Lock and Load? Explaining Different Policies for Delivering Safety and Security in the Air

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The September 11 attacks on the World Trade Center and Pentagon generated significant social, economic, and political perturbations. The airline industry has been affected directly, with passenger numbers down and some airlines such as Midway in the United States and Sabena in Europe ceasing to exist. In an effort to restore confidence, the airlines, regulatory agencies, and governments on both sides of the Atlantic introduced “emergency” measures to increase public confidence in security. While cockpit incursion poses a risk to air safety (although it is not a novel phenomenon) other factors may also compromise safety (such as crew fatigue, flawed design, careless maintenance, and poor intra-crew communication and coordination [Bennett 2001a]). Both the United States (U.S.) and the United Kingdom (U.K.) have done much work on improving this latter safety-related aspect of commercial air operations. Out of this work has emerged the discipline of cockpit or crew resource management (CRM). (Different nomenclatures may be used.) One of the preconditions for effective CRM is ease of access between the flight deck and cabin. In the U.K., the British Air Line Pilots’ Association (BALPA) has voiced concern over the impact that locked and barred cockpit doors and new communication protocols will have on CRM. This has not been a major public concern of America’s Air Line Pilots’ Association (ALPA). This paper uses Kasprow’s theory of risk amplification and Sprenl’s observations on risk attenuation to understand (a) how two organizations working in the same industry and representing the same grade of worker could generate different risk perceptions and (b) how the major pilots’
union of the country that did much of the early work on CRM (the United States) could de-emphasize it in post-September 11 debates on crew and passenger safety.

The September 11 attacks constitute the context of this study. The "problem" to be solved is how two representative organizations doing the same job in the same industry for the same grade of worker could develop different risk perceptions—through the consideration they gave to the safety-enhancing discipline of CRM in the post-September 11 debate over safety and security.

The paper uses the deductive method. Kasperov's "integrative framework" is described with a view to understanding the data presented in the case study. The case study contains primary data in the form of quotations from relevant actors (although the quotations are garnered from secondary sources [press releases and media accounts]), British Airways (BA) Cabin Crew Safety Notice (British Airways 2001a), and a BA flight and cabin crew attitude survey (British Airways 2001b).

In the first section, "Theories," the risk perception work of Kasperov and Sprent is described (supplemented by observations from academics such as Rachlin, Slovic, and Fischhoff). In "The September 11 attacks" section, commercial aviation's pre-September 11 financial and safety imperatives are reviewed and CRM is described in detail. The attacks and subsequent media reporting are also described. In "Responses," the official reactions of the U.S. and U.K. authorities are described. ALPA's demands and BALPA's statements are reviewed. "Reactions" samples a range of opinion, from America's General Accounting Office (GAO) to BA's flight and cabin crew. Finally, by way of summation, ten observations are made and conclusions drawn.

Theories

According to Kasperov (1992, p. 159), "The experience of risk is ... both an experience of physical harm and the result of culture and social processes by which [we] acquire or create interpretations of hazards. ... Each social group selects certain risks and adds them to its strand of worry-beads ... even as it selects out other risks as not meriting immediate concern." There are two approaches to understanding risk perception: singular and integrative. In the former, one of three theories of risk perception—technical, psychological, or social—is applied. Technical understandings of risk perception assume that people make decisions on the basis of mathematical indexes. (The multiplication of
the probability of an event by a mathematical expression of its consequences provides an index of "risk." People may then make rational choices. This approach is favored by engineers and economists to whom it represents "absolute rationality." Other approaches, they say, produce a lesser "bounded rationality"). Psychological understandings of risk perception are grounded in behavioral decision theory. Heuristics are assumed to play an important role in risk perception (Bennett 2000). Cultural approaches to risk perception posit that the risks selected for attention reflect cultural biases. These risks strengthen group norms.

Kaspersk's integrative framework provides an alternative. To the extent that it offers an inclusive, holistic conception of risk perception, it is an antidote to Balkanization within risk perception theory. Kaspersk calls his approach the "social amplification of risk" model of risk perception. He offers this definition:

The concept of social amplification of risk is based on the thesis that events pertaining to hazards interact with psychological, social, institutional, and cultural processes in ways that can heighten or attenuate perceptions of risk and shape risk behavior. Behavioral responses . . . generate secondary consequences . . . . Such secondary effects often . . . trigger demands for additional institutional responses and protective actions . . . (Kaspersk 1992, pp. 157-158)

