

Preface

This book is the fruit of an original project launched by the Foundation for an Industrial Safety Culture, FonCSI, at the beginning of 2015. It was inspired by a question about “professionalization in the field of industrial safety” put to FonCSI by its industrial partners.

Briefly summarized, this question would be:

“Resources devoted to safety training are becoming more important, however it appears that expectations are not being entirely met, particularly in the industrial sectors that have already achieved a high safety level. Why, despite all the efforts made to provide training, in the broad sense of the term, is there no tangible evidence of actual results in terms of safety? Why do accidents still occur? What are the ways forward?”

An Under-Researched Topic

Despite the two themes being widely studied individually, the links between professionalization/professionalism and safety are relatively unexplored by the academic world. Why was this theme not put on the agenda earlier? Why is it little addressed in the academic literature? The answer is probably related to disciplinary issues, but also to the lens chosen to tackle the problem. Industrial safety is a broad multidisciplinary field, ranging from engineering to social sciences, addressing both human behaviour, organizational issues, regulation and more. Skills and professionalism are the subject of extensive works in the area of educational sciences, occupational sociology and human resource research, the latter being located at the crossroads of the others. However, these works are usually disconnected from safety practices. The question that was put before us actually focused on the interface between man, technology and organization, and was likely to mobilize many disciplines and theoretical currents. In light of this complexity, FonCSI was initially rather challenged. The first issue was of semantic origin. What do we mean by professionalization, professional? It rapidly appeared that the meanings greatly

differ especially between France and the English-speaking world¹. And then FonCSI thought of a number of other questions to be answered: Who are we talking about? The safety/HSE² professional or any professional operator? Are we addressing the field of major accident risks, of occupational risks, or both? Does professionalization in/of safety make any sense? What part could job professionalization play in ensuring safety? Safety at the organizational level: beyond the individualistic viewpoint of professionalization?

An Original Research Format

Once the question had been clearly formulated, the next stage was to identify the way to address it. It will come as no surprise to the reader that the industrial concern—despite being short and clearly worded—could not be resolved by a simple and unequivocal response, because of the actors and dimensions to which it relates as well as for the challenges it represents for the present and future of at-risk industries. No, such an issue required special treatment, an innovative methodology: a strategic analysis. This was conducted by a group composed of scholars from different academic disciplines and countries, and practitioners from various industrial sectors such as oil and gas, energy and transports. The group were also

¹The initial title of the strategic analysis group was “*La professionnalisation en sécurité*”. The first international exchanges quickly highlighted that it was impossible to translate this title by “professionalization in safety”. In English, the term ‘profession’ refers to intellectual occupations (such as physicians, lawyers, engineers), which:

- are closed, in the sense that, to enter them, one should go through a process of authorisation and/or certification, the criteria of which are defined by the profession and usually protected by public authorities;
- have gained the monopoly of performing certain activities, through arguing that, given the social importance of the latter, they should only be entrusted to highly qualified professionals;
- have professional bodies that control their members’ integrity and lobby to maintain the profession’s social status.

In French, the term ‘*professionnel*’ refers more to the idea of **trade**: an occupation with a collective history, during which its members, through a process of discussion about their practices, have built ‘rules of the trade’ that are passed on from one generation to the other, but also continuously enriched through an ongoing collective reflection on difficult situations and the best ways to deal with them.

Therefore, although both meanings exist in both languages, in English, as stated by Nilsson in his lecture “What is a profession?” in 2007, ‘**Professionalization**’ generally is the social process by which any trade or occupation transforms itself into a true ‘profession of the highest integrity and competence’) whereas in French, ‘**professionnalisation**’ refers to the process by which a newcomer enters the professional group and benefits from its historical collective reflection in order to become ‘a good professional’ more quickly.

²Health, Safety and Environment.

able to benefit from the experience of academic experts in human resources³. The different disciplinary angles through which the topic has been addressed are as many entry points with different objectives: management science focuses on industrial performance, sociology on the collective groups within the organization and the political dimension of the question, while ergonomics studies operators' actual activity, to mention a few aspects. The originality of the research design lay in the interaction between all these experts as it encouraged them to compare their ideas and ultimately come up with a strong and innovative overview of the subject. This confrontation of viewpoints provided for a richer and better informed debate during a two-day international seminar organized by FonCSI in November 2015. Furthermore, creating and maintaining a long-lasting discussion led to an actual socialization of the experts within the group. This research process achieved its objectives of driving in-depth reflection and providing concrete ways to collectively go beyond traditional approaches to the delicate issue of the link between education, professionalization, competences and safety.

A Unique Production

This book not only reflects the most precious viewpoints of experts from different disciplines⁴ and different countries⁵ with experience in various industrial fields at the cutting edge of theories and practices in terms of safety, professionalization and their relationships. It also makes optimal use of the high-level discussions that were conducted, and consolidates the positioning of FonCSI in the field of professional development and safety. It highlights what is currently considered to be at stake in terms of safety training, in the industrial world (industry and other stakeholders such as regulatory authorities), taking into account the system of constraints to which the various stakeholders are subjected. It reports some success stories as well as elements which could explain the observed plateau in terms of outcome. It identifies some levers for development for at-risk industries and outlines a possible research agenda to go further with experimental solutions.

Chapter 1 is the introduction to the book. It questions the links between safety and 'professionalization' according to the following dialectic. 'Ordinary safety', means safety embedded in everyday industrial practices where the more professional one is in one's dedicated duties, the safer one works. Yet 'extraordinary safety', namely safety isolated from other working dimensions, is a matter of exception and safety training requires specific actions from specialized departments

³Valérie Boussard (professor in sociology of work, Université Paris Nanterre, France) and Sandra Enlart (researcher in educational sciences and CEO of *Entreprise & personnel*, France).

