

The Role of Insurance in the Prevention of Work-Related Accidents in France in the First Half of the 20th Century (*)

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SUMMARY

1.—Manufacturers' associations and the prevention of risks at work. 2.—Compensation law of 1898, the insurance industry and the beginnings of State involvement. 3.—1946: The turning point.

ABSTRACT

Insurance has played a role in the development of prevention of work-related accidents in several ways in France since the industrial revolution. The first attempts at prevention were taken at the initiative of manufacturers' associations, but it remained a matter of goodwill for manufacturers. The 1898 law gave systematic, if partial, financial responsibility for occupational hazards to employers, who turned to insurance companies to carry the risks. As a result a new branch of insurance (*assurance-tol*) appeared, which accounted for 40% of general accident revenue for companies at the time of World War II. But the new law made no mention of prevention and even had a negative impact, since compensation was taken care of by insurance. However, after World War I, insurance companies created an association for the prevention of work-related accidents and illnesses and started to adjust rates according to the prevention efforts of corporations. When social insurance was generalized in 1946, insurance of occupational hazards went under state control and became compulsory. But the experience accumulated in the field of prevention by insurance companies was put to use in this new context, both on the technical side and the financial side.

BIBLID [0211-9536(1998) 18; 447-463]

Fecha de aceptación: 6 de abril de 1998

(*) A first draft of this paper was presented at the Second European Social History Conference, Amsterdam, March 7th, 1998.

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The history of the prevention of accidents at work, as studied in the framework of the general history of insurance (1), shows the efforts that have taken place from the side of industry as well as the state to reduce risks by technical and financial measures, the level of rates being adjusted according to the performance of factories on the matter of workers' safety.

This paper is a by-product of an ongoing research project on the history of prevention of accidents at work by Michèle Ruffat and Vincent Viet, to be published at the end of 1998. It analyses the role that manufacturers' associations first, then insurance companies, then the state after World War II have played in the development of those efforts. It seeks to define how and to what extent the insurance industry has contributed to innovation in that field, in various legal and institutional setups.

1. MANUFACTURERS' ASSOCIATIONS AND THE PREVENTION OF RISKS AT WORK

In France, insurance for occupational hazards appeared in the second half of the 19th century, in the wake of the industrial revolution which introduced steam and electricity as new sources of energy and multiplied the number of factories and the scope of their activity, hence the frequency of accidents. It developed as a diversification of the activities of general accident insurance companies, often themselves an offshoot of traditional fire insurance companies.

(1) Historical research on the field of insurance has taken a new start in France in the last ten years in the wake of François EWALD's seminal work *L'État Providence* (Grasset, 1986). A spate of books on the history of several companies that had been nationalized in 1946 have been published, a new academic journal, *Risques*, was launched, with a bent toward history, and a state-of-the-art *Encyclopédie de l'assurance*, François EWALD and Jean-Hervé LORENZI (eds.), Economica, was published in 1998. The history of the prevention of accidents at work has been a rather neglected area of research so far. See the special issue on «La sécurité dans l'industrie», *Entreprises et Histoire*, n° 17, december 1997, and RUFFAT, Michèle; LAGUERRE, Bernard. L'histoire de l'assurance. Orientation bibliographique, *Bulletin de l'IHTP*, 1990, 42.

Concern for occupational hazards in industrial circles and interest in their prevention were greatly stimulated by studies on the social situation that were made under the regime of the Monarchie de Juillet, after the spread of workers' revolts in the 1830's and 1840's. In 1850 Dr. Louis René Villermé published a study on accidents due to mechanical devices in industrial workshops (2) after his famous 1840 report on the physical and moral condition of workers in the cotton, wool and silk industries (3). The author drew attention to «the great proportion of deaths and mutilations which (were) caused by steam engines». The facts and figures he disclosed from an administration-led inquiry carried out in the north of France could not be dismissed and came as a shock. Moreover, he showed that accidents could be greatly reduced by technical devices and simple rules. He concluded that «everything remains to be done in France in that area» (4) and called for the enactment of regulations and the setting up of administrative inspection of factories.