According to Kaspersk (1992, p. 160), "secondary effects . . . extend beyond the people directly affected by the original hazard event . . . ." These can include "enduring mental perceptions, images, and attitudes"; "impacts on the local or regional economy"; "political and social pressure"; "changes in risk . . . regulation"; and "perceptions on other technologies (e.g., lower levels of public acceptance)." Kaspersk's (1992, p. 158) model is part social constructivist: "Risk, in our view, is in part an objective threat of harm to people and in part a product of culture and social experience." "The experience of risk," he says, is in part a function of "interpretations of hazards" (Kaspersk 1992, p. 159). The social amplification process starts with the objective reality of a physical disturbance—a "hazard event." Depending upon their agenda of concerns, individuals, groups, and/or institutions (each a potential "amplification station") will either "tune in" to the event or ignore it. The amplification station's extant world view (its "culture") will influence how the information is received.
Social groups and individuals process the information, locate it in their agenda of concerns, and may feel compelled to respond. Some may change their previously held beliefs. ... [O]thers find the added information as confirming long-held views. ... (Kasprow 1992, p. 159)

Steven Rayner asserts that organizations “scan” for risks that resonate with their agenda of concerns, as Kasprow explains:

Rayner ... points out ... that how the receiver is tuned to receive signals on one frequency and not another and how it selects a particular signal subset from the total number of signals coming in are essential. ... [O]rganizations actively seek out and order risks. (Rayner, quoted in Kasprow 1992, p. 164)

According to Pidgeon et al. (1992, p. 114), Kasprow’s model acknowledges the role of the media in the risk perception process:

[H]azards and their objective characteristics (e.g., deaths, injuries, damage, and social disruption) interact with a wide range of psychological, social, or cultural processes in ways that intensify or attenuate perceptions of risk. At the heart of this suggestion is the observation that most of our knowledge ... is second-hand, that is, we come to know about the world through various communications that we receive in the form of signs, signals, or images. ... [H]azardous events hold a "signal value" ...

As mentioned above, a hazardous event can generate such secondary effects as "enduring mental perceptions, images, and attitudes." It could be argued that the degree to which this happens is partly a function of the heuristic quality of the hazard event. Risk perceptions may be influenced by heuristic reasoning. Heuristics can be induced in one of two ways. First, one’s direct experience of an event may lead one to make certain assumptions about the likelihood of its recurrence. Secondly, the re-presentation of an event through, for example, the media may lead one to make similar assumptions about the likelihood of its recurrence. The more visceral and memorable the images and descriptions of the event (that is, the more vivid the “signs, signals, or images”), the more it will influence one’s calculation of frequency. Events provide “availability heuristics.” As Pidgeon et al. (1992, p. 99) explain:
The availability heuristic . . . suggests that an event will be judged probable or frequent to the extent that instances of it are easily recalled or imagined (i.e. are available in memory).

Rachlin (1989, pp. 60-61) defines availability heuristics in colloquial terms:

You are driving along the highway and see the flashing lights of police cars and ambulances . . . . You drive a little slower for the next hour or so. You hear that . . . President Reagan has rectal cancer, and you make an appointment with your own doctor. In making judgments as well as decisions we tend to use the information that is most available to us. . . . It is of course easiest and fastest to make judgments on the basis of what is easiest to call to mind—the heuristic of availability.

Making a judgment on the basis of an availability heuristic has one major drawback, namely that events may be frequently and vividly reported in the media not because they are frequently occurring, but because of some other characteristic such as their "shock value" or celebrity association (e.g., Reagan’s cancer). Risk perceptions informed by availability heuristics generated under these circumstances may be so skewed as to be dangerous to those who hold them. As Pidgeon et al. (1992, pp. 99-100) explain:

"[I]f there is a selective presentation of information, so that some events are over-represented, then reliance upon the availability heuristic may be misleading as a guide to frequency. For causes with which we have little direct familiarity, mass-media reporting, particularly of vivid or sensational events, may well be influential." (my emphasis)

Slovic and Fischhoff (1980, p. 123) assert:

"[A]vailability is often an appropriate cue for judging frequency and probability. However, availability is also affected by numerous factors unrelated to likelihood. As a result, reliance on it may lead people to exaggerate the probabilities of events that are particularly recent, vivid, or emotionally salient.

Thus to the degree that availability is a function not of frequency but of recency, spectacle, or emotional impact, availability may not be
the most accurate or objective basis on which to evaluate risks. In short, the availability heuristic may generate skewed risk perceptions. Resulting risk management decisions may produce a net increase in societal risk as more serious hazards are de-emphasized or ignored. On May 20, 2002, seven people were killed in a railway accident at Porters Bar in England. The following day the Daily Mirror (2002), Britain’s “Newspaper of the Year,” featured the story on seven of its eighty pages. Claiming that “...the rail system is drifting out of control,” the newspaper explained that under the Labor government (i.e., between 1997 and 2002) fifty-nine people had died in rail accidents. What the newspaper did not mention was that in the same period some 17,500 persons died on Britain’s roads. (Forty thousand are killed each year on European roads.) It also glossed over a general improvement in railway safety (Health and Safety Executive 2000). As a result of the crash (and possibly of the reporting), Transport Secretary Stephen Byers found himself under political pressure in the midst of his attempt to implement long-term structural change within the industry. Byers was quoted in the Mirror as saying “Rail travel is safe.” The newspaper responded with a front-page banner headline: “SAFE? You Must Be Bloody Joking, Byers.” Byers resigned at the end of May 2002.

