The Languages of Safety

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Abstract Human and organizational factors (HOF) specialists have worked hard to develop a body of methods, tools, concepts, etc., that allow them to fulfil their mission in a professional way within their companies. Yet they are often frustrated and feel that they do not get the attention they deserve. Several of the chapters of the present volume can be read as invitations for HOF specialists to develop a different approach and adopt new types of discourse in order to get more attention from managers. I review four possible “languages” and discuss how and to what extent they would give more power to HOF specialists. I conclude by inviting safety people to use a variety of languages for a variety of audiences.

Keywords Attention · Manager · HOF specialists · Discourse

1 Introduction

It’s a fact: managers are not naturally excited by human and organizational factors (HOF) issues. Yes, top managers are always ready to issue strong verbal commitments to safety and to set zero accident objectives. However, when it comes to budgeting HOF actions, hiring specialists, launching studies and projects, managers appear less convinced of the safety imperatives and show limited faith in the contribution of HOF methods and people. HOF specialists have to find a way of getting managers’ attention in times when no accidents are happening. How can they do that? In this book, four different answers are given to this question:

- Talk hard science (Paul Schulman, Chap. 9),
- Talk numbers and money (Daniel Mauriño, Chap. 10),
- Talk law and blame (Caroline Lacroix, Chap. 8),
- Talk complexity (David Woods, Chap. 11).

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I will now discuss each of them, not so much on the grounds of the ideas themselves, rather on the basis of their relevance for getting attention from managers.

2 Talk Hard Science

Paul Schulman's assessment of the social sciences contribution to safety is rather grim. Social scientists failed to get the ear of engineers who (rightly, according to Schulman) find their concepts underspecified and their methods dubious. In short, they have done bad science. Fortunately, social scientists can still amend themselves by imitating the practices of the engineering sciences, using clearly defined variables and building rigorous metrics.

There is no doubt that this view of scientific excellence would make many social scientists very angry. Leaving this aside, would the alignment of HOF science methods with engineering science methods make the possible contributions from HOF more attractive in the eyes of managers? This could be the case, if managers have training in engineering, which is not uncommon in many industries. Yet, the sociology of the managerial elites has evolved and is still evolving in a direction that does not favor the engineering culture. Engineers and people from the trades have lost precedence over professional managers (MBAs), finance-oriented people, and more or less self-made entrepreneurs. It is also unlikely that hardened HOF science could compete with the faith in algorithmic power of the GAFA-type firms.

Adverse effects can happen. Managers certainly have little respect for the social sciences, compared with the engineering sciences. Yet they are keen on the psychological aspects, like leadership, soft skills, meditation and mindfulness, etc. They often become obsessed with these dubious concepts, making "serious" social scientists and people inspired by the social sciences despair. Talking hard science will not protect them from these fads. Indeed, it is more likely than they will fall for it more easily, meaning not-so-good social science will be replaced by quite worse pseudo-social science.

3 Talk Numbers and Money

Daniel Mauriño takes an opposite view to Schulman's. For him, safety specialists are already too grounded in engineering science. Rather than talking like engineers to impress managers, he advocates, safety specialists should talk like managers. Safety should become a business function just like any other and talk the same language (allocation of resources, budgets, contribution to performance, etc.). In short, if HOF experts turn themselves into managers, the other managers will listen to them.

This reminds me of the famous words pronounced during the meeting the night before the Challenger launch in 1986 [2]. After two hours of discussion about the impact of low temperatures on the O'rings, the head of Engineering from Morton

Thiokol was urged by his boss to “*put down his engineering hat and put on his management hat*”. Behind these words we find a myth: engineers are supposed to aim at perfection and worry only about technology while managers are supposed to seek operational performance and worry about money. Everybody is happy with this myth. Managers gain the power of making the final decisions while engineers keep their hands clean. In the Challenger meeting, the engineers did not contest the final decision made by managers, though many were still convinced that it was “away from goodness”. What Daniel Mauriño proposes is that safety people, and especially HOF people put on a management hat and get their hands dirty. This is the only way to gain more power and to do their job properly.

Just as Schulman’s conception of scientific rigour can be questioned, Mauriño’s understanding of what management means is debatable. For Mauriño, management is direction, supervision and control. Basically, this is what Henri Fayol proposed as early as 1916 in his *Administration Industrielle et Générale* [1]. A problem is that Fayol-type definitions of management are very abstract and have little use when it comes to describing what managers really do and how organizations really work. Organization theories provide a much more complex portrait of what constitutes an organization and these theories suggest that establishing safety as a function does not guarantee that it will have more influence. What happens when safety specialists behave like managers? Maybe they get the ear of other managers, but what will they tell them? In advocating for safety specialists to renounce their obsession with accident prevention, Mauriño demonstrates his faith in the rationality of management. Reasonable (that is, calculated) decisions will be made by well-informed managers. What the Challenger case suggests is that unreasonable choices can be made by managers AND engineers, not because they are evil but because they lose sight of what they are really doing and of the consequences of their choices (hence the famous concept of normalization of deviance [2]).

As Mauriño frames it, safety specialists face a strategic choice: either they change their identity and their language to become “safety financial officers”, as Mauriño suggests, or they remain an independent, accident-obsessed safety service, trying to give more weight to the avoidance of accidents. But this means, in fact, giving more weight to the fear of accidents and their consequences; in short, scaring managers.

4 Talk Law and Blame

According to Caroline Lacroix, managers should be scared already: there is a clear trend towards an increasing intervention of judges in verifying the compliance of some companies (judicialization) and towards the intervention of the criminal justice system when accidents happen (criminalization).