Societies for the prevention of such accidents soon sprung up in several industrial areas, probably as much from a fear of government interference as from the necessity to take into account the growing social unrest that had led to the Revolution of 1848 and the overthrow of the monarchy. A few sectors organized their own insurance operations on a mutual basis: construction, a high risk activity, launched in 1859 the *Société Mutuelle d'Assurances de la Chambre de Maçonnerie*, the first employers' association for the compensation of occupational accidents, which wrote into its statutes that members were to comply with the rules it would develop for the prevention of accidents (5). Between 1865 and 1877, several trades in the same field organized along the same lines.

Mutualization of risks among corporative structures could indeed be an answer to the problem, since it introduced the principle of

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- (2) VILLERMÉ, Louis-René. Mémoire sur les accidents produits par les appareils recevant l'impulsion des moteurs à vapeur. *Journal des Economistes*, octobre 1850.
 - (3) VILLERMÉ, Louis-René. *Tableau de l'état physique et moral des ouvriers employés dans les manufactures de coton, de laine et de soie*, 2 vols, Paris, Renouard, 1840.
 - (4) The first law on the protection of workers bore on child labor. It was voted on March 17, 1841 but was never implemented.
 - (5) CALONI, Pierre. *Échec au risque*, Paris, Société d'Éditions françaises et internationales, 1952, (p. 10).

obligation of insurance for their members and a strong financial incitement to lower the frequency of accidents and to take preventive action. But such arrangements were only tolerated since the Le Chapelier law theoretically forbade the formation of any groups on a professional basis until 1884. Besides, the idea of compulsory insurance was hotly debated and quite foreign to a liberal Establishment that insisted on freedom in those matters, which was supposed to be at the heart of the French perspective (6).

Prevention got its first stronghold in industrial circles as a natural part of the movement which developed in the second half of the century among the elite who saw the need for social reform and began to set up various forms of social institutions inspired by catholic thinkers like Le Play. It was also encouraged by Napoleon III who boasted a social conscience. It was a popular theme at the first *Exposition d'Économie sociale et de prévention* set up at the initiative of Le Play in 1867 and in the many exhibitions which followed. They offered showcases for preventive devices and therefore stimulated their use, provided forums for exchange of ideas and experiences and gave opportunities to the associations specialized in the field to publicize their activities. The material gathered for those occasions was later bought by the Ministry of Commerce and Industry, headed at the time by Jules Siegfried, for permanent exhibit in the Museum for prevention of accidents that was founded in 1895 at the initiative of the group of social reformers he belonged to.

The first business association which set prevention as its goal appeared in Mulhouse in the textile industry at the initiative of the paragon of philanthropy Engel Dollfus, who took action according to his much touted conviction that «employers owe more than a salary to their workers: their duty is to take care of their physical and moral welfare» (7). In Rouen the *Association normande pour prévenir les accidents du travail* was founded in 1879. In Paris in 1883, the *Association des Industriels de France*

(6) Congrès international des accidents du travail et des assurances sociales, 4th session, Brussels, 1897.

(7) ENGEL-DOLLFUS, Société Industrielle de Mulhouse, *Rapport présenté au nom du Comité d'utilité publique sur la question des accidents produits par les appareils recevant l'impulsion de la vapeur*, Feb. 23, 1867 session.

contre les Accidents du travail was an initiative of the steam machines industry, which had a bad record of accidents from explosions. It spread rapidly: Five years later, it had 1400 factories as members in 67 local chapters, covering 160.000 workers (8). The *Association des Industriels du Nord de la France* followed in 1894. The AIF claimed to control the working conditions of 300.000 workers in 1905, and the associations which covered the North of France and Normandy 200.000 (9). Such associations acted as a catalyst for technical expertise and propaganda efforts to promote prevention.