According to Pidgeon et al. (1992, p. 116), the social amplification of risk model “…emphasizes the important point that the subject [of risk perception] must be viewed from a multidisciplinary perspective rather than accepting the hegemony of any one particular approach.” As to the utility of the model, Pidgeon et al. (1992, p. 116) suggest: “[The] intensification of signals that point to a serious and perhaps new risk might lead to the prevention of a disaster by better technological design or risk management.” Alternatively, intensification on grounds of “shock value” or party-political maneuvering may catalyze disaster by causing a misdirection of effort.

Sprent makes two key observations about risk perception. First, risk perception is partly a function of the nature of an event. As he explains:

Concentrated risks (e.g., Jumbo jet crash) are regarded as worse than diffuse risks (road accidents ...). Involuntary risks ... are regarded as worse than voluntary risks. ... Imposed risks are less acceptable. ... Immediate hazards ... are seen as worse than deferred hazards. ... [People are] influenced in their assessment by the kill size or number of deaths or injuries that might result from a single incident. (Sprent 1988, pp. 31–32)
Second, "distance lends enchantment" (Sprent 1988, p. 35). As he explains: "Attitudes to tragedy are influenced by geographic or social distance. A flood in Pakistan may well bring less reaction in the U.K. than when a cross-channel ferry capsizes with only one-twentieth the loss of life" (Sprent 1988, p. 35). After investigating the New York Times' reporting of aviation accidents, Curtis (2000) concluded: "The [newspaper] disproportionately reported fatal events involving jet aircraft and fatal events in the U.S.... Fatal events were also more likely to be reported as the magnitude of fatalities increased." He also found that air crashes involving hijack, sabotage, or military action received greatest attention.

The September 11 Attacks

Commercial Context

U.S. domestic aviation was transformed in the 1970s. Elected on a "consumerist" ticket, the Carter administration passed the Airline Deregulation Act. The price-fixing Civil Aeronautics Board (CAB) was abolished. A new type of airline emerged—the "no-frills," low-cost carrier. (Southwest Airlines was the first.) "Price wars" were commonplace. Old-style, full-service airlines such as Braniff and Pan Am found it hard to compete. Both disappeared. Whereas air travel had been an exclusive activity, it was now accessible to the general public. A perceptual change occurred: air travel was no longer perceived as a leisurely mode of transport—something to be enjoyed for its own sake. Frequency, speed, and convenience became the dominant mores of commercial air travel—especially in the deregulated U.S. domestic market with its consumer-friendly "walk-on, walk-off" mind-set. According to Flight International (2001c), there developed a "sausage-machine mentality" that permitted U.S. domestic carriers "to run tight schedules and passengers to enjoy lax and speedy check-in and security procedures." According to Field (2002, p. 46), airport design was informed more by "passenger convenience" than by security considerations. Following the September 11 attacks, The Economist (2001) passed the following judgment on security:

For years, visiting Europeans have been either alarmed or delighted, according to temperament, to discover that boarding an airliner in America is as easy as boarding a train back home: bags checked at the curb, tickets issued at the flash of a driving license, minimal or no inspection of cabin baggage.
An emphasis on cost reduction paralleled the emphasis on “convenience.” No service was immune, including security. According to Flight International (2001a, pp. 10-11), U.S. screeners “. . . were paid close to minimum wage and receive[d] minimal training, resulting in a turnover exceeding 100 percent a year at major U.S. airports.” “The low-cost culture was resistant to change, even when security concerns were highlighted by government. In February 1997 Al Gore’s White House Commission on Aviation Safety and Security reported that the threat of terrorism “. . . is no longer just an overseas threat. . . . People and places in the United States have joined the list of targets.” (White House Commission, quoted in Flight International 2001b). According to Flight International (2001b), America’s Air Transport Association (ATA) “. . . said that the effect of. . . additional security measures [on the National Airspace System (NAS)] would radically change the fast-turnaround nature of domestic air travel.” (Similar concerns were expressed in Europe post-September 11. The Secretary General of the Association of European Airlines [AEA] stated: “The AEA is concerned that specific measures could be imposed that could affect our industry. We call on the [European] Commission to carefully assess further measures with experts and the industry.” (quoted in Russe 2001). Newsweek’s April 23, 2001, cover announced an investigation into America’s domestic “Air Hell.” The lurid headline, “Fed Up? How To Get Travel Moving Again . . . 7 Ways To Fix Flying,” appeared against a photograph of a crowded coach-class section. Newsweek devoted fourteen pages to its prevacation investigation of America’s domestic services (Bryant 2001). Clearly, there was media concern about overcrowding, inconvenience, and delays within the NAS prior to September 11.

