¹⁸. Complex nosology of silicosis, as well as imprecise legislation, suggest a negative answer to the question of whether the collapse of high inability rates results in sanitary progress. In fact, there is no official scale to accurately determine the degree of work-related disability. The rates of compensation granted became an essential management tool for coal mining companies, as they explicitly reminded chief-physicians

18 “The main concern (of labor physicians) is detecting silicosis –or even minimizing the extent of silicosis, so that compensation for the miner is reduced”, wrote Bogner (1954:606).

that “one single 100% pension represents [for them] a supplementary amount of annual contributions to the order of 70,000 francs, and this for a duration of three years” (ACHML, n.d. a).

Graphic 2

Number of silicosis compensations granted (1947-1957)



Source: Réparation de la silicose, tableau II, Service de la sécurité sociale et de l'action sociale, ACHML B7 384

In fact, at a moment when the accounts register deficits, the cost of silicosis-related obligations does not stop growing at a pace that makes French coal mining companies uneasy¹⁹. In

¹⁹ At the beginning of 1946, French Coal Mines (CDF, in French) thought that “if specialist physicians should, and this is their essential duty, protect workers’ health and offer them fair compensation for the damage

1953, the annual amount of compensations and pensions paid to survivors reached 1.33 million francs on December 31, and it more than tripled in the course of five years, progressively reaching about 4.5 million on December 31, 1958. In an even more revealing fashion, such a burden corresponds to 5.9% of wages liable to withholding tax in 1958, compared to the 3.5% amount three years before. Still in 1958, reparation for silicosis alone absorbs over a third of AT/MP's compensation-related expenses²⁰.

But regardless of their strength, the politics of the coal mining industry cannot be reduced to mechanical reasoning. Besides the cost reduction policy, the strategy of granting compensation represents, for coal mining companies, a real labor management tool. There is every reason to believe that such a policy was quickly integrated by miners into the management of their careers. To understand this, it is necessary to separate, within the whole of wage-earning positions in coal mining industries, those who work "deep inside" and those who work "in the light".

Silicosis and career management

Being acknowledged as a silicosis patient is not enough to be exempted from work in the coal mines. Indeed, in 1950, coal mining companies managed to stop a project of law which was heading in this direction. At the end of 1958, out of the 23,000

suffered, they cannot ignore the consequences their decisions may have over production" [si les médecins experts doivent, et c'est leur devoir essentiel, protéger la santé des travailleurs et leur offrir la juste réparation du dommage subi, ils ne peuvent ignorer les conséquences de leurs décisions sur la production], ACHML (n.d. b). Regarding the global evolution of coal profitability, see Philippe de Ladoucette (2004), who was then the general Director-President of CDF (Charbonnages de France).

20 That is 5,978 million Francs in 1958 for 17.43 million, the total burden over permanent and temporary disability.

employees hired by coal mining companies in France who were acknowledged as silicosis patients, nearly 20,000 worked “deep inside the pits”. In the sole mining basin of Nord Pas-de-Calais, by far the most important, over 21% of *deep inside* workers had a permanent partial disability rate. There were even one hundred miners with rates over 65%, which is the threshold of general disability. It is true that the administrative calculation of the duration of exposure is not based on the number of years actually spent *deep inside*, but on the official measurement of the assumed relative danger of activities, which no independent research had assessed²¹. Indeed, Dr. Even, CAN’s (French acronym of the National Autonomous Fund for Social Security in Coal Mines) medical consultant claims that, according to the official equivalence, one year of rock mining would be equivalent to two years of wall sawing or ditch digging, and to three years of coal mining²². It was necessary to see Decree of May 4th of 1988 passed, while the Nord Pas-de-Calais mining area was closed, as well as social, early retirement and reconversion plans, to consider that all of the jobs undertaken *deep inside* were likely to generate silicosis. Meanwhile –we will get back to it-, it is true that miners with silicosis were withdrawn from *deep inside* activities more and more precociously, especially in the 1980s.

But this apparent lack of regularity should not conceal the complex relation between employment and disability. Graphic 3 does its best, not without errors, to approach such relations by contrasting the fate of compensated wage-earners with those

21 These equivalences are formalized by Decree of October 17, 1957. Annie Thébaud Mony’s research (1991) gives an idea of the consequences by the end of 1980. Among the files she had access to, only two mentioned seniority in *deep inside* work. For the first one, 29 years in the mine became 7 years, 3 months and 5 days exposed. For the second, 38 years *deep inside* became 8 years and 21 days exposed.

22 While, according to Dr. Even (1975), for instance, prevention is more difficult in coal mines

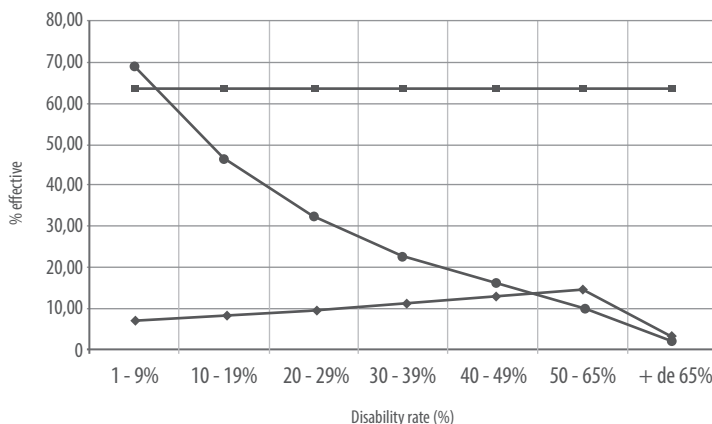
who were not compensated (including those whose IPP rate is 0%, but who get some kind of compensation)²³. Among the latter, almost two thirds work *deep inside* (*ligne continue jaune* at the top of the graphic, given as a reference for comparison). In contrast, it is apparent that only wage-earners with silicosis whose IPP rates are above 20% benefit from the “favorable treatment”, consisting of bringing them out *in the light*. It is true that the relation between the two figures is declining, as it does not bear in mind each respective population’s age structure. A broad order of magnitude should be considered, rather than a rigorous relation. It could not establish accurately, at a given age, the threshold where disability becomes a criterion to leave the mine.

23 Percentages of activity, either *deep inside* or in the light, of workers with silicosis, are deduced from the records of coal mining companies, by trying to relate the ill wage-earners to the total population with silicosis (including those who are not able to work, which is why total percentages are always below 100). A limitation of these estimates is the lack of age structure in the available data, to what extent the effect that has been made evident (the decline of *deep inside* labor, with an increase in disability) is actually linked to the evolution of seniority? The following developments (Graphic 4) attempt, imperfectly, to offer a better understanding of such an issue.

Graphic 3

***Deep inside* work rate according to the disability rate associated to silicosis**

Taux de travail au fond selon le
taux d'incapacité liée à la silicose



% of work in light of disability%



% of work in the fund according to % disability



% work in the background of the unpaid



Nevertheless, Graphic 3 clearly shows that the issue of high disability rates goes way beyond sole compensation. In regard to coal mining companies, they stress structural recruiting difficulties aimed at performing work *deep inside*. For miners, disability rates offer the chance to go out *in the light*, as they accelerate, following an absolutely undetermined pace, the protective effects of seniority. So, the question becomes, how should one reconcile these two perspectives? How can we understand why miners and their unions, instead of rebelling against the reduction of IPP rates, acknowledged in the 1950s (Graphic 2), supported them with their passivity which observers criticized so often?

Annie Thébaud Mony sees in such weak opposition to a fearsome disease, according to a classic research project she directed years ago, a form of miners' dependence on the medical system implemented by coal mining companies:

To them, coal mining companies are responsible for their health management through physicians provided by the companies and their AT/MP service. It is the physicians from coal mining companies who determine if a pneumoconiosis medical certificate should be given. Miners are following a logic according to which they are being assisted. Such logic is only questioned by them when they get worse, lose confidence in the miners' social security physicians, and resort to private physicians. Nevertheless, they think then the expert will not acknowledge them as sick with pneumoconiosis (1991:266)

It is of course interesting to consider the weak mobilization of silicosis related demands as a perverse effect of an integrated health system, which greatly engages unions in its management, but is biased in its implementation, due to coal mining companies' involvement in the management of a pathology implying massive financial challenges.

Nevertheless, as is usual in social sciences, prudence is convenient when dealing with the argument concerning the inaction or irrationality of the main actors involved (Thébaud-Mony, 1991). Immediate material considerations may have induced such relative passivity. Poor miners may be reluctant to lengthy and expensive procedures, requiring medical visits and counter-visits (Thébaud-Mony, 1991) and, given the case, legal resources. Although it is also true that such an explanation does not account for the relative silence of labor unions. To take the analysis a bit further, reference should be made to the statistically-validated confirmation of some kind of evasion in regard to a disease, which was not well known during the Liberation period, but soon gained the status of a terrible scourge.

If most miners ignored silicosis and its consequences by 1946, it was not the same one decade later²⁴. The anguish implied by the acknowledgement of an incurable disease, the perspective of suffering and death for a period which could be fast or, on the contrary, darken life's horizon over several years, the kind of social shame that some may fear, leads a considerable number of miners to avoid medical visits. During the first large scale campaign to diagnose the disease, at the beginning of 1955, the HBNPC (French acronym for the Coal Mining Companies from the Nord-Pas de-Calais Mining Area) physicians confirm that 15% of personnel refused to allow their examination. In addition to the fear of being diagnosed with silicosis, there was no medical communication of the results of the test, which according to opinions among the very directors of the medical service, constituted an additional demoralizing element (ACHML, n.d. c). During the second great x-ray detection campaign, between September 1955 and June 1956, over a third of the 100,000 people tested had an abnormal image. Still, an average of 18% miners, or even 22% or more in Mining Areas such as Douai and Valenciennes, refused to have the test done; such a percentage confirms the practice, and the concerns of miners regarding the diagnoses.

But there is more. After 1946, silicosis is rapidly interiorized by miners as a foreseeable event in their careers. Once the miner is acknowledged as a silicosis patient, that is, as a carrier of an incurable disease whose rhythm of evolution and effects are somehow unpredictable, he is likely to attempt to advance in the compensation system, which undoubtedly freezes within the decade, but which assures, beyond a certain threshold, the payment of a pension to his beneficiaries in the case of death (see the later, final section), and a high likelihood of leaving the mine. In other words, the compensation method may have been interiorized by miners as some kind of increase of the "ad-

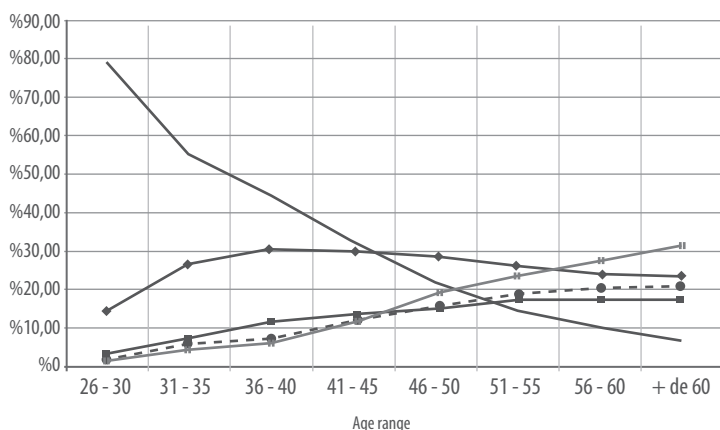
24 See M. Pierre's testimony in Thébaud Mony (1991).

vantages” associated with seniority, as a hopeless and powerless “strategy” to face the restricted possibilities of evolving both within and outside coal mining companies.

Graphic 4

Disability rate associated with silicosis by age range

Tau d'invalidité liée à la silicose selon l'âge



The articulation of contradicting *a priori* perspectives, both of wage-earners and coal mining companies, was only possible through such a mechanism. The companies, by reducing compensation and checking the rhythm of progress (Graphic 4), stimulated a micro-transaction system in the fashion of annual re-negotiations of disability rates between miners and the physicians from the industries. The expressions “transaction” and “negotiation”, employed throughout the analysis, should be understood as under the minimum levels. In an accepted

theoretical stance, derived from ethno-methodology, they simply refer to the fact that, in the face of having their silicosis acknowledgement rejected, the attitude miners adopted consisted of insisting on the demand for at least a year, until a satisfying response was provided²⁵. The handling of this confrontation constitutes, even in its most narrow sense, a kind of pressure to which medical management from coal mining companies could respond at its own pace. As such, the dynamics found, until the 1980s, in the core of a nationalized company, oscillated between deferential inquiry and discretionary response. This corresponds to the most classic definition of paternalism.

We will progressively show that the characteristic of the systems of acknowledgement and compensation of coal mining companies featured an opaque and vertical relation. Both the miner and the physicians he must face (the labor physician, the general doctor and the pneumoconiosis expert) are part of an administrative chain ruled by a financial logic of which they are nothing but the weakest links, that is, the least defining. The rationality of miners and their physicians requires, from the very beginning, the implicit acceptance of such a system, and of its absolute lack of transparency. First, besides the adequate medical evaluation, the role of physicians is foreseeing, by considering the common and regular criteria, which files have a chance of being accepted by the medical services of coal mining companies (that is to say, to have IPPs either acknowledged or increased)²⁶. Second, it is also having miners understand, if

25 It seems that such mechanism operated for a long time. Around 1990, Annie Thébaud Mony observed comparable dynamics, which as she notes “substitute the complaint process laid down by the legislation” (1991:266). In general terms, we will show how our observations, based on a statistical approach and cast in a long timeframe, articulate with the conclusions of the interviews made by Thébaud Mony and her team at the end of 1980.

26 After the Decree of October 17 of 1957, the acknowledgement of silicosis as a professional disease, its complications and its role in the assignability of death, are prerogative of pneumoconiosis experts certified by coal mi-

necessary, that disputes are not beneficial to them as they jeopardize the acknowledgement of silicosis, the revaluation of disability and, as will be seen later, the payment of retributions to the recipients in case of death²⁷.

Explanations related to rules for interpersonal behavior are directly objectified by statistics. Whereas at the beginning of 1950s the cost of revaluation was lower than that associated with the opening of compensation, in 1958 it was almost three times higher²⁸. In the face of a devastating disease, which, according to the estimate made by the official registry, corresponds to an eighth of their wage-earners; by the end of the 1950s, coal mining companies made great savings through an extremely greedy compensation scheme, while miners, used to the annual renegotiation of benefits, simply included it in the calculations of their careers. Industries managed to trap their employees in a minimalist system which, nevertheless, in both a laughable and tragic way, offered perspectives (premiums, leaving the mine, protecting family interests in case of death). By the end of this argument, it may be possible to explain the existence and pertinence of a category of disability of 0% without compensation, which at first seems at least intriguing. If *white compensation* makes sense to miners, it is because it reaffirms their incorporation to a "statute", and allows them to foresee some kind of "progression of disability" which, given the nature of the disease and the academic knowledge concerning it, the difficulty

ning companies or by the three-doctor-schools. Annie Thébaud Mony mentions forms of "physician self-censorship by agreeing with expert opinion standards" (1991: 56, 266).

27 Therefore, we intend to bring back the remark made by Thébaud Mony according to which "physicians warn miners about the use of their resources, because otherwise they risk being assigned a more strict jurisdiction and being classified as "whiny" by the medical services in coal mining companies" (1991: 267)

28 The amount of the respective net openings and revaluations went from 168,512,000 F and 121,445 F in 1954 to 275,539,000 F and 717,767,000 F four years later (ACHML, n.d. d).

of understanding the signs and of dealing with the progression of the disease, objectifies the fact that silicosis is the object of both administrative and medical treatment. This progression of the IPP rates, under the influence of the annual process of renegotiation with the physicians of coal mining companies, operates as a device which somehow accelerates the advantages of reward and work usually associated with seniority. Again, in this case, the other feature of the compensation regime, which remains impossible to understand from a strictly medical point of view, is accounted for from within a social logic: the setting of a disability rate of 1%, “bound to increase throughout the years to 2, 3, 4... %” a precision whose scientifically unbelievable nature is pointed out by Dr. Even (1975:284).

A professional disease with no wage-earners? Silicosis and the closure of mines

Besides miners to attain immediate financial advantages, the implicit call for them to show patience and the creation of real administrative backlogs for silicosis patients bought coal mining companies some time²⁹. It is clear that throughout the Fourth Republic the decline of mining became evident. Its perspectives continued to be cloudy, due to France's and the CECA's³⁰ energy policies, which favored oil and its derivatives. This situation resulted in the collapse of mining work: from 330,000 coal mining company employees in 1950, two thirds of which worked *deep inside*, the number fell to 230,000 in only eight years.

A new era started in the early 1960s with the *Jeanneney* plan. Concern for the gradual reduction of mining activities gave way to the immediate foreseeing of the closure of mines, which was scheduled almost unavoidably. The consequences of silicosis

29 On the idea of *paper careers* see Alexis Spire (2005)

30 CECA : Communauté européenne du charbon et de l'acier

management from the end of the post war *economic boom* will be examined. This analysis reveals that such a moment is more than an extension of the previous period. Given that it leads directly to the present, the question of demographic balance also needs to be made: in total, how many miners died since the acknowledgement of the disease, in 1945? Especially, considering that there was no quantification, not even an imperfect one, of silicosis cases prior to this date. If both files, the one concerning the methods by which coal mining companies managed the disease, and the one concerning the number of victims, should be dealt with directly it is because they rest on three common evolutions:

1. The increase of the efficiency of prevention.
2. A new kind of resort to foreign labor.
3. The misbalance in the proportion between active and retired workers.

Prevention

In 1946, following the experiences of the 1930s, systematic detection of silicosis began in the mines, but it found it encountered difficulties which hindered its expansion. By 1949, no public works company had organized its own medical service, “silicosis was ignored almost everywhere, even by physicians, and this caused many victims, frequently behind the loaned mask of tuberculosis”. Doctor Teaudale, author of this balance, stigmatized “the fearsome incidence of performance premiums which, since they invited workers to earn more, they also led them to neglect their sanitary protection”³¹. In the mines and at the construction sites, “piecework pay, supplementary premiums granted both to workers and foremen, in terms of the advance of the digging tasks at tunnels and galleries, created

31 Report by Dr. Teulade for Cantal’s Department Primary Social Security Fund [Caisse primaire départementale de Sécurité sociale du Cantal], 1949 (CAC 19920443 art 50).

some sort of psychosis around the greed for profit; it led workers to carelessness in their use of personal protection devices which may interfere with the physical work they have to do”.

Rather than total inaction, mention should be made, according to industrial sectors and companies, of the significant degree of inequality in awareness and action. By the end of 1945, the medical bodies of French coal mining companies focused on the density of particles of pure quartz in the atmosphere. After sending a delegation to England to study their strategies in their struggle against silicosis, a first attempt at water injection, clearly insufficient, was made in the Valenciennois³².

But the general average of coniotic indexes progressively decreased after such a difficult start, due in part, although not exclusively, to the effect of the prior sprinkling of water³³. The average fell from 6,000 particles of pure quartz per cm³ in 1945, to 4,000 in 1953. This figure was picked up by the Decree of December 21, 1954, as the admissible limit of dust particle concentrations. The struggle against dust accumulation intensified. In this way, by the first semester of 1958, the average rate had been divided by six and decreased to 250 particles of pure quartz, an amount considered to be tolerable in different

32 When interrogated by Evelyne Desbois, Yves Jeanneau and Bruno Mattéi (1986), Léon Delfosse, CGT's spokesperson before coal mining companies, in the *Liberation* times, calculates that after a period (following the expulsion of CGT representatives) when it was overlooked 1947-1953, prevention re-gained importance under the heavy burden of compensations as of the mid-50s. If the claim is made by a strongly “committed” witness, it corresponds to the chronology of evasion, by coal mining companies, of a financial burden which gradually became more coercive under the Fourth Republic. This may be seen in more detail in the next section of the present chapter.

33 Besides humidification techniques, prevention of the risk of silicosis requires all measures susceptible of controlling and decreasing the effects of dust formation: air flow, at-source extraction, substitute products, and individual protection equipment, according to the not exhaustive list proposed by Le Bacle, Bouchami y Goulfier (1995).

countries³⁴. In the following decades, the density of particles continued decreasing at a pace that, nevertheless, was affected by the deceleration of activity. Financial burdens and the resort to foreign labor hired temporarily, to which the most dangerous tasks were reserved, discouraged investment in prevention. In the 1980s, the value limits of the fund had been widely exceeded (Thébaud Mony, 1991)³⁵.

In many establishments different from mining, the situation is even worse, as shown by dust samples taken by CRAM's (French acronym for Regional Health Insurance Funds) prevention services at companies under its control (34,000 between 1950 and 1975). Half of the institutions with a risk of silicosis do not comply with the exposure limit determined by the Ministry of Labor³⁶. Even though it is true that rules change according to the ministries and activity sectors, they are merely indicative³⁷.

In mines, the general improvement directly reflects on the epidemiological level. The first indicator is that of incidence, that is, the proportion of new cases of silicosis acknowledged throughout the year. After oscillating between 1 and 2% of workers between 1964 and 1976, it decreased after 1977 and fell to 0.5% in 1980, and to 0.4% in 1985 (CDF,1982)³⁸. Of course

34 In regard to these issues, see, especially, the minutes of the *Journées françaises de pathologie minière, 22-23 octobre 1958* (particularly Dr. Jarry's intervention, p. 122); Claude Amoudru (1972), and Amoudru and Nadiras (1966).

35 On the measures of *deep inside* personnel exposure to dust formation taken by the medical service management of French coal mining companies in the 80s, see CDF (1982).

36 See Lardeux (1989).

37 In this regard Thébaud Mony's work (1991) contains (p. 62 and p. 277 ss.) a monograph of a rock grinding plant which, in 1988, is 33 times above the limits suggested by the Ministry of Labor; the company responded to health problems with ultrafast worker rotation.

38 The change comes mainly from the Nord Pas-de-Calais mining area.

the data is insufficient, as the incidence depends, on the one hand, on the evolution of the acknowledgement rate, and, on the other, on the structural effects such as worker seniority. It will be shown later that the evolution of these two parameters during this period does not seem to affect their relevance.

The number of cases of silicosis acknowledged after less than twenty years of work becomes marginal (less than 50 in 1982). Medical services in coal mining companies see in the “progressive growth of latency time between exposition and identification of the disease [...] an evident and notable sanitary progress” (CDF, 1982: n.p.) A clear improvement may also be observed in silicosis related complications, especially the terrible case of “silicotuberculosis”³⁹: in the mid-1950s, one third of miners afflicted by this disease died within three years. As a joint result of both detection and vaccination campaigns against tuberculosis in mining areas, and progress in treatments, “the average time separating the initial medical confirmation of the professional disease from the diagnosis of tuberculosis” may have gone from 10 to 20 years between the 1950s and the 1970s. For physicians in coal mining companies, it was the right moment to ask for the reorganization of legislation in the sense of diminishing (especially in the assignation of IPP rates)⁴⁰.

Let us underline for now that one effect of these changes is the extension of the “trajectory” of silicotic patients throughout the whole of their professional career and their life cycle. As was pointed out by an official report by coal mining companies’ health service, prevention problems tend to be similar, “in terms of aims and models, [...] to those used by the nuclear sector, where the goal is not the lack of a carcinogenic effect only

39 Silicotuberculosis affects 1.43% of the whole of silicosis patients in 1962 and 0.64% in 1971. See Amoudru (1972)

40 See Lenoir (1977). It is worth noting that in 1965, with URSSM’s participation, 70,000 miners from the Nord du Pas-de-Calais mining area were vaccinated.

during the worker's active life, but the prevention of carcinogenic effects throughout life" (CDF, 1982:20).

New uses of migrant miners: the arrival of Moroccans

Another change of strategy, simultaneously a structural element of personnel management as of the 1960s, and an important element in the measurement of death by silicosis, is the resort to foreign labor, especially Moroccan laborers. Of course, this is far from unprecedented. The percentage of foreign workers dedicated to mining, after reaching its top of 50% in 1930, is still 42% in 1937 and, in spite of crisis related retirements, it is close to 40% in the early 1950s. In spite of the retirement of 3,600 Polish miners in 1946, this nationality is by far the best represented, with over 25,000 wage-earners from HBNPC in 1950. From 1945 to 1962, a new migration wave arrived, within the frame of an agreement between France and Italy which foresaw that in exchange for labor, France should give Italy 150 daily kilos of coal per man.

Nevertheless, in the 1950s, these two nationalities saw their share of the miner population fall by two thirds⁴¹ to give way to the massive arrival of Moroccan workers: 78,000 from 1962 to 1977, only for the Nord Pas-de-Calais mining area, especially coming from the Southeast of the country. If in 1960, Moroccan workers represented only 10.7% of workers hired to work *deep inside* during such year, this proportion increased from 46 to 63% within the next five years. In 1965, they constituted 45% of foreign labor employed in mines, labor which itself represents 24% of all the workers at coal mining companies (Amoudru, 1967). Unlike the apparent continuity with the preceding, this new migration wave took place within the entirely new context of programming the gradual termination

41 See ACHML (n.d. e).

of mining exploitation. The era when it had been necessary, at all expenses, to find miners to work *deep inside*, had come to an end, and coal mining companies resorted to the introduction of foreign-migrant workers into the mining areas. From then on, recruiting resulted in the multiplication of fixed-term work contracts thus allowing the pursuit of a triple aim: avoiding the titling of miners in Nord Pas-de-Calais, adapting to the dangers of production with more flexibility, and closing the excavations and lowering the costs associated with the risk of silicosis.

Secondary literature has shown well how, after a strong sanitary selection made, based on medical visits and “checkpoints” both in Morocco and upon their arrival at the coal mining companies, the chosen miners were submitted to very hard working conditions: high rates of dust, heat, noise, painful positions due to the galleries’ narrowness, with important risks of work accidents and silicosis (Amoudru, 1967; Thébaud Mony, 1991)⁴². But physicians from coal mining companies devoted their efforts to attribute the “few cases of silicosis appearing during their stay in France, to the mining tasks undertaken outside the coal mines, and to prove that a certain number of Moroccans had prior exposure to coniotic risks in mines in south Morocco (Amoudru, 1967: 15-28)⁴³.

In any case, temporary contracts hindered most of the Moroccan miners from satisfying the conditions of time of exposure (it should be remembered that it implies five years of acknowledged *deep inside* work) determined by the legislation. It is only after 1977, when immigration aimed at coal mining companies stopped, that Moroccan miners, by then 4,000 in

42 See also Marie Cegarra’s (2000) critical perspective.

43 Amoudru, a spokesperson for coal mining companies from the medical point of view, insists that a great segment of the Moroccan miners claiming compensation had caught their silicosis in their country, and that such silicosis had not been detected during the medical visits prior to their recruitment because it was still in its radiological latency phase.

number, could have their work contracts renewed almost automatically, before their status as miners was acknowledged in a strike three years later.

Moroccan miners complained that coal mining companies stopped the acknowledgment of silicosis through administrative red tape, and especially that they had rescinded the contracts of those who had caught it (Cegarra, 1999). Specifically, a Moroccan report released to French authorities in 1978 claims that instead of renovating work contracts for one and a half years through a tacit renewal, coal mining companies imposed an almost four month long break on their Moroccan wage-earners, during which miners diagnosed with silicosis were sent back to their country⁴⁴. Nothing was harder for them than asserting their rights. Once they were returned to Morocco, they faced the lack of a systematic structure for detection, at least in the most distant areas of large cities. The few acknowledged cases were examined by physicians from the Moroccan councils and immediately reported to the French social security agency, on which they were dependent, and which would establish whether or not it acknowledged that pneumoconiosis has been caught in France. To the claims made by the Moroccan government, the social security direction responds that the refusal to hire back a worker who is sick with silicosis "is not within their jurisdiction"⁴⁵. Besides, by virtue of the Agreement of July 9 of 1965 between both countries, migrant Moroccan workers returning to their country could, the same as the French, be officially acknowledged as silicosis patients after being examined by a three-physician-school, in spite of having an insufficient time

44 The report was discussed at an inter-ministry meeting on February 1978, organized in agreement with the commitments acquired by France at the convention of labor signed on June 1 of 1963 (Ministry of Labor, Direction of Population and Migrations, CAC 19920443 art. 50).

45 Response given by the Direction of Social Security to the Ministry of Labor, May 25, 1978 (Ministerio de Trabajo, Dirección de la Población y las Migraciones, CAC 19920443 art. 50).

of exposure. Now, according to administrative agents from the Social Security Center for Migrants, acknowledgments of professional diseases submitted abroad generated profound mistrust among French experts and schools, therefore they are less likely to be successful.

Given that, in terms of professional diseases, there is no statistical data considering the nationality or the site of the claim (France or abroad), neither in the general nor in the miners' regime, it is really hard to have an objective idea of the percentage of rejections corresponding to foreign workers returning to their country (Thébaud Mony, 1991). In 1987, when over 30,000 compensation holders in the Nord Pas-de-Calais mining area were recorded, out of which half were beneficiaries, the general director of coal mining companies, Jack Verlaine, claimed that only 327 former Moroccan miners received compensation due to silicosis, although he did not clarify whether the figure corresponded to all miners and former miners of Moroccan nationality who had worked in French coal mining companies, or only to those returning to their country (Cegarra, 1999). At the moment of such a statement, Moroccan miners (2,500 out of the 7,000 who were still employed *deep inside* in the Nord Pas-de-Calais mines) staged a long strike (out of which they emerged victorious) in order to benefit, rather than merely receive support to return home, from a "coal mining permit of leave" after reaching 10 year service (contrasting with the 15 years initially determined by the accompaniment plan for the closure of the last quarries). Acknowledgment of pneumoconiosis for miners who were wishing to go back to their country was one of the conditions of the agreement. Nevertheless, it is hard to assess how effective its application was (Thébaud Mony, 1991).

New demographic and financial management

The third great evolution which began in the 1960s is directly related to silicosis management by coal mining companies.

This situation results, in a rather brutal way, in a much more restrictive acknowledgment and reparation of the disease. As of 1963, the number of newly created compensations, which in a few years had been reduced to a half, was overtaken by the amount of expired compensations. After a strong decrease in their absolute value (from 3,458 new compensations in 1960, they went to 1,965 ten years later), acceptance rates of application files requiring the acknowledgment of silicosis, oscillated annually between 30 and 42% in the 1970s, whereas, by the end of the Fourth Republic, they revolved around 60%.

This period of time was also marked by the decrease in the scale of the established disability rates at the moment of granting compensation. We bore witness, so to speak, to the disappearance of IPP rates at 0% or to their re-emergence above 20%. After 1965, 197 out of the 256 compensations granted by HBNPC, that is 77%, were awarded at a rate of between 1 and 9%, and 17% at a rate of between 10 and 19% (URSSM, n.d.). 20 years later, there are no 0% IPP rates and the ones above 20% do not represent 4% of the total “first payments”.

Such transformations could not be reduced to a structural bias: rather than deriving from the evolution of age and the seniority of the population of miners employed *deep inside*, they actually result partially from a series of medical developments. Indeed, such improvements took place at a moment when the ageing of the population with silicosis (both active and mainly inactive), derived from the termination of contracts, aided by seniority and health conditions, on the contrary, should have resulted in the further deterioration of their situation⁴⁶.

Even then, medicine is far from capable of explaining everything. Brutal variations of certain statistical series gave enough evidence of the importance of managerial choices in

46 This is a strong argument made by the chief physician of coal mining companies, Claude Amoudru (1972).

the evolution of statistics. Just to cite an example, the prevalence of *deep inside* work decreased to almost half within two years, from 9% in 1980 to 4.7% in 1982 (CDF, 1982). It is hard not to attribute such a fall to the coming into power of the left, in 1981, and to the consequent policy of releasing workers who were sick with pneumoconiosis from their *deep inside* work. If a broader frame of reference is considered for the comparison, the stabilization at a low level of the acknowledgment rate after the 1960s, contrasts with the period of the Forth Republic, as it may show the deliberate hardening of the policy in terms of granting compensation. On the other hand, the prevalence rate by cohort is still high. According to estimates by coal mining companies, corresponding to the last three decades of the 20th century, silicosis affects 20% of miners employed *deep inside* (CDF, 1982)⁴⁷.

Medical decisions are, it is worth reminding, always in the hands of coal mining companies, and are still partially derived from managerial choices. They simply changed when compared to those of the 1950s. At that time, it has been said before, it was essential to keep *deep inside* labor, by giving enough prospects to miners, thus leading them slowly, renegotiation after renegotiation, to a disability rate that assured them their return to the mine's surface.

The nature of the problem increasingly changed during the 1960s. The blend of the deceleration of mining activity in basin areas, the decrease in the number of workers, and the resort to temporary immigrant labor, relaxed the need to fix miners *deep inside*. Specially, they stepped from the economic management of active labor, to the social management of former miners who became dependent on insurance companies and collective provisions. Due to the progressive decrease of workers and to

47 In turn, Thébaud Mony (1991:255) offers much higher figures: 52% of prevalence for 30 years seniority or more in Nord Pas-de-Calais mining area.

developments in the struggle against mortality, the period's great transformation is, indeed, the deterioration of the burden rate both among the active personnel in coal mines, and among the retired and disabled miners. In quantitative terms, this investment takes on astronomical proportions. For every 100 active members of the mining social security regime, there were 60 recipients of social provisions in 1950, 100 in 1958, 200 in 1969, 500 in 1983 and 1,000 in 1991 (CAN, n.d.).

Alongside the global demographic effect, there was an institutional mechanism which was added: earlier retirement from mining. During the 1970s, early retirements before the age of 50 occurred, and this directly influenced the respective silicosis rates, both of the active and inactive population, below the age of 51. As has been shown, an almost systematic policy of ascending from the mine when disability had reached a 30% rate was also developed in the Nord Pas-de-Calais mining area (CAN, n. d. a)⁴⁸. That said, early withdrawal from *deep inside*, and even from all mining activity, is associated with the extension of the period preceding the appearance and complications of the disease. Time passed after the first detection, and by the time they developed the gravest problems, the patients were closer to their thirties than their twenties. A shortening of the "trajectory" of the worker with silicosis employed *deep inside* resulted from such double movement: the interval between the moment of the detection and the moment of leaving the dangerous job post was measured in years and no longer in decades. Null IPP rates and the tacit call derived from them did not have the same sense as in the 1950s. A new balance was established: a harder acknowledgment, but a quicker exit from the hard job, even from the activity. This early ceasing of activity did nothing

48 In 1982, among pneumoconiosis compensation holders under 51 years of age, "only" 42% remain active, out of which 40.74% has an IPP rate below 30%, 1.12% a rate between 30 and 39%, and 0.36% a rate between 40 and 65%.

but accelerate the deterioration of the burden rate between active and retired workers.

Such converging evolutions impacted directly, of course, the status of all those suffering from silicosis. Even in 1970, the new acknowledged cases of pneumoconiosis were related to almost 80% of the active, and a little more than 20% of the retired workers, after a regular evolution, these two proportions became inverted within 15 years (CDE, 1985)⁴⁹. As of the 1980s, it could be said that the “trajectories” of workers with silicosis are exclusively related to retired workers. Therefore, the medical problem of silicosis follows a logic which is incommensurable with the one prevailing during the postwar economic boom. It no longer constituted an economic parameter of labor management, but rather a social obligation among others, thus affecting a population excluded from the labor market, in mining areas where there had often been a complete deterioration of this activity. Statistical reports translated the situation directly: as one gets closer to the contemporary age, they increasingly tend to be structured around social provisions. The evolution is reached in the 1990s and can be visually observed in the increasing proportion of the National Autonomous Fund for Social Security in the statistical reports from mines (CAN). Such reports become true small treaties applied to social security law. Silicosis, no matter what its continuous financial importance may be⁵⁰, has now become part of a set of socioeconomic problems settled by social security, which attains control once more by 1987. The disease dilutes into a set of provisions (AT-MP insurance,

49 There were, throughout the coal mining areas in 1974, 10,119 active workers with pneumoconiosis, and 41,566 retired ones. In 1985, the figures were 1,681 and 39,659 respectively.

50 Due to the disability expenses it implies, silicosis is still the third most costly professional disease in France, at the moment of the balance made by Le Bacle, Bouchami and Gouffier (1995).

but also retirements, pre-retirements, disability)⁵¹ which allow, one more time, to partially discharge the cost onto the whole of the collective and wage-earners, and to extend their statistical invisibility.

The same thing happened to the problem of former miners reconverted into other activities and other sectors, as the quarries closed. Our preceding reflections on immigration are not reduced to the issue, but they partially cover it; they invite us to wonder about the number of wage-earners who, after starting their careers in coal mining companies, triggered silicosis after the regular latency period for this disease, when they were already working in other sectors. If with the existing data it is impossible to measure directly what is sometimes referred to, regarding those diseases which are not attributable to the previous employer, as the “old risk”, rough information available to us allows the assumption of a significant number of cases of silicosis, acknowledged before the general social security regime, which are the result of such trajectories of workers who had previously exited mines. Again, the blanks in the statistical record –in the present case the lack of follow up to wage-earners throughout their professional career- can nothing but blur and reduce the perception of the damage generated by *deep inside* work (Le Bacle et al., 1995)⁵².

The number of deaths or impossible statistics

In regard to an incurable disease as fearsome as silicosis, and after exposing workers to risks which are massive as well, it may

51 For instance, beyond a 65% disability, general disability threshold, miners were systematically pensioned from their jobs, which was not the case in previous decades. .

52 Therefore, out of the 6,649 cases of silicosis acknowledged by CRAM between 1977 and 1991 (that is, by the liberal regime outside coal mining companies), 2,270, namely 34%, corresponded only to the Lille region.

have seemed too obvious to ask the question of the number of deaths it has produced from the start. At this point of the argument, we understand that such a question, so legitimate from a historical, demographic and civic point of view, makes no sense at all. All stages of the incredible procedure required to be given the status of “sick with silicosis” and a substantial disability rate are so manufactured and negotiated, that the data related to morbidity can only be taken as an indirect indicator of labor management techniques by coal mining companies, or of social security by CAN.

The difficulty is reinforced by the system’s double opacity, both institutional and statistical. Such opacity, partially deliberate, was exposed as such at the time, as it allowed diluting silicosis into other diseases, other social provisions (disability, pre-retirement), and other causes of death⁵³. To those expecting to find simple, straightforward and thorough measurements of morbidity generated by silicosis, statistical summaries produced after the 1950s set a series of screens against each other (multiplicity of services producing reports, heterogeneity of statutes, partial incoherence of series throughout time) which dilute the quantitative perception of the issue. How unrealistic would it be to expect an estimate of mortality!

It is very hard to establish a series of numbers likely to be stabilized in time, by taking only one example. For a certain period, the amount of workers sick and deceased due to silicosis

53 At least four different kinds of sources contain statistical data on silicosis: national statistics of the AT-MP branch for wage-earning workers, and the mining regime statistics. These two are related to compensation. One third set is that of compulsory statistics for medical prevention of silicosis, under the authority of the Direction of Mining from the Ministry of Industrial and Scientific Development through an Agreement of April 15 of 1958. And, finally, studies led by the medical services of coal mining companies, especially for Nord Pas-de-Calais. As acknowledged by the very Claude Amoudru (1995): “such disparities sometimes generate doubt and suspicion”.

evolved year after year, following the pace of the late acknowledgment of the files: there was in fact a case by case negotiation of the silicosis related origin of deaths, the same as for the very acknowledgment of workers as silicosis patients, an issue that will be discussed again soon. Given that acknowledgment could take longer than a year, an extreme situation of moving statistics resulted from it, as it changed its shape retrospectively every time attempts to recapitulate it were made. Likewise, statistical summaries from the 1980s show thoroughly the structure according to the age of the dead, but according to their disability rate. As such, this situation prevents us from associating the latter with mortality, an element which should be crucial to assess the medical consistency of the IPP levels acknowledged in miners (ACHML, 1980).

It is impossible to determine the number of people who died due to silicosis in a medical (not legal) sense; professional trajectories cannot be rebuilt *ex post* either, and neither can the eventual age at which miners were withdrawal from *deep inside* work. It is also impossible to separate silicosis's own role from that of other co-infections or complications, whether they were officially acknowledged or not. During the postwar economic boom, how many tuberculosis or silicotuberculosis victims, including other pneumoconiosis, did in fact die by silicosis?⁵⁴ The shift to foreign labor, submitted to precarious contracts and eventual repatriations, made the scene even more complex. Such a managerial technique, whose structural and not accessory nature has already been outlined, definitely avoids any serious estimate of the amount of victims of coal mining companies. We are then forced, as in the case of morbidity, to produce statistics which, it is clear, can only provide an estimate

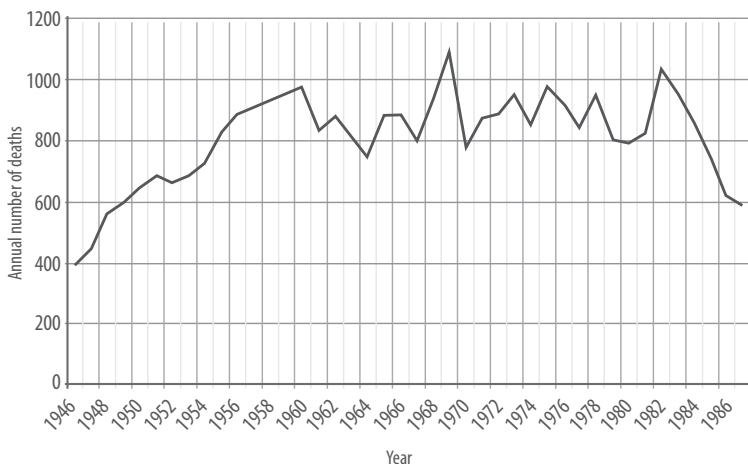
54 Elements could not be found, for example, to distinguish "silicosis" from "siderosis". Even as far as in the 1980s, the distinction between "silicosis" and "coal miner's pneumoconiosis", whose ambiguities are revealed both by Thébaud Mony (1991: 253) and by our lines above, reappeared.

by default, but from which it is strictly impossible to determine to what extent they have been overlooked.

Let us take the official number of deaths by silicosis, as quantified by social security officers from coal mining companies between 1946 and 1987 (Graphic 5). It is the most consistent statistical series to have a basis for the estimate of the number of silicosis victims; it concerns the economic sector which has been most afflicted by the disease and occurs from start to finish, as has been said, in a homogeneous social protection regime.

Graphic 5

Official number of deaths by silicosis in coal mining companies from 1946 to 1987



If deaths during the period are added, we reach the figure of 34,000 miners or former miners who died of silicosis, which is

nothing but the basis for an estimate. From the start, its definition is neither medical nor demographic, but legal. Of course it only corresponds to workers with silicosis in the official sense of the term, the one analyzed in the present paper. But within such a population, from the very beginning restricted to the regulatory level, this statistical series only quantifies the deceased whose beneficiary collected the payment of compensation. In other words, it quantifies the amount of deaths officially attributed to silicosis after an investigation, sought by the families, which obtained a positive response, a condition evoked by CAN's annual statistical reports.

The first restriction, this definition clearly excluded those deaths which were not investigated to determine their imputability. Such an omission, confessed by coal mining companies, concerned at least 20% of the victims (ACHML, n.d.). If such a percentage is taken into account, the amount of silicosis victims of coal mining companies goes from 34,000 to over 40,000, but the limits of such reasoning are clear. After considering these evident biases, confirmed by coal mining companies themselves, the account immediately slips into an estimate.

The great difference between the number of deaths and the amount of processes does not only come from the deceased who did not leave beneficiaries. One part of the families is reluctant to enter into a frequently frustrating process, or ends up quitting it. The first obstacle to overcome is the duration of the process. As acknowledged by CAN: "the issue of imputability to pneumoconiosis of the deceased occurred during one year is, practically in every case, decided solely within a two year period" (ACHML, 1980: 13). In practice, the recount of the social security statistical charts in coal mines often shows even longer delays: by 1993, 190 files submitted in 1990 were still pending; and 188 in 1989, that is, a total of 551 acknowledged deaths throughout the year. Waiting can be painful;

many families refused to have an autopsy performed, especially when it was frequently required one year after death⁵⁵. It is definitely uncertain. Whereas the rate of rejection of imputability by CAN was 30% for the whole of the Fourth Republic (3,673 rejected applications, out of 12,210), and 37% (only in Nord Pas-de-Calais) from 1959 to 1965 (that is 3,205 out of 8,769), it reached 59% in 1984 (1,221 out of 2,080) and then two thirds in 1991 (981 out of 1,479).

One of the difficulties faced by beneficiaries, on whom the burden of proof of a cause/effect relationship between silicosis and the deceased is placed, is that death is likely to come many years after exposure to risk. Files of cases of death by silicosis are, even up until recent dates, submitted to an Opinion Committee on Pensions (COP, after its name in French), after being assessed by the medical consultants of both the coal mining companies and URSSM, and they decide on the case's imputability without appeal. Experts are used to the idea that people with silicosis cannot die of such a disease, unless their compensation is above 50%. Such a practice reveals another difficulty arising from the "transactions" the sick miner will have conducted throughout his life, in regard to his acknowledged IPP, with the appointed expert in pneumoconiosis and the two-doctor or three-doctor-schools. In order to safeguard his family's rights he had to reach a minimum disability rate as soon as possible. For coal mining companies, symmetrically, such a habit becomes an additional reason to withdraw miners from *deep inside* before their disability rate was too high, the opposite of what

55 Article L 177 of the social security code states that "the fund must, if the victim's inheritors require it, or even with the very victim's authorization, should it be considered convenient for the emergence of truth, ask the justice of the peace in whose jurisdiction the accident took place, to have an autopsy performed in the terms prescribed by Articles 303, 304 and 305 of the Code of Criminal Procedure".

occurred in the 1950s when there was a great need for workers in the mining pits.

A study on the 1973-1981 period established that the likelihood of families changing COP's initially released concept is almost none (Desliers, 1984). Throughout this period, 13,318 applications, or two thirds of the files of deaths officially acknowledged as due to silicosis, were submitted to the Regional Northern Union and Pas-de-Calais's COP. Almost half of the deaths (6,644) are attributed to the disease. Regarding the 6,674 remaining deaths, only 11.6% of families (755) risked resorting to the Administrative Appeals Commission (CRR, after its name in French). After most of them were dismissed, 163 families questioned the CRR's decision through the submission of their cases to the first instance of the commission of contentious issues on social security. 40% of the cases involved corresponded to miners who were holders of a compensation rate above 50%. At the end of such a long process, only 5 deaths were acknowledged as due to silicosis. Summarizing, out of the 6,649 deaths finally attributed to silicosis, 99.92% were acknowledged in the first test by COP, and 0.08% as a result of a claim put forward by the beneficiaries.

Such proportions, in their own way, realize the principle of silicosis treatment on the coal mining companies' side: a hierarchical system instilling obedience and patience in miners, which does not hesitate to call any attempted deviation to order. Additionally, it was a system which assured the conditions of its own statistical opacity, thus making it impossible to measure, even roughly, the number of victims. Rather than attempting a superficial evaluation, we can do nothing more than detail its components.

In regard to measurable workers, between 1946 and 1987, 34,000 deaths were acknowledged; besides these, according to the coal mining companies themselves, 6,000 more miners

should be added, who did not leave any beneficiaries. On the other hand, deaths which are not officially attributable to silicosis amount to 7,500 between 1946 and 1965⁵⁶, and their amount could not be established in our sources after this period, except for the 1980s, when they averaged 1,000 per year. The set represents tens of thousands of rejections, out of which it will never be clear, from a medical point of view, how many were attributable to silicosis, which was sometimes understood as the sole cause, and sometimes as a trigger of complications.

In regard to non-measurable workers, miners dead either by “tuberculosis” or by “silicotuberculosis” before the acknowledgment in 1946 (in order to only consider 20th century terminology) should be included, the same as should be done for a part of foreign miners employed by coal mines from the inter-war period to the 1980s. One part is not measurable at all, due to the lack of nationality of the statistics, due to these miners returning to their countries of origin and, during the Fourth Republic, to precarious employment contracts and to the impossibility of following up their medical trajectories after they left the coal mining companies. But indeed, for a substantial part -if consideration is given to those foreign miners who were purposefully assigned the most dangerous jobs, from a medical point of view- it is indeed, more and more pronounced over time, one of the initial reasons of recruiting them.

In the end, it is worth remembering that, for this article we only consider, morbidity and mortality associated with silicosis in coal mines. One reason was opportunity (coal mining companies, especially Pas-de-Calais, concentrate the highest num-

56 Besides, there were 3,673 rejected applications of imputability until 1958, and 3,205 rejections in the Nord Pas-de-Calais mining area between 1959 and 1965; they were increased in 25% in an attempt to reflect, by default, the importance of such mining area within the whole of coal mining companies, an average of 4,000.

ber of victims), but another was the sources. No matter what the interest is, within the non-mining sectors, silicosis data obtained from the general social security regime require the same archive work, after contextualization, as was necessary here. It is pointless to be content with producing gross figures, thus supposing they allow a measure of the human, sanitary and demographic disaster silicosis has implied. Well covered and concealed, this great assassin, which, we should not forget, is still active in France today⁵⁷, is ready to reveal neither the details, nor the size of its crimes.

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RECLAIMING BODIES FOR CAPITAL: Professional rehabilitation during the Brazilian military dictatorship (1964-1985)

Ana Beatriz Ribeiro Barros Silva¹

The exploitation of labor during the Brazilian military dictatorship

On April 1st, 1964, a military *coup* was staged against the short-lived Brazilian democratic-populist experience in power after 1945, as a result of the articulation of the ruling classes, linked to the military apparatus, to both the national and international capital associated with large agro-export estates, with the support of some sectors of the Church and the middle classes. Brazil was gradually submitted to an authoritarian and discretionary regime, thus establishing a “state of exception” where both political and civil rights were violated directly. The building of a strong, centralized and authoritarian State, based on the control over the different political and social sectors, whose main aim was guaranteeing the necessary conditions for the blossoming

1 PhD in History from the Federal University of Pernambuco (UFPE, Brazil), where she developed the thesis “The attrition and recovery of bodies for capital: work accidents, prevention and professional rehabilitation during the Brazilian military dictatorship (1964-1985).” She is currently a postdoctoral fellow at the Postgraduate Program in History of the Federal University of Paraíba (PPGH-UFPB).
Email address: bbarrosjp@gmail.com

of the private sector (Ianni, 1991, p.230). The State structure built from military governments was a “National Security State” (Alves, 2005), whose ideological foundation rested on the National Security and Development Doctrine developed by the Higher School of War (ESG after its name in Portuguese). Therefore, through the promotion of the “security with development” dichotomy, the State gained the ideological legitimacy it required for its growing authoritarianism. But, what was the real meaning of such a period for most of the population? At whose expense was “development with security” realized?

In order to understand the nature of the *coup* and its subsequent governments, it is necessary to be aware of the fact that, rather than being a strictly military conspiracy, 1964’s *coup* involved an important mobilization of the main sectors and organizations of the ruling elite, and the adherence of the most conservative groups of Brazilian society, especially from the middle class, as well as important support and funding from the US. It resulted from a capitalist accumulation crisis, in development for several years, and of the escalation of class war during João Goulart’s rule, the *coup* represented a real reaction of the ruling class against the expansion of popular struggles, both in the cities and in the countryside, which were gradually gaining visibility and respect, although limited, during Jango’s government.

As soon as the *coup* perpetrators assumed power, they banned from the public stage any organization, sector or person who could represent any kind of opposition to the authoritarian order that was being installed. The union movement was beheaded, unions and federations were left under State intervention, and there was arbitrary persecution and prison for the main leaders. The Brazilian dictatorship opened a cycle in Latin America, aimed at safeguarding specific class interests: “Broad segments of the corporate sector, throughout the whole continent, saw a pillar for the stability, growth and security of their economic projects in the military” (Silva, 2003: 260).

In a classical research work, René Armand Dreifuss observed how Brazilian corporate sectors acted in a well-articulated way and played a crucial role in preparing the *coup*. Back then, he studied the ways different elements from diverse sectors of Brazilian society acted, especially from the ruling classes, associated to the IPES-IBAD (Portuguese acronyms of Higher Economic Research Institute and Brazilian Institute for Democratic Action) complex, and who took an intensely active part in the creation of a favorable atmosphere for the *coup*, during the event itself, and in the subsequent military governments. Dreyfuss claimed that such a class project had been in the making and that it finally “conquered the State” in 1964, as stressed by the very name of his work. According to the author, “the organic corporate elite became a defender and a representative of the moderate perspectives of the center, thus broadening the middle classes’ elitist and consumerist perspectives, and encouraging fear of the masses (Dreifuss, 1981: 230). After 1964, this ruling elite

preserved the capitalist nature of the State, a task involving serious restrictions to the autonomous organization of the working classes and the consolidation of [...] some kind of late, dependent, unequal, but also highly industrialized capitalism, with an economy mainly aimed at a high degree of property concentration in industry and its integration with the banking system (Dreifuss, 1981: 485)

Thus, in spite of the prominence of the military, National Security dictatorships in Latin America, among them the Brazilian example represented the interests of national bourgeoisies which, regardless of being internally hegemonic, were linked to international capital in a both dependent and subordinate way. In regard to such regimes, Padrós summed it up correctly:

In economic terms, dictatorships consolidated, as their general features, the internationalization of economy, the application of IMF and World Bank instructions, the growth of external debt,

the concentration of income and the exploitation of “comparative advantages” (particularly the low pay to labor). In political terms, the goals were very clear: to destroy revolutionary organizations; to demobilize and depoliticize popular sectors; to deepen the association with the USA and other internal allies in the region; to pinpoint political-institutional spaces (parties, Congress, unions, student associations, etc.); to impose an internal ordinance-based order of security and stability; to empty political pluralism and interrupt voting dynamics (Padrós, 2007: 44–45).

These “comparative advantages” to attract investments and concentrate income were nothing but the chance to exploit labor in an increasingly intense way, made possible by government policies, by the attempts to discipline the population and by the growing authoritarianism prevailing during the period.