Their link with the insurance industry was at first indirect, if tangible. As Georges Hamon pointed out in his 1897 *General History of Insurance*, manufacturers had various reasons to join those associations. The first, quite obviously, was to get help to reduce the frequency of accidents in their factory. The second was to create some goodwill in their favour from the judges if taken to court by their employees in case of an accident. The third was to keep at the lowest possible level the insurance premiums, which would come as a result of the reduction of the number of accidents, and the fourth, which summed up all the others, was to help ward off the meddling of government in workshops already under the watchful eye of associations specialized in prevention—this was the period when the extension of the tasks of inspectors from the Ministry of Labor to the field of prevention was discussed and finally written into law in 1893.

The 1867 law which permitted the creation of limited liability companies without authorization had a stimulating effect on the creation of general accident companies, which often included occupational hazards. The ones which had ventured into that field so far had had mixed results (10), for both technical and legal reasons. Rates could not be set at an appropriate level since statistics were totally lacking, as was flatly acknowledged at the 1889 Congress against work-related accidents. One

(8) HAMON, Georges. *Histoire générale de l'assurance en France et à l'étranger*, Paris, L'Assurance Moderne, 1897, (p. 605).

(9) RUFFAT, Michèle; VIET, Vincent. *La prévention des risques professionnels, Histoire des structures de prévention de la Sécurité sociale*, forthcoming.

(10) BEDOUR, Jean. *Au fil de cent années, Le Soleil accidents 1865-1965*, s.d.

of the side benefits of prevention was to help improve knowledge of the facts about work-related accidents, which would in turn provide sound bases for its action as well as for the fixing of rates. Besides, if prevention was to grow, it had to establish priorities firmly rooted in reality.

But legal obstacles were even stronger. When the company *La Sécurité générale* was set up in 1864, it first intended to cover manufacturers' civil liability. The *Conseil d'Etat* excluded this guarantee from the contracts it could offer, which considerably lessened its commercial value. As a consequence, the first companies which were involved in insurance against accidents at work had a difficult time (11).

2. COMPENSATION LAW OF 1898, THE INSURANCE INDUSTRY AND THE BEGINNINGS OF STATE INVOLVEMENT

In 1868 the state had set up a national employment accident insurance fund which was not a success either. In the latter part of the century, employers' associations in specific fields like mining, railroads and ironworks created mutual insurance companies, such as the *Comité des Forges* in 1894. But the major stimulus for the development of work-related accidents insurance came from the 1898 law which overturned the philosophy underlining the compensation of such accidents since the enactment of the *Code civil* in 1804 (12). From a legal point of view, the nature and scope of employers' responsibility during the 19th century was no different from other areas of individual responsibility covered by civil law: The *Code civil* asserted that it was up to the victim to prove his employer's fault, if any. If his liability was established in court, he was to bear the full brunt of financial compensation and penal responsibility. If no such claim could be made, the worker received no compensation at all. Since the burden of proof laid on the victims, they rarely had the means and confidence to go to court.

The 1898 law was a milestone in the principles and practices of compensation for accidents at work. It acknowledged its specific nature

(11) *La Préservatrice, L'Urbaine Accidents, La Sécurité générale* were among them.

(12) EWALD, François. *L'État Providence*, Grasset, 1986.

and the fact that it could not properly function under the general principle of personal responsibility established by the *Code Civil*. In short, employers were granted escape from civil responsibility, in exchange for a mechanism of partial, but systematic compensation for accidents at work, irrelevant of the burden of proof. Insurance against occupational risks was not made compulsory, but employers turned to insurance companies in droves to carry those risks. The result was the creation of a whole new branch of insurance called *assurance-loi* (law-induced insurance). The total turnover of work-related accident insurance was 17 millions FF in 1895 and 116 millions FF in 1913 (13). But the field hardly stabilized in terms of profitability and bankruptcies were not rare.