Safety Context

Despite some questionable attitudes toward security, commercial aviation has put considerable effort into improving safety—with some success (Flight International 2000b). CRM, which involves the application of management skills to flight operations, has enhanced flight safety. The discipline originated in response to a feeling among flight crews that the traditional emphasis on “stick-and-rudder” skills was no longer sufficient. They wanted to learn how to manage the aircraft as a socio-technical system, as well as fly it “by the seat of their pants.” As Lauber (Lauber, quoted in Wienck, Kunk, and Helreich 1993, pp. xvi-xvii) explains:
(There was) a general dissatisfaction with flight crew training. However, this dissatisfaction was not directed toward the technical side... Rather... concerns were directed toward something a bit more difficult to pin down, but which often included reference to leadership, command, communications, decision making, and similar concepts.

In its contemporary form, CRM has been defined as “using all available resources, information, equipment, and people to achieve safe and efficient flight operations” (Krause 1996, p. 13). According to Lauber, CRM gives flight crews the skills and confidence “to identify and utilize resources—the hardware, software, and liveware... readily available to them” (Lauber, quoted in Wiener et al. 1993, p. xvi). As Krause (1996, p. 6) puts it: “The core of the [CRM] programme is to create teamwork.” The premise is that effective communication and cooperation between flight and cabin crew (with the objective of encouraging and facilitating teamwork) will augment the crew’s capacity to manage flights safely and efficiently. Barriers to communication and cooperation such as personality clashes compromise the crew’s ability to manage flights safely and efficiently. Krause (1996, p. 11), citing research conducted by Chute and Wiener, suggests that physical barriers such as closed cockpit doors have the same impact:

A closed cockpit door can serve as a point of division in the same manner as when flight attendants are huddled in the aft galley. A territorial attitude of “You take care of your part of the airplane, I’ll take care of mine,” is another problem indicative of the physical separation in an airplane.

Krause (1996, p. 9) makes the point that “...by setting the stage for open communication with the cabin crew, potentially serious malfunctions in the aircraft, such as pressurization, electrical, and air-conditioning problems, have been detected and corrected early.” In his description of a four-day U.S. domestic rotation, Gianett recounts how the captain (Hartman, quoted in Gianett 1990, p. 430) “sold” CRM to his crew:

[If you guys [sic] have any problems back there, either with a passenger, or if something doesn’t look right, let us know. You guys have been around enough, if it doesn’t sound right... please come up front... It could be something important...
There is statistical and anecdotal evidence for the effectiveness of CRM as a safety-enhancer. Krause (1996, pp. 13-14) explains: "According to documented statistics, since United [Airlines] began the CRM training program, the airline's accident rate went from one hull loss per one million operations to one hull loss per 4.8 million operations. The average for all U.S. carriers is still one hull loss per one million operations." According to Lauber: "Captain Al Haynes, the pilot of the [United Airlines] DC-10 [that Haynes and three colleagues crash-landed at Sioux City in 1989 having lost all the aircraft's flying controls] has frequently and publicly cited the training they received in 'cockpit [sic] resource management' as one of the most important ingredients in his crew's successful performance [175 passengers survived]" (Lauber, quoted in Wiener et al. 1995, pp. xv-xvi). During the emergency Captain Haynes summoned a DC-10 instructor traveling as a passenger to help on the flight deck. Haynes (1994, p. 26) later alluded to the importance of CRM: "[There was] excellent cooperation in the cockpit... but we also benefited from tremendous cooperation between the cabin and the cockpit crew, especially considering that we did not have a lot of time to talk to them... A lot of communication was not necessary to accomplish the level of cooperation we needed; it happened, to a large extent, spontaneously." Job (1996, p. 199) comments: "[Haynes's] ready acceptance of the check captain to assist on the flightdeck showed the value of flightdeck resource management training."

