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# Just culture: A case study of accountability relationship boundaries influence on safety in HIGH-consequence industries ☆

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ABSTRACT

In high-consequence industries the desire of many managers to "hold someone accountable" for errors remains a barrier to advancing meaningful safety agendas. The misconception that clear lines of accountability can and do exist, and that employees who cross the line between acceptable and unacceptable behavior should be punished, fails to recognize the different types of accountability relationships negotiated by employees every day. Such judgments run counter to the concept and practice of a just culture. Examination of the four types of accountability relationships, potentially seen within any just culture - hierarchical, legal, professional, and political, reveal the potential for the lines of accountability to frequently blur. This opaqueness is seen in numerous accidents which reveal the conflicting effects employees in high-consequence industries face as they move between and across these accountability boundaries. We use a case study, as a glimpse into the world of practice of aviation to illustrate the conflict, and double- binds, created as those in high-consequence industries negotiate the fluid lines of accountability relationship boundaries. This germane example is the crash of Swissair Flight 111, near Halifax, Nova Scotia, in 1998. Here we offer dialogue to aid in understanding the influence accountability relationships have on safety, and how employee behavioral expectations shift in accordance. We propose that this examination will help redefine accountability boundaries that support a just culture within dynamic high-consequence industries.



## 1. Introduction

In high-consequence industries, employees in safety sensitive positions work in vastly complex sociotechnical systems. In order to maintain safe levels of operations they utilize various skill sets, including those that are both cognitive and communicative. However, employing these skills is not enough, maintaining a common operating picture, or shared mental model of rapidly changing safety conditions requires successful collaboration. This collaboration, includes all human interactions in addition to those between machines and humans. Within these systems, employees must regularly negotiate to whom they are accountable, and under what type of accountability relationships those negotiations occur. Dekker and Pitzer (2016) point out that "accountability relationships can encourage suppression of the 'bad news' necessary to learn and improve" (p. 57).

Commonly, the challenges facing operators in dynamic high-consequence industries is that the lines of accountability are not "clearly drawn" but are yet, in hindsight, defined thus to assign "blameless and/or blameworthy actions" or culpability. Increasingly there is "tremendous pressure by the public, the media and politicians to identify the blameworthy parties and hold them accountable" (Michaelides-Mateou and Mateou, 2016, p. 69). Across the legal accountability line, "the criminalization trend over the last fifteen years has exposed a lack of global uniformity of how and where the line between honest professional mistake and criminalization is drawn" (Dekker, 2009a, p. 61). Since these lines are based on hieratical, legal, professional, and political accountability relationships, and therefore are not static, employees in safety sensitive fields must negotiate moving between and across the lines each day as they strive to mitigate risk. To the contrary, the accountability relationships that govern our lives are not only complex – because we must answer to a variety of others under a variety of ground rules – but often fluid and dynamic – as each party in

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the accountability relationship learns to anticipate the reactions of the other" (Tetlock, 1985, p. 256). Moving between accountability relationship boundaries "practitioners must cope with the presence of multiple goals shifting between them, weighing them, choosing to pursue some rather than others, abandoning one, embracing another" (Woods, 2004, p. 13). They must balance sharing enough information to support learning from mistakes, while at the same time protecting their own interests as they move across the boundaries of hieratical, legal, professional, and political accountability relationships. Accountability relationship boundaries influence safety culture and organizational resilience as key enablers for effective safety management (Schwarz et al., 2016).

These challenges are not made in isolation but rather as a significant component to how collaborative work is accomplished in dynamic high-consequence industries. Because of these considerations, in addition to the natural complexity of work, promoting safety through *just culture* is not a simple call for "no blame" - but rather a broader understanding that redefines the boundaries of accountability relationships and recognizes employee movement across those boundaries, including all the challenges that may occur. Rather than assume there are no bad actors, or people with ill will, we accept that they too must operate within these accountability relationship boundaries. While many have discussed safety accountability lines, "who gets to draw the line," "clearly defined" or fluid, few have applied such study to the accountability relationships, and how movement between and across accountability boundary lines influences decisions for those at the sharp-end of safety (Dekker, 2007; Marx, 2001; Romzek and Dubnick, 1987).