In regard to what is more directly relevant here, which is the impact of the present regime on the working class as a result of its clearly classist profile, two initiatives encouraged may be cited: the control of strikes through *Lei de Greve* (law 4330 of June 1, 1964), which created a series of obstacles and bans which hindered, in practice, most of the strikes; and the creation of a mechanism for the calculation of wage re-adjustments aimed at “de-politicizing” wage negotiations between employers and workers, as well as removing labor unions’ political action. In practice, during the corporate-military dictatorship, the criminalization of any vindicating movement, and the continuous and intentional underrating of the residue of inflation and of productivity taxes, always calculated below their real value, generated an amazing drop in wage levels, facilitated by diverse interventions in labor unions and by the persecution of the most militant leaders (Alves, 2005).

Besides, labor legislation was considered a barrier for growth and economic dynamism by the new government. To replace the stability rules in force until that moment, the *Fundo de Garantiapor Tempo de Serviço* (FGTS) was created. From then on

there was no *a priori* stability at all and workers were easily laid off, regardless of the time they had served.

Such setbacks, in terms of workers' rights, were only effective because of the threat of mass dismissal and the generalized instability of the market, besides State terrorism, which ensured that workers were hesitant to demand improvements in their living and working conditions, or to enter Labor Justice against their employers. Later, through the blend of a wage squeeze and instability, a great contingent of cheap and unstable labor, disciplined and docile by force, with the need to work to guarantee their survival, were made readily available. Besides its demobilizing effect, the growing rotation of labor kept wages dwindling, as every time a worker was admitted into a new company, he re-started at the lowest wage level (Dreifuss, 1981).

As highlighted by the final report released by the National Commission of Truth, 1964's coup started a period of great political coercion of workers as a means to "start producing" and reach capital accumulation as soon as possible. Therefore "both in the city and in the countryside, elites understood it was necessary to repress, discipline and submit workers in order to make them more productive, so that more wealth could be accumulated, and the existing privileges could be kept" (Comissão Nacional da Verdade, 2014: 62). In this sense, a new industrial regime was established, resulting from "the corporate-police-military alliance" which used violence, control and coercion to meet its goals.

Such a set of measures had a deep impact on the wage-earning population. The purchasing power of the minimum wage began to suffer a growing and meaningful devaluation, to such point that in 1976 it could only amount to 31% of the value it had in 1959 (Alves, 2005). The increase of exploitation became evident, as while in 1959 it was necessary to engage in 65 hours and 5 minutes of work to buy the minimum food ration, in

1974, it had leapt to 163 hours and 32 minutes in order to acquire the same amount of food (Dieese, 1979). In general, the increase in the Brazilian worker's physical productivity during the dictatorship did not result from investments in more advanced technology, but from the changes in work relations imposed via political coercion, instability, wage squeezes, scarcity and labor rotation. Therefore, the increase of workers' productivity was sensible, especially within the most advanced industries.

Therefore, due to a wage squeeze and instability, workers had to work twice as many hours to guarantee the same minimum ration, whereas companies benefitted through accumulation stressed by the increase of productivity, by low wages, by the extraction of overtime from their employees without having to cover the expenses of new recruits. It is not a coincidence that the average daily workday in Brazil was 14 hours, as the extension of workdays with increase of overtime was one of the strategies workers found to guarantee their survival; in exchange, companies increased their capital accumulation rates (Alves, 2005).

Therefore, based on the new labor and wage legislation, the generous tax exemptions for employers, as well as the large State investments in strategic areas, the intention was to favor great companies and other high income sectors as a way of encouraging economic growth. Given so many advantages, a great volume of foreign capital was invested in Brazil, especially in the durable consumer good and capital asset sectors. This set of policies ended up by generating the so-called Brazilian economic "miracle", which occurred between 1968 and 1973, when the Brazilian economy recorded 2 digit GDP growth rates (Mendoza and Fontes, 2004). Nevertheless, as a result of the quest for development at any expense, based on the internal exploitation of labor and on the concentration of income, Brazil was known as the "world champion" of labor accidents during the years of the so-called "economic miracle", according to ILO.

Labor accidents and Social Security statistics

During the military dictatorship, Social Security went through major centralization and expansion processes, thus allowing better systematization, at a national level, of the amount of insured workers, benefits granted, indexes of diseases, accidents and deaths at the workplace. In this way, in spite of cover-up, denial and minimization of such facts by the dictatorial regime, labor accident indexes revealed more aspects of that sphere of the dictatorship, resulting from the growth-at-the-expense-of-workers policy, and thus revealing its class nature.

In order to have an idea of the severity and frequency of labor accidents during this period, according to official statistics, an average of 6,238 daily accidents took place in Brazil in 1975, that is 4.3 accidents per minute (Faleiros, 2010). 28,271,828 accidents were recorded between 1970 and 1991, out of which 92,688 resulted in death (Takahashi and Canesqui, 2003). In order to provide further evidence of the dramatic effect of the development model generated by the Brazilian “economic miracle”, if there were 1,059,296 cases in 1969, in 1970 Brazil recorded 1,224,575 accidents. Such a record only increased in the years to come, and reached 1,924,189 in 1975, the highest rate recorded during the military dictatorship and the country’s top record so far².

2 Variations in the total of accidents may be found from one source to another, but there is no great difference. In general, statistics are considered more reliable after 1970, as data were very scarce in 1968 and 1969. According to Brazilian law, work accidents include typical accidents, labor diseases and commuting accidents. Data regarding labor accidents used in the present paper are based on the *Anuários Estatísticos sobre Acidentes de Trabalho do Brasil*, from the Social Security Agency, and were collected by the Departamento Intersindical de Estudos e Pesquisas de Saúde e dos Ambientes de Trabalho (DIESAT). They are available at DIESAT’s website: http://www.diesat.org.br/acidentes_2009.asp

The issue of labor accidents and diseases started gaining relevance throughout the military dictatorship, up to such point that they stopped being considered a mere collateral effect of economic development, in agreement with the government's rhetoric, and came to be regarded as both a social and political problem which needed curing by the regime, due to its increasingly challenged legitimacy. The issue of work disability became a true problem of public health, and gained such proportion that it impacted diverse sectors of society, thus requiring measures from the government in order not to become a serious political problem beyond the dictatorship's control. The struggle for "better working conditions"—such an old platform of the working class and, at the same time, such a misunderstood issue for those away from the matters of the world of labor—gained new perspectives, in spite of the silence imposed on the most militant sectors of the working class, thus revealing the violence involved in labor exploitation.

In a regime that used to put "development with security" to the foreground—it is worth noting they referred to national security, very distant from labor security—, thus favoring capital accumulation at any expense, measures such as direct and effective intervention at workplaces, the increase of inspections, and the implementation of legislation that could really protect workers were simply out of the question; let alone the real strengthening of labor unions and CIPAS, which could turn those who were the most interested in Social Security into the main actors of a process leading to the building of decent working conditions.

In fact, legislation was enforced which lifted even more of the burden of liability over labor disability from capital, and transferred it onto the State. The accident prevention policy, supported by the government, was aimed at blaming its victims—workers—and at "socializing" labor risk through insurance. Accident statistics were even underrated and manipulated

so that the impression could be created that the government was “doing something” to decrease labor disability rates. And finally, for the unlucky ones to do an “unsafe act” and have an accident, in spite of all the effort made to favor prevention, the government, benevolently, even took care of their weakened health and granted “benefits” and “aid” from Social Security, way below the already poor wage the workers earned when they enjoyed their “full health”.

Official labor accident indexes in Brazil were really degrading, but the cost of worker’s toil, exhausted on behalf of national development, was assumed by Social Security, thus following the logic of socializing risks. According to official statistics, out of the 7.3 million insured by INPS (*Instituto Nacional de Previdência Social*) in 1970, in the midst of the “economic miracle”, 1.22 million resorted to Social Security due to work accidents, that is, one out of every five workers registered in Social Security suffered an accident which deserved to be recorded during that year (Biondi, 1972).

Nevertheless, the amount of injured workers was in fact higher, as a result of the great contingent of workers who were not registered by companies, who did not contribute to Social Security, and who, once they had an accident, had nobody to resort to. The situation became even more dramatic due to the practice of not “signing their work document” within sectors of the economy using labor with very little or no qualifications at all, serving high-risk functions with poor compliance of security regulations, for instance, in civil construction³. In this sector, labor rotation was really high; it was based in piecework

3 Besides the great growth of civil construction during dictatorships, this was also the period for establishing the big contractors who supported the dictatorial State and were responsible for the biggest works, which became real show-offs for the regime, such as the Rio-Niteroi Bridge or the hydroelectric plants. And, evidently, the issue of accidents also reached contractors, as shown by Campos (2012).

contracts, as there was a large contingent of workers looking for a job, floating between the reserve army and precarious, non-formalized employment. This made workers take temporary jobs, where they were paid weekly and faced the possibility of getting laid off at any moment, when “they were no longer productive, as they got hurt”. Therefore, the situation was even more serious than official records showed, as the sectors needing more field work used a higher amount of unregistered employees and, consequently, there were more accidents, which led to an estimate of one out of every three Brazilian workers being doomed to having an accident, annually.

Therefore, in regard to labor accidents and diseases the Social Security (PS, after its name in Portuguese) played a crucial role. First of all, it was responsible for health assistance for workers who were disabled at work, including medical attention, tests, medication and whatever surgery was necessary. In spite of having their own health assistance services, in most cases, during the military dictatorship the choice was to purchase services from the private network, which were paid afterwards by the PS. Secondly, the Security was responsible for the maintenance of its associates, through the granting of financial benefits, at least until the contributor was thought to be able to go back to work. It even took the mission of restoring labor discarded by exploitation and bringing it back to the market, through professional rehabilitation.

Reclaiming bodies for capital

As has been shown so far, that with the great availability of cheap labor, which was forced to accept extremely meager wages and terrible working conditions, the substitution of the disabled worker became an easy matter. The same as with a machine, it was a lot cheaper to replace an injured worker, disabled for labor, a “defective” cog in the wheel, for a healthy one, in

perfect conditions for “use”. Nevertheless, the amount of workers disabled by their jobs, either temporary or permanent, was too high to keep ignoring it, and it gradually grew, as well as the amount of accident benefits.

In spite of the carefulness owed to official indexes, the following table, based on INPS data, gives a general idea of how the consequences of accidents were shared by the insured population. Therefore, almost 10% of the injured were considered as being able to go back to work after only receiving medical assistance. Most of them (almost 85%) were temporarily disabled for work, and still there were those who were permanently disabled, and the ones regarded as handicapped. Finally, there were the relatives or dependents from the dead workers insured by INPS who were entitled to a pension.

Table 1**Work accidents according to their consequences**

Year	Only medical assistance		Temporary Disability		Permanent Disability		Handicap		Deaths		Total	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
1970	108.493	8,88	1.068.953	87,56	40.463	3,32	484	0,04	2.232	0,18	1.200.111	100
1971	132.444	9,66	1.192.957	87,69	42.163	3,17	689	0,05	2.559	0,19	1.330.523	100
1972	183.307	12,18	1.292.916	85,90	45.853	3,05	599	0,04	2.805	0,19	1.504.723	100
1973	149.811	9,17	1.428.432	87,46	58.009	3,55	820	0,05	3.122	0,19	1.632.696	100
1974	156.585	8,82	1.607.357	87,48	64.203	3,57	1.151	0,06	3.764	0,21	1.796.761	100
1975	168.371	9,01	1.625.797	86,85	69.111	3,61	1.699	0,09	4.942	0,26	1.916.187	100
1976	168.002	9,55	1.521.155	87,20	64.162	3,68	1.765	0,10	3.900	0,24	1.743.825	100
1977	206.526	12,57	1.397.912	85,07	34.415	2,09	2.378	0,15	4.445	0,27	1.643.298	100
1978	242.443	15,52	1.293.889	82,85	17.104	1,09	3.987	0,25	4.342	0,28	1.561.765	100
1979	198.946	13,48	1.250.647	84,73	17.494	1,18	4.298	0,29	4.673	0,32	1.476.056	100
1980	207.371	13,77	1.265.468	84,05	23.029	1,53	4.896	0,33	4.824	0,32	1.505.588	100
1981	166.613	12,72	1.108.193	84,62	24.434	1,87	5.487	0,42	4.808	0,37	1.309.535	100
1982	140.123	11,50	1.042.487	85,52	26.234	2,15	5.582	0,46	4.496	0,37	1.218.922	100

Source: INPS, Monthly statistical bulletins, several numbers *apud* (Faleiros, 2010:237)

Then, what was to be done regarding the growing number of workers who became amputees or had been diseased and even demented by their jobs? Due to the growing number of workers insured by the Security, as well as the number of disabled workers, pension expenses had been growing year after year. What more, considering the visibility reached by labor accidents when Brazil became the world champion of labor

misfortune, which encouraged criticism by the public opinion, it was necessary to control the problem in economic, social and humanitarian terms. Afterwards it was crucial that these disabled workers recovered, both in physical and vocational terms, so that they could return to the labor market and, mainly, so that they could return to their condition as contributors to Social Security. It was the start of the Professional Rehabilitation Programs (RP, after their name in Portuguese) in Brazil, offered to those insured by INPS; they were State coordinated and gradually spread throughout the whole country, especially in the 1970s.

In general rehabilitation is a global process aimed at the physical and psychological recovery of disabled people, bearing in mind their social reintegration. In turn, *Professional Rehabilitation* is used in the capitalist world to reuse the residual capacity of those who have been considered unable –due either to accident, disease or congenital problems- thus allowing their return to work. This is why RP is regarded as a medical-social resource aimed at avoiding the marginalization of partially disabled individuals, thus giving them the chance to return to work, either to the activity they previously performed, or to another one more suitable to their circumstances, and for which they should be provided adequate training or other means which permits their professional re-education, should it be necessary.

The use of labor which had been previously regarded as disabled –that is, the origin of Professional Rehabilitation-, started in Europe and the US in the period of the World Wars, and its more widespread version was aimed at assisting veterans who had been mutilated by war in their recovery process. But, besides that, during the effort of war, new jobs appeared both for male and female civilians with reduced capacity; they were employed by industries, given that the best fit men were on the frontlines. It was thereby shown that people with reduced capacities, even very severe cases, could be used, although

temporarily, according to the needs of the labor market (Navarro, 1983). Therefore, in spite of their evidently social and human nature, RP had a clearly economic bias, towards taking advantage of reserve pools of labor, usually marginalized, but always necessary during periods of evident capital accumulation and expansion. From then on, the reinsertion of disabled people to the world of labor was strongly supported by the ILO, which generated diverse Conventions and Recommendations, ranging from the most complex, dedicated to the issue of inclusiveness in the labor market, to the most specific, such as Professional Rehabilitation.

In this way, besides health assistance and the granting of financial benefits, Brazil's Social Security also assumed the priority task of helping the most gravely injured workers to recover, thus taking advantage of its capacity for residual work, so that they could return to the labor market and be either readapted into their prior positions, or be prepared for another one they were better fit to serve. Such is the principle of Professional Rehabilitation, legally approved in the 1940s, but only enforced as a preventive nationwide program between the 1970s and the 1990s.

Nevertheless, unlike what was done in other areas of health, where purchasing services from the private sector was preferred, the Social Security assumed most of RP expenses, after all, the financial cost of the rehabilitation process was very high, and required professionals from diverse areas who were specialized in rehabilitation, a really uncommon profile back then. Besides, the time required for RP to achieve some effective results was usually long and returns were really low, which justified the little interest of private investors to offer RP services. For this and other reasons, RP came under the responsibility of the Social Security system.

Professional Rehabilitation was the last piece of the tripod of a preventive policy for those injured and ill due to work, be-

sides medical assistance and the granting of financial benefits. Once the stage of medical assistance was over, and in case the insured worker was not still sufficiently well to return to work, but such a possibility was detected, he/she was referred by the Medical Expertise to the closest CRP (Portuguese acronym of Professional Rehabilitation Center), in case there was one, thus aiming at his/her readjustment for work through any advantage he could take of his/her residual work capacity. Or to put it in more explicit words: “ensure that an individual having become disabled, through the use of all his/her remaining abilities, become capable of providing for his/her own livelihood by him or herself” (Boccolini, 1978: 3). Once the program had been successfully concluded and rehabilitation was thought to have been achieved, the insured person was considered as able to return to the labor market, in spite of the frequent presence of both physical and psychological consequences.

After the creation of CRPs, disabled workers were assisted by PS through two preventive programs articulated complementarily with each other: income support and professional rehabilitation programs. Teams dedicated to RP worked at CRPs and could have the following departments: administrative, medical, social service, applied psychology, occupational therapy, pre-vocational, physiotherapy, orientation and relocation. The interdisciplinary team in these Centers could include physicians, social assistants, psychologists, occupational therapists, physiotherapists, phono audiologists, nurses, professional advice technicians, prostheses and orthosis technicians, speech therapists, pedagogues, professors, elementary level teachers and sociologists⁴.

During the rehabilitation process, CRPs could also refer insured workers to professionalizing courses or to undertake

4 The detail of each member's functions within the interdisciplinary teams acting at CRPs may be found at the INPS (n.d.)

internships in companies, in case of verifying the likelihood of the associate's adaptation to a new function for which training was needed. Working material, medicines, a transport allowance, food, prostheses and orthosis could also be provided; depending on the socioeconomic condition and on each insured worker's case. Although a new post could be assigned to the insured, after the CRP officers had made contact with companies, but such relocation of the market was not compulsory for CRP, as once he/she was regarded as having been rehabilitated, the insured person was thought to be able to get a vacancy in the market, notwithstanding the consequences he/she frequently faced.

In the 1970s and 1980s, rehabilitation expanded notoriously through CRPs, larger units with several interdisciplinary teams, and afterwards through the NRPs (Portuguese acronym of Professional Rehabilitation Nuclei), with a lower profile and one or two interdisciplinary teams. It is worth noting that, during the military regime, Brazil's Social Security went through a process of accelerated institutional growth, and started managing, at that time, the largest institutional mass of resources in the country, which made it possible to implement CRPs in most capital cities of Brazilian states and in large cities. Indeed, INPS's professional rehabilitation area gathered the largest volume of financial resources in the institute, which were directed at purchasing equipment, hiring the interdisciplinary teams, and to the maintenance of large physical structures during the rehabilitation process. This proves the relevance of such services for the regime, as a means of confronting workplace related disabilities.

During the military dictatorship, Professional Rehabilitation gradually stopped being a right to which the insured worker was entitled, given the direct goal of returning to work, and became an obligation of the insured that, if not adequately followed, could cost him his benefit. In fact, the disability pen-

sion was only permitted after proving that rehabilitation was indeed not possible. Through the unification of institutes around INPS and considering the relevance the issue of labor accidents had gained, rehabilitation with an emphasis on the professional level became a right to which all those insured by Social Security were entitled, throughout the country; it was aimed at first and foremost assisting the workers who had been injured or made ill by work.

RP's goals may only be explained when analyzing the resolutions and rules approved to regulate this service. Regulatory Act No 43 (approved through Resolution CD/DNPS-360 of September 13, 1968) disciplined the professional rehabilitation program, as it defined the priority of attention for active and insured workers when they enjoyed their disease-relief mainly those injured at the workplace. The choice of candidates submitted to RP was based on the likelihood that the injured worker could return to the labor market within a period which did not exceed 180 days, and defined that this period was only completed when the injured person returned to work. As well as this, only after completing the program could the insured worker be assigned for the provision of the accident-relief (Callegeri, 1979). It thus becomes evident how much the BP's coverage narrowed, by focusing only on those insured that were in conditions to return to the labor market within a short period of time.

Decree 72.771 of September 1973 strengthened some of the aforementioned determinations. According to Article 125 "all disabled and pensioned workers are forced, under penalty of suspension of their benefits, to take the tests and follow the treatments and professional rehabilitation processes prescribed by INPS". Article 183 included a definition of RP's goals: "The purpose of Professional Rehabilitation is to develop the residual capacities of recipients, when they are ill, handicapped, or disabled, either physically or mentally; it aims at their integration

or re-integration to work". Social Security Regulation, made official by Decree 83.080/1979, dedicated the whole section 8 to RP, where RP's main objective is reinforced once again "by aiming at integration and re-integration to work".

Another document from the Ministry of Security and Social Assistance (MPAS after its name in Portuguese) explains that Professional Rehabilitation intends to offer PS recipients "whenever they are physically or mentally disabled, due to accidents or illness, the means for adequate professional re-education or re-adaptation, so that they can perform a paid activity" (INPS, 1980: 3). Decree 2 of March 18 of 1975 is even more explicit:

The criteria for the assessment of work capacity of those who have had a work accident or contracted a professional illness are basically grounded on the appreciation of the individual as a whole involved in professional exercise. Given that *the present conceptualization is strictly linked to professional capacity, anatomic or functional losses are not measured on their own, but in terms of their impact on working life* (Italics added by the author).

That is, it did not matter how painful and uncomfortable the results had been for them, or how their daily activities had been affected, that is, their suffering after a traumatic amputation: Rehabilitation, which included medical attention, physiotherapy and psychotherapy, among others, was only available to those who were fit to return to work activity, as the individual's value and "active life" was only expressed through his/her status as a worker. Joint Resolution 55 of INAMPS/INPS from July 22 of 1983 was clear about RP's economic bias: "Intensify support and encouragement to the development of programs and the execution of actions intended to promote and recover the health of the insured worker, so that situations leading to sickness-benefits can be prevented". In these fragments, RP's main goal becomes evident: it was necessary to have disabled workers swiftly return to the labor market, withdraw their benefits and, if possible, have them contribute to Security again.

Therefore, this period's rehabilitation policy was aimed at the disabled worker who proved to be fit for productive activity within a short or a medium term, thus leaving those facing the gravest consequence aside, as well as retired workers, very often disabled because of work. If consideration is given to the terrible quality of public health services, discarded during the dictatorship, both the retired and disabled workers were simply left without any assistance and without access to rehabilitation which was aimed at the improvement of living standards and at the reduction of consequences.

Besides, RP was based on a utilitarian philosophy: the target population was chosen among those regarded as "useful" and "useless", thus reinforcing "the idea that man can only have his existence acknowledged as long as he is a worker in the eyes of capital" (Sposati and Fleury, 1989:14). At this point, those who are most "in need" –the unemployed, workers from the informal sector, the homeless, the wretched and, in our case, those ill or injured because of work–, due to their physical condition, those who could not be fully re-inserted into the market were included only precariously, they did not exist for capital, and therefore, did not exist for public health and rehabilitation policies.

Such a vision was developed in RP's dissemination products, in the rules and reports produced by specialists supporting Professional Rehabilitation as the true solution for the issue of disabled people, and a platform for national development. According to Odir Medes Pereira, General Coordinator of Professional Rehabilitation at INPS, one of the founders of the Brazilian Society of Physical Medicine and Rehabilitation, renowned even today as the "forefather of Professional Rehabilitation" in Brazil, still before 1972 an appointed INPS president had told him: "I am absolutely certain that in a few years INPS will only do Professional Rehabilitation, as that is Social Security's main function" (Pereira, 1972: 137).

In an INPS's booklet of Professional Rehabilitation, the Institute was introduced as "an insurance for life", which in 1978 covered 21 million urban workers and 13 million in the countryside. In INPS's discourse, RP was introduced as the "right to a new chance to work". The worker who had been disabled by accident or illness should be apt to return to the labor market. Nevertheless, the issue of reutilizing the injured was usually introduced as a strategic matter of development. According to the regime's ideas, it was necessary to avoid "the marginalization of the injured, by giving them a new chance," after all, all workers were important in a country such as Brazil, struggling to reach the status of superpower, "even those who had suffered an accident or a disease were necessary. They need to and should go back to work" (INPS, 1978).

During the dictatorial period, it was common to say RP had not developed earlier in Brazil, "because fortunately we had no war, a determining factor in rehabilitation's triumph and development" (Boccolini, 1978: 2). Therefore, such progress was triggered by development and the industrialization of recent years, which led to the increase of work and traffic accidents: "In Brazil, it was industrial development, with its increase in labor and traffic accidents, which raised awareness throughout the nation of the nature of the problem" (Medes, 1981: 201). But it was also possible to catch up: "Brazil learned then the universally known lesson: 'No country is rich enough today as to be able to afford wasting the still valuable labor of a worker limited by injury or disease'" (Mendes, 1981: 201). Calculations stated that there were 520 million disabled people throughout the world, out of which 55 million were in Latin America. Nevertheless, the amount of disabled people was seen almost as an indicator of development and wealth: "The more developed the country, the higher its percentage of disabled people; given that modern life, advanced technology and the more widespread use of automotive vehicles generate disabilities" (Medes, 1981: 202). On the same line of thought, for instance, the US and Canada had 17% disabled people. Therefore, according to the

regime's ideology, the alarming labor accident indexes within the country were nothing but a collateral effect of development, the price to pay for the nation's growth.

Nevertheless, it was necessary to raise awareness among society, especially the corporate class, on the issue of disabled workers and the need for them to have a "second chance". According to Mendes, the European business community accepted injured people at work more easily, due to the legions of people injured by war who had to be used as labor; but, in Latin America, employers tended to reject disabled people for three mistaken reasons: the injured was seen as someone who would not "go into production", who tended to miss work frequently and who was more likely to produce accidents. Nevertheless, according to "research carried out in Europe and the US", which was not referenced by Mendes, disabled workers, after being rehabilitated for a function compatible with their limitation, would produce the same as a "regular" worker in 60% of cases, and even more in the remaining 40%. There was no difference in terms of absenteeism and, according to research, disabled workers had less accidents than other employees.

Likewise, Daphnis Souto, in a text also published in *Saúde Ocupacional e Saúde* (SOS), highlighted the advantages of the rehabilitated: according to research, disabled workers do not have a disadvantage and they even showed superior qualities to those called "normal"⁵. In fact, some European companies even preferred disabled workers, as they focused more on work and produced more: "Such is the case of deaf workers in graphic services or in looms, and the case of blind workers in services requiring delicate movements such as the electronic assembling of transistors" (Souto, 1978: 264).

5 As a proof, Daphnis Souto also cites a research on insertion of Petrobras's rehabilitated workers, done by Luiz Pereira Mattos, and research done by a textile industry N. L. Gonçalves (but gives no references).

For the technocrats disseminating RP, in agreement with the political line of the dictatorship, not to take advantage of the residual capacity of disabled workers was “blatant injustice” as it did not respect the “right to work” of those individuals, it was regarded as a “waste” of their “value”, as they could not utilize the right and duty of giving their share for the “development of the collective and the distribution of social costs, rather than overloading them” (Souto, 1978). It is worth noting their discourse of valuing work as the only means for individuals to stop being a burden on society; it was precisely through work, which most of the times generated these subjects’ disability. Therefore, the struggle to guarantee the citizenship of the disabled focused on the disabled workers’ access to a job (Graby, 2015) and, mainly, on getting and keeping a job fit for his/her limitations, the biggest obstacle for the RP process.

In general, RP’s defense resorted to a discourse in support of workers’ rights and of a supposed humanism, thus veiling meticulous economic calculations and aiming at keeping surplus Security, as well as a discourse based on the usefulness of human beings as workers under capitalism. Therefore, the injured or ill worker was regarded as costly and useless for society as a whole; which is why a process of re-adaptation or readjustment was necessary to ensure that such a marginalized element could become useful and decent again, and take part in the collective development through labor. It was well synthesized in an article by the Brazilian Journal of Occupational Health, edited by Fundacentro, “no price can be put on the task of reintegrating into productive work human beings who, due to fate’s contingencies, became marginalized and costly for society”⁶. To tell the truth, such functionalist welfare-based cover of rehabilitation was only useful to mask labor exploitation, by

6 Aspectos da Reabilitação Profissional no INPS. Revista Brasileira de Saúde Ocupacional, São Paulo, Fundacentro, V.I, n.3, jul.- set. 1973, p. 51. Italics by the author.

keeping untouched the labor conditions and the living standards of most of the Brazilian population, thus transforming labor into something easily discarded, after all, from being a victim, the worker easily stepped forth to become a victimizer.

In capitalism, the worker's body becomes an additional "means of production", a means for capitalist accumulation by the owners of the means of production, which needs to be controlled and tamed as a way of guaranteeing the continuity of production; simultaneously, for the worker, his body becomes his means for survival and reproduction. Therefore, rather than guaranteeing a "socially allowed inactivity", based on the inability for work, the task of restoring labor through the recovery of the body of the circumstantially disabled worker became urgent. In this sense, health related State institutions, among them professional rehabilitation, became an instrument for the political framing of subaltern classes, thus contributing to the support and strengthening of the kind of capitalist exploitation that generated the "economic miracle", a key element in the support of the discretionary regime.

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PART II

**THE HUMAN FACTOR IN
INDUSTRY**

SHEDDING LIGHT ON THE PHENOMENON OF AN APPARENTLY TIRELESS HEART

The fatigue of the working class in Colombia, 1898-1946

*Óscar Gallo*¹

Between workers' Neurasthenia and Fatigue

Probably one of the first Colombian references to fatigue among workers is the article *Asthenia de los obreros* (Workers' Asthenia), by the physician Miguel María Calle of the Empresa Minera El Zancudo (EMZ) (El Zancudo Mining Company). Calle begins the article by stressing that the term neurasthenia was being replaced by that of asthenia: "a generic term encompassing all the different modalities of physical and psychological exhaustion that allowed a more rational classification of what was formerly called neurasthenic states" (Calle, 1910a, 1910b). Later he observed the relationship between work and the poor conditions in which workers lived due to the political and economic events in Colombia in the first half of the 20th century.

1 Oscar Gallo: Historian and Master in History from the National University of Colombia. PhD in History from the Federal University of Santa Catarina (Brazil). Oscar currently coordinates the thematic area of occupational health of the Escuela Nacional Sindical. Email address: investigacionsaludtrabajo@ens.org.co; oscargallovelez@hotmail.com

Calle was alluding to the fall in wages and the increase in the prices of basic necessities, because before the Thousand Days War, the common worker earned, in paper money, between \$30 and \$40 daily, that is, \$180 or \$240 per week, with work schedules of eleven hours per day. It is worth mentioning that the Colombian currency was the peso, divided into 100 cents. In 1880, paper money was introduced and, in 1905, the gold peso was reintroduced (\$100 in paper money was equivalent to \$1 gold peso). In turn, a gold peso was, on average, equivalent to US \$1.02 between 1910 and 1932 (Palacios, 2002: 262-264). In order to get a practical idea of these values, it is important to consider that in 1912, the year of great price hikes² in the region where Calle practiced medicine, a pound of meat cost between \$12.00 and \$17.00 paper money.

It is precisely the social approach to the problem of asthenia in workers which makes Calle's text so novel. In 1898, Julio Rodríguez Piñeres had published *Neurasthenia*. Like other contemporaries, Rodríguez considered neurasthenia a consequence of several factors outside the work environment. In that sense, he emphasized the neuropathic predisposition, intellectual, moral and sexual stress, alcohol and drug intoxications, excessive family care and pampering, life in big cities, fear, acute infectious diseases, age and gender. In short, neurasthenia was seen, especially, as a predominant problem in the middle and upper classes of cities, a defect of virtue related to excesses rather than to deficiencies. Not surprisingly, the newspaper *El Sol* suggested working in order to drive away depression, sullenness or neurasthenia with "their cowardly anguish and useless sadness." Indeed, "the working man has the pleasure of living, because he is aware of his own being or of doing something" (F.A.U., 1914).

2 Archivo Histórico de Antioquia, Fondo Gobierno Municipios, Titiribí 1918, volume 5258, february 12th, 1912, page 107.

For Calle, on the contrary, it was a problem of poverty. Wages were absurdly insufficient to meet the demands of a family of five to six people. In the first paragraph of his article, he hesitated between hereditary factors and social factors, but quickly, his text came to describe asthenia as a pathological phenomenon, the consequence of various socioeconomic factors. He affirmed that the worker's children were subject to pernicious influences, which made them perfect candidates for asthenic degeneration. He considered that the main cause of these premature alterations or exhaustion were not inherited predispositions, as others pointed out, but wages, which were not enough for a family to maintain a reparatory and healthy diet. Besides, they lived in narrow, humid and poorly ventilated houses, without drinking water, and with insufficient and inadequate clothing. Therefore, misery and deprivation were the anticipation of an adult life with long working days and no energy to put up with them, without respite to repair the organic losses and without food to restore daily wear and tear.

The perception of farmers and businessmen regarding the poor service of workers, which was used as a justification for low wages, was also considered wrong by the EMZ doctor. For him,

production is scarce and expensive because the workers don't work much; and they work in minute quantities because they eat poorly and do not rest; and they eat poorly and do not rest because their salaries are not high enough to meet the strictest needs. An individual does his job well if he knows that it gives him relief, and that when he returns home he finds joy and well-being there. But if, instead, he finds a wife as fatigued as himself and a few emaciated children, who, instead of rushing to meet him, smiling and kind, only ask for bread that he cannot provide, this single memory will be enough to make his job detestable, and it will destroy the energies that a better life could bring him (Calle, 1910a: s.p.).

There is no doubt that his parameters framed the question of neurasthenia in a place different from that of convergent inheritance and neuropathic predisposition, as determined by his predecessor. The direct observation of the workers' life in the most important mining region of the country allowed Calle to identify problems that other doctors of the country had not observed. For this reason, he found the assessment of the industrialists unfair, since they were unaware that, instead of lazy workers, they were individuals who endured a real embezzlement of their organic budget.

The disgrace of asthenic individuals was defined by a chain of events that gradually deteriorated their whole life. Permanent fatigue prevented them from working and caused them concern due to the feeling of incurable burnout, lack of appetite, sadness, insomnia, agitation. It was clear to Calle that asthenia, as a state of exhaustion that made it impossible to work, had a single cure through physical and moral rest. But this was only possible in two situations: when workers were able to organize themselves into mutual supportive societies or when companies provided doctors, medicines and some resources for the sustenance of families (Calle, 1910b). How could this be achieved? And above all, in what way could mechanisms be created that helped avoid relapses or healthy workers reaching such a state? Without definitive answers, he timidly proposed that businessmen should take into account that the best returns were produced by a better paid and healthier staff.

In 1923, Carlos Arturo Jaramillo published an original thesis about the hygiene of the man of letters. In analyzing the intellectual work, he sometimes mentioned the problem of overwork and the tendency to neurasthenia among intellectuals. However, he said that the obsession of the man of action was absolutely different from that of the man of letters, for in the latter, fatigue would provoke a mixture of diseases of the spirit, dark and gloomy manifestations of the mood and

a perpetual melancholy produced by sedentary lifestyle. This burden would not be the indolence of the dandy, so close to the laziness stigmatized by capitalism.

The lethal poison of work without distractions to the spirit or the excess of strong emotions would result in loquacity, fatigue, restlessness, headaches, difficult digestion, palpitations, feelings of pause in life, memory loss, and bedimmed intelligence, among other physical and psychological symptoms. In view of that, Jaramillo proposed to flee from neurasthenia, the “unfortunate invention of distressed souls”, living your own life somewhere else, without obsessions and nightmares, forgetting everything and everyone; going away to have a ‘small death’. At the end, he added: “The world of numerous and splendid emotions is the only one capable of healing the wounds, the small and atrocious wounds of our modern soul exhausted by reading, well-being and civilization” (Jaramillo, 1923: 28).

Jaramillo did not address the problem of fatigue in workers directly; however, mentioning the distance between fatigue and overload, he touched tangentially on the question. For him, fatigue was a painful feeling, which made action difficult, caused by excessive or prolonged working hours. It was a normal sensation, while the overload would be a pathological condition. For this author, the use of conscious and voluntary higher centers would engender fatigue more quickly than when only lower, reflex and automatic centers were used. In this way, he affirmed that “the movements regulated by automatism can be maintained for a long time without great fatigue; the opposite of those needing the attention and participation of higher nervous centers” (Jaramillo, 1923: 45).

Such a statement must be read very carefully to avoid deducing easily that physical work was less stressful than mental work. In addition, he affirmed that there were brain-related operations in mental work to which the spirit would get used

to, since the higher centers could relax their conscious and voluntary action. On the contrary, the most exhausting brain-related operations would be those that required incessant brain intervention. In the man of action as well as in the man of letters, fatigue could emerge with equal intensity, consuming the strength of both, but in different directions. A man of action would weaken under the continuous work of intelligence and vice versa.

This view of fatigue as a result of exhaustion of the nervous centers was related to the way in which modernity and industrial progress were perceived. In the first place, he considered the problem of fatigue and neurasthenia as a consequence of progress, railroads, automobiles, telegraph, presses and the telephone. In that sense, Jaramillo recalled the words of the Italian physiologist Angelo Mosso, when he insisted that the number of books and newspapers: “far from being an instrument of rest, are a powerful cause of fatigue” (Jaramillo, 1923: 45)³. Secondly, it helped to understand why medicine was fundamentally related to the so-called machineism, a form of industrial activity seen as absolutely exhausting, given the permanent state of alert in which the worker had to be.

Two decades later, Dr. José Manuel Restrepo suggested the creation of rest homes for workers by private and public enterprises, built in places with “appropriate climates, away from noise, with pure air and water and with a good plot of land where the worker can devote himself to other agricultural or livestock activities on a small scale” (Restrepo, 1942: 189). He justified such houses by stating that resting times were absolutely necessary in factories and offices, since the work demanded permanent attention, as opposed to places with little personnel,

3 On the crisis of progress, see Friedmann (1977). The association of crisis ideas with the origin of thermodynamics is very interesting, see Rabinbach (1990).

manual or outdoor production. Regarding farm workers, Restrepo affirmed that the fact of being able to dominate work and not be dominated by machineism “gives them a sense of being skillful and the true creators of wealth” (Restrepo, 1942: 192).

The consequences of this artificial separation between modern or pre-modern, countryside and city, manual labor and industrial labor were of such a magnitude that most of the world’s laws forgot to legislate for rural workers. The Colombian legislation was part of this majority, even though it was absolutely clear that the country’s agricultural development was related to definitely improving the poor working conditions and the health of farmers and peasants.

The comments about fatigue were not made exclusively in the academic world. There were multiple references from politicians and legislators showing that they knew, long ago, that those who devoted themselves to work without pause succumbed to it. In the 1917 report, the Minister of Government condemned the excessive working hours, stating that “the great industry caused, with its machineism, an increase in the working hours that did not exist in the past. The machine ignores rest, and the boss expects maximum performance” (Pérez, 1917: 16). In conclusion, “an adult cannot withstand a factory job for more than twelve hours without harming his health and compromising his life” (Pérez, 1917: 17).

In 1932, in anticipation of the political reform to enforce Sunday rest, a report of activities from the Ministry of Industries affirmed that this was a requirement of society; an obligation on behalf of the individual, family, and race, to avoid the physiological wear caused by a job that would be better performed by workers without fatigue (Chaux, 1932: 113). In the interregnum, the First Convention of the International Labor Organization addressed the limit of working hours in industrial establishments to 8 hours per day and 48 per week. One of the reasons stated by the attendees was that the contemporary era

had seen the emergence of the extraordinary phenomenon of industrialization, and with it, problems unknown to men, the most serious being “the annihilation of workers by the excessive use of their energies to satisfy merely material interests” (-Chaux, 1932: 113).

Analyzing this Convention, the representatives of the Oficina General del Trabajo (OGT) (General Labor Office) argued that it was important for the Colombian legislator to take measures to reduce the number of working hours. More than an imposition, the importance of these measures was insinuated because scientific research showed that workers had a limited amount of usable energy, and that once this capacity had been exceeded, organic wear and tear resulted in decreased productivity, lack of concentration, sub-consciousness, a propensity to occupational diseases and a particular predisposition to accidents. Additionally, the fatigued worker was depressed and induced to alcoholism, and to the search for vital stimuli that would eliminate that sensation. This was not the only time that the OGT’s institutional bulletin addressed this subject; in fact it was recurrent in all issues published since 1929. In articles related to occupational hygiene, they stressed the importance of avoiding physical exhaustion and having some weekly hours to recover strength and energy for the next day. For women, it was suggested that the number of working hours were reduced, given the lower resistance to fatigue (OGT, 1929b). In conclusion, the idea of fatigue and rest were circulating as an academic, social and legislative concern. The chronicler Luis Tejada remembered something common in the writings of the time:

The worker needs a rest, imposed naturally by the wear of energy and by the fatigue inherent in rough labor. It is more than rational and fair that this rest is provided and made possible by the same company to which the worker has devoted his work and in whose service he has expended his energy (Tejada and Cano, 2008: 407-408).

In some cases, all this debate was translated into reality, as was the case in industries like Bavaria, Compañía Colombiana de Tabaco, Fábrica de Cementos Samper, among others, which welcomed the idea of additional breaks in the morning and in the afternoon “thus facilitating the repair of the workers’ strength and keeping them in good physical condition, in order to be able to have a greater work performance”(OGT, 1929a: 36). The need for rest became so obvious and widespread that several businessmen put it into practice. But, how did the medical discussion about fatigue in Colombia emerge in the 1930s? This article intends to answer this question through the analysis of articles and theses published at the time. In other works, the horizon of Colombian and world historiography on occupational medicine and, in general, on workers’ health (Gallo, 2014) has been analyzed.

Fatigue in the light of psychophysiology and sociology

In 1937, Emilio Morales asked if the problem of the working-class diet could not be closely related to the minimum wage, a payment to which the worker had to have access in order to buy the food ration proportional to the effort he had to exert. He also asked whether lower organic resistance, infectious and degenerative diseases and mortality in the lower classes of Colombia were not the result of the poor diet of people in permanent exposure to fatigue (Morales, 1937).

Calle’s reflections echoed Morales’s questions, but they do not correspond to the same discursive record. Morales addressed the problem of fatigue from work physiology and industrial physiology, two fields of knowledge that began to be applied in Colombia in the 1930s. These two fields were mainly interested in “industrial” fatigue, a psychosocial notion of the problem that did not correspond to the strictly medical record. In fact,

Morales explained in his text that the purpose of work physiology was to determine how the worker works and how he could increase production and maintain good health with less fatigue. For its part, industrial physiology promoted the most favorable conditions of industrial activity, so that it would be more efficient in terms of quantity and quality, more pleasant and less harmful (Morales, 1937).

This process, which set the scene of concern for workers' fatigue, came as a logical consequence of the limitations of medical science in understanding the complexity of the productive process. The historian François Vatin explains that there was, on the part of psychophysiology, a shift towards psychology, with the intention of understanding fatigue, but it failed in that process. On the one hand, psycho-physiologists "failed to establish a link between muscular energy and the fatigue induced by physical work". On the other hand, they failed to "show any energy counterpart to mental work, and psychic fatigue appeared irreducible to any attempt to use medication" (Vatin, 2004: 71). Since fatigue was a practical notion, whose comprehension was not possible by physiological or psychological methods, the obstacle was solved in the 1920s and 1930s by placing the problem in the field of sociology. Part of that process of *sociologization* involved the objectification of concepts such as "industrial fatigue", coined by Charles Myers, and led to sociological research by Friedmann (1956) or to industrial psychology by Elton Mayo (1977).

Vatin explains this by pointing out that the knowledge of work psychophysiology was not rejected or even forgotten; they were simply "instrumentalized, used as partial illuminations of a perceived reality, first in the social, even in the moral dimension: the danger of modern work for man" (Vatin, 2004: 72). There was thus a return to the notion of fatigue in its common sense. This happened after the "celestial music" of the ambitious scientific project of psychophysiology proved to be

unsuccessful, both in the manner it tried to understand fatigue and to make relations between workers and bosses happier.

This shift from the strictly physiological to the sociological dimension, visible in the history of labor sciences in France, was not so explicit in the case of Colombia, because the problem in the country appeared with a very strong “social” component from the beginning. Two arguments can be listed. First, because apart from Calle’s publication, there is no significant academic background of research directly related to worker fatigue prior to 1937. This assertion may be questioned, but let us remember that the worker, approached by labor specialists, was a subject of rights and, in addition, the specialists in that field did not seem to be very willing to dialogue with their counterparts in other specialties, as observed when analyzing tensions between forensic doctors and occupational physicians (Gallo, 2015). For them, fatigue was mainly an industrial problem. So much so that institutional reports and political debates circulated on a massive scale in official newspapers. The second argument in favor of this peculiarity of the Colombian case is that doctors, concerned about the workers’ health, were beginning their activities in that area, when in Europe the discussion already displayed symptoms of exhaustion and the need for transformation. More clearly, when sociology seriously considered the problem, it did so by competing or interacting with emerging applied psychology.

This last aspect is very important, since this sociologization of the problem and the psychologization of the debate took place at the same time, coinciding with the movement that had been occurring all over the world since the 1920s, and which meant the consolidation of the human factor as a cohesive notion of analysis. There may be many explanations to understand why this process occurred in Colombia, such as the dissemination of the works by Elton Mayo at the end of the 1940s, but it is worth mentioning the appropriation of Spanish applied

psychology and the experience of the Instituto de Rehabilitación de Inválidos del Trabajo de España (Spanish Institute for the Rehabilitation of those Disabled by Work). In order to understand this, it is necessary to pause here and remember the way Mercedes Rodrigo Bellido (1891-1982) and César de Madariaga y Rojo (1891-1961) join the academic networks of the country. Rather than discussing the figure of the precursor, it is interesting to underline these authors for having suggested a double historiographic problem about circulation and the appropriation of knowledge.

During the Spanish Civil War, Colombia received 524 Spaniards in 1932, 575 in 1935, 359 in 1938, 405 in 1939, and 389 in 1940 (Bushnell, 1982). The figure seems incongruous with the unanimous support given to the Republic by Colombian presidents Alfonso López Pumarejo (1934-1938) and Eduardo Santos (1938-1940). However, it is justified by the discriminatory immigration policy, which allowed only the entry of people with irreproachable backgrounds, useful knowledge and capital. In practice, it meant being careful with anarchists and communists; in other words, it entailed political pragmatism rather than solidarity.

Mercedes Rodrigo was one of the main figures of applied psychology in Spain. She was linked to the laboratory and to the vocational guidance office of *École des Sciences de l'Éducation*, of the Rousseau Institute, headed by Édouard Claparède (1873-1940). In 1923, she studied psychology at the University of Geneva and, in the same year, together with Pedro Roselló, she translated the *test de Claparède* (Bozal and Gil, 2011, Herrero González, 2000). In 1924, she joined the recently created the *Instituto de Rehabilitación de Inválidos del Trabajo* (IRIT) (Institute for the Rehabilitation of Those Disabled by Work), as coordinator of the department of professional orientation. In 1928, the Institute became the Instituto Nacional de Psicotécnica (INP) (National Institute of Psychotechnology) and in 1936 she became its director. In 1939, taking advantage of the invitation by

Luis Eduardo Nieto Caballero, rector of the National University, she was able to go into exile in Colombia. In 1948, she left for Costa Rica, because "Colombia after April 9 was much like the Civil War in Spain" (Ardila, 1993: 84).

The arrival of Mercedes Rodrigo coincided with the need for the National University to improve the process of selecting new candidates, mainly for the medicine and law faculties, so, the Department of Psychotechnical Testing of the Laboratory of Physiology of the National University was created. Among the activities carried out by Rodrigo for the laboratory, we stress the adaptation, dissemination and application of the *Army Alpha Test*, the *Army Beta* and the *Thurstone* tests, among other intelligence and spatial relations tests, as well as studies on the psychological profiles of nursing and medicine students.

In the same vein, she developed vocational guidance activities, initially with students of the medical school, and then with those of engineering and nursing. The psychotechnical testing section soon received recognition and she started performing tests on perceptual discrimination, memorization, evocation, imagination, reasoning and problem solving. She selected and provided professional guidance to students from San Bartolomé, Nicolás Esguerra, Boyacá and the Gimnasio Moderno schools, cadets of the National Police and of the *Escuela Superior de Guerra* (Superior School of War), and workers of the companies Bavaria and Tranvía Municipal. In addition to this, she taught the medical psychology course in 1946 and published the book *Introducción al estudio de la psicología* (Introduction to the study of psychology), in which she emphasized children's psychology and vocational guidance. However, as she asserted, psycho-technical or applied psychology had sovereignty over all human acts, since "there are psychological facts first and foremost" (Rodrigo, 1946: 309). Finally, on November 20, 1947, with the objective of expanding the psycho-technical testing section, she created the Instituto de Psicología Aplicada

(Institute of Applied Psychology) of the National University of Colombia, the first of its kind in Latin America.

Through Mercedes Rodrigo and Nieto Caballero, César Madariaga also arrived in the country in 1939. In contrast to the number of articles and information about Rodrigo's life, very little is known about this man. He studied mining and metallurgical engineering, and he was a well-known promoter and defender of the benefits of the scientific organization of work. Before going into exile in Colombia, he was director of the *Escuela de Capataces y Minas de Almadén* (School of Foremen and Mines of Almadén), vice-president of the *Comité Nacional de la Organización Científica del Trabajo* (National Committee of the Scientific Organization of Work) and member of the *Instituto de Reeducción de Inválidos del Trabajo* (Institute for the Rehabilitation of People Disabled by Work). In addition to being a professor at the *Facultad de Administración Industrial y Comercial* (FAIC) (Faculty of Industrial and Commercial Administration) of the Gimnasio Moderno⁴, he worked as an industrial relations consultant at the *Instituto de Fomento Industrial* (Institute of Industrial Development), a private-public Colombian institution created in 1940.

In 1946, he published the book *Introducción al factor humano en la industria* (Madariaga, 1946) (Introduction to the human factor in industry), a work that gathers the essential contents of his lectures to Colombian students. The importance of this author can be confirmed by the influence he had in countries such as Chile and Portugal (Azevedo, 2012, Ortúzar, 2013), and obviously in Spain. In Colombia there is a lack of research to deepen his role, but it is true that he and Rodrigo transmitted the accumulated experience on IRIT labor issues to future me-

4 The FAIC was created in 1943 to establish the future administrative cadres of the industry of Bogotá; it joined, in 1948, the School of Economy of the University of Los Andes.

dical doctors and administrators of the National University and the University of Los Andes.

There is an extensive bibliography on IRIT, which clearly shows its importance for the development of occupational medicine and applied psychology in Spain. It was created on March 4, 1922 and began operating in 1924. It intended to “improve the conditions of people affected by disability” and also contribute to “solving the problems of economic and labor relations that high occupational accident rates imply for employers and the State” (Martínez Pérez, 2006: 354). The model was marked by the high degree of medicalization and by the influence of the *Organización Científica del Trabajo* (OCT) (Scientific Labor Organization). In the medical field the principles of industrial hygiene, ergonomics, studies on accident prevention and fatigue were applied, and investigations were carried out on traumatology, orthopedics and the rehabilitation of workers. In the field of labor sciences, skills tests were carried out for specialists and workers, vocational guidance, selection of personnel and training, seeking the best performance of the worker.

Back to the problem of industrial fatigue in Colombia, the physiology of work considers that the functioning of every living cell is an unbroken succession between an activity phase and a rest phase. Fatigue, in these terms, is a normal process, which tells the cells when it is necessary to go from the state of activity to the state of rest. In this state, the cell replaces the protoplasm and accumulates energy. When there is no rest, the imbalance extends into four vital phases: effort, fatigue, overload, and death (Restrepo, 1948: 181).

The effort consists of a voluntary and harmonious action, based on solidarity, with the aim of carrying out work, overcoming resistance or reaching an end. It can be sharp, when it is rough, fast, violent, unique or concentrated in a space of time; and it can be chronic, if the excess force is repeated, habitual or performed for a long time. Fatigue, on the other hand,

describes the intermediate gradual points between stress and overload. As long as the effort is prolonged, the accumulation of waste increases without protoplasmic repair time, and intoxication and poisoning cause the cell to lose vital properties and eventually die. Such accumulation without pause for recovery causes a decrease in the functional capacity of organs, until the definitive fall of action or death. The timing and intensity of the concomitant phenomena vary from one individual to another, depending on the constitution or anatomical structure, temperament or physiology. As Morales said, "every organ, every tissue, every individual will have a peculiar rhythm of fatigue, which differs considerably from the rhythm of another organ and another individual" (1937: 25). Regardless of the degrees of individual organic resistance, the "restoration phenomenon" consists of the accumulation and disposal of "fatigue substances", being common to all individuals, constituting a phenomenon of organic defense of all tissues, as well as an organization mechanism.

A contemporary of Morales, José Miguel Restrepo (1942), divides physiological fatigue into three categories, proportional to the degree of cellular permeation. In the first degree, there are sudden pathological muscular disorders, usually without a global impact. It is common among writers, telegraphers, seamstresses, violinists, and drivers. The second degree of fatigue is the condition resulting from a cellular permeation that, initially located in a group of cells - for example, in attachments of the muscular system like the tendons - generates a biological imbalance, later, in the whole organism. This is the case of the miners' nystagmus or blepharospasm and the welders' deafness. The third degree of fatigue is called *surmenage* or *strain*, referring to continuous fatigue, without pauses or space for organic or physical repair.

Others divide fatigue into psychic, of sensory functions, motor functions, and motor distribution. In the first one, there are headache, drowsiness, lack of enthusiasm, discomfort, di-

minished vitality, inaccuracy in the performance of work. For doctors, it is the undoubted result of the modern conditions of *Taylorized* labor. Sensory fatigue is associated with poorly lit or noisy work environments, characterized by frontal headaches and even more severe impairments of accommodation and adaptation, such as occupational nystagmus. Phenomena such as dizziness or sclerosis of the tympanum are caused by noise. Fatigue of the motor functions, in turn, is divided into dynamic and static: in the first, muscles that are not involved in the work activity take a long time to recover, accumulating more fatigue compared to the muscles required for work. The fatigue produced by static work results from prolonged muscle contraction, followed by localized pain that forces the effort to be interrupted. Finally, fatigue caused by the misdistribution of work leads to dyspeptic disorders or insomnia. In general, fatigue that is prolonged, for more than a month or a year, produces physical deformity, a complete loss of moral sense and a loss of objectivity to differentiate quantity and quality.

