Human error after all

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September 11 has changed everything. Or so the general belief goes. The brutal use of commercial airliners for the purpose of terrorist attacks has opened a window onto a reality that previously belonged solely to fiction. Books by Tom Clancy. As the events of September 11 recede into the past, their implications are pushing us forward, into a new interpretation of world order, where threats to aerospace safety, and tactics to forestall them, have shifted dramatically. While the nature of the threat facing us today may have been brought into clearer focus by September 11, its source eludes us and we do not know which pathway to success it will attempt to pursue next time. This affects our investments, as aerospace community, in protection against failure. The chief threat to safety was once ‘human error’, and though an elusive source of failure, we learned—if haphazardly and stumblingly—how to invest in countermeasures and buffers against it. But, as far as I know, ‘human error’ has not ever been cited as responsible for four complete hull losses and thousands of lives in one day. Terrorism now has. It is likely that because of this, aerospace human factors research agendas may change in emphasis and direction, as aviation safety funding sources demand greater attention to the more pedestrian world of passenger and baggage checking.

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But human error never goes away. And by this I do not mean the phenomenon of performance deviations as they exist out there in operational worlds (for surely those won’t go away). No, by this I mean our judgment, as a community, as a society, of what lies behind failure, of what causes failure. As people started digging through the rubble of the September 11 events, removing stone by stone, slab by slab, body by body, they undoubtedly kept asking ‘why?’. The answers that
kept returning in the immediate weeks after the disaster were deeply muddied and
diffused, pointing to that new world order, where repercussions from irregularities
and injustices thousands of miles away and hundreds of years into history would
suddenly drive a stake into the financial heart of Western society; where possible
blowback from intelligence interventions in Central Asia more than a decade and a
half old would prove to have grown out of control.

But such diffuse explanations of failure, that extend and multiply cause ad
infinitum; that fade into the dust of distant lands and ill-understood history, are
complex. Not only are they complex, they are deeply troubling, for they force
responsibility on Western society itself, as it were European nations who carved
up the carcass of the Ottoman Empire less than a century ago, into the countries
that now produce their oil and their terrorist threat.

Faced by a rising body count in Lower Manhattan, on the Virginia bank of the
Potomac and in that field in Pennsylvania, the complex and foggy explanations for
‘why?’ may themselves begin to crumble, victims of a loss of patience and a desire
for immediately visible countermeasures. This is where explanatory tension
appears. From the diffused account, that spreads out from the rubble to
organizational factors, cultural conditions and the poverty and frustration of whole
groups of young men and women in a newly interconnected world, we move back
to a very localized account, and account that is more comfortable, more
understandable; where the source of failure can be pinned down in a very limited
space-time volume, and, better still, in one single human action or inaction (see
Galison, 2000).

On October 4th, less than a month after the attacks, that single human inaction
had been found in the rubble. The flaw was located within the Head of Security at
Boston Logan Airport, from where two of the suspects hijacked their respective
Boeing 767’s. It was determined that the attacks occurred on his watch, and so it
came time for him to leave his job. The governor of Massachusetts, probably
under pressure to help construct a cause where none could otherwise be found,
warned him. The events of September 11 had once again been the result of human
error—if only the Head of Security had done his job well, this would never have
happened. The Head of Security was ejected from the aviation system, never to
cause trouble again. The bad apple had been found and banished from the basket,
the system was once again safe and we could all fly again—safely. Or so the
Chief Executive pleaded with the no-longer-flying-public on a sunny day between
idly parked airplanes at Chicago O’Hare.

This, in some sense, is the sick perpetuation of human error research. Even if
we, as researchers, have no inclination whatsoever to label ‘human error’ as
causal, other people will readily do so for us. ‘Human error’ becomes the product
of political pressure.

Yet the media did not seem to buy it. Usually a protagonist for simple and
limited accounts of failure; a subscriber to the usefulness and explanatory
exhaustiveness of the label ‘human error’, the media did not buy the localized
explanation this time. It was, after all, pretty obvious: the Head of Security at
Boston Logan, like all U.S. airports, had previously little say over the checking of
bags and passengers. His job mandate focused on security of the airport’s real
estate—runways, buildings, perimeter fences. The checking of bags and
passengers was the job of the airlines, who delegated it to a limited number of
outside security companies. The personnel turnover in these companies reached
200% per year at Boston Logan alone, where a sizable percentage of security
workers (all on low hourly wage) were not even born in the US, some only having
been there a year or less. Logan, by the way, was not the only airport from which
later hijacked aircraft took off, so what about the other Heads of Security? And
then of course, there was the ultimate irony: it was not at Boston Logan where the
two suspects slipped through security first, but at Portland, Maine. Aviation Week
and Space Technology (September 24, 2001, p. 22) showed a picture, a video still,
of the two men striding through security at Portland—confidently, if relieved. The
date was September 11, the time was 05:45 am. Their destination was Boston
Logan. So the localized explanation did not hold water—as it never does.

But the tension between localized and diffused accounts will continue (Galison,
2000). Other ‘Eureka parts’ (as the chief investigator of TWA 800 called it) or,
for that matter, ‘Eureka people’ will be identified as the seed of destruction, and
presented as our greatest hope for directing countermeasures against repetition. As
Snook (2000) and Galison (2000) and other researchers appear to agree, this
search for the nucleus of failure, for the source from which all evil emanates, is
not necessarily without purpose. The purpose, however, is not to explain failure,
because that will never work. The purpose is instead to keep a nightmare at bay.
The events of September 11, like all crashes, open a crack of a window onto a
world we would rather not know about. A world in which there is no single cause,
in which all causes are themselves effects of other causes, in infinite perpetuity; a
world in which failure is not the result of egregious misbehaviour or complacency,
but where it instead follows from normal people doing normal work in normal
organizations; a world in which the failures that confront us are the necessary by-
product of the way we organize our work and distribute our resources; a world that
may be a much less orderly and much more dangerous place than we would ever
want to know. With the pursuit and identification of a eureka part, or eureka
person, we lean against that window onto that world, we lean against it with all
our might and against pressures to acknowledge what goes on at the other side. To
keep that nightmare at bay, we struggle to slam it shut.

References

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