However, the 1898 law was meant to improve compensation and made no mention of prevention at all. In fact, those two notions were not linked at the time and developed separately from then on. Prevention remained the responsibility of the state. The Labour Department enacted regulations, organized inspection of plants to control safety and applied sanctions to entrepreneurs who did not comply. The employers with both a social conscience and a pragmatic approach of the problem who had set up quite a few active associations in the 19th century went on to achieve worthwhile, if scattered, results (14). But not only had the 1898 law no provisions to enforce prevention, but it had had something of a demobilizing effect on industry: if insurance was the answer to the implementation of the new law, why should employers bother to further the cause of prevention? If compensation was at long last taken care of, there was less incentive to spend time and money on prevention. The improvement of compensation seemed then the only issue that counted. Other approaches to promote occupational health and safety were bypassed. Passivity prevailed in the field of prevention.

The development of insurance against work-related accidents after the 1898 law did not entail concern for their prevention at first. According

(13) RUFFAT, Michèle; CALONI, Vincent; LAGUERRE, Bernard. *L'UAP et l'histoire de l'assurance*, Paris, Éditions Jean-Claude Lattès-Maison des Sciences de l'Homme, 1990 (p. 95).

(14) In 1909 the three associations for prevention of accidents at work (Rouen, Paris, Lille) claimed to reach more than 600.000 workers.

to the director of *La Participation*, a company which had an important activity in that field, and himself a promoter of prevention,

«insurance companies have often been taken to task for not paying much attention to prevention (of work accidents). After all, in principle, policies are meant to guarantee the consequences of accidents and the compensation of damages. They come into effect as soon as the accident occurs, but what happens before is irrelevant to the contract» (15).

So most of them paid only lip service to the cause of prevention, which remained the province of mutual insurance companies and manufacturers' associations. The pattern of the 19th century was continued.

However, the fact that the progress of mechanization was taking a terrible toll on the lives and physical integrity of workers could not be sidestepped. Statistics were woefully inadequate, and reality had to be guessed at from various sources. But even if they diverged or attempted to measure different phenomena, they gave an idea of the magnitude of the problem. In 1907, 360.000 accidents were reported to the Ministry of Labor, which meant, the total number of workers being almost 3 millions, that practically one worker in ten had been a victim of an accident (16). In 1912, there were 2.613 deaths, 139 total permanent disablements, and 30 336 partial ones and the total number of accidents amounted to 535.650 (17). The first World War made the situation even worse. The need to reduce the number of casualties became foremost because soldiers had to be replaced in factories by unskilled and more

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- (15) ROUX, Louis, director of the insurance company *La Participation*, Conference at the Second Technical Congress of the Association des Industriels de France against work accidents held in May 4, 1925 at the CNAM (*Conservatoire National des Arts et Métiers*).
- (16) BOCQUET, A., Ingénieur des Arts et Manufactures, Inspector of the *Association des Industriels du Nord de la France contre les accidents du travail*, Conference on the prevention of work-related accidents, *Congrès de la prévention des accidents du travail et de l'hygiène industrielle*, Reims, november 26-28, 1909.
- (17) Those figures were probably underestimated because they recorded only officially declared accidents. The Central Bureau of Prevention—which might have erred in the other direction—claimed in 1928 that there were 1.500.000 accidents a year.

vulnerable workers, older or younger, many of them women, as the rhythm of production accelerated for war material. After the war, a series of events gave a new impetus to the cause of prevention.

Albert Thomas and Arthur Fontaine wrote in the Preamble of part XIII of the treaty of Versailles that the working conditions of many meant injustice, destitution and deprivation, which bred such discontent that peace itself was at stake. Hence the creation of the International Labor Conference and of the International Organization of Labor which were to mint international agreements to improve those conditions. Among the means it recommended, was the encouragement of progress in that field by the reduction of insurance premiums.