Thus, fatigue is a syndrome related to physiology and psychology, associated with multiple disorders. For this reason, one of the main concerns of industrial physicians was to diagnose it without using the subjective phenomena known as the “feeling of fatigue”. In other words, how could we extract the fatigue experience from the anamnesis record to neutralize the pretense of fatigue or disease? This apparently strictly clinical concern occurred, among other explanations, because fatigue, in the context of collective health insurance, was easily associated with the “hysterization” syndrome of all psychiatric, moral, family, and maladaptation problems at work, in terms of dismissal or justified abandonment without the reduction of salary.

Colombian physicians tested the solution to this problem mainly through the use of a test of the physiological state and functional value of the organism. Morales already recommended its use, but it was with Mercedes Rodrigo that these modern methods of psychophysiological research were established

in the country (Gaitán Ayala, 1946). The tests of the physiological state included the observation of chemical changes in the blood, urine, excretions, respiratory exchanges, calorimetry, metabolism, weight and appetite, variations in the arterial pulse, in heart volume, in reflexes, etc. On the other hand, the functional value of the organism was evaluated in muscular terms, by strength and resistance (dynamometry); precision, amplitude and regularity (ergography); coordination and control (tremor test); muscle speed (typing). Sensory, intellectual, attention, memory, association and logic tests were used to evaluate the psychophysiological aspects.

However, the methods of psychophysiology were insufficient to understand a phenomenon as complex as fatigue. To begin with, fatigue could not be isolated from other phenomena common to the worker's life, such as anxieties and worries motivated by labor and external factors related to family life and social coexistence. Precisely a sociological notion, "industrial fatigue", defines the problem as "a biological, economic and social phenomenon that must be considered by the industrialist, the worker, the hygienist, the physician, the economist and the theologian" (Morales 1937: 33). With this sociological reflection on industrial fatigue, the importance of adapting modern machinery to the human body and the role of engineers and physicians in this adaptation are emphasized; harmonizing the machine to the natural rhythm of the individual, and not to the contrary; respecting the rhythm with its tonic action of economy of efforts; and also respecting the "useless" movements, as they can be forms of muscular rest and serve as a means of eliminating the products of combustion - which, in turn, would explain the millennial persistence of movements in different arts and crafts; perceiving monotony as an obstacle to performance, depending on the nature of the actions and the physiological and psychological factors; understanding safety and well-being as factors of recovery and the elimination of fatigue, as well as the influence of stimulating factors of work

like wages; taking into account the conditions and habits of the worker (family, sexuality, drinking, home, means of transport, duties outside work), added to social factors, such as unionism, patriotism, gregarious instinct, general intelligence, religious feelings; finally, it was necessary to eliminate the practice of piecemeal wages, because they were considered to be physiologically dangerous, as they forced the worker to perform at harmful speeds – also in that sense, it was necessary to guarantee labor stability, with differentiated rates and wages that would dignify professional quality.

As noted, the sociological approach to production was as ambitious as the physiology of work and psychophysiology. However, he recognized methodologically the impossibility of understanding or controlling all elements in terms of his particular struggle against industrial fatigue. Morales expressed it by pointing out that:

The indeterminacy of the reciprocal value of different factors is due to the fact that the aim sought is extremely complex and cannot be examined successively from the same point of view by the engineer, the industrialist, the statesman, the occupational physician, the psychologist, the physiologist, the economist, the [sociologist]⁵, etc. (Morales, 1937: 37).

Therefore, it was possible to control the environmental variables of production processes, such as temperature, humidity, noise and machinery. But other aspects, such as “collective fatigue”, with its imprecise physiological symptoms and subjective sensations, were beyond any possibility of measurement or intervention.

Fatigue control was at the heart of all discussions about industrial performance. In the documentation on the subject, it is explicitly stated that intervening in the causes of fatigue is the

5 The original quotes *theologian*, but I suppose it must be a printing error.

means to increase production and reduce the costs of industrial accidents. For this, it is necessary to determine “labor conformity with the psycho-physiological constitution of the individual; determine the more or less fatiguing nature of the different professions; determine, if possible, the causes of fatigue in each individual” (Restrepo, 1942: 187). The study of fatigue mattered because its intensity was due to the greater or lesser adjustment of the worker to his work, which also means that occupational risk increases when there is no direct correlation between the worker’s skills and his work, which results in increased accident rates and decreased performance. This horizon is related to the lack of professional selection, the lack of prevention or rationalization of tasks and anatomical deficiencies – or, in a few words, the human factor. On the other hand, it was important because of the impact on production and social life. On production, because of decreasing performance, increasing work accidents, morbidity, mortality, time lost in the industry and poorly done work. In social terms, it manifested itself in negligence and job instability, in irritability and distrust.

Once the physician or the engineer identified the workers suffering from industrial fatigue, they suggested two types of measures to reduce it and return to the productive balance point without acute deterioration of the human factor. Restrepo, following Charles Myers, affirmed that it was necessary to avoid long periods without rest and working days of more than 8 hours; suppress overtime; introduce rest breaks with changes in activity and intervals of sports and recreational activities; carry out systematic training that allowed an adequate professional selection and adaptation of the worker according to his natural capacities; create a healthy and safe environment for work; introduce labor incentives; eliminate the causes of irritation and determine a salary in relation to performance. At the same time, considering that in the era of machineism mental exhaustion prevails, specialists suggested the implementation of *dopolaboro*, which consisted of pleasant practices for the worker, such

as gardening, sports, bodybuilding, household chores, among others. In this way, production increased, while labor was humanized with practices to maintain social tranquility and good relations between bosses and workers.

As for the accident rate, the discussion was based on the idea that modern machinery demanded permanent vigilance from the worker. As Restrepo said, "the rationalization of factory work under Taylor's system actually contributes to greater industrial efficiency, but it is also responsible for many [physical and nervous] disturbances" (Restrepo, 1942: 185-187). Therefore, the human factor, the mechanical factor or both factors together could be the cause of the accident. Accidents were identified, ranging from the least to the most decisive intervention of the human factor, as produced by an unusual material action, by an unusual action of the worker, or by the unusual action of materials after an unusual action of the individual.

Opinions were divided between those who believed that the main cause of accidents was the speed of production and those who believed that the main cause was fatigue. The divergence was not irrelevant, because these events are parallel, but not necessarily simultaneous. When the problem was speed, the accident could happen before fatigue. In business statistics, that could eventually materialize in a proneness to accidents on Monday mornings. However, when the problem was fatigue, the highest accident rates would be more likely to occur on Thursdays or Fridays. Specific studies showed that accident rates increased during the second half of the year, due to the close relations with psychic fatigue, more specifically, with the reduction of defensive reaction capacity and the loss of attention. The situation could be worse during night work.

In practice, industrial statistics were methodologically obscure and fragile; at least in the Colombian case, they were just industrial arithmetic without great complexity. Despite this,

they made clear that overcoming the limits of work capacity affected the accident rates and, in the long term, the worker's health was affected, as well as production costs. The situation could worsen, because in Colombia, according to some physicians, nutritional conditions and, in a broad sense, the economic, hygienic and social aspects made the excesses of work more dangerous or exacerbated fatigue with their concomitant effects.

Thus, in scientific terms, there was no doubt as to the importance of rest. On the one hand, as several authors showed, one of the problems that emerged in the 20th century was what to do with the workers' free time. On the other hand, most of the research carried out later was directed less to justifying the importance of rest than to administer the body of the worker in industry, so that it was possible to reduce the effects of fatigue. It is worth mentioning, for example, three-dimensional vision programs that used contrast and complementary colors to differentiate parts of the machinery and increase attention. It was not a question of preventing the inevitable, but of reducing the rate of deterioration. A text on the physiology of rest, published in the journal of the OGT of Colombia⁶, expressed in seven principles the concern for the early impoverishment and the unconscious use of the most valuable tool of the worker, that is, his labor power. More or less in the same words, the authors emphasized that all kinds of work required periods of rest, distributed throughout the day, to prevent strength from being exhausted and thereby to increase one's overall performance (Boletín de la Oficina General del Trabajo, 1930).

In addition to increasing accident rates or affecting work performance, fatigue was a predisposing or contributing factor

6 See «Fisiología del reposo [Translation of *Hygiène du Travail*]», Anonymous (1930).

to diseases, such as disorders of the circulatory system, alterations in nutrition, disturbances of the neuro-vegetative system and central nervous system, as well as to the emergence of latent diseases, such as tuberculosis. Prolonged acute and chronic stress, with its major bodily effects, are constitutive elements of the laws on occupational accidents and diseases - the acute ones correspond to the first group, and the chronic ones to the second.

On the other hand, recognizing the relationship between industrial fatigue and work-related accidents opened up great potential in the legal arena, since it could attenuate the worker's potential guilt. The legislation on work-related accidents exempted the employer from responsibility for the incident when it was the worker's "fault", however, as most accidents were due to industrial fatigue, there would be no reason to refuse to compensate. However, this argument was used more theoretically than in the legal medical field. In any case, there was progress in the recognition of the need for rest by the human factor, in other words, that fatigue was a morbid process resulting from work—even if such recognition was given with a less fair and more prosaic objective, as it was to increase performance. An insight on the phenomenon of an apparently tireless heart made it possible to quantify and qualify multiple risk factors or production contingencies. More than that, the knowledge of the dangers and risks for the body in the industrial sphere became inputs in the 20th century to justify some social reforms.⁷

7 Some historians show that this knowledge served the workers in the struggle for rights. See Bertucci (1997). Although there are no works of Colombian historiography on this aspect, it is possible to imagine that, in the Colombian labor press, the workers had also used medical discourses to claim social reforms. For an overview of the working press in the country, see NúñezEspinel (2006).

Reflections on the human factor

Throughout this article, it has been possible to observe the way in which some Colombian physicians objectified a classic problem of the world of work: fatigue. It was observed that the discussion was posed from the beginning as a psychophysiological problem, with a pronounced emphasis on the social aspect. This is an intriguing aspect, since it shows that Colombian labor specialists took hereditary factors⁸ into account, as their counterparts did in other countries; nevertheless, they did it from a perspective that considered social factors to be equally significant.

Of course, great care must be taken not to transform the singularity of the example into a general theory of Colombian social medical thought of the first half of the 20th century. The sources analyzed correspond only to a portion of the academic production of Colombian physicians, specifically the academic production of those who are also interested in occupational accidents, diseases, legislation and institutions.

In conclusion, it can be said that “industrial fatigue” belonged to a distinct branch of neurasthenia, historically closer to Rudolf Clasius and Charles Myers than to Bénédict Augustin Morel. In fact, for work doctors, fatigue was, first of all, a concept of the labor sciences, constructed with analytical elements of thermodynamics, psychophysiology of work and sociology. In that way, it was related to other figures of scientific rhetoric, such as effort and rest, debates about the technique, the means and the machine. And that, in the 20th century, included a complex network of interactions with the problem of productive transformations, changes in working conditions, the incorporation of labor laws and the consolidation of the forms of

8 In other regions of the continent, this discourse seems to have been more relevant, see Ferla (2005), Haidar (2008), Roldán (2010).

scientific rationalization of work - represented in Colombia mainly by the industrial economy.

Fatigue, on the other hand, links up with the rather problematic notion of the human factor. Indeed, the discussion was part of the wider process of emergency and the incorporation of the “human factor” or the “sociological factor” into the calculation of production. Certainly, the metaphors of the human motor and human capital were not replaced, but there was a process of psychologization and sociologization. Thus, as there was a movement from work physiology to psychophysiology, the focus on the corporal capacity of the worker was decentered, based on the methodical observation of the mental character of the worker and his social behavior. It is not possible to analyze the social and political impact caused by a concept such as human factor or social man; however, some of their epistemological coordinates must be problematized.

The movement of the human factor arises in response to the absurd Taylorist mechanical philosophy, departing from the principle that it is pure metaphysical speculation to consider man as a motor or sheer force (Friedmann, 1956). For researchers involved in this universe of reflections on labor issues, industrial medicine cannot consider the worker as a machine or measure the labor capacity as a function of muscular strength alone. The manifestations of strength, affections, feelings and emotions converged in the idea of human factor. As T. J. Ostrewich said at the *Consejo Interamericano de Seguridad* (Inter-American Security Council), “every worker is a father, or a boyfriend, or a dreamer and he does not stop hating just because he is wearing dungarees. We cannot erase emotions with calls to reason. Logic is not enough!” (Ostrewich, 1950: 13). The same author recalled that the worker is not a gear in the industrial machine, but “a complete unit that works, breathes and gathers mental, physical, emotional, cultural, social and economic aspects” (Ostrewich, 1950: 13).

In addition to attenuating the classic view of the human motor, this idea developed a more complex concern for performance, price decrease and increase in the volume of production, which remain fundamental challenges of the scientific rationalization of work. According to the definition adopted by the International Economic Conference of 1927, rationalization was the set of procedures fit to ensure the least loss of effort and material, in order to “obtain a maximum performance in order to achieve a minimum cost price” (Maurethe 1930: 436). In this sense, it is clear that, in order to ensure a minimum of material loss and maximum production, it was necessary to improve the machine, while optimizing the production methods and increasing performance, with less worker exhaustion. Theoretically, it is the mechanical and non-mechanical causes that determine both the performance and the higher accident rate. However, virtually all researchers accept that the proper functioning of the industry depended mainly on the human factor. For better or worse, all the intervention campaigns in the industry to accelerate production, put man at the center. Any claim of improvement, synchrony, or industrial safety rested on the human factor.

Given that man is no longer a machine for work production, and that the human factor is the axis of production, companies ended up depending on individual factors and on the influence of social aspects in the human factor. Or, as Friedmann said, companies ended up depending on a technical fact, a psychological fact and a social fact (Friedmann, 1956). Thus, for observers of the time, it was no secret that economic problems, dissatisfaction with life, family conflicts, moral concerns, malnutrition, among others, had a direct impact on production. In the same way, it was evident to them that the same factors intervened in the higher or lower accident rates at work. The weight that machineism, monotonous movements and routines had on the individual were not completely underestimated, but the levels of perception and motor ability that could lead to higher

occupational accident rates should be evaluated in correlation with other factors such as poor working conditions, group, environment and social factors.

In this sense, production problems were associated with daily life problems and, in some way, incorporated into the field of sociology. In fact, in the 1940s, industrial fatigue had become “sociologized,” just as the discussion on social factors linked to collective health was increasingly accepted as an evident part of the debate. In this regard, Rafael Salamanca insisted on the need for physicians to carry out a type of social research in which all causes and conditions were evaluated in accordance with the national reality, without leaning for exclusivist evaluations - pedagogical, social, nutritional, endocrinological, deterministic, geographical or hereditary (Salamanca Aguilera, 1941). At about the same time, Laurentino Muñoz (1947) pointed out that health problems were very complex and needed the application of medical, economic, anthropological, ethical, social, and aesthetic principles. He added that, in the view of medical doctors, the problem of hygiene was often seen in a partial way, thus neglecting accidents and occupational diseases, as well as infant mortality, which were problems to be solved with a determined social action.

The idea of the human factor emerged in Colombia, timidly, in the engineering faculties, around 1910, reaching its peak in the 1940s, when a group of politicians in the context of the growing technocracy which incorporated it into institutional debates. The human factor in the political debate allowed a displacement of the problem of degeneration of the race, while maintaining a few nuances of the discussion. In 1934, the members of the *Oficina Nacional del Trabajo* (National Labor Office), when listing the reasons as to why it was necessary to establish a minimum wage, affirmed that “apart from social and racial conveniences”, generating wealth “must inevitably include the improvement of the labor factor, that is, human capital, which

incorporates its efforts in production “(Lanao Tovar, 1934: 302). Six years later, in the same organization, José Joaquim Caicedo Castilla, Minister of Labor, Hygiene and Social Security recalled as essential functions of that institution the defense of the human factor, for which a policy of municipal development and a broad social policy were necessary (Caicedo Castilla: 1940: 8). At the same time, some of the arguments in favor of social security were, precisely, to preserve the human factor and to foster its main values of health and work capacity (Stein, 1942). The historian, Daniel Díaz, points out that, for President Alfonso López Pumarejo, “the problem was no longer the degeneration of the race, but the chains of tradition that imprisoned the intelligentsia and the strength of the population [and therefore, the solution was] the education of illiterate people [...] and the education of citizens aware of their nationality “(Castro Gómez and Restrepo, 2008: 56). However, it was with Mariano Ospina Pérez that the debate about the human factor reached its peak. As Daniel Pécaut recalls, Ospina Pérez’s economic program was to turn the country into a large production company (Pécaut, 2001). This explains why, during his presidential campaign in 1946, he proposed the development of the human factor, the national productive force, the scientific institutes for workers, the causes and effects of psychological and physiological fatigue, the organic effects of work and various harmful agents, and other instruments for the worker’s efficiency (Mayor Mora, 1997).

In conclusion, the human factor was both the factor that harmoniously and consciously developed psychic and physical energy, and the active energy that contributed, together with other economic forces, to improve production and increase national wealth (Calderón Reyes, 1955). These attributes seem to echo other categories in force at the time, such as race and human capital, but they are also part of a long process of affirmation and the legitimation of identity, through objectification and appropriation, by doctors, of various factors inherent in the

world of work. Thus, with regard to the human factor in the discourses of engineers and doctors, we first see the complexity of the problem with the introduction of individual and social factors. On the one hand, there is the closer strand of engineers, which puts the human factor in relation to the “scientific” rationalization of the work environment, increased performance, productivity, capacity and reduction of occupational accidents costs. This was associated with the liberation of potential and the experience of individuals, while a process of persuasion and consensus-seeking with the worker to diminish forms of daily resistance or acts of independence of the spirit occurred.

On the other hand, there was the psychophysiological aspect of work, in principle more theoretical, focused on the identification of the predisposing causes and the psychosociological factors involved in the increase of accident rates, diseases and reduced performance. In this field of knowledge, the human factor was fundamentally seen through two tools: psycho-technical selection of personnel and professional orientation. It was assumed that some individuals were better suited for certain jobs and that, when assigned to a different place, they suffered the consequences of such activity in their flesh and spirit. These workers were also considered to be more likely to suffer accidents: depressive, dreamy, chronically anxious, paranoid, solitary, with “twisted personality” (Ostrewich, 1950). All this classification of the psychological factors that influenced the higher accident rates appears to contradict what was also stated, in theoretical terms, about the importance of recognizing the social factors involved in the productive process.

At the conclusion of this chapter it is possible to affirm that the systematic observation of the human factor made it possible to verify, scientifically, that the control of the psychophysiological factors of production favored both employers and workers. This sort of nihilism, however, seemed to forget that the pursuit of workers’ happiness was only important if it actually contributed to productivity growth, as the president of

a large company of the time said: "Sociology has shown that men seem to produce better if they are happy. But, if experience proves that they produce even better if they are furious, we would make sure they are permanently furious" (Aktouf, 2009: 223). Similarly, he seemed to forget that a regime based on the systematic exploration of workers and the denial of rights was, unfortunately, easier to implement. In addition, supporters of the movement of the human factor were never able to understand the worker's behavior, a fact always rebellious to foresight and calculation (Canguilhem, 1947), especially when the comprehensive effort is instrumentalized in terms of productivity. Thus, all efforts to conceptualize fatigue were so fragile that the impossibility of a general theory of fatigue was accepted (Le Bianic and Vatin, 2007).

In the critical approach of Taylorist technicism or the search for the liberation of the worker from the bodily problems of production, the psychophysicists made the mind and the worker's own body a new idol. The worker's conscious and unconscious guilt in work accidents became fundamental, while the work environment gradually became a secondary aspect at the time of evaluating the risks of industry. Obviously, this was not such a homogeneous process. In the 1950s, many of Colombia's production problems were still technical. In any case, the discussion of the human factor in production circulated through the academic and industrial spheres, thus contributing to show and hide the problems of the world of work, through the rhetoric of psychologization, medicalization and the normalization of work skills.

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“IN SEARCH OF MAN!”¹: PROBLEMATIZING THE HUMAN FACTOR IN THE EXPLANATION OF LABOR ACCIDENTS. Argentina, between the present and history, 1920-1970

*Victoria Haidar*²

Introduction

Problematizing security at the workplace currently shows the articulation of both systemic approaches, which attribute the occurrence of accidents to the interaction of multiple factors and theories based on the idea of “error”, grounded on developments of cognitive psychology. The implementation of the two models, both presupposing the “complexity” of the approached phenomena and adopting a “managerial” style, produced, if not the destruction, at least a decrease in the importance historically given to “man” in the explanation of accidents. Nevertheless,

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- 1 Such an expression (in Spanish, “¡Buscad al hombre!”) is attributed to Camille Simonin, a French expert in legal medicine, by Juan Manuel Bazterrica (1970:140), an Argentinean specialist in labor medicine.
 - 2 Member of the National Council of Scientific and Technical Research, assistant researcher of the Research Center from the School of Juridical and Social Sciences, *Universidad Nacional del Litoral* (National University of the Coastline). Email address: vhaidar@fcjs.unl.edu.ar

such a situation did not result in the total disappearance of discourses blaming workers in Argentina; they still prevail –either implicitly or explicitly, in concealed or evident ways- in practices through which labor risk is ruled in this country.

With regard to the topicality of ideas tending to blame workers for accidents, two goals have been set for the present chapter. The first one is to show that such prevalence echoes a movement which, between 1920 and 1970, attributed a starring role to the “human factor” in the explanation of accidents. The second one is to integrate such elements “from the past” into current strategies to control security at workplaces, thus re-signifying and partially modifying their operation.

In this way, around the 1920s a set of formulations began circulating in Argentina which, in the more general context of psycho-technical debates, highlighted the importance of the human factor in the generation of accidents. Indeed, as will be argued in the present paper, the 1970s became a turning point in the understanding of the role attributed to “human matters” in the causing of accidents. Therefore, if by then the practical discourse about the *human matters* in relation to accidents implied (exclusively) blaming workers for their occurrence, as of 1970 the focus moved from workers as individuals, towards the “authorities” with security-related responsibilities and, more generally, towards the “organization”³.

3 It is worth noting that the periodization proposed here corresponds with the transformations in Argentina of the problematization of the “human factor”, rather than to the more general periodizations established within the field of Argentinean historiography, which express breaks and continuities in broader records, associated to modes of government, systems of thought or ideologies, modes of accumulation, etc. Therefore the “cuts” established here are exclusively valid for the specific history of the ways labor accidents have been regarded within a field of expert knowledge. For a further development of the construction of periodizations, refer to Aguilar et al. (2014).

As such, the present work falls within the scope of a research line dedicated to producing the “history of the present”⁴, of the regime of practices through which labor accidents and diseases are regulated in Argentina. From a methodological perspective, it uses tools for content analysis and for materialist discourse analysis in order to build and examine a *corpus* consisting of a “reference domain of discourse”⁵ and a “memory domain of discourse”⁶.

This paper is organized as follows. The first section is dedicated to displaying in a series of discourses from the present, the existence of statements which tend to blame workers for accidents. The following sections are aimed at clarifying how such statements are embedded in “past” ones. So, in the second section we can reconstruct the conditions required for the emergence of reflections on “the human factor”. The question of the human cause of accidents generated different responses. With the dissemination of psycho-technics, the issue of incompetence was stressed, as will be shown (section three). Generally, the appearance of the human factor was modulated by the idea that there was, in certain individuals, a “predisposition” to accidents.

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- 4 “History of the present” is an approach developed by a group of Anglo-Saxon authors as of the 1990s; it departs from the reception of Foucauldian ideas with regard to “government” and “governmentality”. Such an approach shows how contemporary problematizations of diverse issues consist of multiple elements resulting from different background conditions (Barry, Osborne y Rose, 1996).
 - 5 Such a concept refers to the set of texts defining the corpus and work directing the analysis (Courtine, 1981). In our case it consists of a series of “current” statements, taken from diverse kinds of texts (manuals, hygiene and security journals, corporate programs, etc.) which directly or indirectly blame workers for accidents.
 - 6 Such a concept connotes the discursive series shaping the “layers of memory” (cited, reviewed, contested, eluded, forgotten or denied) of the documents in the field of reference (Courtine, 1981). These consist, in the current analysis, of documents arising from the fields of psychology, labor medicine, psycho-technics, which enquire into the causes of labor accidents, throughout the 1920 - 1970 period.

The fourth section consists of three moments, corresponding to attempts to explain the concept of predisposition, as follows: from biotipology, taken from Karl Marbe's⁷ psychology and the discoveries of Anglo-Saxon epidemiologists and statisticians, and from psycho-somatic medicine. Another concept used to consider the incidence that man had over accidents was that of the "unsafe act" (the fifth section). Summarizing the preceding, the sixth section reviews some angles of the "reception" and "translation" processes of such theoretical vocabulary. Finally, some conclusions are proposed.

Guilty! ... Still?

Nowadays, a certain consensus has been reached within expert knowledge on security as they accept that the causality of labor accidents is multiple and complex. In Argentina, specialists of different disciplines such as engineering, ergonomics, psychology, medicine, and social labor studies encourage prevention strategies tending to displace the focus from workers towards "systems" and "organizations". What more, such kinds of approaches have reached a certain amount of integration within the scope of public policies⁸.

Nevertheless and paradoxically, texts of several genres (pedagogical, academic, texts regulating the procedures to follow in case of accident at the workplace) are produced and spread

7 Karl Marbe (1896-1953) was a German psychologist who did research in the fields of juridical psychology, and general applied psychology. Marbe claimed, in the mid-1920s, that there was, in certain individuals, a "propensity to having accidents".

8 The *Superintendencia de Riesgos del Trabajo* (Work Risks Superintendent's Office) is the State agency operating as authority enforcing the Labor Risk Law No. 24,557. In 2003, it incorporated a series of conceptual references into its statistical yearbook which somehow translate the reception of such complex and systemic approach on accidents.

from diverse places of enunciation, which keep an eye on workers when referring to accidents. Such attention is modulated, mainly by concepts such as “unsafe act” and “human error”.

Let us consider, as an example, two claims made by labor security experts. In a text written with educational purposes by an engineer and professor, accidents are explained in reference to the “unsafe act” theory, and their causes are attributed in 80 or 90% of instances to “human error” (Mangosio, 2002: 14). Besides, the operational procedure to research accidents, disseminated by the Argentinean Institute of Security⁹, includes “unsafe acts” among the “immediate causes” of accidents, and “personal factors and conditions” among the “basic causes” (the ones that allow explaining why unsafe acts are committed or how dangerous conditions occur).

Far from being anachronistic references, this sort of worker’s “relapse” into guilt seems to become more generalized. As has been pointed out by the international specialist Carlos Rodriguez (2005), even though the most consensual research scheme on accidents integrates a systemic approach, with some elements arising from cognitive psychology (human factors theory); in practice, the global results frequently reached by such inquiries end up pointing at “unsafe acts” as the primary cause.

To reinforce such ideas, it has been observed in a publication in Spanish –particularly aware of theoretical and technological innovations in the field of security– that the idea of “human error” works as some sort of a “black hole” in accident analysis (Niño Escalante y Herrero Tejedo, 2004: 16), in which individual liability trials are deposited.

9 This agency is a training center for the spreading of information in regard to hygiene and security related issues; it has operated in Argentina since 1940.

Although still marginal, the idea of “predisposition” continues to play a role in Argentinean approaches on accident prevention. For example, in a paper published by the *Revista de Seguridad* (Security Journal), issued by the *Instituto Argentino de Seguridad* (Argentinean Institute of Security), it is claimed that “being safe at all moments is a way of life”, and then they suggest the performance of medical-psychological research aimed at identifying “accidentogenic individuals” (Exposito, 2006: 14-16). On the other hand, in an investigation into security within the construction industry presented in a congress of the *Asociación de Estudios del Trabajo de la Argentina* (Argentinean Association for Research on Labor) (ASET), “security friendly attitudes” were defined by the expert in charge of the presentation as “those generating a predisposition to understand the existence of risks, and to behave properly by following certain preventive procedures” (Machado Susseret, 2007: 24).

Besides the discourse of experts, health and security strategies developed by large companies are usually organized on the assumption that accidents are caused by unsafe behavior by workers; hence the popularity enjoyed by the “unsafe conditions and acts records”. Authorities from different companies agree when claiming that the problem resides solely with workers. A specialist working for SHELL Argentina expressed it as follows, within the context of collective works carried out jointly with acknowledged authorities from different sectors:

Despite the expenses, experience shows that the main factor determining accidents is still human error [...] Therefore, when it comes to dealing with prevention, the priority is not first-aid training, but working upon unsafe acts (Cianis, 2002:58).

An identical kind of rationality motivates the preventive measures taken by the metallurgic company ACINDAR, as can be inferred from its security report: “Given that it has been observed that most accidents are due to personal attitudes, a series of courses dealing with issues referred to personal behavior has

been organized jointly with the Argentinean Institute of Security (IAS)” (Acindar, 2006).

On the other hand, when authorities notice that accidents keep occurring, despite the implementation of innovative health and security programs, they do not hesitate to blame the failure on “the high incidence of unsafe behavior, due to rushing, distraction or pressures”, as pointed out by the security manager in the company QUILMES Argentina (Pagliotti, 2007).

But not all ways of thinking which tend to blame workers are covered by expert discourses and corporate practices. They can also be found in the bureaucratic and statistical practices developed by the State. Thus, until 2003, the form used by the Work Risks Superintendent’s Office to report accidents included the field “unsafe acts”.

Such a way of thinking (which either directly or indirectly blames workers for accidents) tips the balance towards preventive interventions tending to repeat unsafe incidents, attitudes and behavior, as well as to offer economic support for accident reduction.

Nevertheless, we think such discourses are not totally contemporary. Rather, ideas problematized in other historical moments under the “human factor” label still resonate beneath them. In the following section, the context in which such a theory appeared in Argentina will be explored.

The “discovery” of the human factor: «the true cause is “man” himself»¹⁰

In Argentina, the concept of the *labor accident* started taking shape in the late 19th century, in different fields of thought and

10 Boccia (1947: 2441).

action: law, private insurance, social hygiene and psycho-physiological studies on labor. All these views agreed on attributing their occurrence to a series of “objective laws”, verifiable in the statistical field and/or on workers’ bodies. In such discourses, human behavior practically played no role.

In the immediate years after the end of World War I, on the contrary, a starring role to the human factor in the explanation of accidents became prominent. Such a notion appeared within the psycho-technical movement¹¹ in the context of its argument with Taylorism (Rabinbach, 1992). Given that man was regarded as a “psycho-physiological device” at the “center of work” (Bosch, 1927:399), it was an “error” to approach it only from a mechanical point of view, thus forgetting about the “psychological factor” (Palacios, 1935: 54). Unlike the “cold” and “inhuman” style of Taylorism, the notion of the Human Factor had a “warm” connotation, inviting one to approach problems of the industry in a comprehensive way. Besides such epistemic and political reasons, its discovery was largely the response to a “practical question of efficiency” (Urbandt, Francone and Novarini, 1947: 48): what was the cause of accidents?

While such a question came directly from the industrial sector both in the European and the US experiences, in the Argentinean case it came from the expert field¹² which, nevertheless, kept good relations with the former¹³.

11 It designates, from the early 20th century, the analytical study of diverse aptitudes used by man in any kind of activity (Fingermann, 1954).

12 All of this, despite the fact that prevention campaigns against accidents started being developed in some large companies as of the 1920s, which incorporated mottos and strategies originated in the US.

13 Such a bond was particularly tight with hygiene and security specialists and, to a lesser degree, with physicians, as can be inferred from the publications of three pioneering institutions in the dissemination of information regarding labor accidents and in the development of prevention campaigns: the *Sociedad de Medicina del Deporte y del Trabajo* (Society for Sports and Labor Medicine) (1934), the *Instituto Técnico de Accidentes de*

The same as in Europe, “the human factor” was the name local experts gave to a “concern” (Cohen, 1998) which, when mobilized to consider accidents, involved a plurality of reasons. On the one hand, it expressed the biopolitical aim (Foucault, 2002) of preserving the “human capital” of the nation. The idea was, of course, to reduce the economic loss suffered by the industry. But there was also a set of political reasons at stake. Such a concept designated the problem men implied for the industry, given the amount of uncertainty, error, disorder and disturbance they introduced in it. At the same time, “the human factor” was the name given to their “solution”, as only by acquiring more and better knowledge about the intricate mysteries of subjectivity, would it be possible to either purge or neutralize their influence.

Once such concern took shape, the discourse on accidents was organized according to a binary division distinguishing and opposing “objective” and “subjective”, “external” and “internal”, “mechanical” and “human”, “technical” and “psychological”, “material” and “personal” causes. From its first appearances, the human factor involved a language that allowed updating, in the industrial world, ancient dualities woven into the history of western thought: body and spirit, technical and social, etc. (Cohen, 1998).

One of the features of such a discourse matrix is that it granted more explanatory relevance to “human” causes than to the “technical” ones, which could be verified at the statistical level. In this sense, a common assumption in the literature, produced by different forms of knowledge about labor in the 1940s and 1950s, was that the highest percentage of misfortunes was due to deficiencies, negligence, lack of attention, or worker incompetence. Not even the lack of data regarding accidents

Trabajo (Technical Institute for Labor Accidents) (1937) and the *Instituto Argentino de Seguridad* (Argentinean Institute of Security) (1940).

found in the Argentinean reality¹⁴ kept experts from attempting to numerically measure such a statement.

With such purpose, they referred to figures coming from the United States National Security Council. Such “large numbers” claimed that 70% of accidents were avoidable and that only 30% were due to mechanical causes (Pochat, 1941; Medicina del Trabajo, 1944). A relevant source of data, this time a national one, was the Army’s Direction of Sanitation (Dirección de Sanidad del Ejército) (Bó, 1953). There was also the circulation of “Private Numbers”, elaborated either by industrial establishments of some importance or by some technical institutions providing services to different companies, which started getting organized in the 1940s, such as the *Círculo Argentino de Estudios sobre la Organización Industrial* (Argentinean Circle of Studies on Industrial Organizations) (Kaplan, 1958). Another source, more direct but also more uncertain, was the “personal observation made by physicians from the factories” (Cabassi, 1944: 144).

Anyway, there was always someone to ask for “prudence” when using such numbers, given that no “insurance company or employer” would consider the personal and psychological circumstances surrounding the accident, that the prevailing point of view in the elaboration of statistical reports was that of compensation (Bó, 1953: 648), and that there were no uniform statistical methods allowing the comparison of figures both within and outside the country (Bó, 1953: 657).

Already in the 1950s, in the context of the first Peronist period (1946-1955), some voices started questioning the explanatory preeminence unhurriedly attributed to the human

14 The National Department of Labor, created in 1907, produced statistics on accidents, but they did not have the amount of detail necessary to distinguish “objective” from “subjective” causes. Its functions were transferred to the *Secretaría de Trabajo y Previsión* (Secretariat of Labor and Provision) (1946), and by 1947 statistics on accidents stopped being recorded.

factor. The broadening of workers' rights and the generalization among experts of the ideas of "social justice" and "worker's dignity" are likely to have favored the appearance of such criticisms; but other more mundane reasons, associated with the industrial security practices of the Government, should not be discarded. Thus, Germinal Rodríguez (1951: 403), a renowned authority in the field of social medicine, referred to the "fallacy of the 15 to 85 per cent". He warned that the huge difference between the proportions attributed to technical and human causes could become a pretext for employers not to invest in the modification of dangerous work conditions. Likewise, the Army's Sanitation Direction defended the idea that accident causality could be equally divided into mechanical and other man-related factors (Bó, 1953: 649).

Beyond such questionings, it is worth noting that the human factor assumed "an inexhaustible and polymorphic causal power" (Foucault, 2002: 82) until well into the 1960s, which resulted in the growing visibility gained by "oversight", "recklessness", "temerity" and "unwillingness" in the explanation of accidents (Urbandt, 1933: 10; Clusellas, 1941: 466). But all such variations of "clumsiness" were nothing but a symptom of deeper problems; they were "the tip of the iceberg" of a complex causal process which should be brought to light. As was insightfully pointed out by a labor doctor, the "lack of attention" formula only filled a cell in the statistical pigeonhole. To get more "according to reality" statistics (Cabassi, 1944: 145-146), it was necessary to enquire into the real causes of inattention.

One first response pointed at, as will be seen in the following section, was the issue of incompetence.

Incompetence as a cause for accidents

The Argentinean constitution, approved in 1853, establishes (the same as others of a liberal persuasion) that all individuals are equal before the law. The "psychological" explanation

of accidents came to bring that juridical fiction down: as had been proven by the findings of experimental psychology, individuals “were not equal” when it came to fighting wars, nor at school situations, nor at their work activity. The idea that subjects had different aptitudes deeply seduced the local supporters and practitioners of psycho-technics. They believed knowledge and the measuring of individual aptitudes –calculated through the implementation of diverse tests- would allow them to select those workers who were best fitted for each occupation. The goal such actions pursued was the increase of efficiency at work. But in those cases, in which security devices were insufficient to substitute human action, and an error could prove to be fatal (such as in the case of workers driving cars, trams, etc.), professional selection played a preventive role. As Kaplan (1953:211) so eloquently put it: “for certain specifically dangerous tasks [...] it is almost imperative to perform a thorough examination of aptitudes such as attention, the ability to react or emotionality, thus disregarding any individual who has not had a harmonically sufficient development of such aptitudes”.

A series of forecasts mediated the assessment of aptitudes and judgments related to avoiding accidents; they relied on psycho-statistical concepts, and were uttered at diverse moments of the educational/professional trajectories of individuals, thus articulating themselves into professional “orientation” (at school, of apprentices, etc.) and “selection”. If the “scientific selection” of workers prevented accidents (Corti Maderna and Brie, 1944: 152), “vocation”, discovered by means of orientation tests, also constituted a powerful antidote against them: “the worker with a natural vocation for his work will be more agile and will not have labor accidents that easily” (Sagarna and Jesinghaus, 1923: 334).

The prestige enjoyed by explanations associating accidents with features of the workers’ personality during the central decades of the 20th century, helped “professional selection” to gain an unusual relevance both within the scope of the State and

of the industry. Thus, the assessment through psycho-technical methods of over 12,000 drivers of collective vehicles from the *Corporación de Transportes de la Ciudad de Buenos Aires* (Transportation Company of the City of Buenos Aires) had brought with it, in the opinion of a renowned psychologist, a decrease in traffic accidents (Fingermann, 1954). Likewise, some companies where tests had been performed on their drivers during the 1940s (ESSO, Duperial, Alpargatas, etc.) had reported the coincidence between the results of the tests and the accident rate (Kaplan, 1951: 388).

It is worth noting that, as understood by Gregorio Fingermann, one of the main figures of the psycho-technical movement in Argentina, the concept of “aptitude” was amoral, that is, it was devoid of any ethical valuation. This type of consideration did not keep the assessment from being used to deprive certain individuals of work opportunities, and thus exclude them *a priori* from the labor market. Thus, experts would directly note, among the “causes” of accidents, the “lack of professional aptitude” (Zanzi, 1947: 1264).

The conviction that aptitude designated something related to “doing”, rather than to “being”, a certain “capability of realization” (Fingermann, 1954: 56), avoided contaminating psycho-technical tests with the intent to identify “accident-prone individuals”, as will be shown in the following section, and with the merger of the semantics of “incompetence” and of “predisposition”.

The many facets of the predisposition to having accidents

In the attempts to answer the question regarding the cause of accidents, one of the concepts appearing most insistently was that of “predisposition”. In the mid-1940s in Argentina, everybody talked about the factors predisposing someone to

accidents. The use of such a notion, arising from the field of medicine, was associated with the reception and the cross-linking of three different traditions: biotypology, the German and Anglo-Saxon branches of experimental psychology, and psychosomatic medicine from the US.

The predisposition to having accidents as a feature of individual constitution. The Biotypology approach.

Biotypology¹⁵ was one of the paths through which the idea that there was a “predisposition to having accidents” entered and spread throughout our context. For such an approach, the solution to a number of issues implied by wage labor lied in the adequate knowledge of each individual, that is, in determining each one’s “constitution” or “biotype”, understood as a synthesis of four dimensions: the morphological type or external shape, the humoral and functional temperament, the affective or volitional nature, and the individual intelligence and inheritance. The discovery of specific aptitudes for the different jobs depended on it, as well as the “diathesis”, that is, the hidden morbid predispositions carried by each body (Haidar, 2011: 318).

One of the main supporters of such a way of thinking in Argentina was a prestigious labor physician, Donato Boccia¹⁶.

15 Biotypology was the discipline in charge of the practical implementation of Francis Galton’s eugenics in the Latin world (Vallejo, 2004). It was created in Italy during the first post-war by Nicola Pende. It was institutionalized in Argentina in 1932, through the creation of the *Asociación Argentina de Biotipología, Eugenesia y Medicina Social* (Argentinean Association of Biotypology, Eugenics and Social Medicine), an entity aimed at spreading the ideas arising from practical Thomist psycho-technics by the Jesuit and anti-Semitic priest Agustín Gemelli. For further developments into the use of biotypology to approach the issue of labor accidents in Argentina, see Haidar (2011).

16 Donato Boccia was an Italian-Argentinean physician educated in Italy by the constitutionalist school. He was the chief of the clinical service of the

In several texts, he stressed the idea that: “each worker has a way to react to different sensations, according to their physical-psychic conditions, because their individual constitution or biotype [...] predisposes each one differently to labor accidents” (Boccia, 1938: 354).

This physician believed (thus following Agostino Gemelli) that, beyond the action of exogenous or environmental factors, accidents depended on internal and subjective causes, which were articulated in terms of “identity” or “ontology”. The accident rate thus became a rule for the objectification of the subject, on behalf of which dividing practices, such as the following, were established:

Regarding their likelihood to suffer accidents or their accident capacity, at least two groups of individuals may be found. The first one consists of normally built men, both in their somatic and psychic spheres. If any of them suffers an accident, the investigation made will show, in a high percentage of cases, the guilt of the machine or other contingent causes. The second group consists of individuals with certain deviations from physiological and psychic normality, which predispose them to suffering labor accidents (Boccia, 1947b: 2444).

The industrial environment could certainly aggravate, reveal or trigger the abnormal states remaining more or less latent (Boccia, 1935: 9-10), but, in the end, accidents depended on each individual’s personality. One can easily deduce how functional such an explanation was for capitalist reproduction, as, according to it, the working conditions and environment played a secondary role in the generation of accidents. Given that the problem lied in man, biotypologists, just like psycho-technicians, believed the solution was in the uninterrupted improvement of tests. The resonance of biotypology went well beyond

Italian Hospital of Buenos Aires and started teaching labor medicine in 1934, at the Biotypological Politechnical School. With the time, he became some sort of a local reference for this discipline (Haidar, 2011: 329).

the first circle of initiates, and has been also felt in labor-related discourses, tested in the fields of State policy (Urbandt, 1933), social assistance (Tallaferro, 1945) and psycho-technics (Kaplan, 1952: Fingermann, 1954). And, as will be seen in the next section, some psychological theories influencing psycho-technics were not very distant from the “ontological” and “determinist” conception biotypologists had regarding accidents.

The propensity to having accidents as a psychological feature: contributions of Karl Marbe’s school and Anglo-Saxon studies

Around the 1920s, both in Germany and England, research started being carried out in the field of applied psychology which, based on statistical data and the realization of several tests, concluded that, within a collective of workers, some individuals had a “history” of accidents. Statistical evidence of repetition led the German psychologist Karl Marbe to claim, around 1925, that certain individuals had a “propensity” to workplace accidents (*unfallneigung*)¹⁷. Simultaneously, industrial psychologist Erik Farmer also spoke, in England, of “accident proneness”.

The notion of “propensity” or “inclination” to having accidents was, at first, purely statistical. The question on the “cause” of such repetition throbbed below such numeric ascertainment. The answers given to this question in England were diverse. Mayor Greenwood and Hilda M. Woods claimed –from the fields of epidemiology and statistics– that some individuals had certain special “susceptibility” to accidents and turned that feature into a personality trait. Ethel Newbold, with training in statistics, claimed around 1926 that some workers had a “personal tendency” to suffer accidents. Her hypothesis

17 J. Burnham’s (2009:2) thesis is that it was a “discovery” or an independent and “simultaneous constitution” of the same idea.

was even more ambitious: it suggested that people who had a record of “minor diseases” were more likely than the rest to report accidents (Burnham, 2009: 63). Nevertheless, she did not dare to explain where such a tendency towards having incidents/accidents came from.

On the contrary, Karl Marbe, the same as the biotypologists, did not hesitate to claim that such a propensity to having accidents was the effect or the expression of a psychological trait that is part of personality; an innate and concealed trait which imposed itself on individuals who inherited it.

All such theoretical vocabulary, circulated during the central decades of the 20th century in Argentina, enjoyed a warm but heterodox reception. Both Boccia and Juan Kaplan¹⁸ were informed of Newbold’s research. They went even deeper by “adopting” the statistical, rigorously mathematical, shape that such a tendency towards having accidents took, according to the author. Thus, the definition of “predisposition” in Boccia’s (1947a) and Kaplan’s texts is a result of their work:

From such research [Newbold’s] arises the concept according to which the predisposition to labor accidents is the set of circumstances causing that, among a group of individuals placed in equal working conditions, some of them will suffer a higher amount of accidents (Kaplan, 1953: 207).

But, unlike Newbold, they were not content with the mathematical confirmation of regularities and repetitions; they wanted to know which were those “circumstances” by which, *ceteris paribus*, some individuals have more accidents than others. Given that they were familiar with the “state of the art”, they had two answers available to them, which they adopted in combination: “Marbe’s solution” (some individuals had a “psychic

18 A renowned figure in the field of labor medicine and psycho-technics, Juan Kaplan created a method of professional orientation and selection of his own, which he applied in a number of public and private institutions.

structure” which made them likely to have accidents) and the “Italian biotypological school’s solution” (the accident capacity was an abnormal psychophysiological trait of a constitutional nature).

This allows explaining, for instance, that for Boccia (1947b: 2444) the predisposition to having accidents resulted from “organic or functional deficiencies either of a physical or psychic nature”; or that, together with Marbe, Kaplan claimed there were “accident-prone individuals”. In the same spirit, a text published after the *coup d’état* which overthrew Peron’s government in 1955, issued the following statement: “there are individuals who are predestined to having labor accidents” (Kaplan, 1958).

Kaplan was both a psycho-technic’s “trainee” and an advocate. The attraction he felt for “Marbe’s School” may be explained by his purpose of “psychologizing” the argument on labor accidents, as well as by his goal of imposing his own professional selection methods in the industrial context.

Alongside psychology, there was another discipline which dared to deliver judgment on accident rates, as will be seen in the following section.

The “psychosomatic” predisposition to having accidents

The 1950s added new technical vocabulary to the problematization of accidents: that of psychosomatic medicine from the US. The traces of such an approach were felt with intensity within the fields of labor medicine, psychiatry and the mental hygiene movement. Aiming in such a direction, while in 1938 and 1947 Boccia entitled his works *Medicina del Trabajo* (Labor Medicine) and *Tratado de Medicina del Trabajo* (Labor Medicine Treaty), his intellectual production of 1953 is called *Medicina Psicosomática y Medicina del Trabajo* (Psychosomatic Medicine and

Labor Medicine); this fact accounts for the “psychosomatic” trend of this discipline in the mid-20th century.

While researching on the psychic causes of certain regular ailments (heart disorders, diabetes) around 1930, Dunbar discovered the existence of a certain “psychic determination” of accidents. One of his main contributions consisted in the reconceptualization of the idea of “propensity”, to talk, by 1939, of the “habit of having accidents”.

Focusing on people’s history of accidents, that is, on repetition, resulted in what was claimed as the tendency to having accidents as a “habit”. In the same spirit, M.Knobel (1952: 118), a psychiatrist dedicated to “problems of the industry”, reminds us that, according to Dunbar, “those with the worst histories of accidents at work, also show the highest figures of accidents at home or anywhere else”.

What psychosomatic medicine did was drag emotional dimensions (until then, relatively disregarded) into the “explanatory zone” of accidents, which could then be elucidated by virtue of a veiled guilt complex, or of resentment associated with a repressed fundamental desire for violent action.

A set of conditions made the “psychosomatic” approach attractive to Argentinean specialists. One of them was the fact that it integrated the somatic and the psychic aspects in a way that significantly resembled biotypology. Both branches shared the fact that they offered a “synthetic vision of ‘body’ and ‘mind’” (Boccia, 1952: 4667).

Afterwards, psychosomatic medicine allowed the further unbundling of the “personal factor” of accidents, which was never limited, in Argentina, to the psychic dimension. This view dragged into the field of interrogation a whole series of elements concerning “the worker’s life outside the factory” (Pereyra, 1954: 266), but with an impact on work, among others:

“family life conditions” –housing, hygiene, food, rest- (Lannardone, 1944: 195) and the moral conditions related to a “healthy and full moral life, without any complications” (Pereyra, 1954: 270).

Finally, there was something about the “psychosomatic” explanation of accidents that put it in the same family of theories as propensity/predisposition, and it was the fact that, the same as them, it paid special attention to repetition.

But the semantics of predisposition was not the only one available when it came to considering accidents. Another key to intelligibility was, as will be seen in the next section, the notion of the “unsafe act”.

Accidents because of “unsafe acts”

To the views of accidents proposed by psychology, biotypology and psycho-technics, it is necessary to add the one originated in engineering. Together with the idea of predisposition, the “unsafe act theory” began circulating in Argentina in the 1940s. It was formulated in the 1930s by the engineer Herbert William Heinrich¹⁹, from the US; this notion had some importance in the field of labor medicine, but its greatest influence was felt in the field of “hygiene and security”, among men with a strong “technical” vocation who performed “in the field”.

This theory’s vocabulary came to be associated, in Argentina, to a series of experiences and practical *mottos*, or more precisely, to security campaigns which, under the “Security First” *motto*, developed for diverse sectors of civil society in the US.

The thing about it was that it allowed integrating, in the explanation of accidents, a multiplicity of dimensions linked by

19 H.W. Heinrich worked for an insurance company, the Travelers Insurance Company, when he developed his ideas about the cause of accidents.

means of a “chaining” model. Heinrich’s contribution to the problematization of security consisted of a graphic scheme and a metaphor (indeed successful) to think about the cause of accidents: five dominoes, placed consecutively in a vertical manner, represented the factors conditioning the accident. The accident was placed as the “last domino” and it fell, due to a mechanical-transitive effect, when one of the previous dominoes fell.

Several factors participate when an accidental injury occurs [...] Heinrich, the technician, has compared such factors to several dominoes standing in such a way that, if one of them is turned, it will make the others fall successively. The accident is the final domino [...] Preceding the event which produces the accident, there is, in all cases, either an unsafe act of a person (such as using a nail file without a handle, or wearing loose clothes next to machinery, etc.) or an unsafe physical or mechanical condition (unprotected machinery, salient nails, an unrepaired tool, etc.), or both things at the same time (Rodríguez, 1951: 400).

As can be read in the quote, the “immediate” cause of the accident may be either an “unsafe condition” or an “unsafe act”. In tune with the times, the engineer from the US thought the higher percentage of accidents was due to the latter factor, it should be found in workers’ inattention, neglect, inobservance of rules, hasty work, or carelessness.

Nevertheless, it is worth noting that, in this theory, the unsafe act is always the “last link”, the “tip of the iceberg”, of much more complex causal processes, and that they involve the linking of different variables.

The same as theories based on the concepts of “propensity” or of a “habit” of having accidents, Heinrich’s arguments also reveal concern for “detail” and “repetition”. So, in 1929, he would suggest businessmen pay attention to accidents which had not caused damages, because they revealed those contexts where there was a potential for serious accidents to occur. Additionally, he suggested running detailed tests on workers who

had had an accident, so that the factors which had possibly been involved (such as, for instance, vision defects) could be detected (Burnham, 2009: 92-93).

Treason and juxtapositions in the history of the human factor

As can be inferred from the previous sections, the reception of the different vocabularies used in the discourses regarding human incidence in accidents was controlled by a baroque spirit. Regarding the developments achieved in other cultural contexts, experts behaved, to a great measure, as gatherers and spreaders of theories. Among the psychological, biotypological, psychosomatic and engineering approaches, there were, as has been shown, important differences. Nevertheless, the propensity to accumulate, juxtapose and combine the different vocabularies exhibited by experts tended to moderate the differences between them. An “effect of coherence” was thus generated, by which all references to the human factor involved, regardless of their different interpretations, stemmed from the blaming of the worker.

This reception process also featured a meaningful difference between the “moment of theory” and its “practical application”. Thus, although Kaplan (together with other authors) resorted to psychological theories for explanatory purposes, he was doubtful about the efficiency of tests for accident prediction: “different tests have been suggested, which intend to forecast an industrial “accident rate”, but none of them has proven its practical worth” (Kaplan, 1953: 211).

All the approaches described previously show a trend (which can be verified as of the first post war ones) towards “psychologizing” the understanding of accidents. Nevertheless, in Argentina, the medical training of specialists had the psychological concept of “propensity” “leaked” into the medical con-

ceptual matrix, and therefore reformulated (that is: betrayed, distorted) in terms of “predisposition”.

The latter term was used massively, in the fashion of a “deposit” significant where the different “elements” of the “human factor” were selected. Given that they became visible either due to the explanatory capability of the different theoretical devices at stake (such as psychosomatic medicine, biotypology, etc.), or to the very experience of factory physicians, those multiple “factors” used to be connected by means of the “chaining” scheme provided by Heinrich’s theory.

It is worth noting that the “psychological” determiners were never able to overshadow the “social” determiners. All this since those interested in health and security in factories were, most of them, physicians and, although they operated as spokesmen for the “psy-” knowledge, they owed an allegiance to the hygiene and social medicine traditions. A clear example of the relevance attributed to social conditions may be found in the statements made by the First Convention of Physicians of the Industry, held in 1943, where it was claimed that “labor accidents consist of a complex which, in its medical and social aspect, covers [...] the broad scope implied by poverty, low wages, housing, standard of living, fatigue, social diseases” (*Anales Primera Convención Médicos de la Industria*, 1944: 39).

