

Contents lists available at ScienceDirect

## Safety Science

journal homepage: www.elsevier.com/locate/ssci



## The bureaucratization of safety

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#### ARTICLE INFO

Article history: Received 11 December 2013 Received in revised form 4 July 2014 Accepted 14 July 2014

Keywords:
Bureaucratic accountability
Responsibility
Ethics
Safety
Modernism
Vision zero

#### ABSTRACT

This paper examines the bureaucratization of safety, and the increase in safety as measurable bureaucratic accountability. The bureaucratization of safety—which has accelerated since the 1970s—revolves around hierarchy, specialization and division of labor, and formalized rules. Bureaucratic accountability refers to the activities expected of organization members to account for the safety performance of those they are responsible for (e.g. unit, team, site). Bureaucratization of safety has brought benefits, including a reduction of harm, standardization, transparency and control. It has been driven by regulation, liability and insurance arrangements, outsourcing and contracting, and technologies for surveillance and data storage. However, bureaucratization generates secondary effects that run counter to its original goals. These include a reduced marginal yield of safety initiatives, bureaucratic entrepreneurism and pettiness, an inability to predict unexpected events, structural secrecy, "numbers games," the creation of new safety problems, and constraints on organization members' personal freedom, diversity and creativity, as well as a hampering of innovation. This paper concludes with possible ideas for addressing such problems.

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#### 1. Introduction

"Businesses are in the stranglehold of health and safety red tape... We are waging war against this excessive health and safety culture that has become an albatross around the neck of businesses".

David Cameron, UK Prime Minister, in meeting business owners (Anon, 2012)

#### 1.1. Capturing the bureaucratization of safety

In 1981, more than three decades before David Cameron's remark, Mendelhoff noted how the Reagan administration in the US believed that health and safety regulation had gone too far. Terms and standards had been set so strictly that costs easily outweighed benefits (Mendelhoff, 1981). Yet ten years on, Zimmerman observed in the *Journal of Energy Engineering* that "institutions ... have continued to be created and refined and new bureaucracies and a professional workforce to deal with these problems have continued to be formed as well" (1991, p. 97). He noted a 13% increase in projected funding for safety regulation from 1990 to 1993, which has since accelerated. Between 1974 and 2008, Townsend (2013)

showed a 'mere' doubling of the number of applicable statutes, but a hundred-fold increase in regulations interpreting and applying them, with a concomitant proliferation of "service industries" for safety auditing, researching, pre-qualification, enforcement, publishing, recruitment, training, accreditation and consultancy (p. 51). Such growth shows no sign of slowing: the number of occupational health and safety-certified companies in 116 countries more than doubled from 26,222 in 2006 to 56,251 in 2009 (Hasle and Zwetsloot, 2011). Today, some cite "health and safety lunacies" (Townsend, 2013, p. 59) and "petty bureaucracy" (Hale et al., 2013). Some have, in the words of Amalberti (2013, p. 114) begun "to realize the irony of the tremendous efforts that are being devoted to safety."

Not that such irony is on full display in our own literature, by the way. *Safety Science* features few papers that explicitly review the growing bureaucratic organization and ordering of safety work. Bureaucracy, of course, is implicated in the consumption, funding and production of safety research. It configures producers and audiences of such research in institutional webs of resource- and ideological relationships that might keep certain assumptions in place and some questions unasked. The exceptions are as follows: Hale and colleagues newly reported on a strong political consensus about how safety regulation stifles industrial innovation, feeds a culture of risk aversion and petty bureaucracy (Hale et al., 2013). A duo of extensive reviews questioned the top-down rational approach to imposing rules, which limits freedom of choice and

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sees 'violations' as negative behavior to be suppressed (Hale and Borys, 2013a, 2013b). This follows earlier research questioning the value of behavioral safety rules (Hale, 1990; Hale and Swuste, 1998). Antonsen and colleagues questioned a strong emphasis on standardization in the oil and gas sector for the unintended negative consequences on organizations' crisis-handling capabilities (Antonsen et al., 2012). Jagtman and Hale (2007) criticized bureaucratic control measures in traffic safety—as expressed in standards and guidelines which designers can 'hide' behind, and which are incapable of dealing with unexpected events. Bieder and Bourrier (2013) have asked whether never-ending proceduralization in aviation is desirable or avoidable. More implicit critiques of safety bureaucracy are found for instance in the work of Nilsen (2008), who developed tools for empowering local risk management; or Falk et al. (2012), who identified problems with focus and prioritization in safety reviews of modifications to nuclear power plants: or Borys (2012) who exposed gaps between safe work method statements and actual work in the construction industry, and in a recent editorial examining the issues and challenges of occupational health and safety management systems (Hasle and Zwetsloot, 2011). But much related research reported in Safety Science seems dedicated to getting aspects of bureaucracy to work better, for example how to improve the application of occupational health and safety management systems (Makin and Winder, 2008) or get leadership involvement to increase worker rule compliance (Dahl and Olsen, 2013).