At that time, the accident insurance industry was picking up steam. In 1923, premiums paid to insurance companies for occupational risks amounted to 773.501.420 FF. If the charges borne by uninsured companies were taken into account, the total cost of covering the risks of work related accidents was estimated by the industry itself to be around a billion FF (18). The insurance companies which cared about prevention went on making agreements with employers' associations which had already a good deal of experience in the field of prevention and had accumulated technical knowledge. Some adjusted rates according to the efforts of corporations in the field of prevention, but there was no general pattern in those practices. For insurance companies and industry, prevention was seen as an investment which would bring returns in terms of lower bulk of compensations for the former and lower premiums for the latter.

The insurance company *La Participation* established in 1920 a pattern of cooperation with the *Association des Industriels de France* and commented on the results five years later.

«We have decided to trust the AIF for the surveillance of our risks and found no resistance to the system among our clients —said its director— [...] they supported it and accepted to submit their operations to the yearly control of the association's inspector [...] We can only be delighted by the good will of manufacturers who have understood

(18) ROUX, note 15.

that, while protecting their plant equipments, even at some extra cost, they were safeguarding the physical capacities of their employees and reducing their premiums through either obtaining rate reductions or avoiding increased charges or cancellations of contracts as inevitable consequences of casualties [...] We have found a real reduction in the number of serious accidents in the risks covered by this plan, with a lowering of rates as a result» (19).

This experience was a forerunner of things to come. A few companies followed suit, and paid for the dues of their clients who became members of an association specialized in the prevention of accidents. But those practices were to spread on a larger scale.

If the 1898 law made no mention of prevention as such, it probably was because, in the liberal tradition, it relied on private initiative in that field. It authorized the formation of *syndicats généraux de garantie contre les suites des responsabilités civiles des accidents du travail et des maladies professionnelles*, that is, trade associations that would act as insurers for their members. The *Syndicat général de garantie du Bâtiment et des Travaux publics* took its cue from the former *Société d'assurance mutuelle de la Chambre de Maçonnerie*, which had been launched in 1859, and wrote into its statutes rules to enforce prevention, which meant that dues were set according to past performance of the factory and raised if the occurrence of accidents was higher than its «class of risks» or if it did not comply by the recommendations given by the association's inspectors. Such «syndicates» accounted for over a third of the total of premiums collected to cover occupational risks in 1913 (20). The analogy between this system and the one that was established in Alsace-Moselle in 1884 by the Bismark administration and kept working when those territories became French again after World War I was striking.

The *Syndicat général de garantie du Bâtiment et des Travaux publics* was to make a most valuable contribution to the cause of prevention through

(19) ROUX, note 15.

(20) On a total of FF 596.652.268 in revenue for insurance of occupational risks in 1913, those syndicates came first with a turnover of FF 223.512.756, commercial insurance companies collected FF. 170.226.871, foreign companies FF. 147.604.540, and mutual societies FF. 55.318.101. *Argus* n° 1716, July 26, 1914.

the dedication of Pierre Caloni, an engineer from *École Polytechnique* who joined its staff in 1920. The sight of maimed workers who came to be examined by the doctors of the *Syndicat* to have their degree of disablement assessed deeply disturbed him and he set himself on the idea of prevention. At the suggestion of Louis Loucheur, a manufacturer from the North of France who was to become a member of Parliament and the Labor Minister from 1926 to 1930, he had to become «more than an insurer». He first set out to improve the state of the art in accident statistics, which lagged behind that of other countries (21) and published in 1928 *La statistique des accidents et l'organisation de la prévention*. The book was awarded a prize by the Academy of Sciences and gave a stronger basis to actuarial calculus at the *Syndicat de Garantie*, which set rates on the principle that «it is just and fitting that insurance premiums should vary, for each employer, according to the level of compensation» (22).