The different manifestations of attention paid to “social matters” allowed, if not removing, at least diminishing the excessive detail over the worker’s behavior, featured by psychological theories. This loss of focus was also induced by voices which, as has been shown, criticized the lopsided relevance given to psychological causes in the explanation of accidents, compared to technical causes.

One of the balances that remained, after considering accidents in terms of predisposition and unsafe acts, was the great importance attributed to two issues: the repetition of accidents

and incidents, and the record of minor incidents which –according to specialists’ mentality– forecasted accidents. All the theoretical vocabularies, previously referred to, stressed the “history” of accidents and invited authorities to read the “symptom” of a bigger problem in the most meaningless events: the existence, among the industrial population, of accident-prone individuals.

This invitation to take note of repetition and to pay attention to detail did not go unnoticed by Argentinean specialists. On the contrary, it was integrated into the practices and government mechanisms of health and security, displayed in different spaces, both public and private. Thus, the form used by the Army Arsenals in their procedure to investigate accidents included, among the data to collect, the “amount of accidents suffered by the injured person in the last three years”, and required the authorities to record if the injured was a “recidivist of accidents (yes/no)” (Bó, 1953: 648). Likewise, another strategy used by companies, as of the 1920s, consisted in rewarding the workers or sections with the least number of accidents in a given period of time (Giordano, 1943: 43; Lannardone, 1944: 197; Zanzi, 1948: 1339).

Regardless of their statistical meaning, the repetition of accidents had a moral meaning *per se* for authorities. Thus, the fact that an individual had a “history of accidents” placed him, almost automatically, in a zone of suspicion.

But at the same time, the accumulation of errors and incidents triggered the organization’s interventions at the population’s scale, aimed at avoiding “greater evils”.

Conclusions

The point of departure for the present chapter was the enquiry into the persistence of reflections and techniques tending

to blame the worker for labor accidents, within some discourses and practices in the present. Such insistence is made manifest in several ways: first, through repetition or reference –either direct or indirect– to theoretical vocabularies from the past. As was shown in the first section, the use of the concept of the “unsafe act” is still frequent when it comes to explaining accidents. Although this theory has been criticized from different angles, the “mainstream culture” in the world of production established that unsafe acts are the cause of accidents, that is, workers are responsible for their own accidents (Rodríguez, 2005: 344). Instead, the notion of predisposition is very marginally used, and the idea that certain individuals have a “habit of having accidents” has no record of direct appearance.

Second, such persistence is expressed in the intensification and deepening of prevention strategies, nourished by two concerns in which discourses of the past still echo: the question on the repetition of accidents in an individual or a group, and the thorough record of detail in unsafe acts and attitudes which “foresee” greater evils. Additionally, continuity in the use of monetary incentives aimed at reducing accidents may still be observed.

Nevertheless, the fact that practices –both discursive and non-discursive– from the present still mobilize previous formulations, should not lead to the error of believing they are the same as the ones from the past; this is due to several reasons.

Firstly, because there are statements in the contemporary context which (for both epistemic and political reasons) could hardly be reviewed and reformulated. Scientifically, the idea (profusely preached during the central decades of the 20th century) that there are “accident-prone individuals” or that some workers have the “habit of having accidents” is unacceptable nowadays.

Secondly, although some issues, which were dealt with in the past, have been reviewed in the present, the concepts used to reflect upon them and act are different. If until the mid-20th century the “worker’s life outside the factory” referred to a set of variables which the experts gathered around the concept of “predisposition”, or understood as “factors of the human factor”; today, such dimensions are organized under the “lifestyle” operator. Such a concept, unlike that of predisposition, does not refer to anything in the order of determinacy (either psychological or somatic). It connotes, on the contrary, a set of elections, which are likely to be “educated” and “re-oriented”, pertaining to food, the use of leisure time, the performance or not of physical activity, etc.

Third, even though some statements from the past echo and are reformulated in the present, the conditions in which such acts of speech are produced are diverging; this generates variations in their operation. In this sense, the most relevant transformation of the systemic approach generated in the government of labor health and security had to do with the mutation of the epistemological statute of human error. Instead of “causes” of accidents, the errors and unsafe acts adopt the statute of “symptoms” of the system’s dysfunction.

Fourthly, it is necessary to note that the practices regulating security at workplaces still pursue strategic aims, which are partially similar and partially different from those in the past. Let us remember that, around 1920, given the failure of technical methods, the discovery of the human factor attempted to make prevention a reality. But, simultaneously, such a finding became the condition of possibility for the development of social control strategies. In Argentina, the same as in the French case, according to Cohen (1998), the notion of the human factor was mobilized with a reactive purpose, so that social conflict could be appeased. It is worth noting, along the same lines, that all hygiene and security campaigns voluntarily waged by any company were reviewed by the editorials of the *Revista de Medicina*

del Deporte y del Trabajo (Sport and Health Medicine Journal) as actions that “satisfied” workers, thus reducing the reasons for social discontent (strikes, boycotts, etc.)²⁰. Besides social control, of course there were economic reasons, as accidents generated expenses which were incurred by the industry.

Nowadays, the problematization of the human factor (either under the semantics of “unsafe acts”, “human errors” or “distractions”) seems to be playing the same role it had in the early 20th century: to explain why accidents continue to occur despite the implementation of sophisticated safety devices. Of course, if back then it was granted the greatest causal relevance, today, on the contrary, the weight attributed to it tends to be marginal. Thus, “human matters” tend to either account for a residual accident rate, or be the cause to invoke in situations of uncertainty. Nevertheless, it is necessary to acknowledge that its problematization overshadows the incidence of work processes in the generation of accidents.

The diverse modulations of the human factor (unsafe acts, predisposition, the habit of having accidents, etc.) have certainly lost explanatory weight and have been replaced by others, such as “organizational failures” or “systemic defects”. But, even after being criticized and re-signified, operators such as “distraction” and “error” remain active. In the face of such persistence, it is valid to wonder whether they are, in fact, the enemy to fight and eradicate; or if, on the contrary, they operate to support the exercise of power over the working class, for the configuration of subjectivities which become increasingly aware of themselves and, therefore, ever more efficient.

20 *Medicina del Deporte y del Trabajo* published, in each number, a report which was especially dedicated to the medical and social action of a given industrial establishment.

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BODIES AND SOULS FOR LABOR: The psychologization of wage earners in Colombia, 1958-1968

Eugenio Castaño González¹

Introduction

The consolidation of a project of modernity and development in Colombia during the second half of the 20th century resulted from the exaltation of a representation of well-being and of the taming of suffering as part of a project that sought social normalization. The purpose was to identify risk factors and pathogenic outbreaks, departing from the clear intention to regulate social relations and to manage psychosomatic disorders in an appropriate manner. As of the 19th century, health conceptualizations also aimed at a prevention-oriented approach. The modern world did not only promote principles of individualization resulting from the emergence of the bourgeois world², but it

1 Doctoral student of History at Universidad Nacional de Colombia.

2 The revision of the issue of *Elementos de metapolítica para una civilización europea* (n.d.) dedicated to Werner Sombart, contributed to the analysis of historical processes favoring the emergence of the bourgeois world in the West; the papers in this issue revolved around the conception of the bourgeois as the modern *homo economicus*. Concerning this issue, al-

also generated a new way to approach body and mind as objects of inquiry and as autonomous realities³.

Cartesian thought installed the mechanistic paradigm, in which human autonomy began to be represented as a demystified machine in its extensive reality, and as a soul visualized in thinking. When the physiological dominions became likely to be harnessed, as it was possible to adjust rationalization processes and technical procedures, the building of the foundations for the implementation of corrections began (Vigarello, 2001) through the identification of insufficiencies and precarious elements (Vargas Vargas, 2007). Therefore, on the one hand, the aim to control other people's time became a crucial mechanism in making labor more seamless and adjustable (Harvey, 2014; Thompson, 2012 and 1991); on the other hand, the time factor resulted in a growing psychological and physical pressure which forced individuals to adapt to a hasty rhythm in response to industrial devices (Hopenhayn, 2001).

so check Max Weber's *La ética protestante y el espíritu del capitalismo* (1991) (The Protestant Ethic and the Spirit of Capitalism).

- 3 Historiography about the issue of the body has developed as a very interesting field of study when it comes to understanding the configurations of modern subjectivity. For such effects, during the research process a considerable variety of texts regarding the issue have been reviewed. Some key texts, approached in the present chapter to understand the issue of corporeality as a historical object of research, are: Mauss's *Sociología y antropología* (1979), Courtine's *Historia del cuerpo* (2006), Feher and Maddoff's *Fragmentos para una historia del cuerpo humano. Parte segunda* (1991), Zapata Cano's *La dimensión social y cultural del cuerpo* (2006), Vigoya and Garay Ariza's *Cuerpo, diferencias y desigualdades* (1999), Matoso's *El cuerpo in-cierto* (2006), Pedraza's *En cuerpo y alma. Visiones del progreso y la felicidad* (1999), Turner's *El cuerpo y la sociedad* (1989), Torres Baquero and Munévar's *Representaciones corporales* (2004), Danto's *El cuerpo. El problema del cuerpo* (2003), Le Bretón's *Las pasiones ordinarias. Antropología de las emociones* (1999), Uribe's *La objetivación del cuerpo, un dispositivo de poder en las organizaciones* (2006), Cortés's *Deseos, cuerpos y ciudades* (2005), Moreno Gómez and Pulido's *Educación, cuerpo, y ciudad. El cuerpo en las interacciones e instituciones sociales* (2007), Serres's *Variaciones sobre el cuerpo* (2011).

The present text intends to examine how a pathologizing process of certain behavior of workers and the union movement took place, especially in the second half of the 20th century. Such a phenomenon went hand in hand with the emergence and consolidation of institutions associated with psychoanalytical practice in the late 1950s and throughout the 1960s.

Consequently, such pathologization departed from the ideas of the physician José Miguel Restrepo in the 1950s, featuring psychological language when it came to analyzing certain issues associated with wage labor. From a historical perspective, a paper by the physicians Luis Gabriel Jaramillo, Enrique Valencia and Ireneo Rosie (1968) has also been examined, in which it was intended to pathologize the behavior of workers and the practices of the labor union movement through a more marked psychoanalytical language.

Thus, the present chapter begins with an incipient contextual analysis of the configuration of certain ethics of work, tightly linked to the early marking of what was socially regarded as normal and abnormal. After that, the text develops around the way a series of so called worker anomalies gradually became objectified, as well as the approach to a worker's psychological intimacy, and the so called complexes afflicting them.

The economy of productive time

The attempt to systematize and internalize industrial discipline - to make the factory a house of labor aimed at social moralization - had the backdrop of the need for calculation, as well as duty and temperance through financial support (Gaude-*mar*, 1991). Such aims were based on the idea of a certain moral arithmetic associated with the development of the modern world, in which labor became the everyday support of the social bond, just as 19th century utopians, such as Charles Fourier, had highlighted. It was a rule which made sense as a unit of action

aimed at provision and restraint, at happy and attractive labor for individuals. This led simultaneously to the configuration of an ideal of social man in whose family scope a clear marking in terms of normal and abnormal, healthy and diseased was drawn (Dejours, 2009)⁴ Such polarity within a space where good and evil, vice and virtue, ill and healthy were objects to look up to, but they were also capable of generating dislike and of developing an array of observations and suggestions for good living based on biomedical knowledge. For this, it was essential to measure the strength of human beings, and to analyze the performance of human activity, and such a project was reinforced by mechanistic theories inherited from Cartesian thought⁵ and La Mettrie (1962). According to what has been proposed by Francois Vatin, it was Charles August Coulomb (1736-1806), a contemporary of Adam Smith, who proposed the need to determine the amount of action human beings were able to provide through their daily labor, which implied measuring the common capacities of the average human being to determine the kind of labor he could undertake (Vatin, 2004).

Therefore, on the one hand, control over other people's time became a crucial mechanism labor more seamless and adaptable (Harvey, 2014)⁶; on the other hand, the time factor resulted in a growing psychological and physical pressure which forced individuals to adapt to the accelerated rhythm of industrial devices (Hopenhayn, 2001). The hope to systematize

4 See also Donzelot (1981), Casado Galván (2009), Foucault (2005), De Gaudemar (1991), De la Mettrie (1961), Roldán (2010), Armus (2007), Rabinbach (1990), Morin (1984), Almeida (2006), Menéndez Navarro (2003, 2003a), Martínez Pérez (1994), Gallo Vélez (2010), Molina Londoño and Castaño Zuluaga (1988), Pohl Valero (2009, 2010), Vergara (2002), Buzzi et al. (2006), Levi et al. (1996), Sennett (2000) and Rose (n.d. n.d. a).

5 According to Canghilhelm (1994), Descartes claimed the indivisible soul articulated with the body through the pineal gland.

6 See also, Thompson (2012 and n.d.) and Weber (1991).

and internalize industrial discipline, to make the factory a house of labor aimed at social moralization, had the backdrop of the need of calculation, duty and temperance through financial support (Gaudemar, 1991).

The worker's anomalies

In the Colombian case, from the first half of the 20th century, workers were required to adapt to the needs of private businessmen who needed docile, disciplined and catholic workers (Arango de Restrepo, 2004; Reyes cárdenas, 2005) who could ensure that the companies were managed correctly and the workforce of the country was being led along the paths of modernity and progress. If during the first decades of this century the national industrial sector managed to grow, it was during the post World War II period when this tendency increased markedly, via the process of import substitution. Only between 1950 and 1960, according to Henderson, the industrial sector grew by 89.5% (Henderson, 2006). On the other hand, if during the first half of the 20th century a complex descriptive network was displayed around neurosis, psychasthenia, hysteria, psychosis, as well as other nosographies –particularly linked to the effort implied by the intellectual wear and tear of writers, physicians, lawyers, businessmen, priests, teachers, journalists, military personnel, policemen, among others–, the anomalies of workers came under more detailed scrutiny as of the mid-20th century.

In general, the growth of labor in industrial conglomerates, in the mid-20th century, became the source not only of opportunities for personal and family fulfillment, but also of new ailments, indispositions and disturbances of minds which used to be regarded as healthy and unsuspecting, but which, from that moment on, would not find rest, due to labor inequalities experienced at workplaces (Restrepo, 1958). It was not only a matter of unveiling the secrets and dark psychic problems generated by

the city, by war in the case of soldiers and policemen (Delgado, 1910), by intellectual work in the case of writers, teachers and journalists, among others (Rodríguez Piñeres, 1898)⁷, but also by the very dynamics of wage labor. For instance, for José Miguel Restrepo it seemed necessary for the individual to understand the reasons for social distinctions, as well as to be willing to jeopardize the best years of his life in the pursue of training, aimed both at improving his qualifications and at ensuring that he would attain a considerable amount of knowledge. The accumulated energy of youth should be aimed at making money based on a sustained and responsible effort, thus avoiding what he defined as “undesirable stokers” (Restrepo, 1959). In the same manner, some aspects pertaining to interpersonal relations, disconformity with wages, dislike for the promotion of workmates who were not esteemed, the toughness of certain employees when giving orders, were defined as stimuli for new ailments to develop (Restrepo, 1959). Therefore, such ailments would be used to explain the decrease in labor capacity, instead of accidents which did not harm, in appearance, either the anatomy or the physiology of certain organs.

According to him, all those people who got bored with the tasks assigned by luck or by their own mental capabilities, pointed at work as responsible for their state of mind. Thus, the supposed envy of seeing how a workmate received a wage increase, or was placed in a different occupation, would result in a certain indisposition towards his work. Dismay over other people’s good and the supposed laziness generated by distancing yourself from personal success or improvement, supposedly caused a decrease in one’s activity, and the consequent impairment of both one’s mind and psyche (Restrepo, 1959). According to Restrepo, the very process of proletarianization leading many individuals to sell their labor power, thus dooming them to a subordinate and peripheral place in the urban centers, implied a series of psychological consequences.

7 See also Neurosis, by Uribe (1907).

The precarious economic conditions should only confirm some given spiritual conditions revealing a high degree of “dehumanization” (Restrepo, 1959: 623) among individuals, due to their inability to perform certain assigned duties. The lower social status could generate an imbalance in their psyche, thus leading them to objectionable reactions. What generated such scenarios? Really, it was not due to deprivation itself, in its exterior materiality. This way of categorizing and individualizing was reinforced through a conceptualization (Ricoeur, 1996) that stressed one’s own awareness of such deprivation. In other words, there was a clear difference between those who lived under conditions of great poverty, and those who were aware of their poverty and suffered because of it.

The psychological intimacy of the proletariat

In another paper from the late 1960s, it was noted that the friendly dialogue with proletarians allowed sensing their anomalous circumstances based on their explosive expressions (Restrepo *et al.*, 1968). The ability to read human behavior required an increasingly sharp attention to enter the last strongholds of intimacy. In these kinds of approaches, racist positions seemed to give way to a blend of psychoanalytical tenets turning to the concealed traits of intimacy, the image of a subjectivity marked by feelings and emotions was projected by certain secrets of oneself.

The way in which wage earning individuals featured a nervousness almost inherent to their condition, which defined them as suffering from an intense inferiority complex (Jaramillo *et al.*, 1968). Therefore, Restrepo *et al.* relied on an alleged theoretical *corpus* developed by authors such as the socialist politician and professor of social psychology Herman de Man (1974), in his text *Au-delà du marxisme*; psychotherapist Alfred Adler (n.d.), with his text *Le temperament nerveux*; Emmanuel Moinier (1974) and his *Traité du caractère*; Jean Lacroix (1965),

Force et faiblesses de la famille; Étienne de Greef (1943), *Notre destinée et nos instincts*. The fact of resorting to conceptual categories such as the proletarian, labor power and Marxism, to refer to the workers' mental deficiencies, did not only imply a certain familiarity with a Marxist vocabulary acquired through the publications of such foreign authors, but it also suggested a certain scaremongering approach on the situation of Colombian workers, and their strong potential for organization.

This boom period of the industrial device consolidated an imaginary of the workers' movement as an object of suspicion and an enemy of progress, within certain economic, political and intellectual circles (Castaño González, 2015). Its backdrop consisted, on the one hand, of the creation of a psychoanalytic group in Colombia, its international acknowledgment in 1959, and the consequent setting up of the *Sociedad Colombiana de Psicoanálisis* (Colombian Psychoanalysis Society) in 1961; but, on the other hand, the social context featured the consolidation of the *Frente Nacional* (National Front), the expansion of collective actors and the strengthening of the workers' movement during the second half of the 20th century (Archila Neira, 2003). The foregoing is not aimed at proposing a simplistic analysis in which psychoanalysis is accused of being a theoretical body and an institutional bureaucracy whose purpose is enforcing coercive mechanisms (Armus, 2002) over Colombian workers. Not at all. It would be a mistake to assume that the crossing of social and economic phenomena with the boom of psychology and psychoanalysis led to the pathologization of the Colombian workers' movement. Nevertheless, for what is analyzed in the present chapter, the coincidence of these two facts may have enabled the strengthening of certain social sensibilities, or a certain expertise which, in the particular case of the aforementioned paper by Jaramillo *et al.*, intended to offer an explanatory framework based on mental matters, to assimilate a phenomenon able to disturb the *status quo*.

For purposes of illustration, reference was made to how, in any given street, a wage-earning woman would have more reasons to become nervous, than a high officer's wife, by virtue of her inhibitions and evasions. In fact, in any casual conversation, wage earners would be more likely to be annoyed by inequalities, while the rest would not notice them at all (Jaramillo *et al.*, 1968). In this case, sensitivity over the issue of inequality became a clinical sign of nervousness and multiple complexes. The latter shows how the reaction to the landscape of social inequality became the only element of wariness for such a kind of psychiatric discourse. The great expectations raised by what was offered by industrial development in Colombia deflected criticism onto the psyche of individuals and their pathological inability to adapt to their role as workers.

Authors such as Étienne de Greef in his book *Notre destineeé et nos instincts*, search for the primary origin of the great proletarian reactions of liberty, equality and justice in man's basic instincts. An animal defends itself when it is grabbed by its legs. It is in accordance with every instinct to manifest itself in such a way that its legitimacy seems undisputable and to use the phlegmatic and noble language of wisdom. That is why proletarian reactions, when they become omnipotent, result in slavery and regressions, as the results of revolutions have shown (Jaramillo *et al.*, 1968: 624).

The naturalization of inequalities, individual responsibility and the omission of multiple social conditions, received credit, in this case, for the truth built in the light of psychological records. Under such a view, the longing for those values detailed in the previous quote followed the thread of an instinctive nature, defined as wild. Although the proletarian's feeling of equality and defense of human rights was acknowledged, a much more dangerous and obscure primitive force finds its way behind it. If they persisted in articulating such behavior based on a subjectivity which was thought to suffer from a complex, they did it as long as it would force a retrospective look, adjusted to certain principles arising from psychoanalysis. Such

a sequence was aimed at doing an inventory of these people's awareness of their childhood. In a similar manner to what was claimed by De Certeau (2003), the pathological was regarded as the region where the structural operation of human experience was exacerbated and revealed. Other secrets intending to prove the truth behind their revolutionary awareness would be brought to light there: organic deficiency, the experience of poverty in clothes, school failures, diseases, lack of parental love, parental separation (Restrepo, 2003).

The list of facts associated with a proletarian childhood was very particular. A wage-earning child was not as loved or spoiled as the bourgeois child found on the streets of the city or at school. All was less beautiful and less abundant: sweets and snacks, chocolates, inaccessible toys, dresses, free time, housing, food, home life and tenderness. Such evidence burst in amidst the reading of childhood of those who were thought to suffer from a complex, as it utilized psychoanalysis to re-group certain traits of personality and then pathologized them (Restrepo, 2003). Childhood became an essential category of analysis, as it represented a period of life in which an individual's character was formed and his psychological traits settled. The desire to repress would break into the hearts of such children, as well as resentment which would be concealed behind the veil of humanism and class war. By turning a worker's biography into a space for exploration, in the paper published by *Revista Colombiana de Psiquiatría* (Colombian Psychiatry Journal), the exploration of a murky image of the private life of such a population was made possible.

The purpose was to find a deep trace responding to the need to find responses and to psychiatricize their practices. Unlike psychasthenia or neurosis, aimed particularly at diagnosing the mental effects of intellectual work, adjusted to a certain social status during the first half of the 20th century, or the phenomenon of prostitution (Rodríguez and Martínez, 2002),

alcoholism (Santa Álvarez, 2015)⁸, syphilis (Montoya Santamaría, 1998) and degeneration theory and its subsequent effects among the early industrial worker population, the consolidation of the industrialization process in Colombia during the second half of the 20th century supported a series of psychoanalytical representations which were incorporated into the prior threats. Therefore, the fleeting liberty offered by adulthood, according to the aforementioned publication by *Revista Colombiana de Psiquiatría*, would start showing them other life horizons within the city. All of this amidst new social relations which reveal a new landscape to the working subject, tightly linked to a precarious childhood, consisting of a zone full of secrets and mysteries to unveil (Montoya and Santamaría, 1998).

Thus, if in the case of different forms of neurosis, psychosis and neurasthenia there seemed to be a certain guiding thread in the mental effects due to the efforts made by certain type of professionals, the proletarian's insecurities revealed some clinical signs which were no longer based on the enormity of intellectual effort. That is, if in the first cases attention was paid to the deep reflections within intellectual work which affected national production, in this case it was the very content of such meditations that became suspicious material. They also became the proper element to compose a stream of symptoms which held a certain resemblance to Mantegazza's (1888) analysis, translated by Sanín Cano, in regard to the features of neurosis, realized through the yearning for equality and the brotherliness of the working masses in the late 20th century. Nevertheless, a great degree of detail is not evident in such text when it comes to recalling the anomalies allegedly concealed by the workers' vindications. It is not even possible to perceive a language clearly leading to the categories of proletarian or

8 See also *La ciudad en Cuarentena: chicha, patología social y profilaxis*, by Calvo Isaza (2002), and *El uso del tiempo libre entre los obreros*, by Archila (1990).

union leader, as the one present in the *Revista Colombiana de Psiquiatría*; Mantegazza's arguments did nothing but portray the Italian reality, still distant from the Colombian case.

Although in the first categories the perverse effect on mental matters did not refer to the very nature of the job done, but to the inability to establish rest routines, in these alleged insecurities the speculations regarding the type of work became a lot more evident. Generalizations on the aforementioned categories of *worker*, *proletarian* and *union leader* were established. The correlation between the essence of proletarian or union labor and abnormality was tighter in this latter context, which resulted in a more marked disrepute for those engaged in such jobs. Nevertheless, in all cases the analysis of the past played an essential role as a support for the abnormalities to confirm in the worker's biography. The difference lay in their ways to go back in time. Examining the psychologized family played a crucial role in the analysis of proletarianized workers, unlike the traits existing in the eugenic family from the early 20th century.

At first, they utilized the theoretical developments of authors such as Alfred Adler, a dissident of Sigmund Freud's psychoanalysis. Adler developed the idea of an inferiority complex and a lust for power incubated since childhood, thanks to inadequate education (Oberst *et al.*, 2004). In 1942, the *Temas* (Themes) magazine from Medellín dedicated an article to the issue of complexes. Everything leading people's thought astray from normal parameters could be regarded as a complex, without giving further details to determine the epistemic foundations of what was to be regarded as normal. This kind of ailment, split into other kinds of clinical pictures such as inferiority, superiority and religious complexes, as well as the disease complex, seemed to primarily impact the most sensitive and impressionable people. Nevertheless, their analysis did not go beyond the stating of certain general principles, without paying much attention to labor-related phenomena (Anónimo, 1942).

On the contrary, Jaramillo, Valencia and Ireneo's observations are richer in details and closer to workers' diagnoses. With this in mind, they resorted to the study of family background so that, behind such an inferiority complex, the lack of love between parents or conflicts in the intimacy of the home could be found. The morbid inclination could be reflected in the fact of observing a mother worn out by pregnancies, concerns and work; these did not only make her unstable and nervous, but had the great potential of infecting her children with her disease. On the father's side, he became visible when he came home to eat, and was benefitted by the fact of being served the juiciest portions of food. As such, the proletarian child would mix fear, suspicion, resentment and irritation with the love felt for him. Which is why, according to the authors of the article, the wish for liberation took root in the proletarian child's conscience.

From that moment on, he would be able to show his painful opposition to his father's sovereignty, realized in authoritative figures such as the foreman, the bourgeois, the priest, the wealthy and politicians (Jaramillo *et al.*, 1968). Liberty would imply liberation from the father, and the ideal of equity would veil the need for a brotherly relation. Summarizing, by means of the aforementioned foreign authors, selfishness, the instinct for conservation, the ideal of equality and human dignity, the will for power and compensation over childhood traumas, the need to liberate oneself from the severe authority of parents, and aggressiveness against all authorities under the ideal of democratic brotherliness, became a new frame of symptoms which operated as a clinical narrative to de-legitimize certain kinds of social effervescence of the time.

The latter is not intended to underscore a mere passive and vertical reception of a certain kind of psychoanalytical knowledge, undertaken by the article's authors. Instead, what seemingly became evident was the need to re-appropriate such knowledge, aimed at establishing the proper framework from which to

understand and find other kinds of answers to the growth of the workers' population and the expressions of the labor union movement. For the authors of the mentioned article, the great national union leaders had grown up, in the same way as all Colombian proletarians, marked by these childhood-related complexes (Jaramillo *et al.*, 1968). Behind such a family genealogy, the consolidation of psychoanalytical knowledge (Socarras, 1992) may be observed, in this case around the subject regarded as proletarian, as a way to outlaw his actions by means of a solid language referring to their alleged anomalies.

The communist and socialist models were regarded as programs opening up new room for understanding, aimed at elucidating the way the passion for justice and equality concealed a series of dissatisfied consciences. The manner in which the great leaders influenced workers' mentalities with their actions, their discourses supported by such political principles, the press and labor union laws, helped them to find, in each "proletarian", the echo of the complexes that obsessed their own consciences (Jaramillo *et al.*, 1968). In this case, the intention to establish a new truth regarding the wage earner's alleged feeling of guilt lurked beneath. Trade union movements were incorporated into such a network of accusations, thus drawing a vast landscape of traumas which should be channeled appropriately and prophylactically. Protest was accused of hiding perverse intentions which did nothing to resemble the altruistic intentions it claimed. The relation between workers and union leaders was approached as a new symptom of this pathological picture, marked by blind obedience to the leader.

The complexes of the Proletarian

From Jaramillo, Valencia and Ireneo's point of view, the worker is snarled up in a network of complexes which are disaggregated, classified, distributed and detailed by a series of features which put the sense of protests and mobilization to the

test. Their publication described the alienation complex first. Due to this alleged abnormality, a first sign of the awakening of freedom within the individual would supposedly begin to prevail, a risky kind of freedom from the biomedical and corporate perspective. Besides, he would think he enjoys civic liberties, he would believe he is politically free and equal to the wealthy. But a reality would linger upon him in which, in fact, there would not be such independence in matters such as, for instance, choosing a job. What predominated were some concrete contents, expressed in their own needs, health, the diverse suggestions regarding work and an initial feeling of extreme dependence. The latter was reflected in how a blend of phenomena was argued, which supported the need to prove the psychological handicap of these kind of workers. Thus, their first reaction would be aimed at feeling an absolute sense of arbitrariness around them, a game of preferences and favoritisms. The description then moves on to a label which identifies workers with children, whose hands need guidance to write. Additionally, they suffered from a total inability to lead their lives, due to a supposed confusion between formal freedom and the lack of real freedom (Jaramillo *et al.*, 1968).

The second complex, that of dispossession, was described as an anomaly revolving around the strange feeling, sensed by the affected worker, of believing he was being robbed. The contrast between the modernizations of some individuals' homes, their change of cars, among others, and the precarious vision of the material equipment belonging to his own family, their furniture, their wardrobe, and their means of transportation. It is interesting to notice how the description of symptoms implied the articulation of an alleged ailment with the negative influence of Marxist thought.

He also considers, rather precisely, the wage raise he could have got, if his boss had kept less benefits for himself. Let him have a higher salary, then. Through the action of such simple thinking, he runs into the famous Marxist theory of surplus value.

And either influenced by propaganda or not, he reaches the same conclusions of the author of *Capital*. He is being robbed of what belongs to him. (Jaramillo *et al.*, 1968: 627).

Proletarian vindications were associated, in this case, with the irresponsibility of blaming others for their own deterioration, to the perverse effects of certain readings which diverted attention from the worker's psychic damage to the pitfalls of the capitalist system. Adding up, what was perceived was the increasing need to utilize such scrutiny of the unconscious to stress the growing need for them to respond for themselves.

Precisely, the third complex defined by Jaramillo *et al.* (1968) as the exploitation complex, responds perfectly to the latter. Such a complex allegedly expressed itself through the belief that the many changes in the wage system were simply tricks played by the capitalist to have them work more for less pay. Therefore, the wage earner would feel he is a means, among many others, discovered and exploited by his employer, to earn more money. Given the insecurity complex, material concerns would constitute a constant throughout the worker's life. Preoccupation over unemployment, the cost of living, the awareness of the future decrease of his physical strength, the concern of being replaced by younger workers in the future; all such bundle of elements allegedly generated a perpetual uneasiness in the life of these populations, a truth which would become gradually revealed until it became manifest in family dramas, persisting dramas, shouting at and being aggressive towards the people surrounding him. Thus, a state of insecurity became a constant in these private lives, which were analyzed by a scientific knowledge intended to redeem them for efficient labor (Jaramillo *et al.*, 1968).

The fourth complex the worker was likely to develop was that of misery. Everything began with the exhibition of wealth around him: the flashy lifestyles of certain families, the size and luxury of their houses, cars and mundane parties, and their

possibilities of culture, among others. All such advantages and power would precisely contrast with his own misery, a dissociation which allowed him to recognize himself based on the misfortune of his place of residence, of his wife's early aging, and of his children's pale faces. Life would resemble hell due to the impotence he felt at not being able to escape such a dire situation of hopelessness.

The fifth complex was that of contempt. The signs of this anomaly became visible and assignable after the embarrassment experienced with the first symptom. In this specific case, the signs could easily overwhelm the worker, thus establishing a strong bond with the urban space and the social relations which inspired it. The more a principle of desirable reality was perceived, referred to certain professions, to the effort and applied intelligence of engineers, political chiefs and intellectuals sensed by the worker, the more he would disagree with the coincidence of his own impotence and precariousness. At the same time, he could find households where respect and other people's opinions were fundamental, a situation contrary to his own experience of family life. A perception of his deficiency would thus emerge, in reference to a desire which, based on some values taken as models of behavior, would stratify and classify as well.

The promotion of new mechanisms was perceived here, in more detail, which meant new times and new forms of consumption in cities such as Medellín, which had a flashy, ostentatious and somehow hedonistic lifestyle (Posada Morales, 2015)⁹. In this case, if the kind of individual referred to by the

9 See also Amendola's *La ciudad posmoderna: magia y miedo en la metrópolis contemporánea* (2015), Soja's *Postmetrópolis. Estudios críticos sobre las ciudades y regiones* (2008), Espinal Pérez and Ramírez Brouchoud's *Cuerpo civil, controles y regulaciones: Medellín 1950* (2006), Hernández Ciro's *Geografías del desarrollo en el centro de Medellín: 2009-1950. Espacios, tiempos y poderes* (2010), Londoño's *El cuerpo limpio. Higiene corporal en Medellín, 1880-1950* (2008), and Pedraza Gómez's *En cuerpo y alma: visiones del progreso y la felicidad* (1999).

paper bore witness of how the values of faithfulness and loyalty were represented within a social segment, which of course was not his, he could also observe some facts within his own environment, such as broken promises, degraded and underpaid labor, besides the awareness of dwelling in a miserable area. He would then start feeling despised by the others.

When one is inferior, despise can be clearly perceived: one look, one tone of voice, one gesture, one oversight. Oppression, robbery, insecurity, misery and despise are situations or actions which he feels victimized by. At the same time, they become the core of his complexes, because he experiences them in contrast with a world which, in his opinion, is not the victim but the controller of the situation. All such complexes gather together in the inferiority complex (Jaramillo et al., 1968: 629).

The authors of this article claimed that foregoing would generate silent resignation, and a lack of courage which would end up impacting the labor machineries. What became apparent here was the way the extreme social inequities became evident, by setting in motion a whole battery of symptoms utilized to classify those who reacted against such an inequitable context. Thus, if the descriptions analyzed in Piñeres and Mantegazza's texts, translated by Sanín Cano in the late 19th and early 20th century, cities were portrayed as places provided with strong stimuli which were able themselves to generate neuroses in certain employee categories, the approaches on such phenomenon became a little different during the second half of the century. It was the inequality experienced by the worker in such urban devices, added to the inability to accept it as an irreversible and natural fact, which became a matter of suspicion and of a much more detailed psychological record, under the category of inferiority complex.

Therefore, there was an indication of the way the great human inclinations would weary before frustration generated by toil, by a life disqualified amidst increasingly unbalanced and

competitive social relations, which progressively became more intricate in terms of labor, but also more marked by consumption-related practices: activity, games, construction, curiosity, self-esteem, property and a sense of beauty; all of which were part of a kind of subjectivity regarded as “fulfilled” (Jaramillo *et al.*, 1968, 630). On the other hand, the range of what was regarded as anomalous became increasingly broader. It was no longer enough to detect fits of rage, sadness or anxiety, as symptoms which made it clear there was mental damage in the worker. Even the scope of joy was questioned in favor of necessary rest and the focus on daily labors (Jaramillo *et al.*, 1968).

If joy became the exterior sign of a feeling of well-being with himself and the others, what was shown now was a mantle of doubts and questions on the apparent explosions of such an emotional state, in untimely moments where silence and concentration on daily work imposed restraint. Therefore, there was something excessive and deceitful in the fits of happiness, which would impact the required performance for optimum production. Summarizing, the fair measure was expressed in silence and concentration as crucial psychological values for good performance in the workplace, and as immediate evidence of the meekness required by employers (Jaramillo *et al.*, 1968).

Under this perspective, laziness stopped being an object of religious manifestos praising the virtues of hard labor. What was observed was a strong introspective exercise which started conferring great authority to the unconscious and to the capability to reveal secrets of the self. From then on, a fear of workers' violent actions, expressed in mutinies and unions, would be the first principle organizing several catastrophic events; such events, departing from envy, would generate changes, not only in the world of work, but also in other activities and areas of Colombian cities: bars with their noise and their hectic life, smoke, lights, arguments, sentimentalism, games and, of course, alcohol (Jaramillo *et al.*, 1968).

The contents of many movies was also morally questioned through publications such as *Obrero Católico* (Catholic Worker) from Medellín, and were even criticized by the observations of medical-psychiatric knowledge. The paradox was that the realm of the pathological was expressed in the spatial conditions which fostered individuals, thus leading them to a new place within pathogenic environments over which a new form of suspicion was harbored (Jaramillo *et al.*, 1968). First, as has already been stated, a description was introduced in which the element to examine was not the content of the movie, but what happened around it, what was associated with its evasive power: it was the screening room, the discrete flirting generated among crowds, which were supposed to focus on living as virtuous a life as possible. Not even Sunday games and sports could escape the accusations, they were seen as likely places for moral corruption. Synthesizing, all such things, including love, movies and the bar, implied a representation of what the wayward environments for such wage-earning subjects were like in Medellín.

As long as an individual has not made up for his degradation he is not truly a fully developed and balanced adult. The presence of insufficiently liquidated complexes and the fact of being limited to reactions of inhibition and resentment increase psychic deficiency (Jaramillo *et al.*, 1968: 633)¹⁰.

10 Inferiority complex finds its spur in the desire for equality: "The oldest vindication seems to be equality. The concrete object of such demand changes a lot according to different environments and times. It could refer to a demand for equal political rights, equal access to school for children, equal insurances, etc. In such appetite for equality, both something grandiose and something petty can be noticed very often. This is typical of the reactions of an inferiority complex [...] Evasion towards dreams, fiction or scatology, vindications and discoveries of great ideals, efforts for the realization of justice, individual liberation, all of these are forms of compensation of the diverse complexes in the life and consciousness of a wage earner [...] Strong individuals do not let themselves become overwhelmed by the diverse obstacles of inferiority" (Jaramillo *et al.*, 1968: 633 ff.)

A set of functions seemed to settle between the individual and his instinct which, as was also warned by Miguel Restrepo, intended to build a whole system of shackles over instinctual drives which encouraged disorder, perceived in agreement with the pathological and psychic deficiencies: from sloth to hypochondria, as a matter to treat and monitor. In a paper in *Orientaciones Médicas* (Medical Orientations) journal, the physician Restrepo emphasized, alongside the aforementioned nutritional aspects as requirements for optimum organic performance, the importance of a decent roof offering shelter to the worker and those dependent upon him, as a way to avoid future social disruptions. Morbid behaviors, associated to the lack of the aforementioned elements, were already reason enough to generate strikes, protests and unhealthy dissipations, as well as factors favorable to the simulation of certain clinical manifestations: continuous headaches, feeling of weakness, a state of dizziness, frequent drooling, backaches (Restrepo, 1961). Hence, in new nosographies, introduced in such publications, new words emerged such as nervousness, uneasiness, broadening of levities, neurosis of desire (*nerviosismo, nerviosidad, ampliación de levedades, neurosis de deseo*). The inextricable relation between social and work environments showed a representation as pessimistic as in the early 20th century, but with a richer description in details and statistical data (Restrepo, 1961). Alarms concerning the increase of mental pathologies in Colombia during the 1960s and the early 1970s, showed greater concern for these issues. In the early 1970s, an alleged increase in psychiatric consultation was appreciated. Likewise, it was claimed that 0.5% of the Colombian population suffered from psychosis, 1.5% had a neurosis, 0.8% had a mental retardation, other 5% suffered from epilepsy and 0.6% were alcoholics (Ministerio de Salud Pública, 1974).

Final Considerations

This relation between meekness and usefulness was configured by a kind of national project, whose objectives centered

on the desire to be efficient and ordered. It became evident that the challenge would be, in this case, to broaden the capabilities with which human being could avail himself of in a clear strategy, developed from a double movement. First, it would tend to point at the physiological and psychological inequality of individuals, according to their capability for work. Second, the sacrifice implied by the use of bodily and mental faculties, would be submitted to a certain need of adaptability in the performances realized. In other words, it was necessary to start adjusting a pedagogical strategy where the pathologies defined by the medical-psychiatric knowledge, crossed, in turn, the borders of what was exclusively morphological. The analysis of behaviors in working relations, and the observation of social and affective interactions was established as an anthropological criterion to identify, quantify, and manage the causes of disorders in companies and factories.

In general terms, the relation between health, and the moral, physical and psychological conditions was articulated, as claimed by Canguilhem (1998), with economic powers. It referred to a network of discourses, and both moral and psychological practices which prioritized the pathological over the normal. It could be proved that during such a period the imaginary of the workers' movement, as an object of suspicion and an enemy of progress, was consolidated within certain economic political and intellectual circles. Additionally, social sensitivity became much more visible, certain expertise harbored the idea of providing an explanatory frame, based on mental matters, to assimilate a phenomenon likely to disturb the established order.

As was seen in the text, the naturalization of inequality, individual responsibility and the omission of multiple social conditioners, were credited, in this case, by a truth built in the light of psychological records of issues such as workers' vindications in Colombia. It could be observed how the correlation between

the essence of proletarian or union work and abnormality was closer in the latter context, which implied further discredit for whoever was involved in such labors. Therefore, the analysis of the past played an essential role as support of the abnormalities to confirm within the worker's biography. The slow conquest of what made his existence singular, also generated a new source of knowledge and diagnosis through the support of spaces for insight. In this sense, a strong reflexive trend became evident, which started conferring great authority to the unconscious and to the capability to reveal hidden secrets of the self among Colombian workers. Finally, a network of accusations was weaved around labor union organizations to outline a vast landscape of (alleged) traumas and complexes which should be channeled properly and prophylactically. Hence, the definitive bond between the field of labor and the field of reason as a space for the construction of a fruitful future and of a moralizing homily, to benefit an economy of productive time.

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PART III

**RIGHTS, STRUGGLES AND
REALITIES**

HEALTH, SAFETY AND THE WORK ENVIRONMENT IN THE 20th CENTURY: The Italian case

Franco Carnevale¹

Long-term scenarios

To account for the progress of health, safety and conditions of longevity among the working classes of capitalist countries, Giovanni Berlinguer identifies the driving force of this change by way of at least four factors: the progress of medical sciences, the development of industrial and agricultural production, State action, social struggles and workers' organizations. This interpretation is developed with explicit reference to the issues of occupational medicine and its development in Italy. Berlinguer elaborates the characteristics of what can be described as the dynamics of social and cultural interest around the health-related problems of workers in Italy. In this way, three "superior" stages are identified: the one characterized by Bernardino Ramazzini's work, timely and briefly positioned in the origins of the Age of Enlightenment; a second stage, concentrated between the end of the 19th century and the first decade of the following century, with protagonists such as certain "passionate

1 Occupational physician. Researcher of the Centro de Documentación Historia de Sanidad y Asistencia (Documentation Center History of Health and Public Care). Email address: fmcarnevale@gmail.com

and brave” scholars, public servants and also workers and trade union organizers; finally, there is a third stage that began in the early 1960s, with movements and achievements that evolved up until the end of the 1970s (Berlinguer, 1997). Additionally, there is another period, stretching until the present, which can be addressed with the same analysis by valuing the events and interpretations available.²

The Ramazzini phenomenon

The Ramazzini episode is emblematic of a transitional stage from a world of artisans that remained almost unchanged for several centuries to an industrial revolution that had been foretold, at least in some countries. The context within which this work, written in Latin by the “father” of occupational medicine, sets out on an almost adventurous journey, and its true meaning transcends the authentic realms of a medical discipline. Primarily, the author demonstrates the need for some adjustments: the prince, economy and society at the dawn of the 18th century - and especially in successive epochs - will not be able to overlook the value, destiny and most elementary demands and, therefore, the potential antagonism of artisans and independent or organized workers; we must recognize an inalienable dignity of work and the rights of workers, which will be, in their manifestation, the basis of dynamics capable of modifying the economy and the whole society.³

The prominence of production workers: the first wave

The two moments that offer significant praise for the global contribution of the Italian experience in occupational medicine

2 See Carnevale and Baldasseroni (2003).

3 See Ramazzini (2009).

in the international debate on models of intervention, technically denominated today as “health promotion”, find a fundamental element in common in the prominence of production workers. This occurs, for the first time, at the beginning of the 20th century. Trade-union organizations seek to improve basic survival conditions (work schedules, wages, factory discipline, etc.), sometimes first and beyond the “takeover”. Those doctors, who use the social apostolate and the positive scientific method as their main weapon of intervention to change reality, are natural and loyal allies. This gives rise to the request -made by different labor federations that entrust their health problems to Pieraccini in Florence- for ceramic and railway workers for printers, glove manufacturers and painters, to Carozzi, and also through the Humanitarian Society and the Labor Clinic of Milan, and to Monti for the hatters of Monza. These initiatives, undertaken by conscious and expert supporters do not seem to help the struggles of workers, who too caught up in problems of immediate survival. Food shortages, factory regimes that stretched the endurance of workers to their limits, unhealthy housing and environments full of microbial threats, affected the health of workers and their families more than diseases due almost exclusively to their job. In a rather pessimistic scenario, in terms of the capacity for health self-management by workers of the first Italian industrial revolution, it is possible to distinguish exceptions as in the case of self-employed women, well documented especially in Florentine factories.⁴

The prominence of production workers in the struggles for healthcare: the second wave

The human and medical images of a “peaceful genocide”, of occupational intoxications and many serious occupational illnesses, constantly emerge in social journalism and clinical

4 See Carnevale and Baldasseroni (1999).

records, while related responsibilities are lost in the mists or absorbed by the price paid for economic development. Along with the improvement of living conditions for the working classes and the population in general, chronic forms of intoxication become evident for the most attentive physicians. Occupational diseases, rather than connoting a job or a profession, refer to the risks involved in a production cycle or an industry, where the disease has no social recognition value, and if any, only moderate compensation sometimes established after legal proceedings, costs that will then be transferred to the compulsory insurance system.

The disasters of the Second World War, which had a disconcerting continuity with the events of the preceding year, are followed by the worst experiences in terms of serious accidents and subacute and acute occupational diseases, as if the war had not yet ended and as if the workers were the only remaining fighters. It is the price paid for the “reconstruction” and, immediately afterwards, the country’s “economic boom”; for the benefit of all, but especially for a restricted and privileged category of citizens. The decline that will be observed, from that time onwards, in the number of compensated occupational diseases is not linear for each of them: the long-term effects of previous exposures emerged in the 1980s and even more so in the following decade; exposures capable of causing chronic occupational diseases in an ephemeral and obsessive way, as in the case of asbestos mesothelioma (Carnevale and Baldasseroni, 1999).

The year 1961 is an *annus mirabilis* for the fight against health risks in factories. In Turin, an *ad hoc* working group of trade unionists and workers was set up in the Chamber of Labor, which included technicians and also doctors outside of the official occupational medicine, to carry out an intervention at the company *Farmitalia di Settimo Torinese*. A “investigation” is undertaken and its importance is perceived in the initiative itself, rather than in its results: the pains and illnesses reported by

the workers were useful in representing a situation of risks and damages that were previously undocumented; the inclusion of technicians within the company; allowing the territorial union to collect the experiences of workers and to be linked to the local democratic power.⁵

The points contained in the resulting complaint boards become revolutionary: the company anticipates, through an examination of the situation in each department, that all substances substitutable with other less harmful substances be replaced, as established, for example, by French law, which prohibits the use of benzene as a solvent.

With respect to the lack of preventive action in the factories, workers demand all prevention necessary to be guaranteed, with the same magnitude of means used for production interests. With regard to health control, workers demand that the prevention of occupational diseases be guaranteed, not when they have already been diagnosed, but before they can cause definitive damages. With regard to the renewal of the national contract, the following preventive actions are stated: the distribution of shifts so that a rest of at least 35 hours can be ensured after six working days; for employees with harmful, hazardous or heavy work, the obligation of rotation or breaks pauses to such work and the establishment of a factory committee in charge of collecting and suggesting technical and hygienic proposals and requests to reduce harmfulness and its consequences; in the case of illness and when returning to work, the right to keep the job. There is also a request that states the right of the union to intervene with external and internal experts of the factory, in order to determine, with scrupulous observance, the tables indicating the maximum concentration of gases or vapors, dust or biological substances and the examination of the situation of each department with respect to harmful substances used and substituted with other less harmful substances (Oddone, 1980).

5 See Marri (1980).

In the early 1960s, and not just thanks to the extremists of the review "*Quaderni Rossi*", Turin is a laboratory where experiences and discussions are loud and amplified, centered on factory life and perspectives of the workers' movement. The technical institutions and political results obtained, in the case of the company *Farmitalia*, have an immediate impact and are developed to become part of the patrimony and working tools of some representatives of trade union organizations, also outside of the Camera del Lavoro of Turin of *Confederazione Generale Italiana del Lavoro* (CGIL) and the *Istituto Nazionale Confederate Assistenza della Confederazione Generale Italiana del Lavoro* (INCA-CGIL).

The positions derived from these experiences will be progressively disseminated, developing, in fact, the habit of giving an uncompromising opinion on these issues at a time when no other institutional proposal satisfied the political and healthcare aspirations suggested by increasingly numerous groups of workers from the biggest Italian factories.

The initiative of *Farmitalia* is followed by those of Turin, and then across the country; there are monothematic courses on the working environment for union representatives, involving the members of internal commissions or the members of accident prevention committees of major Italian companies and the safety delegates of the remaining active mines. In these courses, followed by a vast socialization of knowledge about pathophysiology, toxicology, occupational medicine and psychology, the problem of "passing-off" was explicitly discussed. A novelty emerged which was, later, almost unopposed, via which, for the first time, workers were asked precise questions or were assigned sections derived from programs aimed at the goal of promoting factory workers. The training process forced the union to pay attention to the demands expressed more directly by "homogeneous" groups of workers -in relation to the problems of health risks - that required adequate relations with

technicians; they needed to have an effective communication network on the various aspects of health and prevention, and they wanted to put into action the most opportune forms of struggle to eliminate these risks.

The agenda for the construction and validation of the “trade union line” of health in the workplace between 1965 and 1970 is full of initiatives and events, all of them experienced as crucial meetings by militants and people interested in the subject: round tables; headlines in trade union and non-union magazines; agreements and new experiences in factories; drafts of the union contract for the control of health-related risks; decisive moments of insight, especially among chemical and metalmechanical workers; the first manual of a series on the work environment and preventive medicine; the “Regional centers against health-related risks” and the establishment of an “expanded scientific community”; the creation of the IN-CA-CGIL bimonthly magazine, *Review on Medicine of Workers* (1968-1973), which will immediately become *Medicine of Workers*, a bimonthly publication of the Research and Documentation Center of the CGIL-CISL-UIL Federation. There is a memorable definition and, likewise, a publication by a group of trade unionists and workers belonging to the *V FIAT League of Mirafiori* of some fascicles for union training: “a proposal for a first system model for the control of environmental risks, which is the result of comparing the workers’ model and that of technicians”, later distributed 130,000 copies, of which 60,000 were printed and translated into French, German, Japanese and Spanish.⁶

A special situation had come to fruition: hygiene and safety issues in large factories lagged behind what had been achieved in other European countries up until that point in time; prisoners with a prolonged immobility, at least in the field of

6 See Righi (1992) and Renga (1991).

health, the action of parties, including those of the left, social partners, institutions and also those of occupational medicine in its professional and even academic versions. This group of union activists fighting for health in the workplace, which was born without any specific delegation, is validated and creates proselytizers within the largest union and particularly among the workers of some factories interested in changing things also through struggle and confrontation. This group is able to formulate a political-technical model, an ambitious line unlike the modest or unconvincing hypotheses that counteract it; a model that benefits from translating into simple and effective phrases otherwise complex concepts, to make slogans such as: "Health is not for sale", the "four groups of risk factors", the no "passing-off", the "homogeneous group", the "consensual validation", health and risk pamphlets, environmental and bio-statistical data records (usually called "biostatic"). In order to corroborate the confidence in the model, the first tangible results in terms of health come to light; the confirmation, by those directly interested, that struggle pays, and that is to say that working conditions are not "objective", given once and for all, but they can also be changed against the will of bosses with effects that are immediately perceptible by the interested parties.⁷

The work developed in line with trade union criteria concerning health is enormous, well socialized and with undisputed results, as well as being widely shared by supporters and non-adherents of such work. The health-based surveys of food workers, the surveys of chemical metalworkers and builders regarding silicosis, the national survey in the rubber sector based on the "Notebook" prepared by the Turinese workers, are all from 1969. In 1970, there are incalculable series of initiatives, most of them unitary, on the subjects and the fights against health risks at work, which have an adequate crowning in the

7 See Bagnara and Carnevale (1973).

great judicial session of Rimini in 1972, frequented by close to three thousand participants, where - evaluating the experiences of a decade - the "rectification" of the "trade unions line" on the environment is achieved.

The *trade union line* on health in its supreme phase is destined to leave the confines of the factories; it emerges abroad and must meet the interests of the whole society, as a means of giving character to the new long awaited "health reform" discussed since the times of the liberation struggle. A particular program is put into action and it is rigidly established as "intervention-research" or, as it was called by others, as "non-disciplinary research in industrial sociology". The Factory Council must become a collective researcher and, properly supported, must be able to define the terms of the research based on its own experience and that of the group to which it belongs, thus predisposing a feasibility plan in order to validate and socialize the results. Some initiatives are carried out using this methodology, especially in large industrial complexes.⁸ On the side of the scientific world most directly concerned with these issues, the Italian Society of Occupational Medicine (SIMLII), brought together at the XXXVI National Congress in Pugnoscio in 1973 after a waiting period, obtained position with a motion, which recognized the scientific value of the production workers' experience and the value of a system accompanied by environmental and bio-statistical data records at the group and individual levels.