If Sioux City demonstrated the potential safety benefits of good communication and resource management, the Kegworth air crash in the same year demonstrated what can happen when communication is inhibited and flight and cabin crew do not work together. After experiencing vibration and smoke in the cabin, the flight crew concluded that the problem lay with the right-hand engine. This engine was shut down. However, "... a few seconds earlier the passengers and cabin staff had seen flames, experienced vibrations, and smelt smoke from the left-hand engine" (Weir 1996, p. 118). The cabin crew did not communicate this information to the flight crew. In the subsequent Air Accident Investigation Branch (AAIB) report, two observations were made on the status and potential utility of CRM within U.K. commercial air operations. The Report stated first that: "... had some initiative been taken by one or more of the cabin crew who had seen the distress of the left engine, this accident could have been prevented." It went on to assert: "Present patterns of airline training do not provide specifically for the exercise of co-ordination between cabin and flight crew in such circumstances," and concluded: "(A) different pattern of training could have
favorably influenced the outcome." Thirty-nine passengers died in the crash, and sixty-seven were seriously injured. Eight later died. The report recommended: "Training exercises for pilots and cabin crew should be introduced to improve co-ordination between technical and cabin crews in response to an emergency" (Air Accident Investigation Branch 1990, pp. 95-136). CRM training is now an established component of U.K. flight and cabin crew training. Such training equips cabin crews with the skills necessary to overcome what Weir calls "those social and organizational mechanisms" that inhibit intra-crew communication and coordination (Weir 1996, p. 118).

The Attacks

On September 11, 2001, four commercial aircraft were hijacked in the U.S. Two were flown into the World Trade Center towers in New York. One was flown into the Pentagon in Washington, D.C. One crashed in Pennsylvania. Hijackers forced their way onto the flight decks of the aircraft. The cockpit doors of the four aircraft had been locked at the time of the assaults. Up to 3,000 persons were killed. The attacks also generated "secondary effects." Many people stopped flying or delayed trips. Major economic perturbations were experienced in the airline, tourism, and aircraft manufacturing industries. According to Fenton (2001), "An estimated 100,000 Americans ... lost their jobs in airlines, hotels, and other travel industries." The loss of human life, capital, and business impacted the insurance industry (Watts 2001).

The attacks and their secondary effects were widely reported. The column inches devoted to the events of September 11 would appear to support Curtis's (2000) findings that domestic "high kill" jet aircraft accidents attributable to malfeasance attract significant U.S. media coverage. Much reporting was "real time." Some said the events represented a watershed in human experience. Flight International (2001c) stated:

"The events on the screen—for many unfolding in real time—were...so awful that most of us, a week later, are still struggling to take them in. There are images—office workers tumbling from top floors of the twin towers, family snapshots of children aboard the doomed flights, the grotesque remains of one of the world's most famous landmarks—that will haunt us for years."

The Economist (2001), noting that more died on September 11 than in the Japanese attack on Pearl Harbor, stated:
The appalling atrocities of September 11—acts that must be seen as a declaration of war not just on America but on all civilized people—were crueler in conception and even more shocking than what happened in Hawaii. . . . This week has changed America, and with it the world, once again.

One Oxford academic described the attacks as "... one of those defining moments of global experience and emotion, shared through television." The attacks, he said, "... [world-wide] have an incalculable impact on the psychology of America." (Garvan Ash 2001). In the United States, President Bush spoke of Americans' "... disbelief, terrible sadness, and... quiet, unyielding anger" and asked Americans to pray. "... for all those whose sense of safety and security has been threatened." (Bush, quoted in The Independent, Thursday Review 2001). The President used more bellicose rhetoric, too. "We will be patient. We'll be focused, and we will be steadfast in our determination. This battle will take time and resolve, but make no mistake about it, we will win" (Bush, quoted in Borger 2001). Similar sentiments were expressed through and by the Fourth Estate. According to Campbell (2001):

Anger, fear, and above all a desire for retaliation flooded America's talk shows and phone-ins yesterday [Wednesday, September 12] as the nation unleashed its emotions over the terrorist attacks. A tide of public calls for revenge was backed by politicians.

According to a CNN/USA Today/Gallup poll, "Nearly 90 percent of Americans believe[d] the attacks represe[nted] an act of war [and] almost 80 percent were confident that President George Bush could handle the crisis" (Campbell 2001). American newspapers devoted many columns to the attacks, some introducing their coverage with strident banner headlines. The September 12 front-page headline of the Washington Times was a single word: "Inferno." The same day, the Baltimore Sun carried the front-page headline "Devastation." The New York Times carried the headline "U.S. Attacked." USA Today carried the banner headline "Act of War." The Advocate of Ohio carried the banner headline "American Nightmare." A major theme was that of "national resolve." The New York Daily News stated: "... there is no nation stronger than the United States. ... Our resolve runs very, very deep." The Pittsburgh Post-Gazette stated: "So far Mr. Bush is sending the right message... . . . Last night he pointedly promised retaliation... . . . The
Washington Post stated: "The 'Sleeping giant'... has been awakened. The events of September 11, 2001, will not be forgotten. And those responsible will be made to pay." The Chicago Tribune stated: "...by wreaking their terrible havoc, Tuesday's terrorist perpetrators have awakened something within millions of Americans." (The Independent: Thursday Review 2001). According to Born (2001), the American press "...was united by calls for revenge," while the world's press reacted, for the most part, with "horror and condemnation." Some newspapers dramatically increased their circulation (Higham 2001a).