The *Syndicat de garantie* set out to prove that this method could work. In 1939, it insured 3.644 corporations, which employed about 100.000 workers. The insurance premiums amounted to FF. 242 millions for the 1935-39 cycle. At the end of the period, FF 85 millions, that is 35% of the funds collected, were refunded to the policy holders (23). Such a rebate certainly gave financial incentives to the manufacturers' efforts to reduce the number and severity of accidents. The action of the *Syndicat de Garantie* won another kind of recognition when the prevention rules it had set in 1905 and 1912 and their results were closely studied by the administration to inspire the 1925 legislation for safety on building sites. M. Picquemat, Director at the Ministry of Labor, recalled the whole process in those terms:

«The *Syndicat de Garantie* has carried out simultaneously the compensation and the prevention of work-related accidents in the construction industry since 1898 [...] It organized an Inspection service and a Safety code, which resumed the long-standing rules of the trade. When, 25 years

(21) BOISSELIER, Jackie. *Une guerre contre le risque, La vie et l'oeuvre de Pierre Caloni, 1889-1970*, Paris, SCHSC, 1971 (pp. 50-51).

(22) CALONI, Pierre. *Les Préventeurs*, Paris, SEFI, 1960 (pp. 62-63).

(23) CALONI, note 22.

later, the Administration wanted to enact regulations on health and safety in the construction industry, it could not find a better model and a better guide than the security code drawn up by this association. We are glad to own up to the contribution the *Syndicat de Garantie* has brought to the Administration in those circumstances» (24).

Industry was taking stock of the growing interest in prevention in international and national institutions. The *Union des Industries Métallurgiques et Minières* created in 1927 a department of prevention and a bureau in charge of technical issues. The following year, the control *a priori* of plants was written into law (25) and organized under the responsibility of labor inspectors.

In 1928, the year the International Conference on Labor selected the prevention of work-related accidents as its theme, general accident insurance companies launched a multi-purpose association, the *Comité Général des Assurances* (CGA), which had technical purposes, such as the reduction of charges and costs. But this Committee created the *Bureau Central de Prévention* the following year, which was to «develop prevention of work-related accidents in a rational way while using experience previously gained» (26). This initiative was encouraged by the Labour Department, which hoped it would improve statistics in that field and help defuse latent conflicts between insurance companies agents and labor inspectors, who would sometime rush to the defense of accident victims, in or out of court, when insurance agents tried to deprive them of a fair compensation. The Labor Department wanted to end this practice which was unofficial and went beyond their formal duty, so it welcomed signs of good will from the insurance industry.

The insurance industry had other reasons to act. Between 1929 and 1935, several insurance companies went bankrupt and the fund that

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- (24) PICQUEMAL, Directeur du ministère du Travail, Nov 8, 1927, Speech at *Fédération française des architectes*.
- (25) The June 30, 1928 law ruled that every manufacturer or trader who wanted to employ workers had to declare his intention to do so at the Labor Inspection and to renew his declaration in case of changes in location, extension or transformation of operations.
- (26) CGA Document, June 16, 1928.

had been set up by the profession as a last resort for the compensation of accidents in case of default on the part of formerly self insured manufacturers or of insurance companies was called upon and had to shell out FF. 28,5 millions in 1935. Those figures drew attention, among other circumstances, to the need of prevention to reduce risks.

According to the *Bureau Central de Prévention*, 1.500.000 accidents occurred per year at that time and the need to act to reduce this number was obvious (27). The methods adopted by the BCP were the following: Each insurance company was to detect, through its own compensation office, the factories which had a higher than average accident frequency and inform the BCP, who would

«write to the plant manager and draw his attention to the necessity of taking measures of prevention, to the savings that they can lead to, particularly through improvement of output per worker, and to the moral duty of doing everything possible in that respect»(28).