⁴Social sciences, psychology, ergonomics, management, political science, educational sciences, engineering...

⁵Australia, Belgium, France, Italy, Netherlands, Norway, United Kingdom.

and professionals. Claude Gilbert thus elaborated on safety to meet internal objectives or safety to comply with external stakeholders' expectations, more as a justification requirement.

In Chap. 2, Silvia Gherardi addresses safety as an emergent property of a sociotechnical system, a collectively constructed organizational competence incorporated into working practices.

Chapter 3 by Pascal Ughetto highlights the tension between central management, acknowledged as specialists in setting safety policies and middle management, which has great knowledge of real work situations encountered by their teams but whose expertise in that domain does not receive enough recognition. To reduce the gap between rules made for work as thought and rules made for work as done, the author demonstrates the importance of reinforcing the role of middle managers in setting the organizational rules of the teams they manage.

In an unconventional Chap. 4, Hervé Laroche plays the devil's advocate, by the means of a fictional dialogue between an operator and a manager, to critically assess the injunction of professionalism that is defended in this book. The aim of this contribution is to stimulate debate and develop alternatives for managers.

In Chap. 5, Pierre-Arnaud Delattre mainly addresses the differences between France and English-speaking countries along two axes. First he describes the differences in terminology of the word 'professional' and related terms, then he shows that their respective approaches of human and organizational factors in OH&S⁶ originate from their own specific history.

In Chap. 6, Rhona Flin highlights that rather than specific safety training, integrating safety thinking by addressing workplace behaviour (non-technical skills) and attitude to risk (chronic unease) in routine work are keys to improving both job performance and skills for safety.

By means of empirical study cases in shipping, railways and space operations, in Chap. 7 Petter Almklov analyses the relationship between representations of work (rules, procedures, models, specifications, plans) and the real and contextualised practice of involved professionals. By showing how compartmentalization of safety can disempower practitioners and by discussing the role of procedures and rules, it offers some propositions about the relationship between professionalization and safety and reliability.

Chapter 8 by Jan Hayes suggests keys for promoting and maintaining the 'safety imagination' of experts in order to take into account lessons learned from accidents and near-misses with regards to future decision-making.

With Chap. 9, Linda Bellamy addresses the subject of professional development by opposing two types of 'professionals'. The former, by doing what is right, manages risk in their activities 'naturally' by using their professional skills and expertise; the latter, by complying to standards and procedures, does what is safe. This refers to two distinct manners of approaching safety, safety as embedded in working practices and normative safety. By means of lessons learned from

⁶Occupational Health & Safety.

accidents, but also by insisting on the poor attention given to lessons learned from successful recoveries, the author highlights important issues in terms of safety competence development, particularly in the management of uncertainty.

In Chap. 10, based on his extensive expertise in the mining industry, Jonathan Molyneux raises the issue of the importance of operational experience, besides acquiring formal safety qualifications, to improve safety performance in at-risk industries. He highlights the paradox by which the influencing aspect of the work of ‘safety professionals’ as valued advisors is somehow challenged by the fact that they have to meet the compliance agenda and are therefore sometimes perceived by shop floor staff more as a ‘procedure-police’ than as coaches. Integration versus differentiation with safety improvement strategies tailored for local specific contexts is also discussed.

In Chap. 11, Benoit Journé highlights some inherent contradictions in professional development in risk industries. Neglecting such contradictions would doom training programs to failure. The chapter suggests that bringing safety practices into discussions appears to be a possible way to enhance professional development as well as safety performances.

In Chap. 12, Corinne Bieder addresses the implicit assumptions conveyed by so-called safety training sessions. She unravels them and the underlying understanding of how safety is ensured, thus allowing for better appreciation of what safety training can achieve and, more importantly, what it cannot. She goes beyond these apparent contradictions to offer ways forward for re-thinking ‘safety training’ and make it an actual lever for enhancing safety performance.

Chapter 13 by Vincent Boccara presents a training design approach oriented by a holistic real-world works analysis based on several works of research. It is about making people able to deal with real-world work situations, rather than them only knowing and applying exogenous standards. Two main axes of progress are identified and could be developed into guidelines for training people to deal with work situations: participatory methods and transformation of both the trainer and the trainee’s activity.

In view of the wide and varied offer of theories and methodologies examining human factors in industrial risk, Paul Chadwick, in Chap. 14, proposes a unified approach with a coherent interdisciplinary conceptual framework for both research and intervention. Unlike ‘behavioural safety’ programs, rather than limiting analysis to behaviour as the root cause of accidents (identification of ‘unsafe behaviours’), this approach seeks to influence the contextual elements that explain these behaviours, the ‘behavioural determinants’. The approach consists of depicting the situation by identifying why things go wrong and why they go well, and modifying the physical, technical, social and / or organizational context to reduce the occurrence of ‘risky’ behaviours.

In Chap. 15, Nicolas Herchin focuses on the issues of professional identity and the power of specialists in support functions. His premise is that giving more power and consideration to people in the field i.e. shop floor teams and middle managers is a first step towards an enhanced (safety) performance. This involves a ‘liberation’ process by which the classical vision of hierarchal structures is reversed, and the

importance of learning and knowledge are acknowledged as key sources of motivation.

The sixteenth and last chapter synthesises the main findings from the book and offers avenues for further research.

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Beyond Safety Training

Embedding Safety in Professional Skills

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