It is the confirmation that substantial changes would be verified in real life and, then, change the occupational physician's professional practice. Based more on emotional or opportunity motivations, the late arrival of adhesion appears to be an episode of short respite, a sign of a cultural crisis that should still find fairer solutions. A clear sign of this situation is the number of

8 See Marri (1997).

studies published in the largest Italian magazine in the sector, *La Medicina del Lavoro*, which formally adopts the phraseology and methodology of the union model; in fact, such publications increase in 1975 and then disappear.

Facts, institutions and employers outside the “trade union line”

In only a short time period, three already matured episodes provoke a great resonance, drawing the attention of workers and their organizations, the public opinion and the most sensitive issue of the scientific world: the *morte colorata*, that is bladder tumors caused by colorants in the workers of the *Industria Piemontese dei Colori di Anilina* (IPCA) of Ciriè (1973-74); liver tumors sought and discovered among vinyl chloride workers (1974-75), the explosion in the reactor of the chemical factory *Industrie Chimiche Meda Società Azionaria* (ICMESA) of Meda (1976); these, in addition to others, determine many more stages of awareness of the seriousness and complexity of working conditions, but also of the impossibility of separating the external environment from workplaces.⁹

These facts, such as those associated with asbestos, which will explode at the end of the following decade, are related to carcinogenic substances, side effects probabilistically determined or only presumed in man on the basis of analogies with cellular or animal experimental systems. All this requires a scientific and rigorous way of dealing with risk and also new standards and preventive procedures. Experimental studies for the preventive evaluation of cancerogenicity, the epidemiology of tumors, the right to knowledge, participation in decisions by national and international agencies, but also “preventive” and economic decisions by the employer and then, thick and thin,

9 See Carnevale and Baldasseroni, op. cit., pages. 333 and ss.

by the “market”, represent the fields in which the true borderline of the defense of citizens and workers’ health in the factories consolidates. The interaction between workers’ health-care initiatives and the skills and passion of some scientists certainly produce the best results in defining a more favorable scenario to safeguard health from these risk factors; however, in this scenario, it is worth repeating; the role of institutions and good and applicable laws seem essential in every case.

The second half of the 1970s bore witness to the total weakening of the health movement. An employers’ “counter-attack”, after certain restraint, the economic crisis, and social and political changes, together break up its foundations. Other factors come into play: the tiredness or dissatisfaction of some of the main factory actors, the complexity and costs of interventions to lead, according to the meticulous official methodology, the effective introduction of some improvements in the conditions and organization of work, at least in some companies, and at the same time, the difficulty of identifying further or different claims, in order to improve. The relaxation of trade union unity also favors a process of indifference among independent trade union confederations, at least in some respects - certainly not formal - of the trade union line on health that, paradoxically for Italian history, had not had “left-wing enemies” for many years, but rather an almost unanimity of consensus. However, it is true that this line has, in a sense, been used - thanks to one of the many anomalies of its own - in order to obtain an improvement in working conditions which is not achievable otherwise, and to fill the backlog accumulated with respect to the other industrialized countries. It is worth remembering that the Italian case enjoyed undoubted success in other countries, being a model for some, a stimulating discussion for others, in particular for the issues related to the “participation” of workers.¹⁰

10 See Loewenaon, Biocca, Laurell and Hogstedt (1995). See also Bagnara, Biocca and Mazzonis (1981).

New institutions born with a “worker-friendly” spirit

It can be said that, in contradiction to the desiderata of some representatives with a more extreme position, the crisis of the workers' organizations ends up transmitting the testimony of the commitment in defense of health in work places to the preventive institutional structures of the Local Health Unities (USL, their acronym in Italian) sought by the Sanitary Reform. On December 28, 1978 when the parliament promulgates the Law 833, some will speak of a blank delegation published by the workers' movement.¹¹

In 1977, some occupational physicians and a few technicians, especially those working at the Medical Services for Work Environments (SMAL, after their name in Italian) of Lombardy, create a National Coordination of Workers (CNO, its acronym in Italian) in Milan. The Coordination was addressed to all those with different academic degrees, who were working in structures similar to those in Lombardy, that is to say, in about fifty different services for the “protection of workers' health”, which, foreshadowing the Health Reform Law, had emerged from the early 1970s, but only, or with greater conviction, in some regions (Lombardy, Veneto, Liguria, Emilia-Romagna, Tuscany), as an articulation of the Regional Health Care Consortia or directly of some municipalities. Many of these production workers had been culturally trained within student and, in some cases, trade union movements, during the struggles for health of previous years. The response of the institutions dedicated to workers' health with the just launched but not homogeneous and emerging structures, occurs in a long period of time, maintaining, however, some of the qualifying points: following up, in any way, the needs and demands of the trade unions and satisfying, as a matter of priority, the Production Workers Committee”.

11 See Baccastrini and Faillace (1982).

Thus, in 1982, old structures such as the *Ente Nazionale Prevenzione Infortuni* (ENPI), and the *Associazione Nazionale Controllo della Combustione* (ANCC) are abandoned and the competences related to health and safety of the Labor Inspection are transferred to the newly born USL structures dedicated to “prevention” in the workplace. There are also, “by law”, political directions such as the affirmation of users’ participation, the primacy of basic prevention, and decentralization in the public management of interventions. The workers in the prevention areas of the USLs who are responsible (almost as if they were the only ones in charge of primary prevention, and the employers were not) and certainly motivated, play an established and decisive role, quite isolated and self-referential; a debate on new working methods of the territorial services, dissemination of tools and work techniques, stating and implementing autonomous “words of order” about what had to be done. In fact, a real “rupture” had taken place in the response that society gave or should have given to such problems before and after the preceding season’s great wave of labor struggles, through State organizations.¹²

The right of access in workplaces with institutional surveillance functions with respect to the legislation that is acquired by law 833, allows the service operators to “discover” a world until then almost ignored, mainly consisting of thousands and thousands of small and very small enterprises and multitudes of workers, unionized or not, but distant from the exemplary experiences of large factories in the 1960s and 1970s. A testimony of this period is the series of initiatives often brought together with the representatives of the artisans themselves, as in the case of EPASA (*Ente di Patronato e di Assistenza Sociale per gli Artigiani*), originated from the National Confederation of Artisans (CNA). The functions inherited by Labor Inspection represent

12 See Bodini (1997).

a real change of time for the subjects of prevention and for their way of working; first, emerges the fact that there are laws which are generally neglected and there is a lack of a mandate to enforce them. Prior to that, the pre-reform service providers entered the factory at the request of workers' union organizations (article 9 of the Statute of Workers' Rights, Law 300/70), or also by agreements of both social parties, with the goal of facing, more than anything, problems related in some way to health issues on which they could give an opinion, offer a solution that could have been applied or not, depending on the contractual force of workers. Now such a role underwent a deep transformation; the initiative and, therefore, the programs of the interventions emerged thanks to the "unlimited" faculty of access to the workplaces, and to be based on the power to impose changes that the employer had to honor. An active and unprecedented National Coordination of Providers of Prevention is proposed as a legitimate and institutional moment to decide how to develop the new functions, a kind of State organization, not the result of decisions from above, but self-convened and the bearer of experiences and behavioral demands from below. From the beginning, the Ministry of Health seems to ignore the very existence of prevention in the workplace; the ISPESL (acronym in Italian of the Higher Institute for Occupational Prevention and Safety), the central entity delegated by the Law for the cultural and methodological elaboration on these subjects, has been substantially absent for a long time. The USLs, on the other hand, are immediately more interested in management in the area of healing than in the preventive area and, only in some regions, the organization over the territory of true service networks with sufficient resources to operate is facilitated.

In 1985, the CNO cedes the position to the National Society of Providers of Prevention (SNOP, after its name in Italian). The following years witness an increasing activity of the SNOP on two fronts which will become the cardinal points of its very

existence: the technical-scientific front, with the activation of thematic working groups at the national level and the production of manuals for “the productive sector” which gradually covers all major labor sectors and typical industrial districts; and secondly, the front of the intervention on health policy issues and professional practice pertinent to the area of Prevention and, in particular, the occupational physician of services.

A balance actively compiled by the SNOP in 1988 shows that within ten years of the Health Reform, entire regions around the country were stripped of any preventive accompaniment aimed at the workers’ health; once the old accompaniment has been discarded, the new one does not advance.

The Health Reform in the field of workplace health could be considered a declaration of good intentions offered to the goodwill of only a few people. However, it cannot be said that such a situation, where people of goodwill were production workers, was unimportant: most of the productive sectors - then predominantly small enterprises in some regions of the Center-North - are systematically probed and obliged, with or without the participation of workers, with the powers of prescription and warnings concerning the gradual but safe implementation of homogeneous standards of health and safety considered acceptable on the basis of preliminary investigations and technical evaluations conducted *ad hoc* with available resources and often with the incredulous passivity of the employers’ organizations, in addition to the central organizations of the State. This operation, where it was possible to conduct, was able to draw attention to some rights concerning workers’ health, those enshrined by a legislation of the 1950s that had almost always remained as little more than a dead letter.¹³

13 See Carnevale and Baldasseroni, op. cit., pages 251 and ss.

At the same time, interventions by some territorial services began and then increased, in the traditional construction sectors, abandoned long before to spontaneous safety management, without regulations.

We can say that the complexity of these activities - in certain relevant cases - consummated in the decade between 1982 and 1992, was able to raise the health and safety level also in small companies by aligning them, in any way, to the actions of the largest companies in the preceding decade, which had been promoted by workers' initiatives. In the meantime, the soul and the way in which first-time operators intervene are modified, and consequently, that of the services of the USLs and also of the Local Sanitation Companies (ASL, after their acronym in Italian): in the assemblies of "homogeneous group", little by little the access in the companies is replaced with the powers of the judicial police that do not involve, or do so only secondarily, the workers; global interventions on all risk factors of that particular company are followed by specific interventions on some topics considered as priorities by the production workers, those interpreted more directly as a legal requirement; the aspects of accident prevention with respect to those related to health and work organization are more and more privileged. Only in some cases, periodically, the scientific and professional "dignity" of some group of production workers of the territorial services is valued which, having the capacity, and not wanting to reduce their work only to "police" controls, is devoted to original investigations and applies scientific methodologies with results of safe interest, often in collaboration with research institutes, especially in the field of epidemiology and ergonomics.¹⁴

14 See: Carnevale, Baldasseroni, Capacci, Tartaglia, Motta and Giuliano (1996). See also Tartaglia, Carnevale, Baldasseroni, Rizzo, Salerno and Zoppi (1998).

Developments: Italy in Europe

The legislative inertia of thirty-five years, since the promulgation of D.P.R. 303 in 1956, was interrupted in 1991 by the links of the European Community which, mainly to avoid unfair competition among the various countries, aims to harmonize health and safety regulations at the workplace. A “complete” system of objectives and methods is required where employers are not only subject to criminal liability, but they are also debtors of a professionally qualified organization of standardized prevention. Risk assessment and improvement programs become the mainstay of possible improvement interventions. Participation must mean collaboration, motivated adherence and information.

With these innovations, the Italian small and large employers, for the first time, see how they are attributed non-generic and abstract obligations to protect the safety (safety and every possible and imaginable psycho-physical risk) of their employees, commissions subject to circumvention and often considered absolved by paying insurance premiums of the INAIL (*Istituto Nazionale Assicurazioni Infortuni sul Lavoro*) or through other types of exchange; but they are also required to undertake specific tasks of active intervention, the application of codified procedures, including the obligation to be able to demonstrate, with documentation, to the appropriate person, the consistency of preventive actions, all of this punishable with high fines. The employer should seek trusted advisers in the market, as well as new and strange figures such as the Head of the Prevention and Protection Service and a “competent” physician; in addition, the latter is widespread also in sectors where it was previously excluded with the possibility of being substantially isolated from prevention initiatives. Advisers grow like mushrooms and enter a rich market that will remain confusing before balancing between the required and offered benefits. The control body in such a system would be delegated to act as a supreme regulator

and an observer of an ever more collaborative dialectic to reach a “consensual” goal, of combining the best technologically with sustainable working conditions, which should be “validated” by the social parties.

In this process, the identification of who defines applicable standards, especially at the local level, has been forgotten. The change of configuration could not be more radical: in the numerous articles in the text of the 1978 Health Reform, in which the issue was dealt with, the role and tasks of the Public Service of Prevention in the Workplaces were described in detail, delegating it with the commitment to identify, verify and control the factors related to health risks, danger and deterioration in living and working environments, even to speculate as to the creation of public prevention organizations within the production units.

It is difficult to say what the European system has brought to occupational health in the short and medium term; fortunately, it has intervened in a “ploughed” territory both in large companies (mainly through the trade union initiatives of the 1970s) and small companies (under the leadership of the ASL Services in the following decade). It has surely increased the patrimony in terms of “prevention scholars”, once substantially limited to the core of public sector workers. The workers were recognized for their role in the defense of their own health, also or mainly with the institution of the Representatives of Workers for Safety (RSL, after its acronym in Italian), from which rights and areas of competence are defined, by law. Thus, the concept of “participation” loses its old flavor of social antagonism, to enter into a framework of common agreement between the parties on safety and health issues, generally those more often formally “evaluated” by the employer or by someone on his behalf. The RSLs played a role only when they were supported by the union, that is to say in some large companies, with a deviation of functions in the public administration that go from a formal

antagonism to a practical form of collaboration with the Prevention and Protection Service, resulting in their complete absence or their appearance being subject to the employer in small and medium companies. Each of these RSL variants also had difficulty reporting to the supervisory body (Carnevale, 2009).

Active workers in Italy, ‘Italians’ and non-Italians, and their health to this day

The demographic phenomena of the last two decades have surely yet unexpectedly redefined the profile of the Italian worker, at least because of the promptness with which they have been verified. Italy went from exporting an almost always unqualified workforce from the countryside and extra-urban areas, to becoming a land of immigration. Then, speaking about the health of Italian workers loses the sense of any type of racial referral, albeit vague, to get the sense, much more consonant for an inherently multiracial country, of workers’ health, not only residents, but simply those active in Italy for long or short periods.

In addition to the labor market and the characteristics of the work and the environment in which it is developed, linguistic understanding, social behavior, religious beliefs and prejudices and, above all, the power to acquire and then express the demands of self-protection must be considered as “specific” risk factors.

The profound changes are influenced by other global upheavals. Fierce competition in the reduction of production costs and the noticeable decline in the reinforcement of national labor protection regulations are the main elements at play in developing countries, while in “developed” countries, safety at work is reduced. The hypothesis, according to which “industrial revolutions” represent a right-duty of each community and each country and must demand “tears and blood” is confirmed.

The Chinese productive order represents a good example in the field of the effects of globalization, both internally in the country and on the anarchic and primordial “ethnic economy”, a production regime in which the employer and worker of the same ethnic group “participate” unconditionally in the process of accumulation, impenetrable with respect to the social context where production is undertaken. Under these conditions, health and safety problems at work shift to the background.¹⁵

Quantitatively, the phenomenon of the immigrant labor force is difficult to delimit and, likewise, finds work in various segments of the market, usually making up for the indigenous labor force which is now unavailable. Some categories of work in which immigrants have been inserted are identified; in the first place are the workers in the socially weak phases, less legally protected from the contractual point of view, more subordinate and therefore considered as less “decent” by local workers: domestic employees with exceptionally low wages, street vendors, real terminals of complex productive ramifications based on the parallel market of goods with counterfeit brands. Therefore, it is not wrong to state that the working relationship, sometimes of mere primary exploitation, weighs on the health conditions themselves, much more than on specific risk factors. In addition, there are those jobs that Italians do not want, because they are heavy or harmful and “usurers”; among the best known are those of the quarries and those of marble workers in the metropolitan area of Verona; those of the tanneries of Arzignano (Vicenza) and Santa Croce sull’Arno (Pisa), of the foundries and steel mills of the metropolitan area of Brescia; in these cases, the introduction to work was favored by the entrepreneurs themselves, often supported by Catholic-based volunteers, with relatively good results in terms of integration and respect for health and safety standards. A relevant position should be assigned to the construction workers, now a specialty in some

ethnic groups, mainly from Maghreb, Romania and Albania; in the case of immigrant construction workers, as is well known, there are also violations of the working relationship, often “black work”, with the double result of aggravating risk factors and, in the case of misfortune, sometimes, of hiding the origin of the job. The offer of jobs in agriculture to immigrants is relevant; in this field, the workforce is extremely functional in the work cycle which foresees a marked seasonality. The traditional difficulty of intervention for the prevention of risks in these environments, added to the terrible living conditions, becomes an insurmountable obstacle when the clandestine conditions and the necessity of earning money converge for immigrants, forcing them to become accomplices of exploitation (Capacci and Carnevale, 2003).

After overcoming the feat of the crafts worker, and the experience of the mass-worker who in Italy symbolically assumed the vestments of the assembly chain in large factories of the industrial triangle of the 1960s and 1970s, we are now doing the accounts with figures of workers less fit for stereotypes, more varied, and expressing visions of a reality sometimes contrasting, not necessarily interpretable as signs of a creeping corporate egoism, but perhaps readable as an expression of the irreducible uniqueness of the human individual.

The age of *Taylorism-Fordism* variants has been enriched by principles and by the practice of ‘total quality’, a system in which the worker is always asked for less muscular or manual labor power and always more participation in production, involving him in the analysis of the errors, in the selection of the equipment necessary for the extremely flexible small series production. In the factory, the phrase “you are not paid to think” is no longer heard, instead, it is replaced by the persuasive phrase: “quality depends on you”.

Does that have to do with health? If, in any case, work occupies a large part of the earthly existence, if its loss provokes

such accentuated discomfort and suffering, the answer can only be in the affirmative.

Attending to a progressive reduction of the classic occupational diseases among the native workers of the countries with strong market economies, where many manufacturing activities with metals and solvents also ceased, does not mean the definitive disappearance of health-related damages, but rather, only a minute modification of the nosographic profile of these populations with forms of suffering that often go beyond organic damage.

In the first stage, occupational diseases were clear acute intoxications which aggravated the already widespread social diseases, while the organization of work and insurance favored their chronicity and thus, the so-called "occupational diseases" were born, developed and institutionalized. These diseases then mutate because an up-to-date constellation of determinants comes into play: the limitation of extreme risks, exposures and concentrations of various, lower, shorter toxic substances; the search and acceptance of 'sustainable' risks, the lack of detection of early stages of a disease, the manifestation of long-term effects. The statistics of occupational disease insurance offer a deformed image of the phenomenon; in fact, some alterations (musculoskeletal, psychosocial, allergic, tumors) are in practice excluded from the calculation, because they are not recognized and, in addition, the insurance entity mutates the criteria of acceptance over time. This being the case, the need and the efficacy of disease prevention and work-related alterations cannot be assessed solely on the reduction or elimination of the insured or recognized pathology or their unlikely specific causal elements. Rather, it is necessary to address the ability to control the complex of related elements with the exposure to occupational hazards and their management. In other words, it is necessary to rigorously apply the complex of procedures and regulations tending to control, from the origin, the most up-to-date risks that may be active in the various labor situations and with respect to each of the exposed workers.

But there are also other clouds on the horizon: the pathology of “no work”, of unemployment that always strikes the weakest strata of the population harder. Unemployment that does not always mean forced inactivity, but almost always clandestine and underground work, widespread illegality, violation of all contractual and security standards, the total precariousness of uncivilized labor relations. In fact, the unemployment status hides a variety of situations with precise differences also on the level of health and welfare consequences. The first great separation is between those who have never had a job and those who have lost a job, perhaps after many years. If the first group of subjects has grown significantly, it will be more difficult to determine the actual numbers of the second group. But among the latter, it is necessary to distinguish via the criterion of age: the early work experiences of young people often have a positive effect as they accumulate short and different occupations in the pursuit of their own “vocation-attitude”, misguided by a school inadequate to the present times. The adult unemployment of those who lose a job they have done for many years is also devastating.¹⁶

There is surely a “hard core” of adverse events that preventive initiatives did not or could not eliminate and whose acceptance is difficult to manage operationally; it is a threshold that cannot be easily determined quantitatively, or timely and less of all, accepted. In a not so distant past, workers had to confront the companies as a means of conquering the safeguarding of their rights, among these, the right to safety, capable of lowering that threshold. Today, when a new process is in full development, the establishment of natural defense mechanisms takes longer: on the one hand, what makes the prevention by the employers indisputably remunerative, making it functional for the productive plant itself; on the other hand, the growth of workers and their representatives who can become precious

16 See Carnevale (2010).

instruments of prevention. The “modern” instruments of safety recognition and management are opposed by perverse elements, considered by some as objective or structural and linked to the current phase of “civilization”; elements that also act by removing weight and visibility to producers of goods in favor of the consumers of such goods.

All these complex and multiple elements advise us to focus attention and antagonism on “poor working conditions”, with interventions that generally address the negative effects and, first of all, usury, exploitation and high psycho-social costs. A good indicator of this tendency must be seen in the “freedom” that the independent workers must have ensure self-protection and in the “power” they have in asserting their options. The transformation of work into action, and the transformation foreseen by agreements like the Fiat de Pomigliano establishment, presupposes a reduction of the “power” (formal and informal) of its workers acquired with the blackmail of “no work”. The object of the exchange is maximum productivity with an internationalization of standards and, consequently, more fatigue for the workers that any “stress assessment” determined as mandatory by the existing regulations in the European Union will be able to make more lenient. A new organizational model is lurking, which seeks the involvement of everyone in the process of product improvement and lower production costs. The model can also emphasize the ergonomic improvement of workstations to increase productivity, but above all in the unconditional, devout participation by workers. Paraphrasing Luciano Gallino, in Pomigliano, but also in many factories around the globe, it is intended that workers, unable or not to be replaced by robots, work as robots.

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A LOOK AT HEALTH IN THE WORLD OF WORK IN CONTEMPORARY CAPITALISM FROM A HISTORICAL PERSPECTIVE

Enrique Rajchenberg S¹.

In memory of Mariano Noriega E.

Upheavals in the world of work in the new century

We are always late. The critique of social sciences concerning the Fordist organization of labor came long after the warning issued by Chaplin in his 1936 movie *Modern Times*, regarding the dramatically alienating and morbid effect of the assembly line and of the timing of each vital act of workers.

The academic approach always seems to have some sort of delay in relation to other forms of knowledge and representations of reality, to acknowledge the implications of what is just emerging within society. This is undoubtedly due to the time required for the organized reflection of research, if the purpose is not to give in to short-term, superficially circumstantial

1 Doctor in Economy and History, professor-researcher from the Autonomous National University of Mexico.
Email: enriquer@economia.unam.mx

responses. But it is also due to the inertia of epistemological frameworks which trap and subdue intellectual life, and which very frequently restrain it from recreating other theoretical grammars, likely to perceive the societal pictures whose profiles are so difficult to foresee. In such circumstances, resorting to the historical past may be a heuristically relevant tool, not because we naively expect the preceding times to eventually repeat themselves, but because it can provide us, if we know how to ask the proper questions, with the keys to read the present and explain it, but also to go beyond it.

The world of work experienced many changes, in the last 30 years, which significantly altered the patterns that had driven it along for most of the 20th century: contract models, the structure of professional qualifications and professions themselves, the contents of tasks and the ways used to undertake them, were disrupted just as were many of the technological patterns in force at workplaces. In terms of ideology, a mirage was produced, in which, due to new technologies, the world of work was deprived of the horrors described by Marx and many others from the industrial world of the 19th century. In innumerable occasions, technological innovation resulted in something diametrically opposed to what had been predicted, as it became a mechanism that allowed for increasing the forms of domination over labor, thus generating new demands and aggravating older ones. As has been shown in several studies, the most archaic segments of labor had to adapt to the faster rhythms of modernized segments, thus generating an increase in work intensity and consequently a greater burden of physical effort and fatigue.

Such a scheme is reproduced worldwide: the international division of labor, stretched to the point of stress in times of globalization, has not only implied a production model in underdeveloped countries based on *maquila*-dependent manufacturing, but also the reinvigoration of archaic forms of labor. Its current

implementation makes them contemporary of computer-based offices, design by computer and automation; and not simply the traces of a previous economic order in decline. The almost absolute planetary mobility achieved by capital, allows the de-localization of distinct phases of work processes by combining technologies of different generations in each process, thus assuring coherence in production from the centers of corporate power. The scandals generated periodically, when, for example, it is revealed that a renowned brand employs slave labor in India or Thailand, show how cutting-edge technologies are synchronized with old-fashioned instruments of labor, which can only serve the enhancement of profit if the most brutal forms of exploitation are applied. The most luxurious models of women's shoes are manufactured in Indian sweatshops, where overcrowded workers glue the soles of these shoes in scanty sites, inhaling the fumes of the chemicals used for that purpose, for over 10 or 12 hours a day.

Unemployment and the subsequent impoverishment of the working-age population represents, in this context, the greater ally of such forms of labor: between accepting them and nothing, the choice is always the former. Even then, not everybody gets access to a paid labour relation, which is in turn being increasingly undermined, that is, it is subject to the most precarious employment conditions. One reason, maybe the main one, for such undermining lies in the re-individualization of contractual conditions and, in general terms, in the status of work in contemporary societies. The prefix *re* evidently connotes some type of return of a trait that was previously in force, although not under the same modalities. In the field of ideology, it is stressed that the status of worker is not social, but strictly individual. This notion is one of the most solid anchor points of neoliberalism, that of the primacy of the individual over society, although in Thatcherite terms, society does not exist, only individuals. Such an ideological platform justifies the withdrawal of the State from the social scope as, in the end, the conditions

of existence result from individual decisions whose harmonization takes place within the market.

The State's withdrawal can be perceived from several trajectories which can range from the drastic reduction of social expenditure and the correlative decrease in the quality of the services provided, which invariably lead beneficiaries to resort to the private sector, to the dismantling of the public sector and its privatization, as well as the subrogation of services, or the transference of the highest income sectors in the wage scale to the scope of private health services, thus producing the underfunding of social security systems and the worsening of services and, of course, the end of a principle which ruled most social protection institutions during the 20th century, that of solidarity. In fact, the step from a distribution system to the capitalization of the pension regime, after the reforms in recent decades, constitutes the touchstone of solidarity's demise among those located within the highest and the lowest wage levels (Ramírez, 2007).

But the generational continuity of the memory of prior struggles has also been broken. The work of oblivion, to paraphrase Paul Ricoeur, done, among others, via the dismantling of labor unions has achieved, on the one hand, the inability to relate class experiences, and on the other, to the shredding of memories through the dispersion of their bearers, either because they succumb to unemployment, or because their rehiring is done through modalities of temporary positions or is subject to frequent changes of workplace under the aegis of *outsourcing*, which allows the employer to avoid liability for any of his/her obligations. As Maurice Halbwachs put it 100 years ago, memory is kept among the members of the group, its dispersion only allows the reconstruction of memory fragments of past experiences. The *walmartization* of labor has become a paradigm for the world of work in the 21st century: some of the prevailing traits, not only in the transnational supermarket chain, include the banning of labor union related grouping, long workdays

without supplementary payment, incentives for competition between employees, and even the adoption of names such as *associate* or *representative* instead of *worker* (Mendoza, 2012)². The juridical frameworks which used to cover and regulate working conditions are dead letters in the present circumstances or, in other words, the cases of exceptionality increase so dramatically that they turn out to be the norm. Again, the case of *outsourcing* is exemplary: it has existed since before its recent legalization³.

The disruption occurred after a long series of defeats suffered by the movements which attempted to stop the onslaught, but some of them became real landmarks such as the English miners in the mid-1980s, and the US air traffic controllers at roughly the same time⁴. But what really altered the balance of political powers severely, and paved the way for the implementation of the neoliberal program of capitalist restructuring, was the establishment of military dictatorships in Latin America. In other words, what we have witnessed throughout the last 30 years has not only been a series of labor union failures, but the political defeat of workers and, as is always the case in history, the voice of the defeated being erased. In such a context, the world of work has failed to be as socially visible as it was in the 1960s and 1970s, and has simultaneously failed to look after the workers' health. This does not mean the problems have gone away, but they have been silenced, and shifted from the public and collective sphere to the private and individual. Nevertheless, it is true that another critical approach on health has

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- 2 Mendoza's work is largely based on health related issues in Wal-Mart, the chain of supermarkets.
 - 3 A reform to laws regulating labor is being currently proposed in the French Chamber of Deputies with the pompous name of "flexi-security" which, according to critics, represents the annulment of labor law in force during the last 100 years.
 - 4 I have described the emblematic nature of both strike movements as marking a turning point in the balance of power worldwide, through Rajchenberg's iconography (2007, 2009).

been under construction in recent years. It is raised in terms of injury to life through the looting implicit in an economy ruled by value, especially when it depends on accumulation by dispossession, as David Harvey has called it, for its growth, that is, on the exploitation of mineral, hydrological and biotic resources, disregarding the so-called externalities. In such cases, the community becomes the starring actor in territorialized movements, and those workers whose struggles have failed to be expressed in workplaces, due to causes outlined above, can “meet again” in them. Nevertheless, just as the struggle for health at the workplace does not cover the whole issue of community health, the opposite also holds true. It is right that this cannot justify unionist positions as the ones recorded in previous decades. Big unions’ disdain for gender equity struggles or for the defense of the environment should not turn its defense of sources of employment, at risk in case of closure if they are proved to be polluting, into their alibi.

To sum up, the world of labor has become invisible, either because its actors have been politically repressed and have become disorganized, or because it has been socially concealed, to the point that it seems that the term *worker* has ceased to express a valid reality. Workers’ health has consequently been through the same process of gradual invisibility. Episodes such as the Italian “hot summer” in the 1960s, which triggered a generalized contestation of working conditions, or such as the strike staged by workers of the Altos Hornos steel mill, in the northern Mexican city of Monclova, in the state of Coahuila, in the early 1980s, which exposed the risks workers were daily submitted to, or even such as the Mexican electricians who claimed that their exposure to electrical risk decreased their life expectancy, and managed to reduce their retirement age; in a nutshell, all of these experiences are rather unlikely to happen nowadays and, if they occurred, they would probably fail to draw assiduous social attention.

The slogan of those rebel years “Health is not for sale” constituted a position which contested the capitalist social relation itself, because the same as the monetarization of labor leads to the monetarization of disease and death, contesting such a relation implied the rejection of the very contractual relation.

This cycle has finished together with the short century, as Hobsbawm referred to the 20th century. It does not imply that workers accept the prevailing health conditions passively. As James Scott has pointed out, even before such natural phenomena as rain or its extended absence, a drought, that is, outside man’s will, men do not remain indifferent; they perform a series of actions, sometimes with a magical-religious sense, intended to end the rough patch⁵.

Practices of resistance are not easy to collect nowadays either as, on the one hand, what is almost innate of any resistance is, as Scott showed, its being secret and anonymous, and, on the other, because the academic research which contributed to revealing the issue of health, in other times, turned its back on the world of labor and pursued less politically committed and compromising fields of study. For this reason, whole segments of the reality of contemporary work remain unknown to us, particularly the forms of resistance to parameters imposed for the realization of labor.

For the moment, the landscape of today’s world of work is so overwhelming that it prevents the discovery of trends on the horizon; the dismantling of what used to be in the 20th century is ahead of what is being installed in the present century. But this is not the first time such a situation has occurred in the history of capitalism. The enthronement of market laws

5 In other cases, not meteorological at all, the response may be similar. In the mines of Guanajuato, during the 1920s, a label at the entrance of the underground galleries read “May God protect us”.

and of great industry in the late 18th and the early 19th centuries implied something similar to what prevails today: the radical rupture of traditions, codes of behavior, moral values, expectations and notions of justice, etc. Those who have read Edward P. Thompson should acknowledge an echo in the present times, of what was experienced and resisted by men and women two centuries ago. Their attempts to counter what was to come were fruitless to stop what was dismantling their way of life. Nevertheless, the already installed capitalism could not remain indifferent to previously recorded fights. When the new rules of the game were established, players had to imagine unprecedented methods of defense in order to survive in this new order, even by updating those which had been worthwhile at a different moment.

If it is claimed that a cycle was completed, it is convenient to review the historical contents of the previous cycle because a clearer image is thus acquired of the scale of what went missing in the transit from the 20th to the 21st century. It is not a matter of nostalgic views, in the fashion of the notion that everything was better in the past, nor of teleological perspectives: it is not valid to interpret the past based on what happens later. It would not be appropriate to assume an equivalence between both moments either. Capitalism was on the rise at the time of great industry; today, capitalism is facing a deep crisis, which could even imply its immediate disappearance.

The transit from charity to compensation

A habitual response of employers to the demand of reparation after a work accident in the early 20th century consisted of comparing workers to machines. Hiring one via the payment of rental expenses tacitly implied the wear and tear equivalent to its time of use. Such wear and tear was compensated by the amount paid for renting the equipment. Concurrently,

the payment of a wage implied the risk of deterioration of the merchandise rented, in this case, the labor-power. The worker, when accepting the terms of the interchange, knew beforehand what it implied.

The case of José Guadalupe Tarasco, a carrier of tequila barrels in the service of Gómez Ochoa & Cía. in Medellín, is illustrative in this regard. The worker suffered an injury which the owners attribute to José Guadalupe's carelessness. When a government agency arbitrated in the issue, by pointing at the employer's obligation to aid the injured worker, the employers argued that

In the case of rented machinery, it is necessary to differentiate if it is an uninterested loan or if the machine was let as a form of compensation for something we gave. If a glitch results naturally from using the machine and we paid for that use, we do not believe we are either legally or morally required to cover the amount implied by such malfunction (Archivo General de la Nación (AGN), 1920).

Regardless of any moral judgment on the comparison of the worker with an object, such as the machine, what should keep our attention is something else, the representation of a work relation as any other business relationship. That is, labor is a commodity just the same as any other, whose interchange in the market grants its new holder the right to use it according to the conditions both parties agreed upon. Its *malfunctioning* would be budgeted in its sale⁶.

6 Such argumentative logic would run into an obstacle when the injured was a minor, as in rigorous terms, it could not be claimed that the child or teenager had the capability for contracting, that is, was informed about the implications of the business deal. In such cases, children and teenagers' non-observance of the instructions received would be argued, as well as their natural tendency to playing in the workshop, that is, children's mischief.

We are now facing the most orthodox liberal conception of labor, a commodity no different to any other, whose purchase is regarded as a concurrence of wills and, therefore, is fully informed of what is implied in the exchange. In this context, the demand of economic reparation due to the damage or even the complete loss of the capacity to work is solved within an extralegal realm, that is, the moral one. At best, the employer will agree to give what the vocabulary of the time refers to by the names of aid, charity, etc., mere palliatives of a liberal order, although never as a legally established act, but due to pity or to religious conviction. Morals is an extralegal realm, and that is what will be claimed. The State's involvement in the private sphere can only imply exceeding its basic functions which have been legitimated by society⁷. A text disseminated by the communications outlet of a business association regretted, when the legislation had already changed, that what used to be a willing act, became a legal obligation: "Did I do right when, in a spontaneous way without anybody forcing me, I established a medical and pharmaceutical service for my workers and their really ill relatives, given that such act which I intended to steer nobly has become a requirement?" (México industrial, 1925: 254).

Reparation of the damage only took place when it was proved that the employer acted willfully, but the burden of such proof fell upon the plaintiff, that is, the worker:

If I am responsible for myself, I cannot blame my failure on anyone but myself. Such failure, even if it results from circumstantial

7 "A right? Who could we demand its enforcement from? A duty! As if it is a social duty, of course the State should have us comply with it. So, what is it then? What better proof of communism can be given, than the State protecting the right to charity of those in need, and intending to effectively enforce the duty of giving alms? Would that imply dominion over property? But, *inter alia*, would there be charity when charity is a moral act forcing us to let go of our wealth without anybody's coercion?" (Periódico *La Ilustración*, ca. 1880, cited by Moisés González Navarro, 1957: 361-362).

facts, from a difficult situation, is due to myself, it is I who could not foresee a certain element, it is I who did not know better, I did not understand or failed to apply natural law. In any case and always, but for exceptions, it is my fault. I am the one and definitive point of attribution of whatever happens to me [...] Liberal philosophy turns every mistake into blame (Vera Estañol, 2005: 756).

It goes without saying that a legal procedure such as the aforementioned was impossible to realize. In those circumstances, the most cautious thing for the injured or his kin to do, if circumstances had proved to be fatal, was to join the same discourse register as his employer, that is, to regard himself as a disgraced being requiring the merciful help only a generous individual could give. Undoubtedly, those *aids* did not alleviate the real survival needs of the disabled worker or his family, but it was the most they could obtain in an adverse political, social and cultural context. If the vast mail of such kind is read outside these coordinates, it would seem like the employers' paternalist ideology was shared without contesting it, as if the very subaltern subjects had reaffirmed and countersigned it, when the facts meant, if not the opposite, at least a strategy to obtain something, while a position of openly challenging power was more likely to jeopardize everything.

When the first government agencies enter the field of the capital-labour relation-, they asked owners about statistics on accidents and their causes. "Greater strength" and "neglect" were the most frequent responses. That is to say, the causes either were not attributable to the will of any subject involved in production and, consequently, could not be claimed to be willful, or were due to the worker's fault who, instead of minding the equipment, had been engaged in a conversation, had failed to follow the instructions, had been telling jokes, etc.; summing up, behavioral failures of those who could not be tamed, not even by the industrial order.

An objective condition disrupts this order. The statistical regularity of accidents occurring in industrial labor is evident, due to the physical concentration of a considerable number of workers. They happen when certain machines are operated, they occur more frequently at certain times of the day than at others, etc. The collective dimension of accidents is not compatible with invoking individual causes. The collective nature of workers' injuries and deaths at the workplace contradict the individual attribution of their causality. But the objective foundation is not enough to explain a sociopolitical process of struggle involving changes of its actors' identity, that is, their subjectivity.

From my point of view, what I have called the transition from charity to compensation (Rajchenberg, 2002, 1998 and 1992) had two prerequisites. The first consisted of the sedentariness of the working population. Indeed, in most known cases, the industrial regime had to compete at first with other economic activities to settle the worker within the industrial space. This does not mean they paid their workers better, but that work discipline was not accepted without contesting it, one way to do so was through nomadism⁸. But other reasons also led workers to joining the lines of the industrial proletariat. If their place of origin was not very far from the new industrial centers, they could go back to it relatively easily, in order either to keep their bonds with a small town society or to comply with the seasonal needs of their peasant economy (García Díaz, 1981). Rather than being working subjects, they were men from agrarian communities who were supplementing their income with the industrial wage. Sometimes, they did their journey on foot as in the case of the Oaxaca shepherds who went regularly to Orizaba to work in the textile factories and, after a few months, returned home after an eight-day-long walk. They were shown antipathy

8 "The experience of escaping turns out to be some sort of training for the longing for freedom" (Hardt and Negri, 2004: 65)

by more permanent workers who did not count on them for vindicating actions. They were branded as strike-breakers and pro-employers. Paradoxically, they were the most likely to catch a disease as they were assigned to the dyeing workshop, where the use of chemical products, anilines, resulted in fatal effects. They went back home to die.

Synthesizing, even though the extreme mobility of labor was both a modality of resistance and a puzzle for corporate managers, it deterred the realization of demands which could only flourish when the working population was settled. This status allowed the collective nature of certain issues to be exposed, particularly illness, the hardest to prove in its case was its professional origin. While accidents occur at the very workplace and throughout the workday, ailments do not appear suddenly. The case of respiratory diseases is illustrative.

Textile workers confirmed they died younger than before joining the industry, but besides this, they noticed the reason for deaths was repeated countless times. They recorded it as tuberculosis, although it was probably byssinosis⁹, which had not been identified yet as a specific morbid entity. The main thing was not the exact name of the disease, but to account for the association between work and a given ailment which proved to

9 A historian refers to the confusion of that time between tuberculosis, pneumoconiosis and byssinosis which specifically results from inhaling cotton dust during carding, spinning and weaving, given that the symptoms of the three diseases are alike (Collado, 1996:293). Nevertheless, it is also possible that the early result of inhaling cotton dust derived from a diagnosis of pulmonary tuberculosis. From my point of view, what really matters here is not the taxonomic precision of the ailment, but the fact that workers clearly perceived the professional origin of certain diseases. In other cases, workers could not brand the disease they had, but managed to describe it: "We see, that is what the miners from Río Escondido in the state of Coahuila say, that the ones coming from other mines look very healthy and, after a few months working here they change their color, they seem colorless" (AGN, 1921)

be fatal. It was not an easy task for workers, although businessmen found less trouble to counter-argue. Tuberculosis, they claimed, was a disease quintessentially associated with the poor, alcoholics, and sexually promiscuous subjects. The causal agent of deaths was not searched for within the factories, but outside of them, in the workers' immorality, whose status as miserable, in turn, lied in their laziness. The rectification of ailments could be solved through a pedagogical program that demonized the ingestion of alcohol, absenteeism –*holy Mondays*, etc.- and promoting the habit of saving¹⁰.

The second prerequisite of stepping from charity to compensation is the existence of a segment of the political class championing a reform of the world of work. It is the case of reformers whose action occurs in legislative instances, where a new regulation of labor relations is promoted. In the Mexican case, the overthrow of Porfirio's dictatorial regime (1876-1911), and the indefinite permanence of the members of the State apparatus during several decades, allowed a new group to attain political positions. Its members rarely had a worker's past, but they had been close to workers, either because they were artisans in the towns where the industrial centers had been installed, or because they had held administrative positions in factories. Summing up, it was a small-town middle class from the province which, in terms of social distance, was closer to the industrial proletariat than to economic and political elites, from whose ranks they had been banned for as long as the oligarchic and dictatorial order had lasted. Even if some of them had been anarchist activists before the overthrow of the previous regime, they were far from politically promoting the abolition

10 "The more limited workers become due to their wages, the greater the benefit they get. Proof of this is that every time one of them is defeated, or reaches better marks than the rest, he is the first to skip work on Monday and, if he still has money, on Tuesday, or show up at work drunk" (AGN, 1920a).

of capitalist relations. Some of them claimed to be socialists, which implied the elimination of the most unfair aspects of wage earning. Therefore, the idea was to regulate working conditions and to enforce such regulations through State power, thus creating the legal instruments required for intervention. That is how, for instance, the state of Veracruz managed to pass a pioneering professional disease law in 1924, after an extended strike¹¹, which, by the way, registered tuberculosis as an ailment associated with work.

Some confrontations between corporate organizations and regional powers occurred, due to the non-compliance of work laws, an employer was even sent to prison for refusing to comply with them, although he was released a few days later. The tone of such arguments reached particularly high levels of rhetorical coarseness, and the new political class adopted a radical workers' language in them, to counter the accusations of corporate organs. Nevertheless, the idea was to update labor relations because the hegemonic consolidation of the new regime could not be achieved without doing so.

A transition to risk theory and to the compensation regime took shape after that moment. The association of worker and machine, as well as the modalities of aid as expressions of employer generosity and benevolence were left aside. Certainly, in Latin American countries, work legislation does not cover the whole of the working population, which is one of the reasons why its current annulment and its drastic reform has occurred with relative political ease. Nevertheless, the transit was completed where workers managed to gather around defense organizations, even if, such as in Mexico, it implied joining the cogs and wheels of a corporate regime and, therefore, relinquishing one's political autonomy.

11 I have studied the development of this strike in Rajchenberg (1993).

Risk of labor theory overtook the dominance guilt theory had previously held in the legal corpus. But it remained particularly hard to prove that a disease was the result of working conditions and, it was even worse, if it was not included in the list of those whose professional origin was legally acknowledged. The delay accumulated by the legislation regarding technological and organizational changes in companies, has not been overcome.

Was the adoption of risk theory the only possible horizon of workers' action? Definitely not! Nomadism of the early industrial times was a more radical way to express the rejection of workers' wear and tear, but it was not realized through political action; it remained as a simple escape, to paraphrase Hardt and Negri. Instead, the struggle for implementing compensations for the injured and the diseased allowed adapting to new forms of labor and of productive organization. It contradicted the most orthodox liberal discourse, but it did not contradict capitalist wage earners. Workers adapted to the new context of their lives, once they managed to alter the way it was being imposed upon them. Conformity, says Thompson, is necessary if one intends to survive, but it can only be analytically differentiated from permanent inconformity. Only exceptionally, are there men and women willing to struggle all their lives; those are the ones Bertold Brecht referred to as the indispensables.

Let us go back to our point of departure

The conquests achieved during the 20th century in terms of health at the workplace have been reversed, although not always through juridical reforms; it was enough to have a deep change in the basis on which labor is hired and the process of work to make the rights crystallized in legislation, meaningless.

To dream about returning to a prior order of labor regulation is unnecessary: it is not a matter of challenging utopias

which nourish and encourage action, if they do not result in projects to return to an idealized past, whose re-edition is, indeed, unattainable. The coordinates, which made the 20th century struggles and achievements feasible, have changed dramatically. What prevails is the landscape of a battle which has not yet ended, as the onslaught continues and, in this sense, the landscape is catastrophic, since prior certainties have withered away and will continue to fall apart. The identity constructions have vaporized, sometimes giving way to others which, for the moment, do not have the organizational armor to hold them firmly against the mirages of an individualistic and utilitarian philosophy. Hence its fragility and the permanent reconstitution of the commitments and alliances made. So far, the ancient indigenous identities of Latin America have proved to be the groupings with greater resistance to fragmentation. Besides the undoubted legitimacy of their demands and mobilizations, the support and solidarity offered by the non-indigenous population, they have the chance to adhere to organizations whose robustness and persistence are not easy to find in any other social space.

The historical likelihood of the emergence of a world worker, as suggested for instance by Adolfo Gilly (2015), should be regarded as what it is, a possibility, although there are not clear trends towards the constitution of such a subject, rather, the opposite trend seems more prevalent. The political expressions of the crisis consist of nationalist exacerbations, always gaining sympathy among the popular sectors. The extreme mobility of this worker of the world, who borders, circumventing retaining walls, and fooling migration agents, but who also permanently changes job and workplace, implies the territorial reconstruction of his/her demands and his/her vindicating practices. Who could be, in such circumstances, the institutional spokesperson of a labor claim, or the legal guarantee of compliance with a given regulation? The difference between communitarian organizations, with a strong and ancient territorial entrench-

ment, and worker's transhumance, becomes evident¹². In the early 20th century, roaming, as has been shown, resulted in a sedentary life. Today, a similar trend cannot be seen, but it does not mean that all kinds of resistance are impossible, but that territorialization in the nation-States inherited from the peace of Münster is insufficient and incompetent to face such an issue. So far, the challenges implied by capitalist globalization are met through the forced adoption by States of meta-legal codes applied worldwide: they are not the ones emitting rules of behavior and, especially, an investment-friendly environment, they are only in charge of enforcing them and, if they do not, they are punished and fined by supranational organisms. There is not such a phenomenon in terms of labor. The recommendations of the International Labor Organization (ILO) are not binding and result in nothing but that, suggestions.

The social visibility of the issue of workers requires an intellectual project led by intellectuals¹³. What I am making is not an illuminist proposal, never mind and elitist one. I am positioning myself in a Gramscian theoretical arena for which the corporate overrun, that is, generalization, is an unavoidable condition for all subaltern conquests. Nowadays, as has already been said, the breach between popular interests and intellectual activity has become deeper: it is not only a matter of delaying intellectual concerns, but of a true discord. It is expectable that

12 This does not imply incompatibility: the emergence of transnational communities has been studied, for instance, whose subjects are, on the one hand, immigrants in the US and, on the other, members of their home communities whose agricultural activity, material support of group cohesion and patronal feasts, is funded by them. This way, the migrants' belonging to the group is validated in spite of their physical absence, and this way, the deterritorialization implied by migration becomes temporary.

13 The research done by Mariano Noriega and Cristina Laurell, in Mexico, by Jaime Breilh, in Ecuador or by Berlinguer in Italy was crucial in the 1960s and 1980s, not only to generate a field of scientific knowledge, but also to impact the struggles regarding workers' health.

such a breach will be re-absorbed, as has been the case in other moments throughout the two preceding centuries, when popular activation becomes noisier.

Final reflection: to read the past in terms of change

It would show little heuristic capability to be content with saying that health and disease at the workplace, and the balance of political power, have changed between the early 20th and the early 21st centuries. It would not be very fruitful for the analysis to just compare both moments, as it is not possible to compare a moment of advance of popular forces, with another of defeat. My proposal did not intend to be comparative, but to provide a reading of the past to think about overcoming such a defeat, which does not only imply regaining control over the terrain lost in the last 30 or 35 years, in order to restore conditions which are unrepeatabe, as is any chapter from the past.

Nevertheless, first, it is essential to undertake an *inventory of damages*, which somehow implies more detailed knowledge of the ground lost in recent decades in terms of denied, annulled or precluded rights, of labor morbidity/mortality profiles increased according to prior patterns or to new pathologies related to new working conditions. Such a proposal, which could be mistaken for the making of a black book of workers' health in neoliberal times, has its greatest fertility in social claims. On their own, such claims could run out in astonishment and the moral condemnation of an ignominious reality, and, therefore, be insufficient to provide visibility for an obscured issue.

Second, disassociating oneself from corporate or unionist positions becomes a way of joining the world of labor to that of the community. Heroic chapters of past struggles featured the support of the latter in different shapes, such as giving food to strikers, joining picket lines at the sealed doors of work centers,

etc. In our Latin American countries, where extractivist strategies, which Harvey has referred to as accumulation by dispossession, have expanded since the beginnings of the 21st century, the issue of health and disease is not restricted to workers of such industries, but it extends to the regions where they are implemented. The virtue of the struggles led by the communities settled there, who frequently belong to indigenous peoples from this Continent, is that they have made their demands in terms of the threat to life itself that conglomerates involved in mining, foresting, oil-producing, hydropower, etc. represent. In other words, the incompatibility between the ruling accumulation-centered regime, including its dynamic extractivist axis, and human life has been made evident by them, even if sometimes they have decided to settle with large corporations, and put a price to their land so that they can exploit the mineral, water and forest resources they seek. The old motto “Health is not for sale”, to which “but it will not be given away for free either” was added later, has been re-edited in new contexts.

Third and lastly, a point which should not be given up or missed is the defense of the right to work. I do not refer to partial though substantial matters of the work legislation brought forward throughout the 20th century, but to the conception anchored in the foundation of those material achievements, represented by diverse provisions and protections workers are currently entitled to. It refers to the social acknowledgment of workers, as subjects whose chance to enjoy and demand the citizen rights achieved within a given society is tightly bound to the collective rejection of their status as a type of merchandise, undifferentiated from any other. The de-commercialization of workers’ fundamental needs, as well as of those of any human being, is a part of such demand.

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NEW RISKS FOR HEALTH IN FLEXIBLE CAPITALISM

The response from labor unions in Germany

Klaus Pickshaus¹

Prevention may be successful

A radical change occurred within the field of labor protection and prevention of work-related risks, in 1980s' Europe: the *Guideline for the Safety and Health Framework* allowed a paradigmatic change for the first time. It was due to a temporary period of reforms within the European Union, during which labor unions could have an influence. The binding prevalence granted to prevention after then provides, among other things, the need to avoid and fight all kinds of risk at the workplace from its origin. Everything related to protection against labor risks should be considered during the planning phase of measures leading to either technical or organizational changes, as well as during the acquisition of machinery and products. Those risks which could not be avoided had to be assessed so that

1 Political scientist, former chief executive of the department of labor health and safety in IG Metall, political journalist.
Email address: klaus.pickshaus@t-online.de

measures allowing their decrease could be taken. Additionally, it was necessary to bear in mind that it was not the human being who had to adapt to labor conditions, but on the contrary, work should be designed so that it could fit people. Collective protective measures are always more important than the individual ones. Besides, it is important to get employees involved in such a continuous process. All of this certainly resulted in a paradigmatic change, considering that protection against work risks was always aimed at technique and expertise, as it was a concept regulated by the idea of improving failures, rather than by that of prevention.

These guidelines were to be implemented in each national legislation among the European countries –in Germany, it was enforced after 1996–, thus generating important progress, especially in areas which traditionally represented a risk for health such as work accidents, and excessive physical force, among others. In all this process it was also positive that, together with the State's health and safety, regulated via workplace inspection, insurance companies started playing an important role in the implementation of preventive measures.

Unlike the situation apparently faced by many Latin American countries, Germany could considerably decrease its labor accident rate. An example: while in 1960 there were 110 professional accidents per each 1,000 full-time employees, in 2013 they manage to decrease this number to a historically low number: 24 accidents for every 1000 full time employees. Particularly, they managed to reduce the lethal labor accidents to almost a tenth of the amount recorded in 1960 (see table 1). The agricultural and the construction sectors still remain the sectors where most accidents of this sort occur.

Table 1**Annual report on Safety and Health at the Workplace**

Year	1960	2001	2014
Labor accidents	2,7 Million	1,4 Million	0,95 Million
Lethal labor accidents	4 900	1 100	639
Accidents while commuting		0,23 Million	0,18 Million

Source: Federal Office for the Protection against Labor Risk and for Labor Medicine

Such successful prevention is based on the following two reasons: on the one hand, a legislation regarding health and safety at the workplace was approved. Through this, it was stipulated that professional risks should be fought against based on their origin, and the need to do thorough risk assessments was stressed. On the other hand, a health and safety at the workplace inspection model was created, which consisted of State bodies and insurance companies.

Nevertheless, some negative aspects have been identified throughout the process which cannot be ignored. Due to a neo-liberal policy of austerity ruling over Germany and Europe, the resources channeled to inspection have been strictly restricted in recent years. Additionally, legislation regulating health and safety at the workplace still has flaws in regard to preventing new risks, especially those associated with work-related stress.

