# Is justice really important

**by Professor Erik Hollnagel**

## Justice follows safety

Justice has in recent years become of increasing importance in relation to safety, although more to safety investigations than to safety management. This has not happened because justice is something that actually improves safety, except perhaps in a very indirect manner. Indeed, the role of justice only begins after safety professionals have done their work. It has rather happened because justice can be the inevitable continuation of safety investigations that determine that the actions – or inactions – of someone have worsened the development of an event leading to a serious adverse outcome.

The number of such cases has been on the rise for several years. The main reason for this is that the technological developments, in aviation as well as in other industries, that were intended to make systems less dependent on human performance and thereby presumably less prone to failure, instead have made systems more intractable and therefore paradoxically more dependent on human performance. Since the importance of human action thus has increased (not least in non-routine situations), investigations into adverse outcomes now seek extensive information (data) about how people thought and how they acted in a situation – far more than that which can be obtained by 'mechanical' means. Investigations have therefore come to depend on the participation and contribution of people. Controllers, pilots, and others may, however, be reluctant to report fully on what they have done for fear of ending up under the radar of judicial authorities, even in cases where they have worked in a prudent and professional manner. This reluctance stifles the flow of information with consequences for both safety investigations and the legal procedures that potentially may follow.

The pragmatic answer to this problem has been to try to remove any responsibility or liability from people who might be involved in incidents by building a just culture, defined as:

***"A culture in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated."***

**Professor Erik Hollnagel** is Professor at the University of Southern Denmark (DK), Professor Emeritus at the University of Linköping (S).

Professional interests: industrial safety, resilience engineering, patient safety, accident investigation, and modelling large-scale socio-technical systems. He has published widely and is the author/editor of 21 books, including five books on resilience engineering. Erik also coordinates the Resilient Health Care net and the FRAMily.

# for safety?

Achieving this is, however, easier said than done, a fate it shares with most other types of specialised cultures. Attempting to describe, let alone define, just culture is hard, not least because justice is understood differently by pilots, controllers, managers, regulators, prosecutors, and judges. The existence or possibility of a just culture is nevertheless not the issue here, except perhaps to note that it is not a panacea.

## What is Justice?

According to the dictionary, justice is the principle of moral rightness in the sense of determining in an impartial manner whether the responsibility for something that has happened can be assigned to a specific person or persons – and in principle also to a social entity such as an organisation. It is a paramount principle of modern societies that no one should be considered responsible except on the basis of facts. But this principle implies both a belief in the reality of the facts presented and a belief that causal links can be established among them. The latter, known by academics as the causality credo, consists of the following three assumptions:

- Adverse outcomes (accidents, incidents) happen when something goes wrong. Conversely, acceptable outcomes happen because everything worked as it should and because people behaved as intended. This is also called the hypotheses of different causes, meaning that the causes for what goes right are different from the causes for what goes wrong.
- Adverse outcomes consequently have causes, which can be found and treated. Causes are real and can be established as facts – or even as truths. Because effects follow from causes, outcomes are resultant rather than emerging. (Emergent outcomes are not additive and neither predictable from knowledge of their components nor decomposable into those components.)
- Since accidents have causes and since these causes can be found, it follows that all accidents can be prevented.

Is justice really important for safety? (cont'd)

If we accept the causality credo, and the definition of safety that follows from it, then it is reasonable that both justice and just culture play a role. It is also reasonable that society tries to seek justice when serious harm has been done, or try to find out whether there is a case for justice in the sense that someone rightly can be said to be responsible for the harm done. The question that is considered here is, however, not whether this is reasonable, but whether it is relevant and meaningful for safety. There are two different answers to this question depending on the preferred definition of safety.

## Safety-I: Freedom from Unacceptable Risk

Safety is conventionally defined as a condition where the number of adverse outcomes (accidents / incidents / near misses) is as low as possible. Since this is the first definition of safety, and until recently also the only one, it has been called Safety-I. It follows from this definition that safety becomes an issue when something has gone wrong. According to the causality credo, when something goes wrong there is a reason, a cause, that can be found. In cases where that reason or cause is an unusual human action or 'human error', it makes sense (under certain assumptions) to see that justice is done with regard to that human action.

In Safety-I, safety is usually linked to an event, namely the event or failure that results in an adverse outcome. But safety can also be linked to a non-event, namely the absence rather than the occurrence of adverse outcomes.

This has been nicely captured by Karl Weick's definition of safety as a dynamic non-event[1]. Under those conditions the responsibility of the human is to make sure that nothing goes wrong (hence the dynamic nature of the non-event), and when something does go wrong it is consequently because someone did not do what was necessary or required, i.e. there was an omission of a preventive action (or a loss of control) rather than a failure. In both cases it may be reasonable to pursue what has happened and to involve justice in assigning the responsibility for the action to someone.