Then it would ask the *Association des Industriels Français* to visit those factories and make technical recommendations. Corporations were urged to become members of the *Association des Industriels Français*, all the more firmly since the BCP paid for their dues. The services of the Association were free for them, but in return they had to accept the technical visits of the BCP, and, implicitly, to take their observations into account. In the year 1928, the BCP visited 780 plants which employed more than 170.000 workers.

A study done in 1927-28 on prevention of accidents in France prior to the 1928 International Labor Conference, 78 insurance companies

(27) This figure is considerably higher than the statistics issued by the Ministry of Labor, which indicated 888.367 accidents in 1927 (according to the same source, there were 535.650 accidents in 1912 and 222.286 in 1902). But the definition of an «accident» by the Ministry of Labor was probably narrower: it took into account only permanent disablements and temporary disablements of more than 4 days.

(28) HERMANT, Max, *Délégué Général du Comité général des Assurances*. Le Bureau de Prévention des Compagnies d'assurances Accidents du travail. *Le Musée social*, 1930, 37 (1).

—which included 23 mutual societies, 13 agricultural friendly societies, 28 commercial insurance companies, 5 foreign companies and 9 *syndicats de garantie*— were asked what they did for the prevention of such accidents. Half of them did not gather any yearly statistics on accidents that occurred among their policy holders and therefore could not be expected to do much to reduce casualties. Four companies (2 mutual societies and 2 *syndicats de garantie*) had prevention departments which set up rules to be complied with by the policy holders, and to be enforced by financial sanctions if necessary. But many others preferred to take advantage of the experience, the technical knowledge and the trained staff of competent engineers that the associations specialized in prevention could offer. 27 companies were taking an active part in their activities by being themselves members of the *Association des propriétaires de machines à vapeur* or of the *Association des Industriels Français*, by recruiting new members and paying for their fees, by sitting on the board of those associations, by being a member of the *Bureau Central de Prévention*, a creation of the insurance industry, and therefore helping to finance it (29).

Commercial insurance companies like *Le Soleil Accidents* had even more elaborate procedures and were bent not only on reducing the number of accidents through prevention but to lessen their severity by setting up dispensaries to take care of the victims. *Le Soleil Accidents* created a body of engineers from *École centrale*, which studied the frequency of various types of accidents and, when alerted by unusual series of casualties of the same kind, would pay a visit to the plant and define the necessary steps to avoid further occurrences. They would eventually themselves design the technical devices that would improve safety (30). A plan was devised to put under surveillance the health of workers exposed to benzol, a toxic product used in shoe and plastics industries. They were given blood tests regularly, and when a critical level was reached, the company would be alerted so that the worker could be assigned to another post, or given a partial pension if a change of occupation was deemed necessary.

(29) RUFFAT, VIET, note 9.

(30) BEDOUR, Jean. *Quand j'étais assureur. Chronique d'un demi-siècle*, Paris, L'Argus, 1980 (p. 141).

Another initiative was the setting up of a network of clinics «with a good reputation for their surgeons and for their staff (because) we had noticed that in public hospitals, after operations that were performed by competent surgeons, relapses and worsenings of the patients's conditions often were the result of inadequate post-operative care» (31). Those procedures made economic sense too, since «even if the daily costs were higher in those clinics, we found an indirect advantage in the decrease of permanent after effects» (32) (and therefore on the lowering of pension levels). Mutual societies like the *Mutualité de la Seine* also set up a prevention department in 1938.

3. 1946: THE TURNING POINT

Insurance against occupational hazards had been totally in the hands of commercial companies and mutual societies so far. At the time of World War II, its achievements in the field of prevention was said to be «very real, and so far-reaching that new companies offer contracts on prevention only, be it or not a prelude to the signature of an insurance policy» (33). Expertise was at work on the technical side, and incentives were tried on the financial side. It was prosperous as a branch and accounted for 40% of general accident revenue. But insurance companies underwent severe criticism, particularly in the field of work-related accidents, for various reasons. The number of accidents was still very high. This type of insurance was not compulsory yet, which set France apart from its neighbors. Some companies fought in court to no end to escape the payment of pensions, which fed resentment against the notion of profit in an activity with a social purpose (34). But the battle was ideological too. When a structural reform was discussed at the National Assembly in 1945, the purpose of the legislator was clear:

(31) BEDOUR, note 30, p. 142.