Increase of new health risks generated by psychological strains at work

The World Health Organization (WHO) has claimed that work-related stress is “one of the great risks of the 21st century”. According to calculation made by that organization for 2020, one out of every two cases of disease will be stress related. Stress, in the same manner as psychological strain at work, has risen considerably, especially in industrialized countries, as the limits of what work implies have gradually disappeared (elimination of work related barriers), and the intensity of labor has increased.

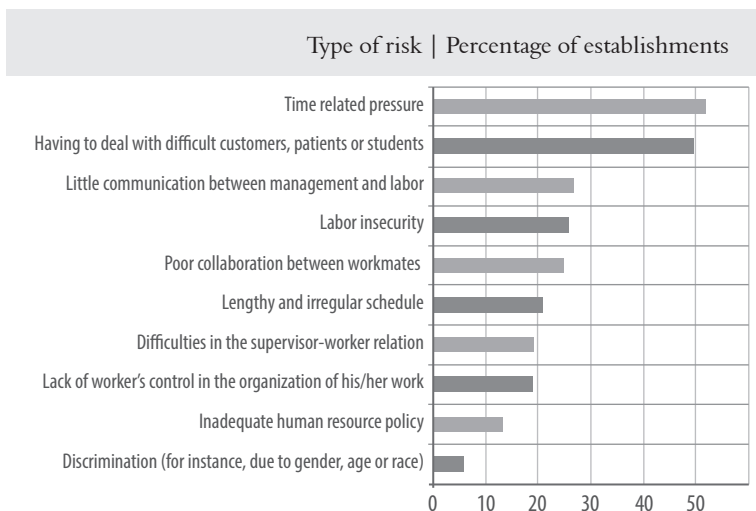
The results of a 2012 survey done by labor unions (the so-called German Labor Union Confederation Index: Good Job) confirms such a trend:

- Work intensity has increased by four fifths of German employees; this increase has been of sizeable proportions for over half of them.
- The amount of employees who often had to do tasks hurriedly increased to an index of 56% in 2012.
- 44% of employees frequently or regularly feel unfulfilled or exhausted after their workday. The following data has drawn special attention: 75% of employees claim they very often need to rush their work. Among them, 71% have suffered a sizeable increase in the intensity of work. 69% of the employees claim they work, very often, under conditions which are difficult to bear (German Labor Union Confederation Index: Good Job, 2013)-

Germany's 2012 Stress Report, published by the Federal Institute of Work Safety and Labor Medicine and based on a representative survey filled in by approximately 20,000 workers, that is, Germany's best informed and most fully updated data base in the present, briefly determined that:

the factors most frequently referred to, when it comes to discussing the demands faced by people within their work scope include the following: having to deal with different activities at the same time (so-called *multitasking*), great pressure in terms of schedule and performance, interruptions or disturbances during the work-day, having to work too fast, and having to continuously perform the same task (monotony). Likewise, work related health issues have increased. The more health problems we mention, the greater the rate of the ones related to work intensity. For instance, problems associated with schedule and performance related pressure, or with multitasking. Simultaneously, the higher the number of health problems reported, the lower the amount of resources assigned (Federal Institute of Work Safety and Labor Medicine, 2014: 164).

The European Occupational Safety and Health Administration (OSHA) has collected data from 27 European countries, which show the factors and the share each one has contributed to the increase in their work-related psychological load. The first one mentioned was time pressure, followed by difficulties when dealing with customers/patients, etc., and then, the difficulties in communication among employees and work insecurity, among others (see figure 1).

Figure 1**Presence of psychosocial risks at the establishment**

Source: ESENER (2009)

Regarding work related stress, the 2004 European agreement for social well-being (an agreement reached after lengthy negotiations between employer's organizations and trade unions) acknowledged the promotion of prevention as an obligation. Such an obligation had already been stipulated by the guidelines of the Framework for Health and Safety at the Workplace, agreed upon in 1989. According to this agreement, "problems associated with work-related stress should be regarded as one of the measures to take, given that they represent a risk factor for worker safety and health".

Besides, concrete factors associated with prevention at the workplace were identified, which should become tasks to confront; some examples listed are:

- The organization and processes at the workplace (regulation of working time, the possibility to act and decide, harmony between the employee's skills and the requirements of his/her occupation, work load, etc.).
- Working conditions and work environment (exposition to worrying situations such as excessive noise, heat, exposure to dangerous materials, etc.)
- Communication (little clarity regarding the expected results of the activities the worker will be engaged in, worker perspectives being subject to changes, etc.).
- Subjective factors (emotional or social pressure, the feeling of not being able to do something adequately, approval or the lack of it, etc.) (Kamp and Pickshaus, 2011)

Work related stress and psychological strain at the workplace may bring negative health consequences of different kinds:

Despite playing a crucial role in relation to labor accidents, stress is above all a determining element in the appearance of psychosomatic diseases, where it particularly impacts the musculoskeletal system, and in the appearance of cardiovascular and gastrointestinal diseases. It is worth noting that stress is closely related to the emergence of psychological disorders such as depression.

Labor accidents and professional diseases are regulated by the German legislation, and only represent a small part of the total of diseases generated by work (see figure 2). The success of prevention may be observed in such a small incidence. Nevertheless, it is time that prevention became universal for all work-related diseases and illnesses, and it is crucial that we target all the factors that may cause them.

Figure 2

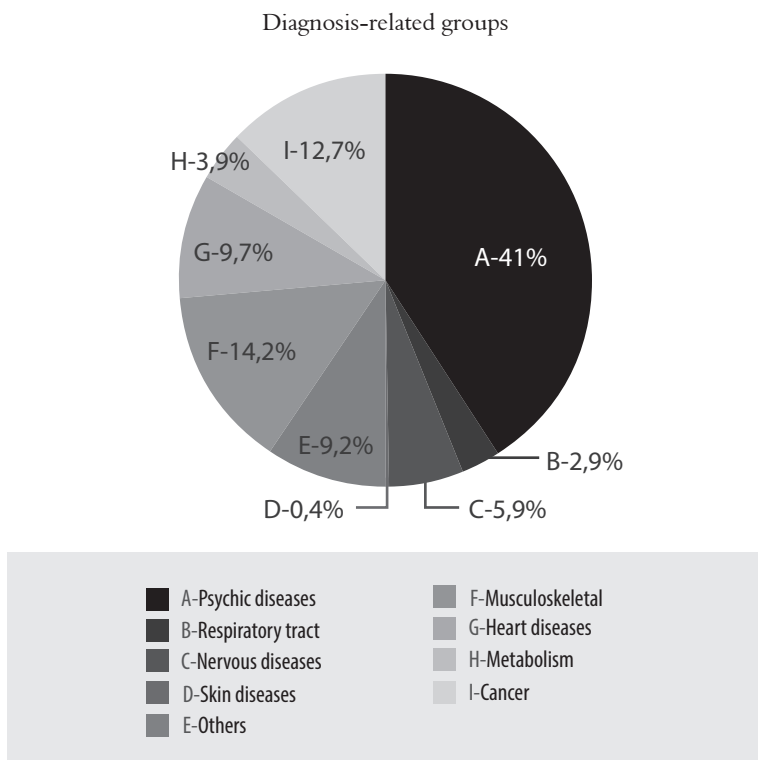
Kinds of conditions derived from work

Labor accidents and professional diseases only imply a small part of all work-related diseases.



In recent years, Germany has experienced an increase in psychological diseases. Work absenteeism, generated by all kinds of ailments has increased from 53.5 million days in 2010, to 79 million days in 2013, and has become the main factor for early retirement in 40% of cases. The number of cases of early retirement due to psychological diseases doubled in Germany between 2000 and 2014. The cases of early retirement due to musculoskeletal disorders were 14.2%, and 12.7% of these were due to cancer. Although these figures may reflect representative groups, their share is much smaller than that of psychological diseases (see figure 3).

Psychological diseases, main cause for early retirement

Figure 3**Psychic diseases and other diseases**

Source: Deutsche Rentenversicherung [German Pension Insurance], Berlin 2012

In Germany, arguments related to the social sciences and labor psychology are taken very seriously. The increase in psychological disease is regarded by some as a symptom of the flexibilization of the modern world of work, as well as the fact that work is determined by financial markets, and it results in a trend towards pathological pictures (Pickshaus, 2014).

The general trend towards an “acceleration of the rhythm of life”, which have been confirmed by social scientists and psychologists, becomes evident in every aspect of our society. Thus, it may be concluded that the processes induced by the capitalist market and the acceleration of the rhythm of life

are thereof reflected in the socio-pathological conditions of depression and burn-out syndrome, among others [...] Patients suffering either from burn-out syndrome or from severe depression can no longer be re-motivated; they are in a state of forced deceleration and for the processes of capitalist management, at least from the perspective of productivity, they are ruined (Dörre, Lessenich and Rosa, 2009: 298).

New managerial strategies generate new risks

An economy of excess has emerged from the current flexibility-based model of capitalism; it is aimed at excessive expectations concerning economic performance, thus transferring to employees, disproportionate goals that they are expected to meet.

The latter suggests the elimination of work-related borders and the emergence of a state of “endless work” –such phenomena are indeed present in diverse realms of the world of work. In many cases, it seems employees are willingly putting their health at risk. In general, in the fields where such phenomena appear, it is possible to find new forms of managerial strategies aimed at implementing a new indirect way to manage and control employees. Strategies whereby companies are controlled indirectly fall in line with, in many cases, the premises imposed by stockholders, and they have become widely promoted within the flexibility-oriented capitalist market.

Such forms of indirect control features two main elements:

On the one hand, employees are granted great leeway regarding their decisions and their organization, so that they have a self-determined treatment with regard to market and customer requirements (especially in what has to do with time management and the way they perform their work).

On the other hand, they are directly exposed to the interests of customers and the requirements of the market, and simultaneously, they must follow predetermined goals and framework conditions (schedules, personnel capacity, etc.). Likewise, employees are required to think like entrepreneurs. The motto "do whatever you want, but make it profitable" clearly and briefly synthesizes the distinctive features of such a managerial strategy.

The new concepts of management, aimed at indirect control, fit the promotion of new instruments of inspection and new forms of work: control through indicators (for instance, *Target Costing* within the car industry), result-centered approaches, and agreements on goals to meet are other elements in which employee self-organization is promoted: such instruments are primarily associated with the company's economic targets or to the performance goals set by the financial market. Regarding work organization, those forms of work that promote self-organization and cooperation, both at the individual and the collective level, are widespread: flexible working hours defined individually (trust-based working time), project work, group work, among others.

Nevertheless, the indirect control of employees by management, and self-organization of the former results in an ambivalent situation for workers. Particularly, qualified employees claim that, on the one hand, they find themselves exposed to greater work pressure and to the obligation of getting involved in more burdensome collaborative processes; while, on the

other hand, they enjoy themselves more and have fun at work. Likewise, indirect control implicitly assumes that the orientation towards market based criteria is an unquestionable value, which consequently implies losing track of more humanistic criteria which disqualify some working conditions, and even reject them, in some cases.

In these forms of work, reference is made to diverse symptoms, aimed at a gradual process of health deterioration. Mention could be made, for instance, of the burn-out syndrome, behind which depression, cardiac, gastric, lumbar or hearing problems may hide, as well as sleep and rest associated disorders. Symptoms are frequently recorded as paradoxical; in the words of a sufferer: "I am currently going through a period of disability, I am sitting at home and feel affected. Affected by the symptoms and by the changes in labor conditions which have been gradually implemented, and which in fact make my job nicer". The positive is inseparable from the negative at the workplace. It is impossible to separate the fact of enjoying work from that of suffering because of it.

The contradictions in these new forms of entrepreneurial management are related to aspects which are strongly associated with features of an adequate workplace fostering employees' health, such as high levels of autonomy, global tasks, a variety of activities to perform, possibilities of development and cooperation at the level of social interaction. Nevertheless, under these new work conditions, critical burdens for health have also been identified. The new work autonomy also generates pressure. Work intensity, in addition to extended work schedules, considerably increases health risks.

Prevention projects, as well as trade union initiatives aimed at new forms of labor, must confront the objection claiming that the issues they focus on, only cover a minimum part of what constitutes the diverse world of work. In fact, changes in the world of work have generated a difference, while the Fordist

and Taylorist sector of the working-class, which still remains a majority, is decreasing; there are two ascending poles, on the one hand, the qualified labor force whose occupation tends to be independent, and, on the other hand, that of workers with precarious employment, whose working life is associated with the need to take *bad jobs*. The retroactive effects of increasing job insecurity may be observed both in the workers' realm and in that of qualified intellectual labor. They are expressed in a general tendency towards increasing uncertainty, in such a way that market risks most frequently fall upon employees, and the feeling of insecurity becomes a collective pattern of perception.

Together with the increase in uncertainties, the elimination of work-related barriers has become a general trend which, in different ways, has an influence over the world of work, and does not only impact qualified employees. Changes in performance conditions must also be added to this trend; they are perceived as ever-growing factors which imply time-related and result-related pressure. The borders between wage labor and private life are felt, by an increasing number of employees, as something that is gradually disappearing. Undoubtedly, the progressive increase of work-related psychological diseases is closely related to such phenomena.

The trade union response: it is necessary to create regulations

Experience has shown that success in prevention policies in European countries is permanently threatened by the potential de-regulation advocated both by capitalism and by neoliberal political forces. This is an increasingly exacerbated phenomenon within the field of the flexible financial market of capitalism in the last 20 years. In countries where State policies are less inclined to social issues (the Latin American ones, for instance), capitalist forms of management regard any employee-friendly kind of regulation as impossible. Based on what

has just been said, Karl Marx's conclusion regarding the circumstances generated around industrial capitalism is still valid: "Capital will not give any consideration to workers' health or life span, as long as it is not forced by society to bear such issues in mind" (Marx, 1972: 285).

Nevertheless, is it possible to force capitalism into considering the workers' needs? The struggles of workers' movements in Europe and that of trade unions show it is possible to achieve those kinds of regulation-related conquests, which are overly threatened of being revoked at any time (Pickshaus, 2014).

What is intriguing is that the spokespeople of capitalism acknowledge the effects of regulation. The results of a survey carried out by the Occupational Safety and Health Administration unveiled that 90% of the surveyed company spokespeople or managers acknowledged taking measures to guarantee health security only when they were forced to by legally-binding regulation. Regarding the question of which measures were taken by such companies to decrease the risks of psychosocial diseases, 55% of the managers and spokespeople surveyed said they had only regarded those measures buttressed by the rule of law. The fact that the amount of surveyed people who say they have implemented changes decreasing the risk of catching psychosocial diseases at the workplace is lower, may be because in Europe and Germany there is still a regulatory deficit at this level; therefore, the pressure for companies to take measures in this regard is not peremptory (ESENER, 2009).

Bearing in mind such a risky situation, especially for employees, a regulatory deficit results in a deficit of the measures to take, as well as –and this is the real problem– a deficit in employee protection. Undoubtedly, it will take more than a simple law to make labor conditions more adequate for workers, nevertheless this could –and this should not be overlooked– increase the degree to which it is compulsory for employers and

for those in charge of deciding the kind of safety measures companies should take.

For this reason, unions demand the implementation of regulation related to protection against risks generated by psychological strain. It is not a matter of beginning from scratch, but of taking advantage of the already existing contents; use could be made of the expertise of companies where, despite not having a binding law, measures have been taken in this regard, as well as of the results of scientific research projects which have studied such phenomena. For this requirement of labor unions, political allies have been found in many professional associations, among which, it is worth mentioning technical psychiatrist and psychotherapist associations, as well as the political sector. Thanks to the initiative of social-democratic states in Germany's Federal Council², a declaration was unanimously imposed by means by which such a law is required. Nevertheless, the German government, pressed by capitalist associations, has blocked the implementation of this initiative so far. At least, in the 1996 Worker Health Protection Law, it was possible to realize a series of corresponding passages—an achievement owed to the pressure applied by trade unions.

Final demands should be made:

- First, it must be brought to bear that complete prevention of the health risks at the workplace, including those deriving from psychological strain, require binding regulations. In the German case, this implies the need to enforce a legal regulation.
- The latter must be complemented by regulations governing contract fees and strengthening the counterbalance represented by trade unions.

2 The Federal Council is, together with the German Parliament, the second federate chamber in Germany.

- Finally, it is crucial for prevention-friendly activities undertaken by unions within their workplaces to coordinate with each other, so that the enforcement of the regulations may be achieved.
- The fact that it is only through social pressure that capitalism may be pushed into considering the workers' needs remains decisive. This has been demonstrated not only by historical experience, but by the present international experience.

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THE RED VIDAIVA (VIDAIVA NETWORK)

Trade union strategies to face new forms of control in the workplace

*Mara Lira*¹

In the last 30 years the world of work as we knew it, based on the Fordist and Taylorist model, has undergone strong changes. Not only were the work processes themselves transformed (Womack et al., 2004; Glaser Segura *et al.*, 2011), but so was the relationship between workers and trade unions (Parker and Slaughter 1988, Moody 1997). New forms of administration began to be introduced, pointing not only to increased productivity, but also to the integral commitment of workers to the company.

These new production management and administration programs were not introduced exclusively in the industrial sector. The new methods also reached the sector of public and private services (Selau *et al.*, 2009) and rural production, controlled by large agro-industrial companies.

Aiming at reducing costs, increasing productivity, and reducing workforce, this new “productive mentality” changed the capital-labor ratio. Just as its implementation in the workplace

1 Journalist, educator and union leader of the CUT Brazil.
Email address: maralira@terra.com.br

was being intensified, the workers soon noticed the impacts. There was greater job insecurity when the supply of permanent jobs began to be replaced by the recruitment of temporary or outsourced labor. Along with that, companies and administrations introduced new technologies, new production methods and performance analysis that contributed to drastically reduce the number of workers in the most diverse sectors, without affecting production levels. On the contrary, the reduction in the number of workers has hardly generated a fall in productivity. Workers continue to meet the increasingly high goals imposed on them. The result has been the intensification of work, the pressure for productivity and the increase in the level of worker's exhaustion (Merlo and Lapis, 2007).

In the face of so many changes and the intensification of work generated by the introduction of new management programs, it was also necessary to implement a new "ideology" of work which aimed at convincing and engaging workers with the new managerial vision.

The globalized and neoliberal world was the perfect scenario to support business and government discourses. To survive in the midst of strong global competition, the commitment of all would be necessary. In the discourse of the private sector, the survival of the worker would depend on the survival of the company. In the public service, the discursive version implies that the role of the State should be smaller and it must withdraw from the role of service provider, transferring this function to the private sector which, according to them, would thus have more quality, efficiency and lower cost.

Whereas in the Fordist and Taylorist system the worker was an object to be controlled, in Toyotism, which was spread worldwide ever since its introduction in the USA and Japan, the workers must internalize the objectives and goals of the company or the administration. They must act and be proactive to improve the efficiency of the company. Their knowledge

becomes an object of interest in this new way of managing and organizing work. What was previously devalued becomes cheap gold at the service of productivity.

The total quality programs, *5S*, *Kaizen*, *Temporal Performance Management (TPM)*, *Total Quality Management (TQM)*, among others with different acronyms and names, which are part of this new system, were and are being intensively applied in different productive sectors and management levels.

These models execute a new form of totalizing control. Control of costs, processes, production and mainly of people. The companies and administrations modified their productive structures and internal relations. The introduction of just-in-time systems gave more agility to the production flow, reducing inventories and optimizing customer and supplier relationships. In one single company, departments became internal customers and suppliers. It is a logic that intensifies the pressure for efficiency and quality control. One of the first impacts of this new process was the reduction of hierarchies within companies and a redistribution of functions, which normally generate overloading for those who still actually work.

At the same time, stimulating the creation of groups and teams with individual and collective goals to be achieved generated competition among the workers themselves. A logic that was gradually institutionalized, naturalized and incorporated by them. As a direct consequence of this action, the bonds of solidarity and the referents were destroyed and they are no longer recognized as a working class (Parker and Slaughter 1988; Inv ernizzi, undated).

Thus, begins a logic in which management not only uses threatens to reach its objectives, but a new element becomes the target of those managerial models: the subjectivity of the worker. An organized set of actions is introduced into the workplace

to conquer hearts and minds at the service of production. The first signs can already be noticed in the way leaders relate to workers. The first step is to reduce the distances between hierarchical levels to ensure worker confidence and commitment to management objectives. Many companies even install unique cafeterias for all workers and uniforms for all levels. The new leadership profile is adopted. The boss becomes a behavioral leader and manager, even demonstrating an interest in the workers' social life.

Companies also develop behavioral change programs which are part of their set of annual training. It is common that in their educational offer they include motivational speeches with characteristics of self-help in which everyone can be a winner. New strategies of "valorization" of the worker's knowledge are being introduced within companies. Leaders who usually stand out for some special ability are chosen among the groups and teams. They are called local leaders, trustees or managers. Their job is to manage the group and make minor decisions such as allowing workers to go to the bathroom or make a call. That simple gesture is enough to create an atmosphere of loyalty to management.

Companies and management also adopt strategies that provide awards for achieving goals. Programs such as *Coffee with the president* - in which a group of workers who reach the stipulated goals are invited to have coffee with the president of the company - or the *Employee of the month*, in which a photo of the worker is exhibited in all the company's facilities for having achieved the objectives set, are becoming more common. Some companies even give prizes in cash, trips and household appliances to stimulate increased productivity.

Managers even implement programs, also with awards, that open space for workers' suggestions. They are usually suggestions on how to optimize the production process and reduce

costs by pointing out mistakes in the process or in the actions of the co-workers.

In the production lines, quality circles are created in which a system of self-control and interdependence is exercised in the production process. It is a system that allows tracking failures, identifying those responsible and usually punishing them; a logic that does not admit mistakes. It is a permanent quest for excellence. These are called continuous improvement programs.

New words begin to be part of that new corporate universe. The worker who was formerly called “official” or “employee” by the companies becomes known as “collaborator” or even “partner” to integrate the new managerial spirit. The new dictionary of the world of work now uses terms such as «association», «performance», «pursuit of excellence», among others.

These are new attitudes that have an ingredient of emotional attachment. To guarantee the expected corporate results, the new strategies focus on co-optation, seduction, emotional motivation and the stimulation of competition among workers to reach the goals.

Multifunctionality was also adopted. A new profile is now required in which the worker must be able to play different roles and occupy different positions within the company. It is increasingly common, for example, that a worker simultaneously operates two or three machines on a production line or performs, in a division, several functions previously exercised by two or more people.

It is notorious that since the industrial revolution workers become ill or die at work. However, there are world-wide registries that indicate a strong growth in the number of accidents, establishing a direct correlation with changes caused by the productive restructuring and with the introduction of new

forms of administration implemented since the decade of 1990 (Merlo and Lapis, 2007).

Not only physical illness rates have risen, especially RSI/ WMSD (Repetitive Stress Injuries/Work-Related Musculoskeletal Diseases), but also those of psychiatric disorders. Illnesses such as depression, caused by excessive stress at work, have gained importance in the statistics of workers' afflictions (ILO, undated).

In the workplace, the worker has no power to define when, how much and how to produce. When the body cannot endure anymore, workers try to push their own limits to fit the demands of production and maintain the standard of goals defined by management. Production standards are increasingly high. Goals that do not respect the individual limits of each worker are introduced. Before this process and the lack of control, there is an imbalance in which the worker begins to get sick psychically and finally his body becomes sick. Establishing the relationship between disease and work has been a major challenge for researchers, workers and unions. In general, companies and administrations try to strengthen the idea that disease is an individual issue. If the worker became ill it is because he had some factor that made him sick. In this way, the blame is transferred to the worker himself and many times he internalizes that idea (Lira and Oliveira, 2006).

Unionism in Brazil

The productive restructuring carried out in different sectors in Brazil through the introduction of new forms of administration and programs such as *Flexible Production and Total Quality* have generated enormous concern for Brazilian trade unionism.

When many entrepreneurs arrived in Brazil, they tried to convince the unions to act as allies using the discourse of world

competition and the need for quality improvement to guarantee the survival of the organization and, consequently, the maintenance of jobs.

Several unions were invited to participate in the administration. However, the invitation was not extensive to discuss issues of interest to workers such as wages and improvements in benefits. These items continued in the field of dispute of the traditional capital-labor relation. However, the remuneration adjusted according to goals reached came into debate. In relation to this central issue, most of the unions that agreed to discuss the issue lost the battle. The only unions that were able to play a leading role were those that had enough strength and organization, with guaranteed access to corporate data (which usually happens with multinational corporations with codes of conduct with international scope). The great majority did not manage to impose themselves in the negotiation process with sufficient power to prevent resulting changes, such as flexibility of the working day, the outsourcing of different areas with the consequent precariousness of the activities involved, or influence in the definition of increasingly higher goals. On the contrary, in many cases, the union is a legitimizing agent of the goals that are generally higher, especially in the negotiations on Profit Sharing Plans.

From the ideological point of view, opposing the new method of administration also became equally difficult. The companies and management created programs to guarantee the total adhesion of the worker. The strategy of dividing labor between permanent, temporary and outsourced workers was one of the first apparently successful steps. Playing with the subjectivity of the worker also makes the task of raising awareness more arduous insofar as he himself, in general, voluntarily participates in the manipulative game implemented by the companies, without perceiving the traps within it.

How can we fight against the practices of rewards for goals achieved? How can we attack task multifunctionality, if the

trade union movement itself used to question the monotony of work and the lack of recognition? How can we question the photo of the employee of the month, if for the worker that represents recognition at work, although temporary? How can we fight the speech of the quest for quality?

The challenge is even greater for unions since there is no *Organización por Local de Trabajo* (OLT) (Organization according to Workplace) in most trade union organizations. In Brazil, only about 1% of unions have the right to set up workplace commissions with more powers of intervention (Galhera and Ribeiro, 2014). The Brazilian law guarantees the establishment of Internal Commissions for Accident Prevention, with half of its representation elected directly by the workers and the other half appointed by the company. However, in general, this commission has little or no effective action, since its presidency is appointed by the companies, through legal determination. The system of mandate also further weakens this commission, as its members have only one year to act and another year of protection in their job. That is, every year the Internal Commissions for Accident Prevention cadres are renewed, which gives them insufficient time to adequately train their members so that they can effectively intervene for changes in the workplace. However, most of the training timetable on health and safety issues is borne by companies. Few trade union organizations promote training in the perspective of workers with these groups. Some because of methodological difficulties and others because this is not a real and possible space to develop effective actions in favor of workers, as there is a strong company control. There are few initiatives in Brazil that escape this model, such as the *Sindicato de los Metalúrgicos del ABC* (ABC Metalworkers' Union) that achieved the implementation of the SUR - Sistema Único de Representación (Unique Representation System) that guarantees a 4-year mandate for this commission, which among other negotiations, also discusses the issue of health and safety in the workplace (Marques, 2009).

As the number of physical and psychic illnesses increased in Brazil, a number of unions invested in their structures to provide medical and legal care with the aim of guiding workers in the search for reparation for the damages caused to their health.

Facing the tangle of regulatory standards on health and safety at work, many leaders became real experts at advising sick workers on how to get away from work and/or how to test the relationship between the role they played and their condition. It is worth emphasizing that when it comes to psychic illness, the task of proving the relationship with work becomes even more difficult.

In this way, trade union actions around health gained over the years a much more restorative rather than preventive character. Few trade union initiatives were aimed at building, along with workers, a movement for effective changes in workplaces to preserve life and health. Collective agreements, for the most part, include repair clauses for those who have already lost their health at work.

Brazilian legislation, to some extent, also admits the existence of jobs that imply health and life risks for workers since they provide financial compensation for places that are legally recognized as unhealthy and/or dangerous areas. Thus, the tendency is to develop actions with far more emphasis on the monetization of health rather than on the prevention and/or elimination of risk.

VidaViva. An action-oriented experience of workers in the workplace

Aiming at building a program that would stimulate workers' actions toward workplaces, a group of Brazilian unions met to reflect on their own actions regarding health, the impacts that the new reorganization of work had on them and which

actions could be developed to involve workers as subjects in building a real process of change (VidaViva, 2004).²

In a collective and self-critical process, it was concluded that trade union actions were in fact more reparative than preventive and that it was necessary to build a process of collective reflection that would influence a change of perspective in health, even fighting against its monetarization. The finding was that the negotiations about increasing overtime, additional night hours, implementation of 'hour bank' or the same negotiations of Profit Sharing Plans configured the sale of workers' health. After all, what is the definition of additional hazards and unhealthiness, if not the sale of health in small plots? To overcome this perspective, it was still necessary to move forward in the sense of broadening the concept of health without analyzing it only from a disease-free perspective, but from a broader perspective. Health considered as life, as social fulfillment and, at work, health as a right to happiness. The main challenge now was to create spaces for collective reflection in which the workers act as subjects to build, together with their union organization, effective actions for changes in the workplace.

Initially, the main problems faced by the trade unions in relation to the issue and which made progress, in this regard, difficult, were registered:

- • Most unions had difficulties in opposing the process of productive restructuring imposed by companies and administrations.
- • Workers in general are not interested in the subject of their own health. Most attend trade union activities when issues such as salaries and Profit Sharing Plans are discussed. The health issue exclusively draws the attention

2 This section is a result of the investigation of unpublished texts and documents of the archive of Red VidaViva, and of several interviews with union leaders on the development of the network.

of workers when it comes to compensation for losses and damages. Many unions did not have a training structure to discuss the issue of health in a multidisciplinary way.

- • Few unions could conduct data surveys based on the level of illness in different categories of workers. Those who could conduct investigations in this regard obtained data through Comunicaciones de Accidentes de trabajo (CAT) (Workplace Accident Notification) or through workers who had already been dismissed. That is, it was not possible to identify who or how many workers were in the process of getting sick, situations in which something could still be done.

Considering this scenario, training resources were developed collectively and in a multidisciplinary manner, which aimed to develop each of the issues identified. Working groups were created with representations of workers/union leaders from three different sectors: rural, industry and services. This group was joined by popular educators, professionals in the fields of psychology, occupational safety and communication.

After a long process of reflection and collective debates methodologies were produced and/or socialized and then they were adapted to the objectives of the program that later became VidaViva.

There are several principles that guide the program from its origin:³

1. The workers and union leaders are the ones who determine the structure, procedures and actions of the program.
2. The worker is the main subject of the program. Therefore, it is oriented to be constructed from the reflection of the

3 These principles were adopted by the management platform of the Network in September 2006 and were the result of several findings of the inter-union platform.

workers on subjects that are considered priority. Each step of the program - training, implementation within the grassroots of workers and development of actions - must guarantee this same principle.

3. The training resources of the project must be developed in such a way that the trade unions themselves can implement them. That is why they must be methodologically adequate for training and implementation, respecting the infrastructure of most trade unions and even considering the different realities of the entities and categories.
4. Training resources (Participatory Research, *Raio*, Health Workshop, Experiences, etc.) should not be developed only by specialists (researchers, educators, doctors, etc.). Within the project, working groups (sometimes with international support) are created by trade unionists, grassroots workers and some specialists (from the fields of health, education, communication, etc.) who support the production of the resources.
5. Training resources should address specific issues and assist in the search for concrete solutions. They must also address broader aspects, stimulating a reflection on life, health and work for the construction of a different society.

Thinking about health, work and life

The VidaViva Program has a team of trade union leaders, educators and specialists from different areas. The entire elaboration phase is accompanied and defined by an Inter-Union Platform.

The objective is to allow a deep reflection on health, currently seen only as the absence of disease. We intend to stimulate a reflection on work, allowing the identification of new elements of cooptation that are being used by the companies with the objective of motivating workers to enter more and more into a

perverse system of competitiveness in the name of production. In this sense, we perceive an attempt by companies to interfere in the construction of workers' identity. On the other hand, the so-called "marketing of life" is also disseminated by the media and other institutions transmitting images and conceptions of life that influence workers. What is the relationship between quality of life, the positive sense of being healthy and the role of work in the construction of the subject? These and other questions will be addressed through the program, allowing us to analyze the complex construction of workers' conceptions about life, work and health.

The VidaViva Program aims to build a new approach to the relationship between life, health and work. It intends to promote the reflection of workers on the consequences of work for their health and their life. For that, it is necessary to strengthen union action and the workers' organization in the workplace, essential conditions for the construction of effective strategies that modify the current panorama of diseases to which workers are exposed.

Opening a new space for reflection with workers and building a new approach to health that fights against the monetarization that has affected them, will allow the strengthening of that banner in the trade union movement.

The tools⁴

RAIO

One of the methodologies developed in VidaViva is the *Raio* Recurso Audiovisual Interactivo (Interactive Audiovisual Resource). It is a pedagogical resource that seeks to stimulate

4 :For a better understanding of the tools, see: <http://de.labournet.tv/video/5987/das-gesundheitsnetzwerk-viva-vida-kurzversion>

reflection and critical thinking facilitating the active participation of all involved.

This pedagogical resource aims to stimulate and generate reflection and debate on sensitive and controversial social issues. The *Raio* allows even the breaking down of prejudices and seeks to question superficial thoughts. The resource creates a situation where the target audience can express their opinions, reflect, discuss and rethink their own life.

The resource consists of short videos aimed at generating reflection and discussion among the participants. The videos are accompanied by a questionnaire related to the chosen subject. The questionnaire serves to encourage discussions and guide the monitor who will apply it to the target audience.

Mapping

Mapping is a tool that facilitates the development of capacities allowing the workers themselves to raise information about problems and possible actions in the workplace. It is a tool for risk assessment, allowing the active monitoring of workers on labor conditions and the development of proposals aimed at prevention. This is a model of participatory research adopted by the Program that allows the workers themselves to develop demands and strengthen the power of conquest at the factory/workplace level, to control the work organization.

Participatory research consists of an active approach based on workers being able to know the specific problems of the workplace related to their health and to make an effective risk analysis. It consists of more active than passive surveillance. International experiences have shown that when we include workers in the planning and analysis of working conditions, problems are solved faster and better. Therefore, one of the most efficient ways to improve safety at work is to ensure that workers are directly involved in the following processes:

- Determining which problems exist.
- Determining what their priorities are.
- Pressing collectively for improvement.

VidaViva developed a guiding “manual” so that the trade unions themselves can develop participatory research with the workers. The manual is a practical guide for workers and unions and provides techniques so that the worker can:

- Conduct their research, gathering important information.
- Develop a collective consciousness among workers.
- Find solutions and transform them into actions to improve the lives of workers.

Table 1

Conventional research and participatory research

Participatory research		
	Participatory research	Conventional research
Objective	Action, social change	Knowledge of a particular situation
Who is the research done for?	Oriented towards the interests of the participants themselves	Institution that contracts, Personal or professional academic interest
What knowledge is valued	Participants themselves	Scientific knowledge
Influence to determine the subject of the investigation	Local priorities defined by the workers themselves	Institutional agendas, professional interests

Methodology for what?	Generate action by training workers who learn from each other	Disciplinary conventions, objectivity
Researcher / participant relationship	Researcher is part of the data collection process	Separation between researcher and researched

In participatory research, problems arise in the community, in the workplace. The workers are the ones who articulate their experience and their knowledge. The aim is mainly to change the life of the participants/workers involved, through a structural transformation. It is the participants themselves involved in the community or the workplace who oversee everything in the research process. The focus of the research is to stimulate joint reflection on what impacts the life of the worker including issues such as marginalization, exploration, racism, sexism, etc. Participatory research seeks to empower workers, to strengthen awareness, and especially collective awareness and knowledge about their own power and capacity.

Health workshop

The objective of this tool, aimed at representatives of CO-PASST - Comité Paritario de Seguridad y Salud en el Trabajo (Joint Committee on Safety and Health at Work) and representatives of health committees in companies, is to promote a broader knowledge of health and its role in relation to interventions in the workplace. The tool aims to support and assist the development of an effective intervention practice with these workers in the workplace. Through this tool it is possible to discuss:

- The role of the workers' health representatives in the workplace.

- The relationship between Repetitive Stress Injuries/ Work-related Musculoskeletal Disorders and stress-related diseases and the way work is organized (flexible production, new forms of management, multi-purpose work, *Kaizen*, management by objectives, etc.).
- The participation of workers in intervention strategies and how to develop proposals for trade union negotiations.
- The discourse of companies to blame workers for their own disease process and the occurrence of accidents.
- Analysis of accidents and diseases from the workers' perspective.

Experiences: stories of workers

These are stories of workers who became ill or injured in workplaces; these stories are presented in a photography exhibition format. The stories are exhibited during union acts, on the doors of factories, at public plaza exhibitions, to denounce the conditions to which workers are exposed. Life stories reflect the perspective of the worker in the tradition of oral history.

Results of the implementation of the VidaViva program in Brazil

The strategy adopted by the VidaViva program consisted of training popular trainers/educators to develop tools in the workplace. The program is initially presented to the trade union leaders concerned enough to commit themselves to the implementation of the program together with the workers. Then the unions themselves choose their instructors, who are trained by the Red VidaViva. To ensure greater sustainability of the program, a national team of voluntary trainers was also set up to help train new instructors as trade union demand increases.

In 2006, when the program had already been running for nearly 4 years, David Sogge (2006), evaluator of one of the

foundations that financed VidaViva, the PSO, a Dutch development organization, concluded that until then the program had achieved the following results in the unions and grassroots of workers where it was being implemented:

- It introduced new ways of thinking and ways of discussing health, work and life outside work among workers and grassroots leaders.
- It started discussions in many of these unions about new collaborative approaches to addressing physical and emotional health issues.
- It started to show the potential of workers and unions to actively participate in research, reflection and definition of guidelines for changes in working conditions.
- It mobilized union resources, mainly the time and energy of the trade unionists, both for basic educational activities and for reflection and project management.
- It began attracting favorable attention from federation and confederation leaders at national and state levels. The ideas and methods of the project are therefore awaiting wider acceptance and dissemination through central trade union organizations.
- It built an active inter-union network, and other institutional relationships.

In mid-2007 the program stopped receiving external resources for its development. Brazil came off the list of various foundations that supported such social programs because of the economic growth achieved in previous years. But the unions decided to take responsibility for its continuity. Currently in Brazil, the VidaViva program is 90% funded by the unions themselves.⁵ Trade unions implementing the program have

5 These internal data were obtained in several interviews during a meeting of the inter-union platform of Rede VidaViva in March 2016.

achieved significant results such as effective changes in workplaces, the purchase of new equipment, ergonomic adjustments and negotiations guaranteed in collective agreements. The Municipal Workers 'Union of Concordia, in Santa Catarina, managed to include an Article of the collective agreement of the category that guarantees the workers' permission to participate in the VidaViva program, implemented only by the union without the participation of management. Several points expressed by workers in the workplace were even negotiated with the municipal administration and resulted in improvements for workers. Workers' leaves of absence in working hours to participate in the activities were guaranteed by collective agreement, and the hours of activities performed were valid for the progress of the public employees in their careers. In addition, through the implementation of VidaViva in the workplaces, "we were able to guarantee the purchase of equipment to improve the working conditions to which the workers were exposed", emphasizes Zilda Ornelas, also a member of the inter-union platform that coordinates the program. "The Rede Vida Viva program makes a difference in the workers' lives, because it is from the meetings that they become aware of their rights and especially of how 'we can get stronger when we stay and work together'. It is extremely important, because it makes you 'stop' and rethink about life, health and work, routine events of our daily life that often end up going unnoticed" (Interviews conducted during an international meeting of the Network, November 21, 2015).

According to reports by the workers who participated in the meetings, "the change is great not only in the work environment, but also in our personal life", affirm Clarice Fabonatto and Graciele Sperandio, grassroots trainers of the Rede VidaViva (Interviews made during an international meeting of the Network, November 21, 2015).

The Electricity Workers' Union of Santa Catarina, Sinergia, guaranteed, via its collective bargaining agreement, the implementation of the VidaViva program (Revista VidaViva, 2004).

The agreement is statewide and covers about 3,000 workers. To achieve the full category, the training of at least 125 grassroots workers was guaranteed through negotiation. It is one of the first initiatives in which it is not the trainers but the workers themselves who implement the program: "For us it is a great leap forward to have in our category grassroots workers who are voluntary trainers acting together with the union on the subject of workers' health," says Mario Jorge Marinho, General Coordinator of the organization.

In Bahia, the Teachers' Union (APPI) was even able to carry out an effective negotiation of changes in workplaces (Revisita VidaViva, 2009). The trainers of their category who implemented VidaViva were leaders and grassroots workers. Among other achievements, they succeeded in reducing the number of workers in the classrooms, as Enilda Mendonca, director of the union, told us:

We must negotiate in every change of administration at the Mayor's Office, but the implementation is motivating the workers to raise their agendas and pay attention to the problems that are affecting their health in the work places. We negotiate, for example, an area of 1.20 meters per student in the classroom, which reduced the number of students in the classroom (Interviews conducted during an international meeting of the Network, November 21, 2015).

In Químicos del ABC, in São Paulo, the program is being developed mainly with grassroots representations in the workplace, as José Freire, leader of the Químicos del ABC's Union, says:

We introduced VidaViva in the training program of Cipeiros (Copasos) and this has contributed to change the conception of these workers on accidents and diseases in the workplace. Before, this was seen as an individual problem and today workers perceive the relationship with work. They perceive that it is a collective problem and they are more active in the defense of workers' interests (Interview, February 5, 2016).

In Rio de Janeiro, the Bankers' union developed the VidaViva program in the workplace, as Adriana Nalesco, president of the union, says:

Through the Mapping, we were already able to visualize how Bankfone operates and to detect diverse problems. In our experience with the Mapping in the Central de Atención de Itaú (Itaú Care Center), we were able to make the management aware of some of the risks in the environment. We applied the RAIO in the union for bankers and directors at different times, and the result was excellent, it greatly stimulates the reflection of the workers and leaders (Interview, February 10, 2016).

Colombia

Today the VidaViva Program is also being implemented in countries such as Germany, Mozambique, Turkey, Sri Lanka, Bangladesh, India and Colombia. In Colombia, the Red VidaViva program began to be developed with workers at Gerdau, in which VidaViva would be a strategic tool to support the creation of unions in the grassroots of that company. Through Copaso - Comité Paritario de Salud Ocupacional (Joint Committee on Occupational Health), the strategy consisted in organizing the grassroots workers to strengthen the establishment of trade unions in these units. This company has 9 units in Colombia, however, only 2 have union organizations. Therefore, VidaViva disseminates a tool to allow the organization and mobilization of these workers in the workplace, through the issue of health.

Union leaders and members of Copaso were trained in that company to act in the workplaces with the Participatory Research (Mapping). The general objectives of the implementation of the program at the time were:

1. Improving the quality of life and health of workers in the manufacturing and mining industries in Colombia by increasing the capacity and power of workers and their unions

to promote direct interventions in the workplace through the demand for changes that modify working conditions and health.

2. Increasing union power by supporting the integration of workers into unions (non-affiliated, outsourced, etc.) and creating new unions in non-organized workplaces.

VidaViva decided to strengthen union activities that allowed the development of democratic and participatory trade union practices, guaranteeing the direct participation of workers. The idea was:

- To develop political and technical training in trade unions in the manufacturing industries of Colombia in relation to the issue of workers' health;
- To raise the awareness of union leaders and workers about the need for action to improve working conditions;
- To support the trade union principle on the importance of prevention to change working conditions and the need to fight for effective changes;
- To generate improvements in working conditions through the direct and active participation of workers.

Thus, the program aims to generate a permanent monitoring of the workplace with the development of union strategies from the perspective of the worker. The proposal aims at creating strategies that bring unionized workers and those in precarious conditions (third parties, daily-paid workers, etc.) to the union, through the subject of health as an entry point to discuss all aspects that affect the workers' lives. In 2012 the program was expanded. An inter-union platform of the Red VidaViva was created, representing 14 trade union entities. The network carried out the training with the participatory research tool and an action plan for implementation in the workplace. Another activity was designed to evaluate the performance of the action

plan outlined in the previous meeting and to present to the group the other formative resources of VidaViva to analyze together the feasibility or not of implementing them in Colombia. In that case, the participating unions in Colombia were going to produce the training resources according to their local reality and culture. The evaluation was highly stimulating, considering that among the 14 participating unions, 11 had developed activities with the grassroots. Some even managed to negotiate effective changes in the workplace. Currently, the program is progressing for the Caribbean region and discussions are also being held with the main international federations operating in Colombia, such as: Industriall, UNI Global Union, ITF - Federación sindical Internacional del Transporte (International Trade Union Federation of Transport), PSI - Internacional de Servicios Públicos (Public Services International Company), UITA - Alimentación, Agrícolas, Hoteles, Restaurantes, Tabaco y Afines (Food, Agricultural, Hotels, Restaurants, Tobacco and Related Products), ICM - Construcción y Madera (Construction and Wood), IE - Internacional de la educación (Education International Company).

Following the model of Brazil, the general objectives are:

- A. To improve the quality of life and health of workers in Colombia by increasing the capacity and power of workers and their unions to have direct interventions in workplaces that improve working conditions, health and life.
- B. To increase union power by integrating more workers into unions (non-affiliated, outsourced, etc.) and creating new unions in unionized workplaces.

For that, the proposal is to strengthen union activities that allow the development of democratic and participatory union practices (culture of participation) guaranteeing the active participation of workers.

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COLLECTIVE ACTION FOR THE RIGHT TO HEALTH AT THE WORKPLACE: the case of ASOTRECOL¹

Mauricio Torres-Tovar²

Jairo Ernesto Luna-García³

Jorge Parra⁴

Paige Shell Spurling⁵

Introduction

We work in the areas of welding, mechanics, assembly and painting, with workdays longer than 10 hours. We work for six days a week, with equipment and technology which did not guarantee minimum occupational safety, and with the employer perpetually demanding that workers guarantee that they will surpass production goals. These factors, taken together,

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- 1 Lecture presented at the table “Struggles and resistances in the world of labor” at the Pre-ALAST *Asociación Latinoamericana de Estudios del Trabajo* (Latin American Association for the Research on Labor) Congress Research on Labor in Colombia and Latin America: Outcomes and Challenges. Held in Bogotá D.C. on September 1, 2015.
 - 2 Physician, Specialist in Occupational Health, Master’s Degree in Public Health, Master’s Degree in Political Science, PhD in Public Health, Assistant Professor, Public Health Department, National University, Colombia. Email address: mhtorrest@unal.edu.co
 - 3 Physician, Specialist in Occupational Health, MsC and PhD in Public Health, Associate Professor, National University. Email address: jelunag@unal.edu.co
 - 4 President of the Association of sickness ex-Workers of Colmotores (ASOTRECOL). Email address: jjorgeaalberto@hotmail.com
 - 5 Portland Central America Solidarity Committee. Email address: paige@pcasc.net

practically guaranteed a labor epidemic of disabling diseases in only a few years: herniated discs, carpal tunnel, bursitis and rotator cuff in shoulders all became common. Testimonial of an ex-worker from Colmotores, member of ASOTRECOL.

In the early 1990s, Colombia initiated a set of economic and political transformations, which were promoted by international financial bodies (World Bank, 1993); they featured the limitation of the States' social action which involved different realms, among them those of labor and social security. Such reforms still prevail.

Through Law 50 of 1990, a labor reform was introduced which led to a transformation of capital-labor relations, beginning with a gradual process of work flexibilization and de-regulation. A State policy on health was implemented, based on individual insurance within a market of attention to disease of both common and professional origin.

In Colombia, such labor and social security reforms, including the element of work-related risks, established a framework of collective social action of struggle and legal enforceability of the rights to work and to health at the workplace. This framework has led to the emergence of a number of expressions of social resistance; among them, the one allowed by Ill Workers whose rights have not been safeguarded either by the companies, by official agencies, or by worker insurance companies (ARL, after their name in Spanish) (Luna García and Torres Tovar, 2012).

The present research introduces the case of the *Asociación de Extrabajadores Enfermos de Colmotores* (Colmotores' Sick and Ill Ex-Workers Association, ASOTRECOL). ASOTRECOL's is an emblematic case of struggle for the right to health at the workplace. The present participatory research was framed within a project of the Movement for Peoples' Health, associated to the inquiry on the international role of civil society in safeguarding the right to health at the workplace for all.

The impact of the labor and social security reforms within the group of ex-workers from Colmotores became evident, as well as their collective action and resistance in regard to the enforceability of their right to health at the workplace.

Changes in the world of labor and social security, and their impacts on workers' health

During the 1970s the capitalist model suffered an accumulation crisis resulting from simultaneous conditions such as the oil crisis –which led to a substantial increase in its price–, the overproduction of standardized mass products which were not being absorbed by international markets, and the limited opportunities for capital investment, among others; which finally led to an economic recession. Consequently, the Fordist model of capitalist production and accumulation moved towards a new economic model of flexible accumulation (Moutsatsos, 2011: 37).

This new economic model was based upon of a set of strategies to recompose the process of capital accumulation, among which it is worth highlighting the frontal attack against the *Welfare State* model, the promotion of open borders for the free circulation of merchandise and financial capital via free trade agreements, the incorporation of new technologies and new forms of the organization of labor for the intensification of productive processes, the transformation of capital-labor relations based on the introduction of changes in labor legislations and, as a final strategy, the transformation of social security regimes and the protection mechanisms of health at the workplace after their respective incorporation into the market's arena.

These strategies undertaken by capital transformed the world of labor in the late 20th century, and thus made employment conditions more precarious, and increased their negative impact on workers' health and lives (Navarro, 2015).

In terms of the changes in the production model, there was a greater penetration of the international financial sector into impoverished countries, free circulation of goods and services, thus generating greater geographic mobility for capital, the incorporation of new technologies, the fracturing of the great factory through a process of dispersing production into satellites, and *maquila*-based forms of production which were based on cheaper labor. This generated a re-definition of the State-enterprise relation, flexible forms of employment with the reduction of indefinite term contracts, the disappearance of the worker/mass, and a blatant increase of the informal economy.

Such changes, in turn, brought transformations in work conditions which resulted in greater precarization⁶: lower wages, progressive decrease of social protection, accelerated growth of labor instability due to flexibility in labor contracts, even reaching levels of so-called *undeclared employment*, which eliminates labor guarantees and results in the loss of collective bargaining power of trade unions and workers, and in the fear of unemployment. Likewise, it has implied that, in order to keep jobs, important achievements in terms of health care and social security benefits have been lost.

All of this has impacted workers' health, demonstrated via mental and psychosomatic problems, greater fatigue and physical wear and tear, new health problems due to the incorporation of new technologies and new forms of the organization of work which have not, as yet, been adequately acknowledged, as well as the problem associated with several toxic substances entering

6 Labor precarization refers to insecurity, uncertainty and the lack of guaranteeing sufficient socioeconomic conditions for workers' survival with dignity. It involves processes of labor flexibilization or de-regulation of the labor market with pay cuts, making dismissal less costly, lack of compensations, lack of social coverage, and temporary hiring. An increase in the size of the informal economy and the worsening of labor conditions resulted from this process (Anónimo a, n.d.).

work processes. This situation has led to the coexistence of traditional workers' health issues with some emerging problems.

Colombia took part in the international economic trend and approved a labor reform (Law 50 of 1990), under the assumption that, by means of its enforcement, the necessary labor reconfigurations would set the country in line with the associated economic opening⁷.

This process engendered different effects on the labor life of Colombians: de-regulation of labor relations, flexibilization of working conditions, an increase in the manifestations of informal employment and a greater precarization of working conditions.

On the other hand, this labor reform, and its implications, were articulated with the social security reform made in Colombia via Law 100 of 1993, which started a gradual process of the privatization of the health system and of the system of the protection of health at the workplace.

Various joint effects came out of both reforms, associated with a reduction in the guarantee of the right to work and the right to health at the workplace; among them, it is worth mentioning the lack of decent and safe employment, the lack/poor quality of health services at the workplace, and the deterioration of programs to promote and prevent health risks at the workplace. These resulted from prioritizing the insurance of labor risks, instead of developing an approach that focused on workers' health.

7 An important precedent was the Mission of Employment, also known as the "Chenery Mission", which suggested the generation of currency, the rise of the saving and investment rates, and the reorientation of public expenditure as strategies to re-activate employment in Colombia (López, 1986).

Additionally, a trend towards strengthening the role of the financial sector as a mediator of health and work-risk insurance was confirmed; as well as the limitations of workers' organization and participation, expressed in the difficulties of forming trade unions and worker associations; either the complete exclusion or only a low level of participation of workers in health-related corporate decisions; the precarization of workers' lives as well as their families'; the clear deterioration of working conditions, made evident by the increase in the workplace accident rate; as well as work-related deaths and diseases, in spite of the underreporting of both.

Within this context of national and international transformations of the fields of labor and social security, important issues were introduced, and collective responses were given from labor unions, some NGOs and, in recent years, collective action organized by Ill Workers themselves due to their working conditions (Luna García and Torres Tovar, 2012).

Resistance and collective action for the right to health in Colombia

As previously mentioned, a series of collective actions were undertaken, resulting from the effect of reforms adopted in Colombia in the early 1990s, aimed at demanding the enforcement of collective rights within the country. Particularly, the social dynamics generated during the last 20 years around the right to health in Colombia can be divided into three periods (Torres Tovar, 2013).

The first period, of a vindicating nature, occurred during the initial years following the implementation of Law 100. At this point, the actors independently put forward specific claims based on their respective origins. Thus, workers demanded that their labor rights were guaranteed; students demanded a higher budget for education, public health and the preservation of

their professional training sites; users, in turn, asked for better quality in the provision of health services; health professional associations sought acknowledgment of their work and social status; and indigenous groups called for specific legislation, acknowledging their health-related traditions and practices.

During this first period, people individually started resorting to health related *acción de tutela* (Tutelage Action of Rights), which has become a rather important resource for the safeguarding of the right to health in Colombia, since the moment it was approved by the 1991 Political Constitution.

Therefore, collective actions for the right to health (ACDS, after their name in Spanish) revolved around specific vindications during this period, claiming the State's responsibility in dealing with them.

A second period occurred amidst the broadening of public debate on the issue, which allowed the articulation and politicization of the struggle for health. It started in 2000 with the inauguration of the First National Congress for Health and Social Security, which is still held today. Due to this step, it was possible to encourage public debate on the right to health, aimed at articulating different social sectors, so that organizational processes, which were likely to transform the reality of the right to health in Colombia, could be established.