Industrialized nations have followed different trajectories in the bureaucratization of safety. A contrast study between Sweden and the US, for example, showed how that divergence became particularly visible from the 1970s onward (Fischer et al., 1994). The Swedish response was to give safety stewards (who had been around since 1942) more education and a role in monitoring workfloor rule compliance, as well as a focus on employer provision of safe workplaces. Government inspectors were expected to give advice and follow up on it. In contrast, the US concluded that "consequences of violations of the Worker Protection Act are not severe enough" (p. 402) and chose to increase its punitive responses. Survevs showed trust about compliance in Sweden, and a reliance on small groups to rationally reach agreement. In contrast, they revealed widespread mistrust of employer intentions in the US and a belief that they deliberately ignored safety standards. US inspectors were prohibited from giving advice, because if it did not succeed in correcting the problem, citation for violations could be thrown out in court. "American[s]" the study concluded, "not only start off with more pessimistic assumptions about predispositions to compliance but also ... use the legal system to regulate human interactions" (p. 388). Bureaucracy, however, is heavily implicated in both these models: the involvement of more rules and compliance, and more people who have local decision power but are not directly involved in front-line work.

Yet many experiences of bureaucratic expansion of safety are common across nations and activities-e.g. increases in rules, paperwork, costs, time drain, safety people involved, and compliance expectations that are insensitive to the demands of front-line activities (GAO, 2012; Hale, 1990; Hale and Borys, 2013b; Hale and Swuste, 1998). To be sure, increasing regulation and the kind of standardization and systematization that comes with bureaucratic governance have paid great safety dividends during the twentieth century. Bureaucratic organization has tried to introduce rationality, order and efficiency as well as eliminate favoritism (Du Gray, 2000; Merton, 1938). The safety yield of further bureaucratization, however, is declining or plateauing in many industries (Townsend, 2013). Predictability, standardization and control are by-words for this mode of organizing, which implies the suppression of surprise, diversity and deviance. It has inspired questions about secondary (negative) effects—as indeed raised by David Cameron.

#### 1.2. Defining bureaucratization

Bureaucratization for the purposes of this paper means the administrative governing, by not necessarily representative organization members, of the relationship between the means an organization dedicates to safety and the ends it hopes to achieve with them. According to sociologist Max Weber (1864–1920), bureaucratization involves hierarchy, specialization and division of labor, and formalized rules:

- Hierarchy increases organization members' decision authority and span of control closer to the administrative apex. Members are accountable for their actions *to* those "above" them (the notions of "above" and "below" in hierarchy themselves predate Weber by centuries. These can be traced back at least to the ideas of Rene Descartes).
- The specialization and division of labor affects safety work too. Not only has safety work become more of a specialization separate from operational labor, it also has further differentiations and divisions within (e.g. from occupational hygienists, biohazard managers, emergency response planners to process safety specialists).
- Formalized rules refer to standardized responses to known problems and fixed procedures that govern the collection, analysis and dissemination of information as well as the processes by which decisions are arrived at, and how both authority and responsibility for decisions are distributed, upheld and accounted for.
- Bureaucratic work is characteristically conducted by non-representative members of an organization. In this case, those who do such work are not necessarily chosen or elected to speak or act on behalf of a constituency (e.g. the operators doing safety-critical work).

According to the acquisitive model of bureaucracy, its activities may express a kind of "bureaucratic entrepreneurism." This refers to undertaking an organizationally coordinated activity that, while legitimate with respect to organizational or societal goals (harm reduction, accident prevention), sustains demand for itself and creates more work to be met with additional bureaucratic means. Such a characterization of safety bureaucracy has resonated since Zimmerman, and even precedes it (Goyal, 1983; Smith et al., 1978). Members and leaders in a bureaucracy might defend their responsibilities and influence, or may seek to expand them (Mintzberg, 1979). Bureaucracy can popularly be referred to "as a composite term for the defects of large organizations ... it is a synonym for waste, inertia, excessive red tape and other dysfunctions" (Du Gray, 2000, p. 106). The monopolistic argument is that bureaucracies do not need to be parsimonious with their resources, nor show clear results, because they face no competition. With the bureaucratization of safety, that is not so obvious. Yet a seemingly moral obligation (e.g. a zero vision) or a particular regulatory demand can justify even inefficient and ineffective bureaucratic means dedicated to it (Donaldson, 2013).

The study of bureaucracy has a tradition in sociology and related fields (Du Gray, 2000; Merton, 1938; Thompson and McHugh, 2002). Weber warned long ago of the secondary effects of bureaucratization that run counter to an organization's objectives (Weber et al., 1978). The remainder of this paper reviews the secondary effects of bureaucratization of safety as reported in the literature over the past years. It then considers the possible reasons for the increasing bureaucratization of safety and concludes with questions concerning the 'appropriate' role of bureaucratization in safety work.

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