(32) BEDOUR, note 30, p. 143.

(33) HENRY, Marcel. *L'Assurance contre les accidents en 1942*, Conference at the *École Libre des Sciences politiques*, May 4, 1942.

(34) BESSOL, Maurice *La création d'une caisse autonome pour la prévention et la réparation des accidents du travail*, Paris, Fédération nationale des mutilés et invalides du travail, 1939, pp. 22-24.

«The control of work-related accidents is to be taken away from capitalist insurance, to defend workers against the schemes and threats of insurance agents as we have all known them, hovering over courts where work accidents are judged» (35).

After World War II, the branch was put under the wing of the state, even if the plan inspired by François Laroque, director at the Ministry of Labor, was rather to trust its constituency, that is, the labor unions, with the control of its operations. When the Social Security Act was voted in 1946, it included the insurance of occupational hazards, which became compulsory. This move reflected partly a negative judgment on the performance of commercial companies in that field, but also the conviction that social security should be all-encompassing. At the same time, half of the French insurance industry was nationalized.

But experience accumulated in the field of prevention of accident insurance was not lost. Continuity was the rule between prevention efforts of the late twenties and thirties and the organisation of prevention under the authority of the Social Security. Even more so, great store was set by prevention, which was put first and foremost in the new system, which was in itself a tribute to those efforts. Great expectations were set on prevention of work-related accidents, to the point that it was seen as a key factor in the quest for the financial equilibrium of the branch (36).

Prevention was seen as a key factor to keep the costs of occupational risks at a reasonable level. Rate structure was theoretically geared to encourage prevention efforts and was partly adjusted according to the occurrence of casualties in specific corporations or industrial sectors which proved harder to do on a large scale than it had been in specific corporations or industrial sectors. Thus the traditional practice of pricing insurance according to risk prevailed.

However, technical obstacles have stood steadfast in the way to control the number and gravity of accidents through efforts of prevention.

(35) Proceedings of the *Assemblée consultative provisoire*, n° 68, *Journal Officiel*, August 1, 1945, p. 1675.

(36) Le bilan de la première année d'application de la nouvelle législation sur les accidents du travail, *Revue française du Travail*, N° 4-5-6, April-May-June 1948.

Rates were calculated according to the average accident occurrence as recorded by statistics that were three years old, which failed to take into account recent performance. Moreover, a large proportion of the funds generated by contributions was earmarked for the service of pensions, and could not be lowered.

In short, in the 19th century prevention of work accidents was in principle linked to the notion of personal liability of the manufacturer. As a matter of fact, one of the arguments used to fight the enactment of the 1898 law was that if the employer was to be freed from the threat of being personally held responsible for accidents, both financially and legally, the main incitement to prevent those accidents would disappear. The 1898 law separated the two issues and left prevention to private initiative, with results that were interesting, but lacked the scope—or time—to make a real dent in the problem itself. The organisation of social security in 1946 tried to link them again, using prevention as a tool to put systematically into practice the financially and technically inciting mechanisms that had been developed by the insurance industry in cooperation with industry before World War II.

The plan was a success on the technical side, since the experience and *savoir-faire* that had been accumulated by the *préventeurs* (37) between the wars was put to good use and developed by the *Caisse Nationale de Sécurité Sociale* with much superior financial and human resources. But the attempt to coax manufacturers into prevention through financial incitement fell short, because of the difficulties to put such mechanisms into practice from an actuarial point of view as well as because of political resistance from both labor and government to let the insurance rationale prevail over patterns of redistribution.

(37) CALONI, note 22.