This second period connected the realization of public events of deliberation (national congresses for health, national meetings for workers' health, district assemblies for the right to health, and public hearings for health), which configured the proposal of building a social movement for health, with the support for a political process of mobilization aimed at transforming the Law 100 model into a health system which could safeguard such a right.

This period advanced in the politicization of health-related collective action. This step was taken when people became awa-

re of the existence of a structural element, related to the State's health policy, which was responsible for the collective situation. For this reason, it was necessary to fight in a more collective, and less individualized way.

Likewise, new specific vindicating actions occurred in this period; but other sectors, with greater leadership skills and more presence in the collective dynamics associated with the right to health, began to understand it was necessary to politicize the issue, to produce the political subject who would be able to defeat the Law 100 model.

The third period started in 2010 and runs until the present, it features an advance in the configuration of a collective identity, and the maturing of a political proposal. Throughout the years, the process of articulation made it possible to redefine the collective bonds which have brought the positions of different social actors together, so that they no longer face their own struggle separately, as they have gradually united around the collective identity generated by the idea of health as a human right. Of course, this has not been a linear process in which the dynamics supporting the right to health can do nothing but advance; there have also been standstills and retreats, but the present is undoubtedly another stage of ACDS in Colombia.

The advance in the configuration of this collective identity had a relevant moment during the so called social emergency in health, between late 2009 and early 2010. The measures Álvaro Uribe's government was trying to impose by force generated great collective outrage, as it was clear that the measures benefitted the EPSs⁸ and damaged the whole of the population, as well as the field of physicians and dentists (Torres Tovar, 2010).

8 T.N. EPS is the acronym of *Entidad Prestadora Promotora de Salud* (Health Providing Promoting Entity), they are private companies in charge of health services in Colombia.

Such a context allowed a further step in the lining up of actors in support of the right to health, as well as a more definite acknowledgment of those supporting the Law 100 model. At first, this permitted the re-grouping of social sectors involved in health around the so-called National Alliance for Health (ANSA, after its name in Spanish), an alliance whose work dynamic enabled the elaboration and presentation of a project before the Colombian Congress that structurally reformed Law 100. Then came a broader instance, called *Mesa Nacional por el Derecho a la Salud* (National Board for the Right to Health) which played an important role in the establishment of a Statutory Law on Health (Law 1751 of 2015), and is now an instance that articulates the social sectors struggling for the enforcement of the right to health in Colombia. Thanks to Law 1751, it has been possible to incorporate health as a fundamental right into the Colombian legal structure, an issue which was previously nonexistent in the Constitution (Torres Tovar, 2015).

The issue of identity advanced throughout this third period, given the chance to identify “they” more clearly, in the sense proposed by Porto Gonçalves when he claims that it is in the process of social struggle where collective identities are gradually built. Such identities are not defined by themselves, but through contrast, where the invention of “we” implies the identification of “they”. As such, identity is built together with otherness in concrete situations (Porto Gonçalves, 2001). In Colombia, both processes have occurred simultaneously: one, of getting closer together, due to the acknowledgment of health as a right; and another, aimed at identifying a more distinct adversary, located within the figure of mediation, the foundation of the Law 100 model (Torres Tovar, 2013).

Such an approach regarding the repertoires of social struggle and mobilization for health in Colombia, its actors and participants, the adversaries who established themselves, and a set of periods in their dynamics of action for over 20 years, permit the claim that, in spite of the Colombian context of political

violence (especially anti-union violence) and official repression, an important dynamic of mobilization has occurred; new actors have gradually taken shape, and the construction of a social movement for health has been outlined, which has built its identity within the struggle for the fundamental right to health (Echeverry and Borrero, 2015).

Throughout the Colombian experience, a political clash between two parties for control over the health sector has gradually emerged: one of them, which has been hegemonic so far, is prone to the State policy on health implemented in 1993; the other one, contrary to such a policy, has generated a set of ACDS in its attempt to transform it.

Particularly, there have been important moments of mobilization and action in ACDST, which have their precedents in the late 1980s and the early 1990s, when two national meetings on workers' health were held (Luna García, 2002), and the National Center for Health and Labor (CENSAT, after its name in Spanish) was conformed; and so was, later, in the mid-1990s, the *Intersindical de Salud de los Trabajadores* (Inter-Union Committee for Workers Health), a space where representatives from the three trade union confederations came together.

Later, the specific dynamics of ACDST decreased, as a result of transformations in the world of work induced by the labor reform. It weakened the union movement, as people lost the possibility to unionize due to new flexible forms of contracting; which, in turn, forced the union movement to place the preservation of employment at the top of its agenda.

Nevertheless, the dynamics of ACDST managed to drive the issue of the right to health at the workplace and encouraged the realization of the third national meeting of workers' health in 2003. It thus gave a new lease of life to ACDST, and returned to the requirement that worker organizations included the issue

of workers' health in their agenda, and contributed to the proposal for a new health system in Colombia. The latter should be based on the different sectors comprising the national movement for health, and issues related to labor risks and worker health.

The resort to *acciones de tutela* in the issue of labor has also occurred, but to a lower degree, and has also led the Constitutional Court to establish case law in issues associated with this field, such as the payment of a living wage, the right to health of domestic personnel and pregnant working women, and relocation due to conditions of disability, among others (Patiño, 2011).

But the most important thing, throughout this third period of social mobilization for the right to health at the workplace, is the creation of a set of worker organizations of workers who had become ill due to their working conditions. They have decided to get together and call for collective action of resistance against employers and the State, so that their workers' rights can be safeguarded and their health, deteriorated because of work, can be protected. Among others, it is worth mentioning the case of: *Asociación de trabajadores enfermos de la Drummond* (Association of Ill Workers from *Drummond Ltd*, ASOTRED), *Asociación de trabajadores enfermos del Cerrejón* (Association of Ill Workers from *Cerrejón*), *Fundación «Manos muertas»* ("Dead Hands" Foundation), *Asociación de Trabajadores Discapacitados de Norte de Santander* (Association of Disabled Workers from Northern Santander, ASOTRADISNORT), *Asociación de extrabajadores enfermos de Colmotores* (Association of Diseased Ex-Workers from *Colmotores*, ASOTRECOL), *Asociación de trabajadores enfermos de Colmotores* (Association of Ill Workers from *Colmotores*, UNECOL), *Asociación Nacional de Usuarios del Sistema de Riesgos Laborales* (National Association of Users of the Labor Risk System), *Afiliados y Beneficiarios del Sistema de Seguridad Social* (Associates and Beneficiaries of the Social Security System, ASORIESGOS),

Asociación de Trabajadores Discapacitados y Enfermos por la Industria Minero Energética (Association of Disabled and Ill Workers of the Mining-Energy Industry, ASOTRAIMENE), *Asociación de extrabajadores de COLOMBIT* (Association of Ex-Workers from COLOMBIT), among others.

These collective processes of victims' organization, realized via the ill workers who had been dismissed, and whose labor rights and right to health have been violated, were caused by the effort of employers and ARLs to ignore the occupational origin of health events. This resulted from the context of the easy dismissal of workers from their companies, either due to temporary contracts or to lack of State control, together with the assistance given by the boards of assessment and the legal system.

These collective processes undertake different social actions aimed at demanding the acknowledgment of the occupational origin of their diseases and accidents, their re-incorporation into the companies, and their re-location whenever the case deems it necessary, as well as the acknowledgment of their right to assistance and their economic rights⁹.

ASOTRECOL: An emblematic case

ASOTRECOL is one of the organizations started by workers who were dismissed from their jobs, in this case, from the GM Colmotores car company (an affiliate of General Motors). They suffered from diseases caused by their working conditions at this company. Given those working conditions, they were forced to organize themselves so that they could undertake collective social actions, aimed at demanding the safeguard of their rights to health and labor.

9 Interviews with several members of these associations.

This section was developed from secondary information derived from websites and the press¹⁰, as well as primary sources, based on interviews with ex-workers who are members of ASOTRECOL and documents related to their cases, collected by themselves.

The company

General Motors (GM), originally from the US, is the biggest car company in the world. It was founded in 1908 and currently manufactures cars in 35 countries, and employs almost 266.000 people (General Motors, 2015).

Throughout the 20th century, and for the better part of the 2000s, it was the biggest industrial group in car production worldwide; but it declared bankruptcy, due to the world economic crisis of 2009. For this reason, a new company was created, it went by the name of General Motors Company, and the US government injected \$50 million dollars into it, and as such it kept 60% of the company's shares (Anónimo, n.d.).

Colmotores, GM's subsidiary company in Colombia, was founded on July 27, 1956. After the consolidation of its production plant, it became one of the country's largest car manufacturers and assembly plants. It is located in Bogotá (Anónimo b, n.d.).

In 1981, the company changed its business name from Colmotores to GM Colmotores. Since then, it has manufactured a great variety of car models for the local market, which have been marketed under the brand Chevrolet (Anónimo a, n.d.).

The economic opening, launched by Cesar Gaviria's government in the early 1990s, generated a massive wave of car imports; a situation which led Colmotores to consider strategies

10 This section is based on a case study which is currently in progress, the sources used are public, according to the *Habeas Data* Law.

to reinvigorate both its productive and competitive capacity, throughout that decade.

It was decided in 2002 that, due to the costly materials for assembly which originated in Japan, GM's assembly plant should start assembling with South Korean materials. It was imported and then used to assemble cars such as Chevrolet Spark and Aveo (Anónimo a, n.d.).

After 2007, GM's head office promoted a model of competitive management for all local suppliers of car parts, aimed at improving the quality of Chevrolet cars (Chevrolet Colombia, n.d.). This led GM Colmotores to propose a plan of industrial reconversion in 2010; it had three strategies to increase its productivity: the creation and start-up of the customs-free zone, automation of processes at the assembly plant and continuous improvement through GM's global manufacture system (Benedetti Meléndez et al., 2013).

In early February 2012, the construction of two buildings, for the printing and bending processes began. This industrial technological transformation incorporated six robots which mechanized the processes that involved the final welding finishing, incorporating a new line of metal coating and a mechanized cabin bank, besides two high tonnage presses (Benedetti Meléndez et al., 2013). This meant that, for this year, there was an increase in the plant's productive capacity, due to the infrastructural extension and the introduction of a new production line (Anónimo a, n.d.). This meant GM Colmotores had a 26% share of the market in 2013 (Pedreros et al., 2014).

Presently, the company assembles approximately 45 versions of almost 12 different platforms; this situates Colmotores in first place in the Colombian car market (Anónimo a, n.d.), against the three other main car assemblers who concentrate almost all the remaining production: Sofasa, *Compañía Colombiana Automotriz* (Colombian Car Company) and Hino Motors Manufacturing (PNUD, 2014).

Health damages due to GM Colmotores' productive process

From the start of year 2000, GM Colmotores initiated a set of managerial, organizational and labor strategies aimed at re-positioning itself within the car market and increasing its productivity levels.

On the one hand, as has been stated above, it supported a global manufacturing system, with an industrial reconversion plan which brought along with it technological and organizational change in the production plant. And, simultaneously, it implied the intensification of the use of labor. Such technological and organizational changes led car production to go from 57 cars per day in 1997, to 120 in 2005.

In 2008, a process of permanent improvement took place in GM Colmotores. 24-hour plant operation led to the intensification of work, which resulted in a huge increase in production. This dynamics were articulated with a strategy of including work incentives in production; this established the period when working conditions became worse, due to the physical increase of work. This period saw an increase in work-related health risks to such degree that it generated an emergency expressed in an "epidemic" of musculoskeletal damages, especially herniated discs in the lumbosacral region, carpal tunnel syndrome, and damage to the rotator cuff¹¹.

On the other hand, the company implemented a set of strategies, with an approach based on labor flexibilization and the limitation of workers' organization around their union. The company only offered temporary contracts, which were renovated on an annual basis; this situation was used as a threat to force workers to work as hard as they could, and keep their

11 Interview to Colmotores' ex-workers.

physical ailments to themselves, although they started appearing permanently.

Besides, General Motors made sure ill workers did not organize. All the workers of our time were forced to sign and belong to the collective pact, a device controlled by the company and used to reduce the incidence and strength of the firm's trade union. Before signing our contracts, we had to sign a document in which we accepted not to get involved with any trade union, in this way the company attacked the international right to free association, and ensured that the union, which used to represent 1,400 out of their 1,800 workers, could not recruit any new members. Today, after over 40 years of unionized activity, the union only represents a little more than 100 workers (testimonial of an ex-worker, member of ASOTRECOL).

In this way, Colmotores developed practices to contain workers' organization by means of the so-called collective pact, and the retirement and dismissal of workers (ENS, 2014)¹². Within the frame of these managerial maneuvers, the company obtained the voluntary retirement of 88 workers throughout the first semester of 2011¹³, and dismissed over 460 workers in April of 2013, including unionized ones (Voz, 2013).

Another of the company's strategies consisted of concealing the health problems of its workers, generated by such intensive working conditions. The diseases were hidden by the company's medical service, which, instead of going through processes of prevention and relocation, so that the worsening

12 As has been clearly stated in the research done by *Escuela Nacional Sindical* (2014), "the collective pact was used to break the majoritarian nature of the labor union. One of the most astonishing elements regarding the resort to collective pacts in Colombia, is that of companies which have imposed collective agreements on non-unionized workers, in spite of having majoritarian unions (which is a clear violation of article 481 of the CST and article 70 of Law 50 of 1990), such as Prosegur and General Motors Colmotores". Estos dos términos debe ser aclarados.

13 Interview to worker dismissed by the Company. October 2014.

of the symptoms (over which workers required such medical services) could be detained, they were prescribed pain-killers.

General Motors developed its ominous plot by first identifying the ill workers, thus leaving us without the proof we needed to claim our rights. The company did not report work accidents, and at the medical center within the plant, they did not warn workers about the true cause of their pains. They justified them as being simple effects of sore muscles, and treated us with medication to momentarily control the pain, but did not interrupt our work days. They veiled the true origin of the worker's pain in their reports on the worker's state to General Motors' Labor Relations Department. Thus, their reports to the company targeted workers to be dismissed, before they or their EPS found out about a professional disease. They took advantage of the workers' ignorance of their own rights, manipulated their clinical records and restricted the workers' free access to them (Testimonial by an ex-worker member of ASOTRECOL).

The role played by both ATEL, the *Aseguradora de Riesgos Profesionales* (Professional Risk Insurer, ARP¹⁴) with which the company had insured its workers against work accidents and labor disease, and the boards of labor assessment reinforced the failure to acknowledge labor-related diseases, as they reversed the professional origin EPSs acknowledged of the pathologies suffered by some workers.

Additionally, it consisted of the perfectly evil association with Colpatria ARP which, in turn, oversaw the manipulating the false reports on the functions and labor loads of each working post. They thus ensured that both the Regional and National Boards of Assessment of Disability did not evaluate the actual conditions of the professional activity in which the worker was engaged through a technical analysis. All of this ensured that most of them could not have their disease's origin be acknowledged as professional, let alone achieve a disability degree above 50%, which was necessary to qualify for a disability pension. Only a few workers could claim before their EPS that they had a labor disease. Few EPSs, in

14 Today, they are known as ARL (Spanish acronym of Labor Risk Manager)

turn, could find evidence of causality, and thus regard any kind of disease as professional. Later, the forms were altered by the ARP, together with the Regional and National Boards of Assessment of Disability (testimonial of an ex-worker member of ASOTRECOL).

Instead of improving the working conditions, so that these kinds of workers' ailments would cease, Colmotores implemented a strategy of laying off ill workers, thus violating the legislation which prohibits firing a worker in those conditions.

[...] it plotted a strategy of work persecution and harassment aimed at obtaining the worker's resignation, and then they pretended it had occurred after mutual agreement. They resorted to false and permanent charges on ill workers, and they moved them permanently to new posts to confuse workers (testimonial of ex-worker member of ASOTRECOL).

Out of the group of workers who were dismissed in 2011, 45 had professionally originated diseases, especially of musculoskeletal kind, and they did not get any compensation or special consideration. For this reason they started a process of struggle for their labor and health rights, and created the association ASOTRECOL for themselves (ENS, 2012), together with other workers who were still on the factory line.

Foundation of ASOTRECOL

ASOTRECOL was an organizational form created by workers and ex-workers from the transnational corporation GM Colmotores, who were afflicted by labor diseases on their production lines which were never acknowledged as such.

The sum of all these situations pushed us into getting organized in order to prove that our diseases were not isolated cases, as the firm wanted to present them. Instead, they were caused by our work, in a generalized way, among workers in their respective areas of work (testimonial of ex-worker member of ASOTRECOL).

A process of identification between Colmotores workers and ex-workers, who started to notice they all suffered from a very similar set of diseases, resulted in the creation of ASO-TRECOL. They also noticed that their diseases resulted from the kind of time management and the rhythms required from them, in the productive process in which they collectively participated.

This process of collective identification covered the period between 2009 and 2010, throughout which, one worker in particular, a specialized welding technician, started documenting his case; he was trying to have the professional origin acknowledged for the four pathologies he suffered from at the moment. He had been hired by Colmotores when he was 28, and five years after working there, he had already suffered huge impacts on his musculoskeletal structures, resulting from the intense physical effort his job had required. Due to this, a process of recurring sick leave began in 2009, and he was finally dismissed in July, 2011. Among other details, his ailments required surgeries for the bilateral management of his carpal tunnel syndrome and of his herniated discs in the lumbosacral region, which left him a drop foot syndrome as a side-effect.

This exercise of thorough documentation, which recovered his clinical record, and contrasted the information with that provided by the company and the ARP to the regional and national boards of assessment, became a crucial phase. It resulted in the emergence of the idea that it was not an individual problem, but a collective one: “I have thought that my case may reveal a similar situation among my coworkers” (testimonial of ex-worker member of ASOTRECOL).

This is why, during the process of creation of ASOTRECOL, a phase of searching for workers and ex-workers started, whose health had been harmed and who had side-effects of disability resulting from their work at Colmotores. The findings of this search added up to 68 workers.

This effort, which was initially started by one single worker, led him to leaping into legal action before the State agencies in charge of labor regulation and the protection of human rights:

In spite of the number of legal suits before control agencies such as the *Ministerio del Trabajo* (Ministry of Labor), and the *Procuraduría General de la Nación* (Office of the Inspector General of Colombia), where we managed to prove the fostering and the criminal conspiracy between the inspectors from the Ministry of Labor and GM's lawyers and spokespeople. Even after being duly investigated and penalized, neither the social security system, or the company responded to our situation (testimonial of ex-worker member of ASOTRECOL).

As a result of such actions, on the one hand, the Office of the Inspector General of Colombia required Colpatria ARP to report on the amount of cases of disease within Colmotores. They responded that, in 2011, there were 200 cases of lumbar pathology. And, on the other hand, the Ministry of Labor fined Colpatria ARP 28 million pesos¹⁵ for concealing information which allowed the acknowledgement of such illnesses as being of a professional origin; especially information related to the study on working posts which had been made by Colmotores' physiotherapist in 2007, before being fired.

These dynamics, which were individual at first, then allowed the worker to become aware of the professional origin of his health problem, and to notice it went beyond him as an individual, as it damaged the whole group of workers; he was also aware of the fact that they were disabled to meet the production rhythm demanded by Colmotores, due to their diseases, and for this reason they were laid off. At that moment, the company violated their labor and social security rights, and led them to create the *Asociación de Trabajadores y Ex Trabajadores*

15 This situation has not been fully resolved yet, given the appeals issued by Colpatria ARL. At this moment there is risk of expiration of the terms, for this reason the ex-worker has decided to file an *acción de tutela*.

Enfermos de General Motors Colmotores (Association of Ill workers and Ex-Workers from GM Colmotores, ASOTRECOL) and start their organizational process with 68 members.

ASOTRECOL's forms of collective action

ASOTRECOL's purpose is for its associates to have the professional origin of their ailments acknowledged, to be granted the economic and assistance provisions they are entitled to, to have their labor rights restored, to be reintegrated into Colmotores and to be paid their unpaid wages, thus offering them a labor rehabilitation and re-education process, to assign them to working posts according to their health conditions.

In line with its purpose of ensuring the enforceability of the rights to work and health of its associates, ASOTRECOL has implemented a diverse repertoire of collective actions of mobilization, struggle and resistance. These collective actions could be classified as legal actions, direct actions, actions for international incidence and communicational actions.

Legal actions are related to resorting to the mediation of government institutions in charge of labor, social security and human rights. In this sense, ASOTRECOL has generated complaint mechanisms before the Ministry of Labor and the Office of the Inspector General of Colombia, thus forcing such institutions to act before the Company, Colpatria ARP and both the Regional and National Boards.

Additionally, they submitted the case to CET-COIT, that is, the *Comisión Especial de Tratamiento de Conflictos* (Special Commission for Conflict Settlement), an agency of the Ministry of Labor in charge of dealing with conflicts associated with union freedom, which are ruled by the agreements Colombia has ratified before the International Labour Organization (ILO). This process was started by ASOTRECOL, but did not find very favorable developments.

Particularly, the leaders of ASOTRECOL have dismissed the use of the legal system after concluding that there is no chance to get an adequate response in this way. Many processes of Colmotores' ill workers have been taken to the legal system, they are repeatedly and suspiciously taken only to *Juzgados* (courts) 14 and 16, and they have all been lost so far.

On the other hand, the repertoire of actions has in fact had different shapes, and it is what has contributed the most to make the situation of GM Colmotores' workers and ex-workers visible.

At first they resorted to rallies, they repeatedly gathered together in front of the Company's facilities, of the Company's concession holders, of the Ministry of Labor, and of the Office of the Inspector General of Colombia.

But, given that such actions were fruitless, they generated another collective action, maybe the most important that ASOTRECOL has supported, they gathered under a tent in front of the US embassy on August 2, 2011; they started their stay at this site with a hunger strike. This action was called for after understanding that the struggle for their rights had to reach an international scope, as Colmotores is a subsidiary of a US transnational firm.

During the four years they have remained in front of the US embassy, they have learned other kinds of actions in order to pressure the solution of their demands. They have included burying themselves in the ground under their tent, crucifying themselves in front of the tent and tying themselves up to the entrance off the embassy. Besides, they have gone on a couple more hunger strikes throughout this period.

But a very interesting thing about ASOTRECOL's collective action has been undertaking actions of international lobbying, as they understand GM is a company that is owned by the

US State since 2008, because of the US Government's salvaging of the company.

Such lobbying actions have allowed them to have a first interview with the US ambassador in Colombia, in April of 2011, together with a senator from the state of Michigan, where GM's head office is located. In this way, the labor conflict reached an international stage beyond Bogotá, which was associated with a demand made by the US government to the Colombian one, so that it protected labor rights as a requirement for the signature of the free trade agreement.

This relation, together with the one generated by ASOTRECOL itself, when its members contacted GM's trade union in the US, and AFL-CIO's¹⁶ spokesperson for Colombia, allowed the Association leader to travel to the US in May, 2012, and visit Chicago and Detroit, where he presented the case of the significant problems facing Colmotores' workers, and established contact with the UAW (United Automobile Workers), that is, GM's trade union in the US. Likewise, ASOTRECOL's leader bravely decided to go on a hunger strike in Detroit; it lasted for 68 days.

Also as part of this international action, they achieved the arbitration of the FMCS (Federal Mediation and Conciliation Service), the US agency in charge of mediating in labor conflicts, in the conflict between Colmotores and its workers. This led to the signing of an agreement in August of 2012, but unfortunately it was rather fruitless.

An important outcome of this action of international lobbying in the US in 2012 was to get concrete solidarity, expressed in economic support given by allies, which has allowed ASOTRECOL to remain in its resistance process in its tent.

16 American Federation of Labor and Congress of Industrial Organizations, which groups workers from the car industry. They do a very important labor of safeguarding labor rights of Latino workers in the US.

Likewise, within the frame of its attempts of international incidence, the process for the presentation of ASOTRECOL's case before the ILO in Geneva, during the annual International Labor Conference, was completed. It was done with support by *Confederación Nacional del Trabajo*¹⁷ (General Confederation of Workers, CGT), which initially filed the case in Geneva but, the following year, in an unexplainable action, was withdrawn by the very president of the CGT. This resulted in the deepening of the disrepute of the unionized action of ASOTRECOL's members.

Finally, it is worth mentioning that the use of the internet has been part of the Association's actions from its early stages, in order to communicate, and spread information and their claims. At first, this helped them establish contacts with important actors, especially the UAW and, later, the Solidarity Committees in the US. As part of their repertoire of actions, they created a website and have resorted to social networks such as Facebook, YouTube and others.

As may be observed, ASOTRECOL's repertoire of action has been diverse, but it has revolved around one axis, the direct action of installing their tent in front of the US embassy, which has been maintained for four years. This expression of resistance may be explained by the international support they have achieved, after the US Embassy's attitude towards Colombia when the tent was installed, as they underestimated such workers' struggle, and thought it would not last for long.

ASOTRECOL's collective action shows great management capacity for mobilization, for finding allies on the international stage, and for persisting with direct actions, which implied a great sense of sacrifice, such as the hunger strikes, the burials

17 T.N. CGT is one of the main labor union confederations in Colombia, it gathers different workers, unions and social organizations at a national level.

and the act of remaining in the tent permanently. Likewise, it shows the exhaustion of legal actions, which deepened disbelief in action through the legal system and the trade unions.

Conclusions

The experience of mobilization, struggle and resistance within the world of labor which has been documented in the present paper, expressed in the specific case of ASOTRECOL, allows a series of conclusions related to the limitations of these actions, their achievements, the lessons learned from them, and the challenges they pose for labor studies related to collective action and to the right to health at the workplace.

Regarding the limitations of this experience, there is the issue of the resources to initiate and maintain collective action. A high price has been paid for the involvement of the workers from the Association, as they have practically paid with the economic assets they were left with, after they were laid off from the company they were struggling against. In spite of the economic solidarity they received from their allies in the US, this movement of resistance has implied, for some, the disintegration of their families and the loss of their households.

On the other hand, there is the issue of the limitations of legal action, which is supposed to be the most appropriate type to protect workers' labor rights and social security guarantees. As well as the limited action of the Ministry of Labor and the Office of the Inspector General of Colombia, which at a given moment acted for the protection of Colmotores' workers, but became subordinated later, and protected the interests of the company and Colpatría ARP.

There are also political limitations with regard to the union movement, as it has lacked the strength and solidarity in its actions that such a case deserves.

ASOTRECOL's associates underscore, as their main achievement, the fact that the company was forced by their collective actions to undertake different methods of treating those workers who have been made ill. It has had to manage rehabilitation and relocation processes, and has not been able to lay them off. Additionally, they think their struggle also influenced Colmotores so that they undertook technological investments with an ergonomic approach, in order to prevent worker illness.

The Association started in 2011, with 68 ill and injured workers and ex-workers; by November of the same year there were only 23 members, as the workers decided to split, due to arrangements they made with the company, and only the ex-workers remained. Given the exhaustion after the struggle of these years, there are only six associates left; for them this is a positive, rather than a negative thing, considering the effects of the struggle and resistance to safeguard the health of Colmotores' workers.

Additionally, other achievements acknowledged include the involvement of the associates' families, as they understood the value and the sense of the struggle undertaken by ASOTRECOL, and also the solidarity of part of the community from the neighborhood where the tent is located, which contributed to their permanence during all these years.

Another achievement is the fact that ASOTRECOL has become a reference for other ill workers who have taken their process of struggle and resistance as an example, and will probably attempt to replicate it. Besides, ASOTRECOL has somehow gradually become an articulating node of experiences of other similar associations and organizations in the national context.

In terms of the lessons learned, there have been many, and of different sorts, but the main ones have been organizational. It is worth noting the importance of documenting the cases of damage to health associated with working conditions, in order

to struggle for the enforceability of the right to health at the workplace; as well as the relevance of online communication work, which allows the broad dissemination of both the sense and the developments of the struggle; the same as lobbying, especially with an international scope, which makes the conflict visible, and somehow helps to support and protect such collective processes; and, finally, the transcending fact of persistence in spite of great difficulty, exhaustion, the loss of faith implied by a resistance movement as enduring as the one led by a groups of workers based in this Association.

Another important conclusion resulting from this collective experience is the evidence that the whole of the managerial and technological strategies supported by business people, centered on productivity, usually imply the intensification of labor and this usually leads to a negative impact on the workers' health and living conditions.

Another conclusion is that it is not enough with the corporate sector's discourse based on good practices, and social responsibility, if what really matters in practice is productivity. Without real coherence, committed to this new corporate discourse and its everyday practices, it will not be possible to sufficiently protect health at the workplace.

In terms of the research field, it is worth saying that workers' struggles and resistances for their right to health, associated to their working conditions, have been insufficiently studied. ASOTRECOL's case, documented here, shows that struggles and resistances result from the transformations in the world of labor, which have made working conditions more precarious and have intensified exploitation. This deteriorates workers' health, which becomes evident in accident rates, and in work-originated death and disease; and deserves attention from academic centers, not only to contribute in the understanding of such realities, but mainly to help to transform them.

Finally, such dynamics of struggle and resistance generated by the world of labor, realized by workers who have been laid-off because they caught a disease as a consequence of their working conditions, set the challenge of advancing in an organizational process of all these health-related victims. It should be aimed at generating a process of national articulation of all these associations, at strengthening their organizational processes, and allowing them to configure a political subject who is able to have an incidence and transform this reality.

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COLOMBIT: A case of social responsibility towards the removal of asbestos?¹

Jairo Ernesto Luna García²

Carlos Julio Castro Fraume³

Guillermo Villamizar⁴

Introduction

Did you know that there is only one manufacturer in Colombia who is making products which are 100% free from chrysotile asbestos? That is right. It is Skinco Colombit. This company belongs to ETEX, a Belgian industrial group, world leader in the

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- 1 Lecture submitted to the Pre-ALAST Congress, in Bogotá D.C. on August 31, September 1 and 2 of 2015. Labor studies in Colombia and Latin America: outcomes and challenges. Table: Businesspeople, labor and corporate social responsibility. Lecture submitted with academic purposes, based on a case study which is still in progress, the sources employed are public according to the *Habeas Data* Law, including legal sentences and settled conciliations.
 - 2 Physician, Specialist in Occupational Health, MsC and PhD in Public Health. Associate Professor from the National University of Colombia. Email address: jelunag@unal.edu.co
 - 3 Professional in Occupational Health with training in industrial safety and hygiene. President of the Association of Ex-Workers from *Colombit*.
 - 4 Artist. President of the *Fundación Colombia Libre de Asbesto* (Colombia Free from Asbestos Foundation). Email address: guillermovillamizar@gmail.com

manufacturing of construction materials. But before telling you about Skinco Colombit, we want to explain what asbestos is. Asbestos is a natural mineral, of fibrous features and great mechanical resistance, which is gradually going out of use in the world; it is used in the reinforcement of cement products and in the manufacturing of car parts, among others.

But what is wrong with asbestos? According to the World Health Organization (WHO) and the International Labor Organization (ILO), all forms of asbestos are carcinogenic for humans and may generate lung, larynx or ovary cancer, as well as other diseases. According to these organizations, there are about 125 million people who are exposed to asbestos in the workplace. According to their most recent estimates, labor exposure to asbestos causes over 107,000 annual deaths worldwide. It is calculated that a third of deaths due to labor-related cancer are caused by asbestos. Besides, it is estimated that several thousand deaths are attributable to domestic exposure to asbestos (Skinco Colombit, 2013)⁵.

Since 2002, the company Skinco colombit, located in Manizales, suspended the use of asbestos in the fabrication of all their construction products. This transition to clean technologies has helped the company to demonstrate its social responsibility and, thus, promote the advantages of its products in relation to those of its competitors⁶.

Some arguments introduced by Skinco Colombit match those which have led over 50 countries to ban all forms of asbestos, as public acknowledgment has been made of the danger implied by this material for workers directly involved in its production, as well as by the indirect exposure of their relatives, and by the use regular consumers make of products which contain it.

5 Excerpt from Skinco Colombit's promotional video (2013).

6 Especially those manufactured by their three Eternit factories (Muña, Cali and Barranquilla), belonging to the Mexican group Elementia, which currently still manufacture products with chrysotile asbestos.

Nevertheless, the media and the research undertaken by the academia (Cely García *et al.*, 2012) have started to record cases of people who have asbestos-related diseases in Colombia, and the incidence in workers' health of the manipulation of products with asbestos. This broadens the debate between sectors promoting the prohibition of asbestos, and the industrial sector which keeps its use and defends the possibility of employing it under safe conditions⁷.

Within this context, it is worth pondering as to how complete Sknico Colombit's social responsibility⁸ is in relation to this issue. This implies verifying the acknowledgment of workers, relatives and communities affected by the asbestos consumed by the company during the period in which it was employed there (1967-2002), as well as the policies and actions they have developed which are aimed at giving the appropriate treatment to the asbestos products which are still in use, and to the deposit sites for construction debris and the landfills where this material was used, and which still remain as present and future sources of exposure.

Some background on the present situation of asbestos worldwide

In ancient times, asbestos was used for "magical" and "ritual" purposes. A popular belief argued that asbestos could be

7 The newspapers *El Tiempo* and *El Espectador*, as well as *Noticias RCN* (a national TV news broadcast) and *Séptimo Día* (Seventh day, a journalistic TV show) have approached the issue.

8 Although corporate social responsibility has frequently been associated with the development of programs supporting violated communities, or of environmental programs; in this case, the ideas embraced incorporate an action made by the company which goes beyond the observance of the law, and which, both within and in its relation with its surroundings, imply a contribution to decent and dignified labor, as well as to environmental and social sustainability, according to Adela Cortina's (2005) approach.

the “salamander’s wool”, as this animal was thought to be able to withstand fire without being harmed (Rossi, 2008).

Asbestos is the generic name of a group of fibrous materials. In a few words, it is a rock extracted from the ground. There are two families of asbestos: serpentine and amphibole. Chrysotile (or white asbestos) is the only member of the serpentine family and is mainly exploited in Russia, China, Brazil, Kazakhstan and Zimbabwe, as well as in Colombia⁹. The amphibole group includes, among others, two important species for trade: amosite (brown asbestos) and crocidolite (blue asbestos) which were exploited throughout the 20th century, especially in South Africa and Australia; such products are hardly employed nowadays. All kinds of asbestos may be split into longitudinal fibers; it is this faculty of becoming fibrous, together with its heat resistance and its hardness, which make it such a useful material. It is possible to keep splitting these asbestos fibers until reaching molecular levels (McCulloch and Tweedale, 2008).

In the long run, asbestos may produce three kinds of diseases: asbestosis (lung scarring), lung cancer and mesothelioma (especially of the lining of the lungs). Asbestos may produce other kinds of cancer (McCulloch and Tweedale, 2008).

As of the mid-19th century, an increase in the use of asbestos in different products occurred, together with the industrialization process, but it was in the construction industry where it became massively consumed. In the early 20th century, the

9 See Barrera (1987): “The chrysotile mines in *Las Nieves* and *Búfalo* were explored by the Johns-Manville company, from Canada, in 1952 and 1953, and the *La Polca* seam, 15 km north of *Las Brisas* may be regarded as an extension of it. Another minor seam is located 8 km far from *Sabanalarga*, it is apparently small and produces a mediocre-quality fiber. In *Briceno*, there is only picrolite. A 5.5 million ton reserve is thought to exist in *Las Brisas*, with a 5% quality that is about 275 thousand tons of fiber. It is located in Campamento (Antioquia), and has processed chrysotile since 1982”.

Austrian Ludwig Hatschek invented a process through which asbestos fibers were combined with cement in order to produce asbestos-cement (AC), a material with excellent technical features which could be given multiple applications. Given that asbestos was expected to “last forever”, Hatschek named the process *Eternit*, in reference to its “eternal” nature, and went on to sell the patent to companies worldwide, many of which adopted the name Eternit. This way, Ludwig Hatschek started selling “franchises” of his *eternal* invention and, during the next 60 years, licenses were sold to companies settled all over the world (Ruers y Schouten, 2005).

Asbestos is present in the tiles with which house roofs are made, in water reserve tanks in both the domestic and industrial contexts, and in water transporting pipes; asbestos fibers are blended with tiles for vinyl floors, are used as insulators in oil refineries, in hospitals, war ships, cinemas and households. It was used in European and North American countries, and it is still used in emerging countries in plastic and rubber products; it is mixed with adhesives, cement, paints and sealants. In cars, it is present in joints, heads, ignition sparks, exhaust pipe insulators, radiators and disc brakes. Some exotic uses could and still can be seen in cigarette filters, kitchen cloths, surgical yarns, bills, felts for pianos, ironing boards, berets, aprons, tampons and filters, containers and strainers for rice, salt, beer and orange juice (McCulloch y Tweedale, 2008).

While the restriction over asbestos consumption has started, especially in developed countries, new markets are nurtured in developing economies. Thus, in recent years, sales of asbestos-cement products have increased considerably in India, Pakistan, Indonesia and Thailand. Although it is widely known that exposure to asbestos may cause death, asbestos producers keep defending its safe use, and denying the existence of alternatives which are reliable for human health (McCulloch y Tweedale, 2008).

According to Fiona Murie, the person currently responsible for Health and Safety at the International Federation of Building and Wood Workers (IFBWW), the concept of “controlled use” is a bad joke.

From the moment asbestos-cement was invented, reports started claiming that the fibers of this mineral caused lung diseases. In 1918, the US Bureau of Labor Statistics went a great deal further; it released a report establishing that an important number of insurance companies from the US and Canada refused to sell insurance policies to asbestos workers, their statistics already showed a high rate of early death among them (Ruers and Schouten, 2005). The first record of claims for damages against an asbestos company dates back to 1929; the company in question was Johns-Manville. Such claims for damages led insurance companies to provide labor risk policies (Ruers and Schouten, 2005).

Scientific interest increased after the release, in 1924, of a paper on asbestos-related pulmonary fibrosis in the *British Medical Journal*. After 1927, a growing number of papers appeared in England, and the term Asbestosis was first coined (Ruers and Schouten, 2005). At that moment, due to the lack of microscopes and accurate anatomic auscultations, lung diseases were frequently diagnosed as tuberculosis. Such confusion also existed in relation to silica and silicosis, when the latter was already regarded as an occupational disease. Throughout the 1930s and 1940s, more papers were published on asbestosis, both related to the disease itself, and to the amount of victims it had left (Ruers and Schouten, 2005).

Nobody knows the exact amount of human lives that the random use of asbestos has taken around the world. According to WHO estimates (2016) over 125 million people worldwide are exposed to asbestos in labor terms, and almost 170,000 people die every year due to its use in labor environments. One out of every three occupational cancers is caused by asbestos,

and Professor Joe LaDou, from the University of California is even more pessimistic: “Asbestos’ cancer epidemics may take 10 million lives before it is banned worldwide, and exposition to it is reduced to zero” (LaDou, 2012: 285).

Asbestos in Colombia

Asbestos was first used industrially in Colombia in 1942, when the brand *Eternit* entered the national market. The first plant to transform such mineral was opened in 1942, near Bogotá (Sibaté), under the name of *Eternit Colombia*. Later, in 1942, the company opened branches in Barranquilla (*Eternit Atlántico*) and Yumbo, in the Cauca Valley (*Eternit Pacífico*). In 1957, the *Neme Hermanos* economic group introduced the use of asbestos for car parts, as it opened a plant called *Indubestos*, specialized in brakes and gaskets for the car industry (Novoa and Demner, 1987). Years later, two more companies appeared in the Colombian coffee growing axis region: *Colombit* in 1967, and *Manilit* in 1983; both of them located in Manizales.

Nevertheless, it is worth noting that according to estimates by the US Geological Service (USGS), there are records of asbestos imports into Colombia from 1930, corresponding to 77 tons (USGS, 2003).

A meaningful change occurred during the Colombian urbanization process, throughout the period between the 1940s and the 1960s. Eternit’s website says:

With the foundation of Eternit Colombia S.A. on May 21 of 1942, the industry of fiber cement (that is, asbestos-cement) started in our country, with a factory in the outskirts of Bogotá, the capital. The industry of corrugated plaques of fiber cement led the Company to start production two years later in the plants of Eternit Pacífico S.A., in Cali, and Eternit Atlántico S.A., in Barranquilla. Likewise, the production of fiber cement pipelines started in the Bogotá plant. Since its foundation, Eternit has covered over 300

million square meters with its roof tiles, it has served over one and a half million households with its tanks, and has extended almost 40,000 km of aqueduct and sewage pipelines throughout the national territory (Eternit, n.d.).

Another important piece of information to bear in mind is related to the coming into operation of an asbestos (chrysotile) mine, located 16 km away from the municipality of Campamento (Antioquia), in the *vereda*¹⁰ La Solita, 36 km away from the municipality of Yarumal (Antioquia), and 160 km distance from Medellín. The mine opened in 1974, and although its contribution to the Colombian internal market is not recorded in the USGS statistics for that decade, some identified sources claim it had the capacity to produce 12,000, which later increased to 18,000, monthly tons (Barrera, 1987).

In the website of the organization which is currently running the mine, it says that the exact year it started operations was 1977, referring to a technical plant which was built with Swiss technical advisory; nevertheless, the company was legally constituted by 1974.

Asbestos consumption in Colombia had an important increase after the 1980s, the figures reach an average of 25,000 tons a year.

Nevertheless, its consumption decreased by the late 20th century in Colombia, maintaining an average of 15,000 tons a year until the mid-2000s. From that time on, rebounds in the rate of consumption have steadied at an average of 25,000 tons per year, although it is important to underscore that, during certain periods, the import records have remained below 10,000 tons. A striking feature is the USGS data, as they detail that, between 2005 and 2008, there was a volume of production of 60,000 tons a year.

10 T.N. In Colombia, a *vereda* is an administrative sub-division of a municipality.

The landscape drawn by these figures allows us to claim, in all clarity, that Colombia has been a fervent consumer of asbestos for over 70 years. It is important to enquire in this case, what the impact generated by such consumption has been, especially in terms of public health.

It is sad to say that the response to this issue, on the part of the authorities responsible for monitoring these kinds of problems (Ministry of Health, and Ministry of Labor), has been minimal.

But, what cannot be forgotten is that all the asbestos consumed by this country for over half a century, continues to be carelessly manipulated. For many years, there have been studies showing the effects of weathering on asbestos-cement roof tiles; indicators reveal that such materials deteriorate over the years, thus liberating the carcinogenic load of its components, not to mention the roof tiles that thousands of Colombian citizens manipulate, cut or drill, without any environmental or health agency warning them about this sort of risk.

Unfortunately, research in Colombia on this kind of environmental risk is almost nonexistent, it would be good if the Government paid more attention to such phenomena, as the cost-benefit relation of health systems will always exceed any apparent reward offered by the generation of jobs these companies always claim in their favor.

We should not only learn from developed countries, we should overcome their history. Given that scientific advances on labor and environmental risks are more precise as h time passes, this allows countries with emerging economies to avoid and correct errors from the past. That is, it is possible to apply the statement claiming that development and progress can go hand in hand with respect for the citizens and the environment.

Colombit, half a century of history

The company Colombit S.A. was founded after the convergence of two processes, a local and an international one. Its creation responded to stimuli resulting from the coffee-based economy, influenced by a local elite gathered around the *Corporación Financiera de Caldas* (Caldas Financial Corporation), and was aimed at strengthening corporate and industrial endeavors. At the same time, in 1964, a European commission was coincidentally inquiring about the prospects for building a new plant of asbestos-cement in Colombia. Consequently, *Colombit S.A.* was founded in 1965 (Notaría Segunda de Manizales, 1965), with participation of the *Federación Nacional de Cafeteros* (National Federation of Coffee Growers of Colombia). Throughout the following two years, the infrastructure was built and the civil works finished in April, 1967. Meanwhile, the process of importing and the installation of the machinery, coming from Switzerland and the Federal Republic of Germany, made it possible to open the industrial plant with its first production line on April 14, 1967 (Skinco, Colombit, 2015). The importance of this process was reviewed by the local press as follows:

Colombit, the factory opening in the present date with the attendance of the President of the Republic, will cover the demand of cement fiber. It is a variation of *Eternit*, that is, an industrial process giving certain plasticity to a blend of cement and different fibers, especially of asbestos, when it is forged. Its production will be directed at roofing, fencing, piping, etc. Its importance in the construction market goes beyond all estimates. Some advantages include the price, the much cheaper transportation, the change in construction modules, and an economy based on resistance to weight. It can be claimed that the new economy of Caldas will provide a domestic consumption rate which will be able to cope with its output (Rincón, 1967).

The process of hiring the first workers took into consideration their experience in construction, their physical capability

to work, and their performance in their trial period¹¹. Many of them had a work trajectory in agricultural activities, and later experience in the construction sector, therefore they shared cultural elements which had an incidence over the way they in which they undertook their new job¹². Being hired implied handing in the documents required by the company, getting an initial medical examination, and being delivered a provision of work elements consisting of pants, shirt and boots. There was no induction regarding the dangers of work in general, or of asbestos in particular.

Due to the tragedies that occurred during the rainy seasons, and to the existence of bulky and fragile buildings in Manizales and its surroundings, Colombit was rather successful when it entered the household construction market with a modular system consisting of two flat plaques, joined at the center by a roof tile, thus forming a panel, which was assembled through asbestos-cement joints or profiles. This system generated countless prospects for creating new spaces; no wonder neighborhoods, schools, health centers and office centers were built under this system.

In 1973, the plant was expanded by mounting a second production line. The work process in this first period, between 1967 and 1978, was branded by the introduction of a mechanized continuous-flow process for the production of a plaque of asbestos-cement. Preset proportions of raw materials were introduced, departing from a materials depot where white asbestos would go through a mill. Cement was added there, as well

11 The elements provided by the interviews to workers agree with what has been expressed by the Company in its first Internal Workplace Regulations, registered before the Caldas branch of the Ministry of Labor (1967)

12 The habit of smoking was frequent among them, as well as food consumption in working areas; and at first, there was no interest in preventing such practices. On the contrary, the habit of smoking gained importance, as it was later used as an argument to disorient the assessment of asbestos-related pathologies.

as amosite and crocidolite and made into a paste inside a mixer. This made the homogenous distribution of fibers possible and their orientation in different directions, which gave resistance to the product. The paste was pumped through a pipeline into some tanks, so that the paste could be separated from the water and attached to a felt, until it could be made into a uniform film. Meanwhile, vacuum pumps withdrew part of the water, as the paste became glued to a format roller until the desired thickness was achieved; it accumulated in every turn of the film and thus formed the plaque. It was a handmade process which later became standardized.

Once the plaque had the thickness and the consistency required, the next step was manufacturing in two lines of products: the ones of automated mechanical production (flat and corrugated roof tiles, of different lengths and densities), and those produced through molds (tanks, drainpipes, ridges, drip rafters, valley trims, skylights, plant pots, kiosks, wall roofing and over 350 accessories).

Later, when the product was dry, it was taken out of mold if necessary, and it was finished in order to correct imperfections and to give it an aesthetically pleasing finishing (or even to have the product accomplish its final function), it had to be drilled, sanded or cut. And, in order to recover defective products, they were modified and made smaller through cuts; these processes were critical moments as it was then that most particulate matter was produced.

It is worth noting that the molds for the production of accessories were made of the same material (asbestos-cement) and such molds were submitted to harder effort as for the process of withdrawing the production, they were given dry blows, which frequently broke them. Molding workers labored on a wooden structure where they released the mold; then, they soaked the plaque, so that it would take the shape of the mold, which had water dripping onto the floor, and then they went on to cut

the excess of the plaque with a knife, thus letting polluting elements drop onto the floor.

Control measures against exposure to asbestos were practically inexistent at that moment. This was favored by the features of buildings, which had no separation of areas; by the rudimentary process of handling raw materials and feeding the blend (entirely manual); by the deficient hygiene conditions, the practices of manual and mechanical finishing, and the consumption of food at the work post. Such a situation was worsened by home exposure to contaminated elements, as workers took their work clothes home for their wives to wash; they were even allowed to take the sacks where asbestos was kept, as well as the felt once its work-life was over, besides the clogged pipes and polluted scrap metal. It is worth noting the inobservance of preventive measures by the company, as the existence of Hygiene Regulations and Industrial Safety¹³ was not identified, and neither was the implementation of measures enshrined in the framework for the *Seguro Social Obligatorio de Accidente de Trabajo y Enfermedad Profesional* (Compulsory Social Security for Labor Accident and Professional Disease) which was managed by the *Instituto Colombiano de Seguros Sociales* (Colombian Institute of Social Security) as of 1964¹⁴.

Changes in the practices when handling asbestos in the productive process were first introduced in the late 1980s, this process occurred together with several facts which can explain it: on the one hand, regulation was passed in regard to occupational health, which more explicitly required preventive demands

13 Such responsibility was incorporated into the Código Sustantivo del Trabajo (Substantive Labor Code), which is in force since 1950.

14 ATEP's insurance was regulated by Law 90 of 1946, through Decrees 3169 and 3170 of 1964, but Agreement 241 of ICSS's Board of Directors through which the *Reglamento de Prevención de Riesgos Profesionales* (Professional Risk Prevention Regulation) was approved in 1967.

from companies¹⁵; on the other hand, the French group Saint Gobain purchased most of the stocks of the Company, and this could have led them to apply regulations the Eternit group had been encouraging internationally, particularly the “Checklist on Asbestos and Health”, from February 1, 1977¹⁶.

Such measures started with the hiring of a person in charge of industrial safety and hygiene, the development of some lectures to become familiar with asbestos-associated dangers (especially asbestosis), and a slow and gradual implementation of controls in the field in order to decrease exposure to asbestos¹⁷. Line three was mounted in 1982, thus the company optimized and broadened the range of molded products.

There was a re-adjustment of the international market of asbestos producers in the late 1980s, Eternit Group Switzerland sold its participation in the production of asbestos-cement in Brazil, Bolivia and Colombia. Their argument was that products without asbestos were having a hard time entering the market, which made the production of asbestos-cement untenable (Knoepfli, 2011). In turn, the Etex Group, from Belgium, purchased a majoritary participation in Colombit S.A., which

15 Enactment of Law 9 of 1979, whose 3rd title considers occupational health regulations; and the enactment of Resolution 2400 from the same year, through which dispositions of housing, hygiene and safety were established at workplaces.

16 The process of filing requirements in regard to preventing asbestos-related diseases had been in force for several decades at that moment: from the beginning, in England in the 1930s, through their acknowledgment as professional diseases in Holland, in the 1940s, and the development of claiming processes which gradually increased (see Menéndez Navarro, 2011)

17 By the 1980s, the companies in the Eternit Group Colombia had greatly advanced in such process, and offered their advice to Colombit, in regard to the implementation of the automatic feeding of the mix, of located and general dust suction systems in the Company, and of the change of practices related to the product finishings (See Novoa and Demner, 1987).

became part of their corporate holdings (Skinco Colombit, 2015).

Such changes came together with modifications in the hiring policies, as the Company intended to encourage generational replacement by hiring young people with high school technical training and experience in construction¹⁸. There was also an increase of the protection measures in the handling of asbestos within the company, thus following the enforcement of Law 9 of 1979¹⁹, and the head office's guidelines²⁰, which led to the writing of the Company's occupational health program, and to starting occupational clinical histories, with a pneumologic profile managed by an external physician. External audits were implemented in the 1990s²¹. This led to eradicating practices such as the washing of work clothes at home and to implementing a laundromat in the company, to banning smoking and food consumption in the work areas, to improving hygiene practices and workers' training, as well as to the hiring

18 This is documented by an ad published in La Patria newspaper, on May 4 of 1986, which read: Colombit S.A. requires technical or academic high-school graduates, preferably with experience in construction. Minimum age, 23.

19 In 1986, Resolution 2013 was enacted, it was aimed at the organization of parity committees, which at that moment were called industrial medicine, hygiene and safety committees; and Resolution 1016 which established the companies' obligation to implement an occupational health program.

20 The *Código de Buenas y Seguras Prácticas en Fabricación de Fibro-cemento* (Code of Good and Safe Practices in the Manufacturing of Fiber-Cement) from October 4 of 1983, through the issuing of the document *Normas de conducta para el uso controlado del asbesto y de fibras alternativas* (Behavior Rules for the Controlled Use of Asbestos and Alternative Fibers) from January 1990, and later, the Manual *Uso Seguro del Asbesto* (Safe Use of Asbestos Manual) published in July, 1992.

21 Access has been granted to information on the environmental assessments and audits done in the national context by the *Fundación para la Protección del Ambiente y la Salud* (Foundation for Environment and Health Protection, FAS), and in the international one, by the Costa Rican body.

of a part-time physician, so that healthcare medicine could be practiced.

Nevertheless, by the mid-1990s problems still persisted and the manual had not been followed thoroughly; therefore, although asbestos exposure decreased in relation to previous periods, it was never fully eliminated until its use was suppressed in 2002. One example of such a situation is expressed in the following excerpt from one of CEMSO's reports.

To improve, as soon as circumstances allow it, the packaging of national asbestos, avoiding the manual transfer of asbestos sacks through palletization at the *Las Brisas* mine.

To eliminate leaks of material in the area of preparation, thus guaranteeing an area which does not require continuous cleansing with water (and therefore does not sprinkle mud over the machines at the bottom).

To reinforce the availability of a high vacuum at the plant, for cleaning the warehouse and the preparation areas, dry cut crusher and saws, as well as the cleaning of buildings and structures.

To establish the proper maintenance program for both the fix and portable dust collectors, and detail the diverse activities to do, their periodicity and their register.

To establish the proper administrative control for lectures, inductions, trainings, exposure and all issues regarding workers' training and exposure to asbestos at their work posts.

To implement assessment and control of residual waters from the company, in order to comply with the regulations for industrial waste waters.

To implement the proper procedure for the solid waste (polluted material) left by the company.

To improve product labeling quality, thus guaranteeing that the products are appropriately identified according to the established guidelines.