It is unclear, though, to what extent these trends have negative consequences for companies (direct or indirect costs) and managers (convictions, loss of position, etc.). Being brought before a criminal court of justice is certainly a frightening prospect for a manager. Yet big companies and top executives benefit from powerful

legal counsel. Criminalization of safety issues could just result in an escalation of legal disputes. Indeed, ultimately, the level of deterrence may not be significantly increased, at least not enough to have an effect on the behaviour of firms and of managers. In fact, although there is a shortage of systematic data, the impression one gets from recent cases is that, whatever the costs, big companies can survive any kind of accident unless they are already economically or politically in a very weak condition. The criminalization of safety issues might even offer some latitude to powerful organizations, in that criminal justice is often very slow and offers many opportunities for delaying tactics. A financially robust organization can easily gain time and buffer the shock of the accident. Besides, once an accident has happened, nobody has a real interest in weakening the company. Workers want to keep their jobs and victims want to be compensated.

Let us suppose, though, that these trends in the world of law and justice have some deterrence potential. Should safety specialists try and take advantage of that? Such a strategy would imply that safety specialists strengthen their abilities in legal matters, or that they make an alliance with legal experts. Both are unlikely. Investment in legal competencies is very costly. And legal experts, who enjoy the privilege of direct access to top executives, have no interest in opening their jurisdiction to safety specialists. As noted by Caroline Lacroix, safety specialists might even have much to lose. A logical consequence of increased criminalization is the reinforcement of a “blame culture” down the entire managerial line. Safety specialists who have relentlessly worked at promoting a “just culture” based on the contribution of the HOF science would be shooting themselves in the foot.

For safety specialists, talking law and blame is thus not an option, though they may gain some influence if, as Lacroix suggests, the courts become more knowledgeable about safety science, and more specifically about HOF science. In highly regulated industries, where dialogue with the regulatory bodies has an anticipatory orientation and goes deeper into the technicalities of the safety issues, there is perhaps more hope. Sitting at the boundary of the regulatory environment is certainly a source of influence for safety specialists. Up to what point is, however, debatable.

5 Talk Complexity and Change

All the ways of gaining influence examined previously are based on attempts to adopt a simple, rational language. Engineering science may be highly technical, yet fundamentally it is just analytic knowledge. The language of safety as a business function is also based on a rational view of an organization, which can be broken down into smaller parts (functions). Law, however esoteric it may appear to the eyes of the lay person, is after all, as Weber told us, the instrument of reason in the social world. Engineering science, management practices and legal knowledge have relied on analytic knowledge to bring stability and control.

David Woods comes up with a quite different view. His core idea is that analytic simplification is an obsolete way of gaining control of today’s sociotechnical systems.

Sociotechnical systems have changed in nature, he contends. The key metaphor is no longer the chemical plant or the nuclear power station or a transportation system. Rather, it is the computerized, algorithmic, decentralized, connected, highly autonomous, evolving system. With these systems, do not expect stability, expect change and evolution. You will always be late and you will never achieve full control: there will always be glitches, small ones and big ones (which he calls SNAFU¹s). Catch them before they kill you. We are in a world of complexity.

As with the other contributions, I will not discuss his ideas per se, but will rather examine their potential power for allowing safety specialists to gain influence. In this respect, his metaphor of complexity has two very strong features. Firstly, it is in line with the “third industrial revolution” that everyone sees unfolding in all industries and in our daily life. Secondly, it gives us a future. The fourth and fifth industrial revolutions are on their way. I am not making predictions: I am talking about what is on people’s minds today. There is little doubt that managers will love that, if only because their biggest fear is to be seen as outdated. Symbolically, they now compete with Elon Musk, Jeff Bezos or the people from Google. Besides, the complexity paradigm gives them an opportunity to master a discourse with a potential for managerial autonomy and legitimacy, after decades of finance-oriented, shareholder domination. The complexity paradigm gives power to insiders because the key knowledge will be held and operated by them and will remain, to a large extent, opaque to external stakeholders.

I see no reason why safety specialists could not embrace the complexity paradigm. Complexity is compatible with HOF, on the overall. For instance, no major effort is needed to insert into it HRO² concepts or the views of Karl Weick. This does not mean that HOF specialists should always bow to the discourse of the complexity gurus, only that they should find their voice and contribute. In its present versions the complexity paradigm might well seem to forget the HOFs, but this is only one more reason to connect with it.

6 Final Comments

Safety and HOFs need to be “sexed up”. HOF specialists are people in the trade that are equipped to talk to other people in the trade, not to a class of managers that have a universal view of their jobs and careers. These managers are more likely to embrace the complexity paradigm than traditional engineering or standard managerial thinking. Complexity is however a vast territory and there is no reason why HOF specialists could not find their place in it.

Yet, rather than being obsessed with the top management, safety specialists should also work at building a network of influence at all levels in the organizations. Managers are a target that can be reached directly or indirectly and talking numbers and

¹Situation Normal All F___ed Up.

²High reliability organizations.

money is a direct way of influence. There is no doubt that safety specialists could make progress in this respect. Talking hard science can help them get the ears of engineers, and engineers can relay their inputs to managers. Undoubtedly, talking law cannot hurt, although there is little opportunity for direct power, except in the institutional work of building external networks of expertise (setting standards, etc.).

My suggestion is that safety people learn and practice several languages for different audiences. I do not think they have to worry too much about possible contradictions. Local and provisional coherence is what matters in organizations. Global and continuous coherence is only a question of identity. Safety people do not need a specific language to foster their identity. They have better than that: they have a mission.

References

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