Regarding the tenor of TV coverage of the events of September 11, Fletcher (2001) concluded:

Never have events of such enormity appeared live on screen in such unmediated form. ... Naturally, the producers wanted to show the pictures again. ... By the end of the afternoon, they practically had them on a tape loop. ... We were ... over-stimulated by pictures from Manhattan. ... (my emphasis)

Scarfield (2002, p. 3) comments: "The unprecedented numbers of innocents murdered and the massive media coverage combined to form an extraordinarily indelible imprint on hundreds of millions of people worldwide." According to the TV critic of the New York Times: "After two months, American television's cautious approach has turned into knee-jerk pandering to the public, reflecting a mood of patriotism rather than mourning viewers of the . . . realities they need to know" (cited in Higham 2001b). Kellner (2002, p. 147) states:

[B]roadcast television allowed . . . zealots to vent and circulate the most aggressive . . . views. . . . [T]he major television networks . . . beat the war drums day after day without even the relief of commercials for three days straight, driving the country into hysteria. . . . [T]alk radio oozed hatred and hysteria. . . . As the days went by, even mainstream radio news became hyperdramatic. . . .

According to Higham (2001b), "In a situation reminiscent of that in Britain during the Falklands War in 1982, the U.S. TV networks have found themselves pitted against what one editor calls the Patriotism Police." According to The Guardian: The Editor (2001a), the "War on Terror" was paralleled by "... a propaganda-fuelled struggle for moral superiority... waged over the airwaves." Jonathan Freedland has commented: "This war's defining characteristic . . . is the centrality of propaganda." (Freedland,
quoted in The Guardian 2001a). The episode in which the British Prime Minister challenged the suspected terrorist mastermind Osama bin Laden through the medium of the Qatar-based al-Jazeera TV station provides an illustration of the intensity of government media monitoring and reaction. Al-Jazeera broadcast a statement from bin Laden in which he accused the US. of hypocrisy over the deaths of "millions of innocent children" in Iraq and Palestine. The next day, Blair broadcast a riposte to bin Laden’s accusations through the same TV station. One month after the attacks, The Guardian reported that the events and consequences of September 11 were still dominating British broadcast. Between October 7 and October 13, 2001, the major British newspapers devoted 7,485 column inches to the “Attack on Afghanistan” (making it the number one story), 2,983 column inches to the “Aftermath of attacks on US” (the number two story) and 1,182 column inches to the British Conservative Party’s annual national conference (The Guardian: The Editor 2001b). Between December 2 and December 8, the “War in Afghanistan” was still the number one story, with the “Middle East Crisis” the number two story (that week 25 Israelis had been killed by Palestinian “suicide bombers”) (The Guardian: The Editor 2001c). Between December 9 and December 15 the “War in Afghanistan” was again the number one story. The “Aftermath of September 11” was the number two story and the “Roy Whiting trial” was the number three story (The Guardian: The Editor 2001d). (Whiting had abducted and murdered a child.)

The attacks were widely reported by the world’s media and were “... set to emerge as one of the most watched news stories in TV history” (BBC News 2001). In the U.S., “[s]ome 79.5 million people watched television coverage of the attacks on the first night. CNN’s audience in the first week averaged almost three million—approaching 10 times its daily average of 323,000 viewers” (Hughan 2001a). In the U.K., 9.4 million people (out of a population of 66 million) watched BBC Channel 1’s September 11 18.00 BST [6.00 p.m.] broadcast. The BBC’s live coverage, transmitted for four hours following the attacks, attracted a peak of 7.6 million viewers (BBC News 2001). As to the effect this might have had on opinion, Regester and Larkin’s (1997, p. 49) views on the agency of the media are worth recalling:

International research has shown the media to be by far the most credible source of information throughout the Western world, well ahead of governments. ... By virtue of its “believability,” the media acts as the most important conduit to shaping people’s beliefs and behavior.
Toft and Reynolds (1997, p. 84) assert that media reporting “... is often more concerned with sales figures or audience ratings than with a dispassionate exposition of what has occurred.” If Toft and Reynolds are correct, then disasters and their causes may not be accurately described by the media. In this context, media-dependency may produce distorted world views and inappropriate responses.