To assure the availability of safety instruction booklets in distribution points and sale outlets of materials. (CEMSO, 1995:4).

In 1996, a new policy for hiring workers was incorporated; according to it, the in-house staff which had been working in the repair shops such as electricians, mechanics and welders, had their professional aptitude certified by SENA. In that year, line 4 started operations, it was involved in the production of flat plates, and the line of production of plastic roto-molded tanks; and the production of asbestos-free fiber cement which was gradually incorporated until asbestos was totally eliminated in 2002. This trend, set by the Etex group, implied that by 2003, only 23% of their production was asbestos-cement, and by January 2004, asbestos was totally removed from their products in the different plants they have throughout the world. In 2009, Colombit renewed its corporate image and became Skinco Colombit, thus following a trend of a great deal of the companies which had been historically associated with Hatschek's discovery and patents.

Asbestos, health and Colombit's behavior

Throughout the documentation reviewed and the interviews made, it can be stated that the first cases of asbestos-related diseases in Colombit occurred in the 1980s²². On the one hand, a worker was diagnosed with occupational asthma due to asbestos, and several people were tested in a nationwide research study on the asbestos industry conducted by the Social Security Institute²³, and some workers tested positive. Apparently, this

22 It is noteworthy that, in the case of Eternit Colombiana (located in the municipality of Sibaté), studies had been carried out by official institutions as of 1957, and the first cases of asbestosis were diagnosed in 1971 (see Novoa and Demner, 1987).

23 Copies of some medical records show the tests were done in July 1986. The outcome was presented in the Colombian Congress of Occupational Health held in Medellín in 1994, under ASMEDAS Antioquia sponsorship, by Doctor Samuel Henao, chief of the Occupational Health di-

situation alarmed neither the company, or the workers; on the one hand, because the meaning of their pulmonary changes was not very clear, due to the few symptoms asbestosis produces in its first stages; on the other hand, because a response regarding its follow-up was generated within the frame of social security.

Nevertheless, in the early 1990s, the handling of the diseased workers was becoming a problem for the company; it was reflected in a memorandum, regarding a worker diagnosed with asbestosis, sent by the company's management to ISS in the following terms:

- A. The disease, as is already known, is irreversible, cumulative and progressive.
- B. It seems fair that the Company for which he has provided his services for 24 years, does not have to wait for the worker's condition to be grave, before sending him to enjoy his disability pension.
- C. In attention to worldwide acknowledged recommendations for these cases, the worker is to be 100% isolated from a labor environment with asbestos, which could only be effectively achieved if he retires from the Company.
- D. As you stated in your concept "in the present, there are neither technical nor clinical elements allowing the measurement of this patient's degree of disability", we believe that we should not humanely wait for the moment when the disease comes to a crisis, before seeking help for the worker.
- E. We also know there is no treatment, neither curative nor palliative for this kind of professional disease, which does not mean measures should not be implemented to guarantee a good quality of life for the patient, allowing him to enjoy and really live, while he is still in condition to do so.

vision of the Antioquia branch of ISS.

Due to the aforementioned, and from a humanitarian point of view, we resort, as businessmen, to whoever should help us to find a solution for such a delicate situation.

We beg that, with the assistance of the ISS multidisciplinary team, the case be studied as soon as possible. (Martínez, 1992:1-2).

ISS's response is framed within the criteria of the mandatory social insurance for labor accident and professional disease, but the worker's pension is not produced, thus generating a feeling of dissatisfaction among the workers and the company. But what generated a debate between company and workers was the issue of granting them the right to a *special old-age pension* after their exposure²⁴.

After attempting an agreement with the company for many years, the union resorted to a right of petition before the Ministry of Labor and Social Security²⁵, which was responded in the following terms²⁶: "in the case of workers laboring either in the production centers or directly in the factories, the sole presence of the risk factor (asbestos) at the workplace gives them the right to a special base of contribution as they are exposed to a carcinogenic substance".

24 This pension is generated after the acknowledgment of the likelihood among certain professions to lose potential years of life thus limiting the enjoyment of retirement. For this reason, the possibility of getting an early pension is proposed, if the established requirements are met. This option was incorporated by ISS in 1990, through Agreement 049 of February of 1990, by the National Council of Mandatory Social Insurance, and approved through Decree 758 of 1990. Law 100 of 1993 ratified the existence of such regime, and at first, it was regulated by Decree 1281 of 1994, which was submitted to an argument between Colombit and its workers, with participation of the labor union. Later, Decree 2090 of 2003 replaced Decree 1281.

25 Claimed by the president and the secretary of Colombit's union before the Direction of Professional Risks and dated May 5, 1998.

26 Response to the Right of Petition, dated August 13, 1998.

Given the requirement by the Regional Direction of Labor of certifying the company's situation with regard to paying an additional contribution referred to the old-age pension due to high risk, Colombit's manager said²⁷:

We are not in conditions to comply positively with the request, as some activities posing high risks for health, which are included in Decree Law 1281 of 1994, have not been regulated in the Colombian legislation. Thus, as long as a disposition is not issued regulating labor with exposure (to substances proven to be carcinogenic) Colombit is not qualified to issue the required certification (Montes, 1999:1).

The Caldas branch made a new requirement, and obtained the following response from the company:

Regarding the request filed... so that information could be delivered on the levels of exposure during the last 20 years, we must state that Colombit does not possess the data that refer to the prior period specified by the plaintiff.

[...] our current archive (covers) a six-year period. The occupational measurements have been voluntarily made by Colombit so far, they do not follow the requirement of any Law or Regulation, and have been timely released to the personnel. This, providing its documents to workers, is not an obligation imposed on the employer by the Substantive Labor Code or by the Internal Work Regulations in force (Montes, 1999a:1).

Once the governmental path to claim their right to a special old-age pension had been exhausted, and after one of the leaders of this claim for vindications was laid-off, three claims with the same purpose were filed by almost 45 workers from Colombit.

27 Memorandum dated June 8, 1999.

During the legal process, a physician from the company gave the following statement²⁸:

He was asked: Tell the office, from a medical point of view, are asbestosis, lung cancer and mesothelioma synonyms?

He answered: They are three complementary pathologies which are different from a medical and histological point of view: asbestosis means there are asbestos fibers inside the lungs; it has been classified, both in Colombia and in the International Labor Organization, as a pneumoconiosis. Lung cancer could be defined as a malignant degeneration of lung cells and tissue, and mesothelioma is a kind of cancer, of little occurrence, present in the pleura and/or peritoneum (Juzgado Segundo del Circuito, 2001: 6).

As a result of the company's strategy, the operative part of the three judgments was negative for workers²⁹:

There is evidence in the file indicating that the plaintiff workers indeed manipulated such a substance at the workplace. But to claim from there, that it was a substance "proved to be carcinogenic", is way too risky, as in order to consider the carcinogenic potential of a substance, not only should the concentration of the substance in the labor environment be born in mind, but also its relation to the worker's time of exposure to this substance, and no examination in that direction has been made in the process.

To conclude, there is no evidence leading to the conviction that "asbestos" is a substance proved to be carcinogenic... as, although it is true that witnesses claim it is, such statements are not very reliable, given that asbestos carcinogenicity cannot be detected with the naked eye; it requires scientific tests, which are clearly lacking in the file.

28 Legal file, continuation fourth process hearing. Second Labor Court of the Circuit, Manizales, July 3 of 2001.

29 Judgment 11 of 2003 from the First Labor Court of the Manizales Circuit, dated February 12, 2003.

[...] The conclusion is, then, that there were no activities at Colombit which implied high risk to the health of the plaintiff workers, as it is understood by Article 1 of Decree of Law 1281/94, or at least this claim could not be proven (Juzgado Primero Laboral del Circuito de Manizales, 2003: 14-15).

And if that is not enough, it was also stipulated that the plaintiff workers had to pay the legal expenses of the judicial processes, thus creating a precedent of fear of any attempt to sue the company.

Nevertheless, there was a group of workers with whom the company signed a conciliation agreement regarding the intended contribution aimed at the special pension, of which the contents is hereby presented, thus illustrating the company's position³⁰:

The worker was employed until August 15 of 1999, and the company considered it did not have to pay the 6% contribution for a special old-age pension which is dealt with by Decrees 1281 of 1994 and 2150 of 1995. Although the company works with chrysotile asbestos, this does not imply that there is actually a permanent exposure to the substance [...] given that working conditions are below the legal limit values, or Personal Protective Equipment is employed in case they are exceeded in a punctual case. The company states that CNRP (acronym in Spanish of National Council of Professional Risks) has not determined that the substances are proven to be carcinogenic, and there is no regulation referring to foreign dispositions, regulations, rules or institutions.

The company's position is based on the fundamental principle of risk prevention, on which the special contribution should be based. The contrary would imply the exposure and deterioration of workers' health in exchange of a monthly economic retribution,

30 Minutes of the transaction signed on March 23 of 2001, recording the conciliation agreement aimed at finally settling, with force of *res judicata*, the disagreements between Colombit and a worker.

which specifically clashes against its policy of safe and responsible use of asbestos (chrysotile).

The fact that the process is conducted in a wet environment and under suction, the levels of dusting are below the admissible limits, and the percentage of chrysotile is minimal with respect to the rest of raw materials, that there is an epidemiological watch system, that the chance of person's being exposed varies in each case, and that high standards of hygiene and industrial safety have been observed.

Given the failure to agree, the worker issued an ordinary large claim process which was notified on October 19 of 2000, whose knowledge corresponded to the Second Labor Court of the Manizales Circuit.

This transactional agreement implies that the company gives the worker a special, single amount of money as compensation for the contributions, current and moratorium interests, penalties; but given that such right is not certain and unarguable, the company accepts to pay \$2,500,000. With this sum, any obligation, with the worker, originating between July 22 of 1994 and the date of his retirement from the company, is settled, in regard to the special pension derived from Decree 1281 of 1994 (Colombit, 2001: 1-4).

Other arguments, which have been repeatedly put forward by the asbestos industry worldwide, are considered in this text to support that environmental measurements recording results below the admissible limit values assure the workers' health, when even the ILO has pointed out, in several occasions, that this interpretation is not accurate.

After this, the strategy followed by those workers who persisted in seeking the acknowledgment of their special pension, was to resort to petition rights before the Pension Funds and the ISS (Currently called *Colpensiones*), where this right had been repeatedly denied. As an example, the transcription of the arguments of one of the resolutions will be presented next³¹:

31 Resolution 2412, of May 5 of 2005, by the Caldas branch of the ISS.

That the company Colombit S.A. used asbestos of the amphibole and crocidolite kind until 1981, as of this date, it started using chrysotile, which is not epidemiologically related to the cancer generating asbestosis (sic).

That Colombit S.A. stopped making its special contribution in December 1981, when, as has been shown previously, it stopped using amphibole and crocidolite and started using chrysotile, a substance which is not associated with asbestosis (sic) (ISS, 2005:1).

The texts of these resolutions make it evident that, additionally, there was a grave confusion regarding the diseases associated with asbestos, as well as the claim of an alleged harmlessness of chrysotile, to the point of not only denying its carcinogenic potential, but its capability of producing asbestosis.

Recent attempts of workers to document the existence of this exposure to asbestos, and the right they have to a special pension due to high risk led, by means of petition rights, to the following statement by the company as a response to the Caldas Territorial Direction of the Ministry of Labor:

There is no record in our archives of the use of (amphibole, crocidolite, amosite asbestos) as raw materials by the Company.

The Company does not make special pension contributions for the performance of high risk activities, as given its working conditions, the conditions required in the regulations for the payment of such a contribution are not complied with.

It is worth noting that the latter was a matter of legal controversy before the ordinary labor jurisdiction through sentences:

- (i) Dated the twelfth (12) of February, 2003, from the Second Labor Court from the Manizales Circuit.
- (i) Dated the fourteenth (14) of February, 2003, from the Second Labor Court from the Manizales Circuit.

(i) Dated the thirtieth (30) of April, 2004, from the Third Labor Court from the Manizales Circuit.

Through these, the company was absolved of the pretensions of having it pay the aforementioned contribution; these sentences were confirmed by the Chamber of Labor of the Supreme Tribunal of Caldas (Llano, 2015: 3)

In spite of having the chance to document the process of the present research, an important number of ex-workers with diagnoses of professional disease, and a group of people deceased due to lung cancer, mesothelioma and other kinds of cancer, in different locations; only one case of a malignant mesothelioma, suffered by a former worker, could be documented, whose orientation by the company also generated a transactional agreement³²:

On January 17 of 2011, he was diagnosed by an immunohistochemistry report [...] with a malignant mesothelioma cancer, which could be caused, among other things, by having worked in the manufacture of products whose raw materials include asbestos. It is not possible to medically and scientifically determine with absolute certainty that this was the sole cause of the disease, or to establish a cause-effect relation.

The company claims that it acted within the legal guidelines and complied with all the rules intended to keep the worker from suffering from any disease resulting from the services he provided. They say the disease he suffers occurred almost six years after his dismissal, but it is also their purpose to reach a transactional agreement to avoid any future litigation.

The parties agreed, with the purpose of solving and avoiding an eventual conflict over uncertain and disputable rights, the payment of \$46,625,000. The uncertain and disputable rights violated may be either civil or labor rights and include, without excluding

32 Transactional agreement registered at the Second Notary's Office from Manizales, dated October 28, 2011.

any others, the ones related to material loss due to emerging damage and loss of profit, non-material damage, physiological damage and the loss of enjoyment of life, due to the disease suffered by the worker (Colombit, 2011: 1-3).

It is striking, although fathomable, that no lawsuits were filed in association with asbestos related diseases in Colombit, due to the bad experience workers had suffered in regard to the special pension, in spite of having references to cases both of asbestosis and cancer within this work group.

Conclusions

“Although it is true that what happened in the past cannot be undone, we have promoted a mandatory policy for all our companies in order to help victims of asbestos”: Etex Group.

Corporate social responsibility has been proposed as an action beyond the observance of the Law on the part of companies, in their contribution to social life.

The reconstruction, which has been achieved so far, shows a reluctance on the part of Colombit to comply with the existing social security regulation in Colombia, and its avoidance to acknowledge the victims of the use of asbestos.

Throughout this process, Colombit has resorted to the repertoire employed by the industry in other regions: denying the use of amosite and crocidolite, claiming that chrysotile is totally harmless, expressing that its use below the “admissible limits” is completely safe, and questioning the fact that the damages caused to victims are due to their exposure to asbestos (Báez Baquet, 2014).

Colombit’s social responsibility should assume the national social security regulations in regard to the acknowledgment of the special old-age pension of its workers and ex-workers who

were exposed to amosite, crocidolite and chrysotile; the company should contribute in a transparent way to the acknowledgment of the professional origin of asbestos related diseases suffered by their workers and ex-workers, so that they can access their rights.

But such social responsibility should also be expressed in the creation of a fund to repair the relatives of the deceased victims; the present diseased, both workers and ex-workers and their relatives, as well as the general population harmed by the exposure to products containing asbestos which were made by Colombit, especially construction workers.

This social responsibility should also be expressed in the company's funding of the replacement and adequate disposal of products and waste containing asbestos, until it ensures the effective control of all sources generated by them.

It is important to broaden social knowledge about the need to ban asbestos, but also about the importance of eliminating all sources of exposure in the products containing it, as well as in the acknowledgment and reparation on the part of the companies which economically profited from the degradation of the health of asbestos victims.

It is necessary to reveal the role played by expert knowledge in the undervaluation of problems generated by asbestos, and in the lack of compliance with rules aimed at the protection and safeguard of rights (Menéndez Navarro, 2011).

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WORKING CONDITIONS, PSYCHOSOCIAL DEMANDS AND THE HEALTH OF THE LATIN AMERICAN POPULATION¹

Viviola Gómez Ortiz²

Arturo Juárez García³

Introduction

According to the World Health Organization, globalization and changes in the nature of work may be aggravating work-related stress in Latin America (World Health Organization, 2007). As of 2007, there were not enough studies or laws, regulations or

1 Parts of this chapter were taken from the chapter entitled *Working conditions and effort-reward imbalance in Latin America*, written by Viviola Gómez and Arturo Juárez García, which was published in the book *Work Stress and Health in a Globalized Economy*, edited by Johannes Siegrist and Morten Wahrendorf.

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2 Psychologist, PhD, Associate Professor of the Department of Psychology, University of The Andes, Bogotá, Colombia.

Email address: vgomez@uniandes.edu.co

3 Psychologist, PhD, Full Time Research Professor at the Trans-disciplinary Research Center in Psychology at the Autonomous University of the State of Morelos (UAEM), Mexico City, Mexico.

Email address: arturojuarezg@hotmail.com

standards related to good practices regarding exposure to psychosocial risk factors. However, a recent study showed that occupational health and safety priorities have changed over the past decade in this region and point to both the need to monitor psychosocial risks and to address occupational stress, violence, workplace harassment and unhealthy behavior among other occupational risks (Kortume and Stavroula, 2014).

According to data from the Pan American Health Organization (PAHO), the workforce in the Americas comprises 484 million people, representing almost half of the total population, and Latin America and the Caribbean contribute 62.3% of the regional workforce, equivalent to more than 300 million people, many of whom “are exposed to hazardous working conditions ranging from exposures to chemical, physical and biological agents, ergonomic and psychological stressors leading to unsafe conditions” (OPS, 2015: 1).

This chapter will first present a brief description of the working conditions in this subcontinent during the last ten years. In this description, we consider it pertinent to highlight some data that may be indirect indicators of psychosocial risk factors, especially of effort and rewards, psychosocial conditions whose imbalance, according to one of the most relevant models of work-related stress⁴, hinders the satisfaction of psychosocial needs and could be a source of chronic stress and physical and mental health problems.

4 According to Siegrist (2004), the Effort-Reward-Imbalance (ERI-Model) model is based on the notion of social reciprocity, which is, *inter alia*, based on labor contracts: the worker performs certain tasks - invests some effort - in return for an adequate remuneration. According to the model, to satisfy a worker's basic psychosocial needs, remuneration should not only be monetary, but it should include recognition, possibilities for promotion and job security or job stability as a result of the work accomplished. When the assumption of reciprocity is not met, physical and psychological activation responses are generated in the worker, which, if prolonged, increase the risk of diseases in general.

In addition to the labor market conditions that may indicate a general imbalance between the efforts Latin American workers invest in their work and the rewards they receive in return, we consider it appropriate to provide a summary of the respective existing legislation to prevent or correct psychosocial conditions that cause stress. Finally, a brief overview of health conditions in the region will be described to show how these conditions begin to have a pattern similar to that observed in developed countries, where there is an increase in both chronic diseases and health problems whose relationship with stressful working conditions has been widely documented.

Thus, the objective of this chapter is to offer a general characterization of the labor market and working conditions in Latin America (particularly those related to the concepts of effort and reward), existing laws and regulations in relation to psychosocial risks and stress and, finally, some indicators of the health and well-being of the population.

Working conditions and employment in Latin America

Although the information on working conditions in this region is scarce, its link with the economic situation offers an approach to such conditions. In this sense, the history of changes in economic indicators in Latin America in terms of ups and downs is increasingly similar to the behavior of the world economy, due to the fusion of global financial markets and the increase of globalization in general, although it is clear that such indicators have been below those of developed economies, especially since the 1980s. Weller (2011) mentions that during the decade of 2000, particularly between 2003–2004, there was an economic growth that seemed to benefit the region by opening up a favorable context for employment generation and the improvement of working conditions, while there was an attempt to re-regulate the labor market; however, the financial crisis of

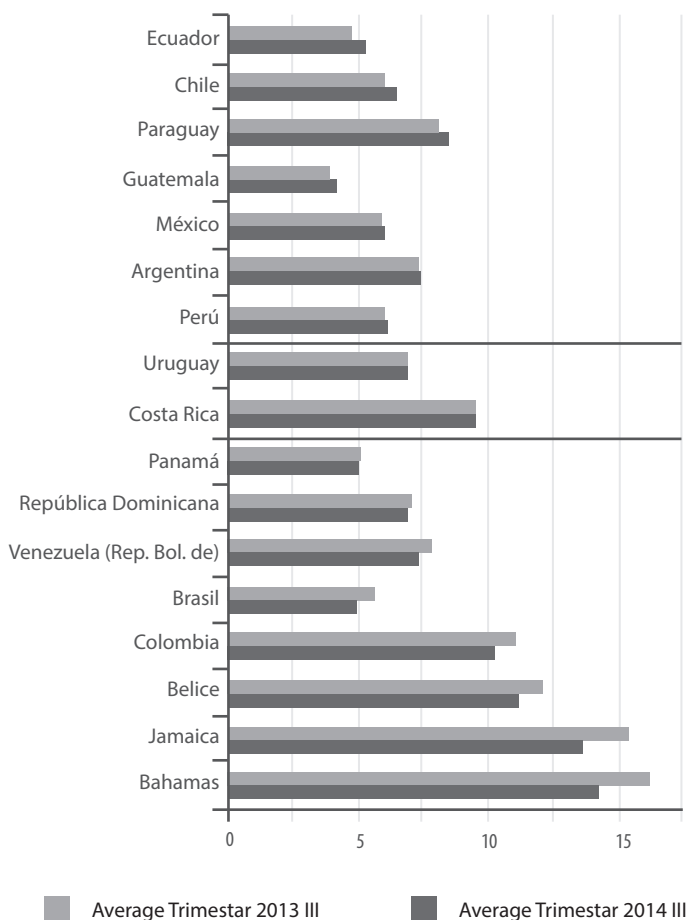
2008-2009 interrupted this improvement process, causing a decline in the indicators in which even some of them, such as the unemployment rate, returned to levels similar to those of the 1990s.

For the same author, four types of exclusion have taken place in the region: during the 1980s, the labor market exclusion (for example, lack of female incorporation) and exclusion from productive employment (lack of employment in highly productive sectors) prevailed, thus promoting the increase of urban informal employment; while the exclusion from employment (typical unemployment) and the exclusion from good quality employment (precarious work) have expanded since the 1990s to date.

Coinciding with Weller's proposals (2011), a recent report by the International Labor Organization (ILO) for the Latin American region concluded that despite apparent economic growth, there are still gaps in decent work due to precarious employment conditions, including income insecurity, declining social protection and high turnover rates (ILO, 2012). More recently, the report on the labor situation of Latin America and the Caribbean in 2014 asserts that the situation is marked by a slowdown in economic growth, where uncertainty and concern prevail (ILO, 2014). These latest figures indicate that the urban occupation rate is 52.6% throughout the region, and the trend is aggravated depending on vulnerable groups, in particular, gender or age discrimination, as the participation rate is 30% below in the case of women and young people aged 15-24 face unemployment rates 2 or 4 times higher than adults. The urban unemployment rate reaches an average of 6.1% a year for Latin America and the Caribbean, which represents about 15 million unemployed people, only in urban areas. It is important to note that Guatemala, Panama and Brazil have the lowest unemployment rates, while the Bahamas, Jamaica and Belize have the highest unemployment rates, with no major differences in recent years (see Figure 1).

Figure 1

Percentage of urban unemployment in Latin American countries between January 2013 and September 2014



Source: OIT (2014)

The report also recognizes that global crises have a significant impact on this region, and that beyond unemployment there are problems related to the quality of employment, as there are 130 million people in informal employment conditions, which means working conditions without any kind of social protection and precariousness in general (ILO, 2014). As is well known, an average rate of 47.7% of informal workers is estimated throughout the region, although there also appear to be considerable differences between countries, as it is reported that in countries such as Honduras, Bolivia or Peru the rate is around 70%, while in Chile, Venezuela and Argentina it is between 40 and 50%, figures that remain alarming (International Labor Organization, 2012).

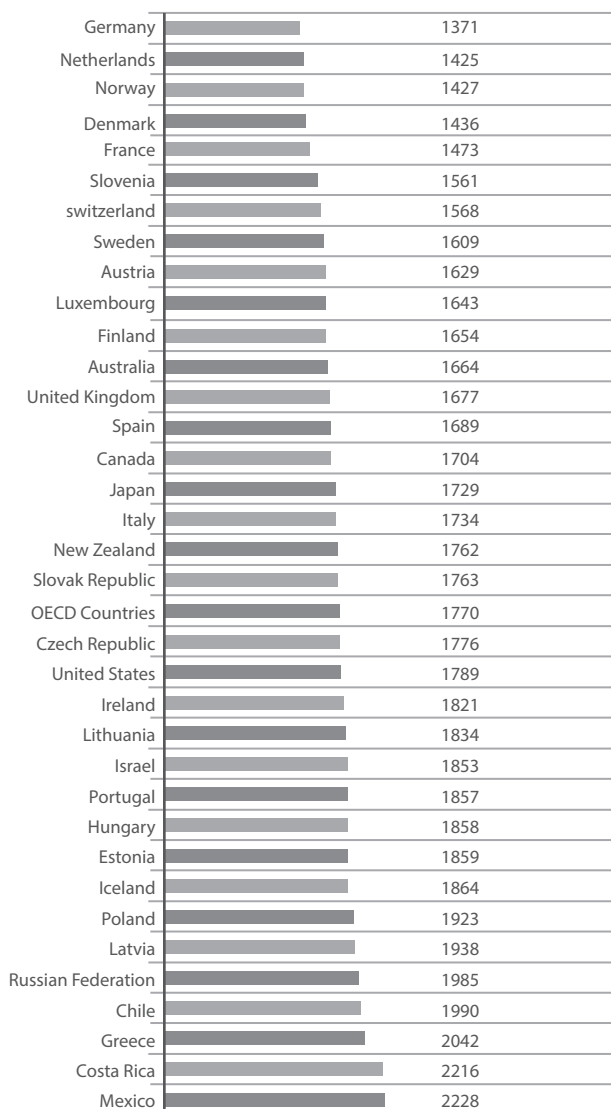
In its report on Decent Work in the Americas, the ILO points out that the structure of labor markets in Latin America is characterized as being fragmented because almost one third of the total labor market is in rural areas, and in addition, more than half of the jobs correspond to self-employed workers, domestic workers, unpaid family workers, or employees in microenterprises with up to five workers, where poverty, informality and the decent work deficit in the region are concentrated (ILO, 2006).

On the other hand, although informal work seems to be an element of precariousness that characterizes the labor force in Latin America, formal work also has very particular characteristics if we analyze the typical production models and systems of work organization in the region. For example, while in developed countries the inherent forms of a deeply hierarchical and rigid division of labor (Taylorism) have gradually been abandoned, and mass production has been transformed by means of automation and technological and communication advances towards highly flexible labor models (*Tōyotism*, *total quality*, etc.), in Latin America the forms of work organization still continue in the old Taylorist-Fordist tradition, although at the same time

practices of the labor flexibility model and the *Tōyotism* of the developed countries coexist (which cannot be materialized due to the technological lag), thus generating mixed productive experiences that determine the quality of employment in the region (Rodríguez and Mendoza, 2007). This combination also means a mixture of stressful demands on each system, turning all that into a psychosocial exposure that might be unique, and which would need further investigation.

Clearly, the indicators of employment quality are directly linked to concepts of the Effort/Reward model, and are reflected in topics such as overtime, length of working days, wages and job stability, among others. There is some data available that provide a complementary overview of these working conditions in Latin American countries. For example, according to data from the Organization for Economic Co-operation and Development (OECD), the only three Latin American members of this organization, together with Greece, have the highest working hours compared to other member countries; figure 2 shows that Mexico is in first place with 2228 hours, Costa Rica in second place with 2216 hours and Chile in fourth place with 1990 hours (OECD, 2015). Likewise, a global survey on the percentage of overtime workers shows Peru as the leader in the list with more than 50% of its labor force working more than 48 hours a week, while Argentina and Mexico show around 30% (ILO, 2007).

This demonstrates that it is not only Asians who devote more time to work (consider that not all Latin American countries are in these benchmarks by the OECD), but also that globalization has encouraged developed countries to export work to Latin America with special demands. As an example, it is worth mentioning that since 2010, Mexico is in first place for average annual hours worked in the international benchmark, at the same time that the Mexican government highlights important economic growth in the industry (Anonymous, 2013).

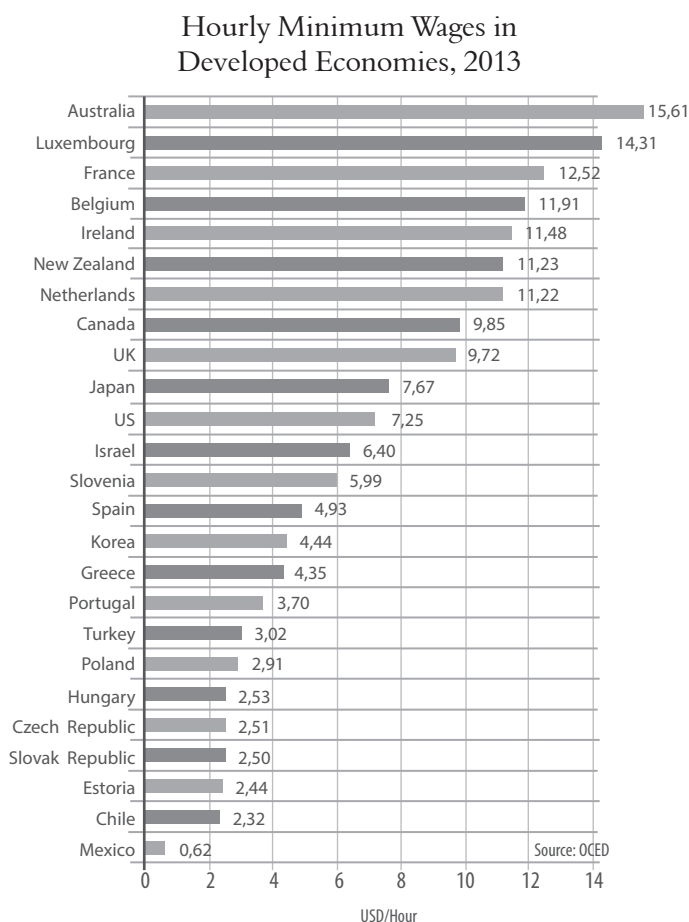
Figure 2**Average annual working hours per worker**

Source: OECD (2015)

Regarding wages, the trend is just the opposite to that shown in the issue of working hours, as the wages benchmark in OECD member countries, since 2013, shows that Mexico and Chile are the countries with the lowest minimum wage per hour (OECD, 2015), as can be seen in figure 3.

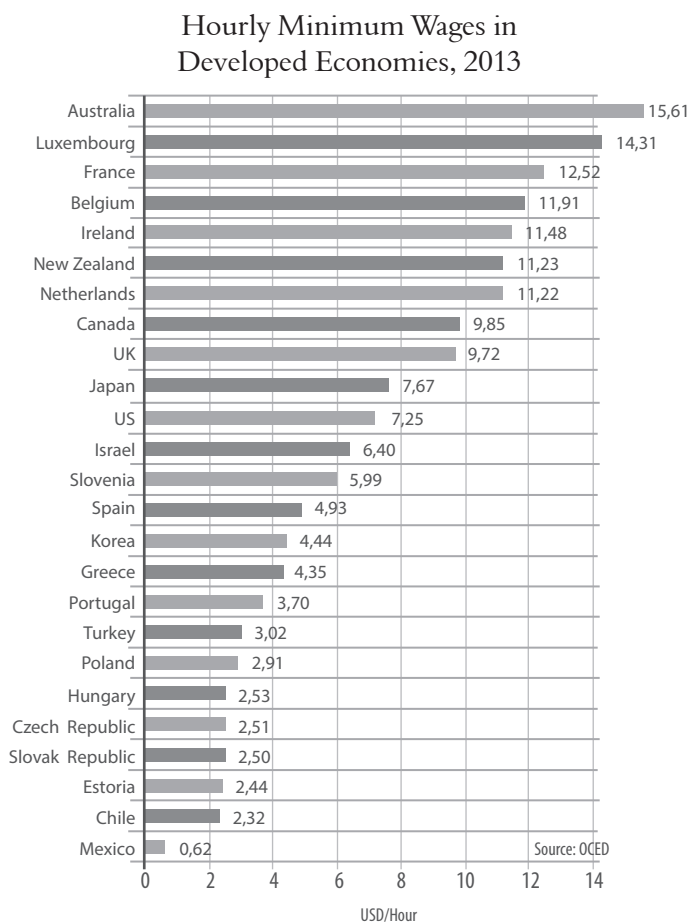
Figure 3

Hourly minimum wages in developed economies, 2013



Source: OECD

This tendency has been evident since before 2013 and is consistent with other international surveys involving more Latin American countries, for example, a global wage survey (in terms of parity and purchasing power) conducted by the ILO in 72 countries shows that several Latin American countries have wages below the international monthly average, and especially Argentina, Chile, Brazil, Colombia and Mexico are below the world average that in 2012 was USD1480 (Alexander, 2012). This wage situation for Latin America and other countries is shown in Figure 4.

Figure 4**Comparative chart of average monthly salaries in a 72-country global survey (2012)**

Source: Alexander (2012)

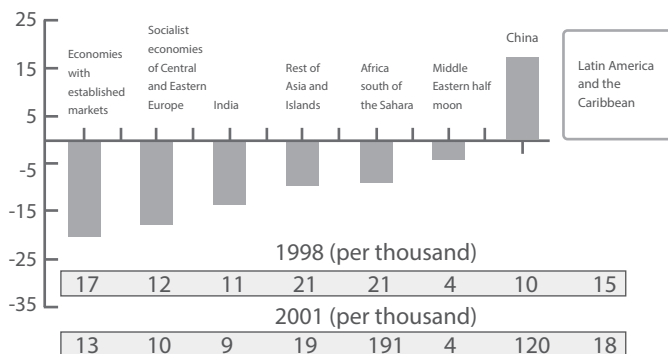
As for the issue of fundamental labor rights, there are large gaps in Latin America that are not covered in issues such as

freedom of association and collective bargaining, forced labor, child labor and discrimination. For example, in this region we find 5.7% of the world's total number of complaints about freedom of association, 29% of dismissals contrary to freedom of association, 10% forced labor, 5.1% of world rate for child labor, and the highest rate of discrimination by sex or ethnic origin (ILO, 2006).

Finally, although the worldwide trend in mortality due to occupational accidents has declined overall, there are only two exceptions: China and Latin America; moreover, only in these regions did the mortality from occupational diseases and accidents increase between 1998 and 2001. Workers with less protection are in microenterprises, the informal economy and in sectors such as agriculture, fisheries, mining and construction (ILO, 2006). In 2006, there were 7.6 million accidents at work in the region, reflecting the areas of opportunity for working conditions in Latin America and the Caribbean.

Figure 5

Global variation in mortality due to occupational diseases and accidents in the period 1998-2001 (percentage change)



Source: OIT (2006)

In line with all of the above, the findings of a recent report by the Pan American Health Organization (PAHO) show that conditions of employment (wages, unemployment, social protection, among others) and working conditions (hazards and risks in the workplace), both considered social determinants of health, changed during the last 15 years due to the transformation processes that occurred in the world of labor, leaving multiple inequities for worker health in Latin America (Pan American Health Organization PAHO, 2013).

Advances in legislation on psychosocial risks and stress in Latin America

Although with areas of opportunity in practice, undoubtedly all labor laws in Latin America include the right to decent work and freedom from general risks that affect health, but particularly in the last 10 years there has been an important improvement in the regulations and legislation on the specific subject of psychosocial risks of stress and work organization. The growing research on psychosocial risks at the international level, coupled with that in the region, but especially changes in policy and recommendations given by global organizations such as the ILO and the World Health Organization (WHO), were, perhaps, important influences for this progress.

Basically, the regulations have evolved in two aspects. First, the one concerning the field of occupational risks for health and safety, where, in addition to physical and chemical risks, psychosocial issues have finally been included; on the other hand, the one related to psychological workplace harassment, which arises in independent regulations. The latter aspect is the one with the greatest legislative development, not only because there seem to be more laws in this area and more countries that have implemented them, but because the criteria for their determination and prevention seem to be increasingly widespread. In some countries, for example, there are no regulations

on psychosocial risks in general, but they do have them on workplace harassment (see Table 1).

In respect of the regulations identified, these have a marked focus towards prevention and the monitoring of psychosocial risk factors at work, and among the recognized risks that appear most frequently in these rules or regulations are the work demands in different meanings, such as control, participation or autonomy at work, interpersonal relationships with peers and with the boss, leadership, organizational justice, rewards or recognition, work-family reconciliation, and insecurity in job retention, among the main ones. The theoretical basis of some of these regulations (for example in Colombia and Mexico) is rooted either in the *demand/control* model or in the *effort/reward imbalance* model as its conceptual basis, although other dimensions from other theoretical models are clearly incorporated, and some which are not stressed by any theoretical model.

Table 1

Legislation, articles and decrees related to psychosocial factors in Latin America

Country	Legislation, Articles or Decrees	Year	Subject included	Reference
Colombia	Law 1010	2006	Workplace harassment	Congreso de Colombia (Congress of Colombia) (2006).
	Resolution 2646	2008	Psychosocial risks	Ministerio de la Protección Social (Ministry of Health and Social Protection) (2008).

Argentina	Law 13168	2003	Workplace violence	Senado y Cámara de Diputados de la Provincia de Buenos Aires (Senate and Chamber of Deputies of the Province of Buenos Aires) (2003).
Chile	Law 20607	2012	Workplace harassment	Dirección del Trabajo (Labor Office) (2012).
	Resolution 2018	2013	Psychosocial risk assessment tool	Departamento de Salud Ocupacional del Instituto de Salud Pública de Chile (Department of Occupational Health of the Institute of Public Health of Chile) (2013).
Uruguay	Law 18561	2009	Workplace Moral Violence	Senado y Cámara de Representantes de la República Oriental del Uruguay (Senate and House of Representatives of the Oriental Republic of Uruguay) (2009).
Puerto Rico	Project	2014	Workplace harassment	Senatorial project 501 (2014)
Brasil	Law 2120 (Ubatuba)	2001	Moral harassment	Câmara Municipal de Ubatuba (Ubatuba Municipal Chamber) (2001).
	12561 (Rio Grande do sul)			Asamblea Legislativa de Rio Grande do Sul (Legislative Assembly of Rio Grande do Sul) (2006).

Venezuela	Art. 56.5 LOPCYMAT	2005	Psychosocial factors Workplace Harassment	Asamblea Nacional de la República Bolivariana de Venezuela (National Assembly of the Bolivarian Republic of Venezuela) (2005).
Perú	Decreto: N° 005- 2012-TR. Ley N° 29783	2012	Psychosocial risks	Ley de Seguridad y Salud en el Trabajo (Occupational Safety and Health Act) (2012).
México	Criteria of the Supreme Court Federal Health and Safety Regulations at Work Proyecto de Norma Oficial Mexicana (en proceso) Draft Official Mexican Standard (in process)	2012 2013 2015	Workplace Harassment Psychosocial risks Psychosocial risks	Coordinación de Derechos Humanos y Asesoría de la Presidencia/Suprema Corte de Justicia de la Nación (2012). (Coordination of Human Rights and Counseling of the Presidency / Supreme Court of Justice of the Nation) (2012). Secretaría de Gobernación (2014). (Ministry of the Interior) (2014).

Health and welfare in the Latin American region

The relationship between income inequality and psychiatric disorders in both developed and developing countries has been well documented (Wilkison and Pickett, 2006, Patel and Kleinman, 2003). Therefore, to describe general health conditions in

the region, it is helpful to provide data on mental/psychiatric disorders there. It is also important to describe, not only some data on these disorders in the Latin American population, but also some indicators that could be related to the current labor market and its new stressors such as cardiovascular diseases and non-communicable (chronic degenerative) diseases, as well as mortality in general (Kivimaki, Aguilar Gaxiola and Alonso, 2012, Landsbergis, Dobson and Koutsouras, 2013, Leka and Jain, 2010, World Health Organization (WHO), 2003).

To begin with, it is worth noting that although Latin America is not the poorest region in the world, it is one of the less equitable, one of the most unfair, with the worst distribution of wealth, which is reflected in a poor health “distribution” (Comisión Económica para América Latina y el Caribe, CEPAL, 2015) (Economic Commission for Latin America and the Caribbean - ECLAC). Using the historical record of the Gini index as an indicator of inequality around the world, some analyses indicate that, with the exception of some African countries and China, the American continent, in general, seems to be the most unequal, with Latin American countries and the United States standing out (Hillebrand, World Bank, 2014, Quandt, 2015). In terms of mental health, the *World Mental Health (WMH) Survey Initiative* of the WHO presents studies where highly unequal countries such as Colombia and Mexico, as well as the United States, show a prevalence of mental disorders, which are some of the highest among 14 countries studied in 4 continents (17.8%, 12.2% and 26.3%, respectively); however, it is noteworthy that less unequal countries such as France and Holland also have a high prevalence of these disorders (18.4% and 14.8%) (Demyttenaere *et al.*, 2004, Kessler *et al.*, 2009).

Regarding mental health, it is necessary to point out that in all Latin American countries, mental or neuro-psychiatric disorders are the most prevalent. Depressive disorders have been

increasing worldwide, so much so that the WHO predicts that by 2020 they will be the second cause of disability after diseases such as heart attacks, coronary insufficiency or strokes. Mental problems are also an important source of disability, which we know is related to stress (DeVries and Wilkerson, 2003, WHO and International Labor Organization (ILO), 2002, Stansfeld and Candy, 2006). Table 3 gives an idea of how much these problems are contributing to the years of life lost or lived with disability. Regarding the indicator of “total disability-adjusted life years” (DALYs), Chile stands out with the highest percentage (see Table 2).

Table 2

**Percentage of contribution to total disability
- adjusted years of life (DALYs) of all
neuropsychiatric disorders, some psychiatric
disorders, self - inflicted injuries and violence, per
country 2002.**

Country	Neuropsychiatric Disorders	Unipolar depressive disorder	Bipolar disorder	Schizophrenia	Panic disorder	Obsessive-compulsive disorder
Argentina	22,7	7,3	1,3	1,6	0,6	0,7
Bolivia	15,1	4,4	0,8	1	0,4	0,4
Brazil	22	7,8	1,2	1,4	0,6	0,6
Chile	30,5	9,9	1,5	1,8	0,7	0,8

Colombia	21,7	6,4	1,2	1,4	0,6	0,6
Costa Rica	27,9	9,1	1,7	2,1	0,8	0,9
Cuba	25,1	9,3	1,4	1,7	0,6	0,9
Ecuador	22,5	6,8	1,3	1,6	0,6	0,7
El Salvador	19,9	5,8	1,2	1,4	0,6	0,6
Guatemala	16,1	4,8	1	1,2	0,5	0,5
Honduras	17,8	5,4	1,2	1,4	0,6	0,6
Mexico	24,5	5,8	1,6	1,9	0,8	0,8
Nicaragua	20,8	6,5	1,4	1,6	0,7	0,6
Panama	25,6	8,3	1,6	1,9	0,7	0,8
Paraguay	22,6	6,4	1,3	1,6	0,6	0,7
Peru	20,9	6,5	1,2	1,5	0,6	0,6
Dominican Republic	19,3	6,3	1,2	1,5	0,6	0,6
Uruguay	24,7	7,3	1,2	1,5	0,6	0,7
Venezuela	23,8	7,4	1,4	1,7	0,7	0,7

Source: Kohn y Rodríguez (2009)

With respect to the main causes of mortality, there are similarities between the developed countries and Latin America, with cardiovascular diseases being “the most lethal” worldwide in the last decade, with more than 14 million deaths a year

(WHO, 2015). Ischemic heart diseases account for 8.96% of the causes of death in the region (see Table 3).

Table 3

25 Principal causes of death in Latin American countries⁵ in people between 15 and 74 years old (2009-2013)

Causes of death	Percentage
Ischemic heart disease	8,96%
Mellitus diabetes	7,14%
Homicide Aggressions	6,87%
Cerebrovascular Diseases	6,11%
Ground Transportation Accidents	4,91%
Cirrhosis and other liver diseases	4,52%
Influenza and pneumonia	3,04%
Malignant neoplasm of trachea, bronchus or lung	2,80%
Hypertensive diseases	2,64%
Chronic diseases of the lower respiratory tract	2,33%

5 Argentina, Brasil, Bolivia, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay, Venezuela.

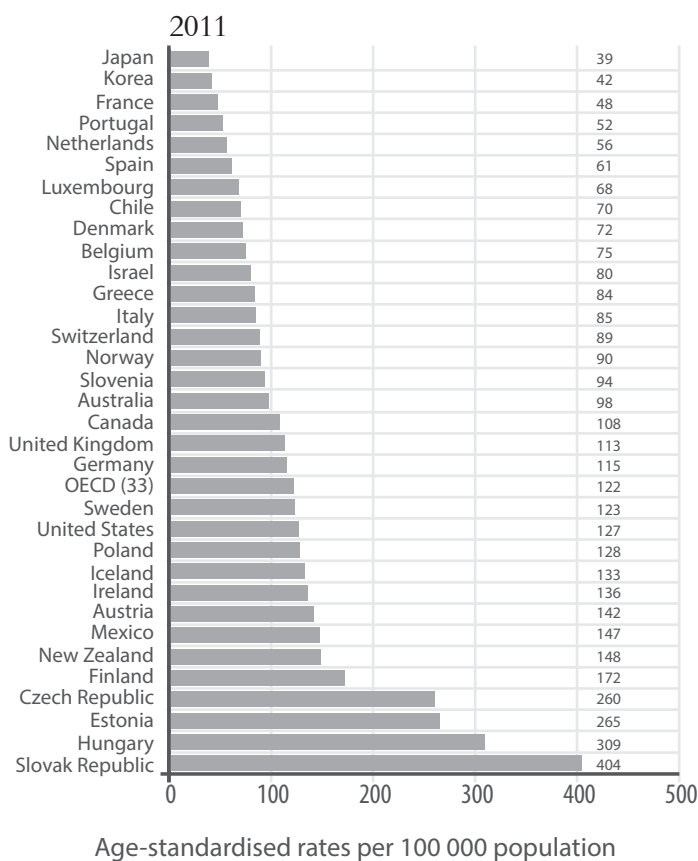
Urinary system diseases	2,26%
Heart failure, complications and ill-defined heart diseases	2,15%
Intentional self- inflicted injuries Suicides	1,66%
Human immunodeficiency virus (HIV) disease	1,62%
Malignant neoplasm of the stomach	1,61%
Malignant neoplasm of female breast	1,60%
Malignant neoplasm of lymphatic, hematopoietic, and related tissues	1,57%
Malignant neoplasm of colon, sigmoid, rectum and anus	1,41%
Events of undetermined intention	1,29%
Malignant neoplasm of uterus	1,25%
Septicemia	1,14%
Malignant neoplasm of liver and intrahepatic bile ducts	0,98%
Malignant neoplasm of the pancreas	0,85%
Acute respiratory diseases (different from influenza or pneumonia)	0,85%
Mental and behavioral disorders due to the use of psychoactive substances	0,83%

Source: Pan American Health Organization (PAHO), 2013

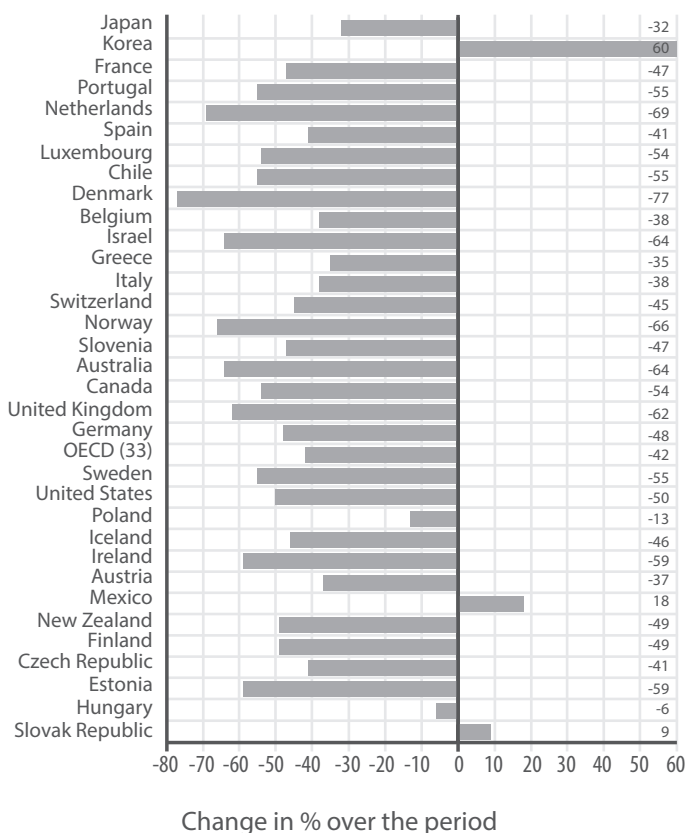
Compared to other countries in the Americas, in terms of the working age population, the United States and Canada have the highest rate of ischemic heart disease (13.12%); however, chronic problems such as diabetes, cerebrovascular diseases and hypertensive diseases cause more deaths in Latin America than in the USA and Canada (3.27%, 3.51%, and 2.18% respectively) (PAHO, 2012). In fact, a recent OECD comparative report on diabetes among adults aged 20 to 79 shows that two Latin American countries (Mexico and Brazil) rank first and second with the highest prevalence: 15.9% and 10.4%, respectively. Similarly, these countries have almost 10 years less life expectancy at birth than the more developed countries (73 years) and Mexico ranks second in international obesity only after the United States (OECD, 2013). The same survey shows that when comparing ischemic heart disease among countries, although Mexico does not have the highest rate of deaths due to this cause, it does display the highest percentage change in the trend from 1990 to 2011, which means that these diseases appear to show very important increases in this region (see Figure 6).

Figure 6**Ischemic heart disease mortality in 2011 and its change between 1990 and 2011**

Ischemic heart disease mortality, 2011 and
change 1990-2011 (or nearest year)



Change 1990 - 2011



Source: OECD (2013)

Likewise, because poor living habits and stress (of work and non-labor origin) play an important role in their origin, non-communicable diseases can be a good indicator of Latin American workers' health. As shown in Table 4, the prevalence of non-communicable diseases, including hypertension and type 2 diabetes in adults, varies markedly across countries. Guatemala seems to be an extreme where all percentages are

low while Argentina, Chile, Mexico and Uruguay, on the other hand, show the highest statistics in general and appear to be closer to those found in European countries or North America.

Table 4

Prevalence of Non-Communicable Diseases (NCDs) and the mortality they cause

	Age-standardized mortality rate for all NCDs (per 100,000 inhabitants in 2008)		Percentage of deaths caused by NCDs	Prevalence of hypertension in adults (%)		Prevalence of type 2 diabetes in adults (%)	
Countries	Men	Women		Men	Women	Men	Women
Central America							
Costa Rica	431	333	81	26	25	8	8
El Salvador	539	449	67	21	19	9	7
Guatemala	503	421	47	13	14	9	8
Mexico	543	412	78	32	31	20	.
South America							
Argentina	613	366	80	32	33	8	10
Brazil	614	428	74	22	25	5	6
Chile	501	313	83	29	25	8	10
Colombia	438	351	66	28	19	3	2
Ecuador	434	336	65	43	35	.	.
Peru	408	339	60	38	31	.	.
Uruguay	651	378	87	33	31	6	5

Source: Population Reference Bureau (2013)

It is a fact that there are not enough studies to explain the reasons for the differences in the prevalence of non-communicable diseases among Latin American countries, and between these and other countries of the world. However, it could be speculated that dietary patterns, which are socially and culturally determined, may play a relevant role, as Mexico, Argentina, Chile and Uruguay are among the countries that consume the highest number of calories per capita in the region (Bermudez and Tucker, 2003). Although it is not possible to make statements about the origin of these problems, these data are presented in this context because it is worth recalling that work stress has been related to both hypertension and type 2 diabetes and poor eating habits and low levels of physical activity (Ross *et al.*, 2007; Devine *et al.*, 2003; Lowden *et al.*, 2010).

Conclusions

We have presented data that permit the affirmation that the employment conditions in Latin American countries are characterized by greater exclusion (mainly of women and young people) and greater precariousness compared to developed countries. We can also say that in our context there are limitations on the generation of decent jobs, and there are large gaps not covered in issues such as freedom of association and collective bargaining, forced labor, child labor and discrimination. One of the most alarming problems is that about 40-50% of the labor force is concentrated in informality, which displays an upward trend, which increases precariousness and further increases the decent work deficits.

On the other hand, we can affirm that, in Latin America, there are models of work organization and unique productive systems that involve the combination of modern and old designs with possible differential impacts on health unlike what happens in regions where the systems of work are more modern. All these data allow us to affirm that in Latin America there are more adverse specific working conditions than in developed

countries: higher working hours, lower wages and greater labor insecurity. Together with China, Latin America is the region with the highest increase in mortality due to diseases and accidents at work, reflecting these adverse working conditions.

Some of the most prevalent indicators of morbidity and mortality in Latin America have patterns that characterize countries with economic inequality or those that had more prevalent health problems (such as hypertension) in the past, which have declined due to, among other things, the implementation of preventive measures for work stress; in Latin America, there is a high prevalence of chronic and non-communicable diseases, which have been abundantly associated with work-related stress.

However, despite the not-so-positive outlook we have described, there is reason to be optimistic given that recent advances have been made in legislation concerning psychosocial risks in a number of countries in the region, particularly in relation to *workplace harassment*, which can promote greater vigilance and control of these risks in the future.

Given the lack of comparable surveys across the region, based on representative population samples, if we accept that the indicators described in this paper reflect the psychosocial exposure in terms of effort and reward in Latin American workers, there would be good reasons to suspect that they are experiencing high levels of work-related stress. Thus, we would affirm that the processes of globalization are significantly affecting both working conditions in the sub-region and health conditions. That is why in our perspective about the future we see the need to raise awareness among employers and employees about the relationship between working conditions and health. Only then will it be possible for workers to demand prevention and employers to be motivated to implement preventive measures. After all, the greatest labor resource is always a team of healthy and motivated workers that give their best.

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