This case study of Swissair111, delves into how operators, negotiating between and across accountability boundary lines, have the potential to improve collaboration in hieratical, legal, professional, and politic accountability relationships, that may well enhancing error reporting. The case of Swissair111 also offers an opportunity to explores how conflict is created as operators negotiate priorities, based on these accountability relationship boundaries, that influences safety decision-making still today. Our goal, through this case study, is to aid in peeling back the accountability layers to reveal how accountability relationship boundaries either contribute to, or inhibit, advancement of *just culture* in high consequence industries during abnormal events. By exploring further where abnormal events occur in these safety sensitive industries, some accountability relationships may shift and morph to meet the demands of the situation. Through increased awareness of the movement between accountability relationships practitioners, and operators alike, can better prepare for not only the technical challenges of these events, but also the social relationship and accountable boundaries that may shift in response to the current demand.

## 2. Just culture in safety science

Safety is a continually evolving process of finding what makes organizations in high-consequence industries resilient, understanding their margin of safety, and what puts them at risk. The concept of *just culture* supports organizational safety resilience by promoting an environment of openness that encourages reporting and learning from mistakes, free from fear of reprisal. *Just culture* emerged from the study of organizational cultural influences on sociotechnical systems safety.

Historically speaking, the evolution of safety studies into accident causation can be divided into a number of stages throughout time, each building on the previous stage and representative of the cultural norms present in Western thinking during that period. Early safety theories during the technical stage, focused on mechanical failures as explanations, since the previously held belief structure of "Acts of God" were no longer satisfying as explanatory offerings. The industrial revolution in Western culture drove more dependable, productive, and powerful forms of mechanical devices, from which new forms of accidents and attributable causation emerged. As mechanical reliability improved the focus expanded into assuming that human error played a role in accident causation. Regulations, policies, and procedures were implemented to reduce the threat of human errors, in part through a hierarchical or bureaucratic system of accountability based on deterrence through sanctioning. Eventually, along with greater understanding of human error, came an increased awareness of the influence of ergonomics, organizational culture, and systems as factors contributing to errors and failures within complex sociotechnical systems.

Following the 1986 Chernobyl nuclear power plant accident, emphasis was placed on how the culture of organizations contributes to accidents. This call for advancing safety culture, included subcultures, outlined by Reason (2000a) as an informed cultured sustained by a reporting culture, (founded on a *just culture*) supported by a learning culture that functions as a flexible culture.

> The complete absence of such a reporting culture within the Soviet Union contributed crucially to the Chernobyl disaster. Trust is a key element of a reporting culture and this, in turn, requires the existence of a *just culture*—one possessing a collective understanding of where the line should be drawn between blameless and blameworthy actions. Engineering a *just culture* is an essential early step in creating a safe culture.
>
> [(Reason, 2000b)]

This statement echoes Marx's (1997) earlier call for a collective understanding of the culpability line after a mishap, and where human error had been identified as the cause, could be divided into three subsets:

- Errors with associated unintentional rule violations.
- Errors with associated intentional rule violations.
- Errors with associated reckless behavior.

Despite his crafting and support of these categories during investigations, Marx acknowledged that "even under the best of circumstances, human reliability will never be 100%. And when the unlucky person working within established dynamic high-reliability norms falls victim to error, resulting disciplinary action may do more harm than good to system safety (Marx, 1997). Yet for both Marx and Reason, the measure of blame and punishment comes down to determining the intentions of the operator when an error or incident occurs.

Other early advocates of *just culture* expanded on the work of theorist in the study of organizational justice, who focused on concepts of fairness as it directly relate in the work environment (Greenberg, 1987, 1988; Bies, 1987; Bies and Shapiro, 1988). "Specifically, organizational justice is concerned with the ways in which employees determine if they have been treated fairly in their jobs and the ways in which those determinations influence other work-related variables" (Moorman, 1991, p. 845). These concepts of fairness in organizational justice, led to deeper understanding of accountability as both a catalyst for advancing just culture, and a deterrent in its retrospective form (Weick and Sutcliffe, 2003; Weick 2004; Ruchlin et al., 2004; Dekker, 2007). In this way, concepts of *just culture* began to diverge based on interpretations of accountability and culpability.