Information was also put out by the U.S. government and its allies (but see comments, above). Indeed, at the beginning of November, the U.S., fearing that it was losing ground to Taliban-sponsored briefings, took steps to intensify its public information campaign. Heading a new campaign, the government’s undersecretary for public diplomacy stated: “We are having people . . . define America in negative terms. It is time for us to reignite the understanding of America.” In a strategic “hearts-and-minds” media initiative, the Chairman of the Joint Chiefs of Staff, Secretary of State, and Defense Secretary each appeared on Arabic-language TV (Gumbel 2001). In another initiative, “America, Britain, NATO, and other coalition members [set up] new jointly staffed information centers in Washington, London, and Islamabad to counter the flow of damaging publicity from the Taliban.” (Morris 2001). In conclusion, the attacks of September 11 and subsequent “War on Terror” featured prominently in the media and activities of other information-providing agencies. In light of this it is worth noting Lewis’s (1990, pp. 74-76) comments on media agency in the US:

[One] glue in setting our regulatory agenda is the press, including television, whose interpretation of risk can be decisive. The United States is, for better or worse, a democracy, and we judge importance through noise... We... emphasize flashy events... to the point that people come to think that what is being reported fairly represents what is happening... [T]he people in our regulatory agencies (to say nothing of the Congress) also read the press and watch television, and are guided in their priorities by what they see and hear. We respond to the risks we perceive—what else can we do? (my emphasis)

Responses

United States

Reaction to the attacks of September 11 was swift. On September 16, U.S. transportation secretary Norman Mineta established two task
forces, the first to look at on-board security, the second to investigate airport security. Both were to report by October 1, 2001. Mineta admitted that "[passenger] screening is a problem we must get resolved" (Mineta, quoted in Flight International 2001a). Until September 11 security personnel had been poorly trained. Turnover was high. The prevailing organizational culture (as in "... the set of rarely articulated, largely unconscious beliefs, values, norms, and fundamental assumptions that the organization makes about itself, the nature of people in general and its environment" [Minoff et al. 1989, p. 271]) of the security companies operating at U.S. domestic airports was that of business efficiency. Then mantra was maximum throughput with minimum inconvenience (Bennett 2001b). The government said it would revive the atrophied Federal Air Marshal Program. Launched in the 1970s as a solution to aircraft hijacking (mostly to Cuba), by September 11 few air marshals remained operational. Mineta's rhetoric was strident: "Our efforts must now turn to developing long-term, sustainable security improvements within our airports and aircraft themselves" (Mineta, quoted in Flight International 2001d). The ATA encouraged the Federal Aviation Administration (FAA) to "... look seriously at rationalizing the air passenger screening process." The ATA commented that the commercial air transport industry was not equipped to act as a locus for national security: "The airlines are not the 82nd Airborne. They catch the insane; they catch the sloppy and they catch the ignorant, but they won't catch sophisticated terrorists." (Flight International 2001a). By seizing four commercial aircraft almost simultaneously and flying three of them into targets symbolizing America's economic and military strength, the terrorists demonstrated a degree of logistical acumen. Having said this, they seized the aircraft with nothing more sophisticated than box cutters (small knives).

As a widely-publicized rally at Chicago's O'Hare International Airport (headquarters of American Airlines), President Bush promised greater investment in security both on the ground and in the air and said he would put the federal authorities "... in charge of passenger and bag screening and all safety inspections" (Bush, quoted in Field, Lopez, and Learmount 2001). (Given that there are about 28,000 passenger screeners, the cost of "federalization," according to Mineta's calculations, would be of the order of $2 billion [U.S.] each year. Federalization was to be achieved by November 19, 2002.

ALPA (one of the members of the government task force) reacted by changing its policy on armored flight deck doors. As Norris (2001) explains:
ALPA president Deane Woerth says the priority is the armored flight deck door—an idea which the pilots' union had previously opposed. Woerth says: "I want a certification process approved by the FAA, the manufacturer and ALPA [all engineering modifications to commercial aircraft must get FAA approval]."

ALPA also began lobbying for the arming of pilots as a last line of defense. (While the Aviation and Transport Security Act [ATSA] of November 19, 2001, allowed pilots to be armed, the carrying of weapons was not mandated [Air Line Pilots Association 2002]).

Some airlines reacted immediately to calls for locked and barred doors. "United Airlines began the [modification] process within 48 hours of the attack, asking suppliers for immediate solutions that could be implemented within 30 days, and longer-term security solutions involving more significant redesigns of bulkheads, doors, forward fuselage interiors, and cabin systems" (Norris 2001). Such initiatives were encouraged by the FAA through the October issuance of a Special Federal Aviation Regulation (SFAR) pertaining to the retrofitting of temporary security devices to cockpit doors. An SFAR allows modifications to be "fast-tracked." Under the terms of the SFAR, the airlines could install such device over a 180-day period. According to Mecham (2001), the temporary devices "... range[d] from deadbolts to bars that resemble[d] the crossbeams prairie settlers lowered to keep the bad guys out." A company that offered a simple "safety bar" to secure the cockpit door could boast Delta, Continental, and Alaska Airlines as customers. Mecham says American Airlines' solution was "topical": "After experimenting on two aircraft types, it received FAA approval to install a metal brace that the pilots swing across the door from jam-to-jam on their side of the cockpit. The brace slides into U-shaped latches attached to the door frame."