## Safety-II: Ability to Succeed

But there is also another definition of safety, called Safety-II, according to which safety is a condition where the number of successful outcomes (meaning everyday work) is as high as possible. When safety is defined in this way as the system's ability to succeed under varying conditions, then safety management requires an understanding of why things go right, which means an understanding of everyday activities. The focus of safety investigations must place what exceptionally goes wrong in a context of what frequently goes right. Adverse outcomes are seen as the result of usual actions in unusual conditions rather than unusual actions in usual conditions. Safety-II therefore does not look for specific causes of adverse outcomes, but rather tries to develop an understanding of how people normally do their work effectively and safely. While this clearly is of interest to safety management and safety improvement, it is of little interest to justice. No one seriously wants to prosecute people for doing their work well, even if that means that they did not follow procedures and guidelines to the letter. (It may, of course, still be reasonable to prosecute them in situations where they did not do their work well, although that cannot be done without returning to the causality credo.) The Safety-II view makes clear that what people usually do is done for good reasons even if the outcome is occasionally unintended – and unsafe. Unlike Safety-I, Safety-II does not subscribe to the hypothesis of different causes. It is assumed instead that the reason why things go right and things go wrong are the same. It therefore makes little sense to prosecute people for doing what they normally do, just because it turned out badly.


1- Weick, K. E. (1987). Organizational Culture as a Source of High Reliability. California

| | USUAL ACTIONS | UNUSUAL ACTIONS |
|---|---|---|
| **USUAL CONDITIONS** | Outcomes: Usually acceptable | Outcomes: Possibly unacceptable |
| | Safety-I: Not relevant | Safety-I: Potentially relevant |
| | Safety-II: Definitely relevant | Safety-II: Relevant |
| | Justice: No interest | Justice: Potentially of interest |
| **UNUSUAL CONDITIONS** | Outcomes: Possibly unacceptable | Outcomes: Very likely unacceptable |
| | Safety-I: Potentially relevant | Safety-I: Relevant |
| | Safety-II: Relevant | Safety-II: Relevant |
| | Justice: Potentially of interest | Justice: Definitely of interest |

**Table 1: Reponses to combinations of actions and conditions**

## Conclusion

The need for judicial process to parallel safety investigations can be seen as a product of a particular view of safety (Safety-I) and of the search for causes that follows from that. This assumes that the hypothesis of different causes is right, and that people can make a moral judgement on whether what they did was right or wrong. But if the hypothesis of different causes is wrong and that instead people always try to do the best they can, then we cannot claim that it is reprehensible to do what they normally do in cases where the outcome is unsafe, unless we also claim that it is reprehensible in the cases where the outcome is acceptable. The logical consequence of that is that we should not allow people to do what they normally do, but instead oblige them to do what we think they should do (to work as we imagine work should be done). The consequences of that are unpalatable, to say the least.

The difference between the two views can be summarised as follows. Safety-I assumes that adverse outcomes are the result of unusual actions under usual – and perhaps also unusual – circumstances. It therefore becomes essential to study unusual actions (a.k.a. 'errors') and to complement the investigation with criminal prosecution if there is clear evidence of gross negligence. This is presumed to act as a deterrent and in that way support the improvement of safety. Safety-II assumes that adverse outcomes are due to usual actions under unusual circumstances. It therefore becomes essential to study usual actions or everyday performance in order to understand unsafe outcomes and there is little need of or value in trying to accompany the investigation with a process of law. Safety can be improved by strengthening or reinforcing what people do well, rather than by obliging them to comply with rules and procedures.

Table 1 shows a matrix with four cells which represent the possible combinations of usual/unusual actions and usual/unusual conditions. Each cell shows the degree of acceptability of the outcome and the extent of concern which this represents to the perspectives represented by 'Safety-I' and 'Safety-II' and to Justice. It can be argued that it is more constructive – and productive – to ensure the presence of acceptable outcomes rather than the absence of unacceptable outcomes. The conclusion which may be drawn from Table 1 is therefore that justice may play a role in cases where safety is missing (adverse outcomes) but not where safety is present (everyday work).

There is probably not much hope of changing the common basis of justice today, which dates from the early sixth century codification of Roman law in Justinian's Corpus Juris Civilis. Despite the attractiveness and advantages of a Safety-II perspective, we must realistically accept that it will co-exist with a Safety-I perspective for many years to come. But we can at least begin to be mindful about it, so that we do not do things out of habit but rather because they make sense vis-a-vis our purpose. While finding causes and holding people responsible may be reasonable for society and for the general sense of justice, it is of very limited practical value, if not directly counterproductive, for safety and safety management.