A feature of several of these temporary measures was that pilots had to leave their seats to open the door to cabin crew. The devices were not 100 percent intruder-proof. As the vice president of engineering of one manufacturing company explained: "[N]o cockpit door modification currently being developed can absolutely ensure denied access to the flight deck" (Salerno, quoted in Fair 2001). An engineering manager at Boeing admitted that even his company's Kevlar-reinforced door and bulkhead assembly could not guarantee the security of the flight deck. As he explained to a U.S. government panel: "[T]his [installation] does not prevent access by a determined intruder" (Queen, quoted in Mecham 2001). A final point concerns the security implications of Al
 Qaeda's proven planning and logistical abilities. Given their track record, it could be argued, that it would be relatively easy for Al Qaeda operatives to gather intelligence on new physical and procedural defenses. Terrorists could do this either through frequent use of the target airline or infiltration of security or cleaning companies, airports, or airlines. Despite efforts to improve airline security, as of March 2002 there was still much work to be done. In security checks performed at 32 airports between November 2001 and February 2002, "Staff failed to detect 70 percent of knives, 60 percent of fake bombs, and 30 percent of guns carried by investigators. . . . Agents had a 48 percent success rate in boarding aircraft undetected or getting unchallenged on to airport runways. . . . [A]irport screening staff did better in similar tests in the 1970s and 1980s. In one test in 1987, only 20 percent of all weapons got through" (Daily Telegraph 2002).

United Kingdom

Stephen Byers set the tone for the debate over aircraft security when he said he might oblige operators to fit secure cockpit doors and allow them to carry "sky marshals" (Harrison 2001). The Civil Aviation Authority (CAA) gave approval for physical modifications to cockpit doors. Virgin Atlantic and British Airways both announced they would fit strengthened and lockable cockpit doors. The new design would feature a deadlock that could only be opened from inside the cockpit, and then only if a pilot left his/her seat to lock/unlock the door. Sir Richard Branson, head of Virgin Atlantic, stated: "The most important thing is that people feel 100 per cent safe about travelling" (Branson, quoted in Peachey 2001). According to BA (British Airways 2001a), this first engineering solution constituted phase one of an ongoing process of modification and procedural change. BA fitted both a dead-bolt mechanism and metal plating. Procedures were amended to ensure that at least two persons were on the flight deck at all times. Pilots were instructed to dead-bolt the door before engine start and to release the door only after engine shut-down. To access the flight deck, cabin crew would establish contact by interphone and go to the door. The non-handling pilot would leave his/her seat, identify the cabin crew member, then release the dead-bolt. In drafting its new procedures BA (British Airways 2001a, p. 2) acknowledged: "These procedures are not perfect and will be changed as necessary dependent upon the feedback received." The airline also stated: "Operating with the Flight Deck door locked should not inhibit communication between Cabin Crew and
Flight Crew... Cabin crew should not be intimidated by the locked Flight Deck door and should bring to the attention of the Flight Crew any event that warrants reporting." In the event a pilot became incapacitated, the new procedures stipulated: "If possible the incapacitated pilot leaves his [sic] seat... and opens door..." BA committed to a second phase of engineering changes that would "... retain all the extra security of phase one but will be operable without the need for pilots to leave their seat." In the event of an attempted hijacking, pilots were instructed not to unlock the door: "It should be clearly understood that in the event of a member of the cabin crew, or any other person, being held hostage in the cabin in an attempt to gain access to the cockpit the flight deck door will not be opened" (British Airways 2001a, pp. 1–4). BA asserted that it had consulted with pilots before deciding on the physical and procedural changes (Harper 2001).

During this period there was commentary to the effect that cockpits should be sealed off altogether. As one correspondent to The Independent wrote: "All... aircraft will have to be modified... so that there are no interconnections between the flight deck and the rest of the aircraft" (O'Hara 2001). One of the considerations with the new approach of sealing the cockpit is that it reverses the pre-September 11 policy on dealing with a hijack. Until September 11 the policy had been that flight crew should cooperate with hijackers. By definition, locking the door against intruders or, indeed, distressed cabin crew, reverses this long-standing policy. According to Cameron (2001), this would not present a problem to flight crew—despite their (necessarily) close working relationship with cabin crew.

We all know that the terrorists don't care if they die, so there's no added danger in passengers tackling them... Similarly, if you're a pilot, you're not going to open the door to the cockpit, no matter how many air hostesses' threats they sie.

Reaction

One commentator explained that suicidal hijacking was not a new phenomenon (Baum 2001). Reviewing the new measures, the GAO reminded policymakers "...[that] previous tragedies have resulted in... little long-term resolve to correct flaws in the system as the memory of the crisis recedes. The future of aviation security hinges in large part on overcoming this cycle of limited action that has too often characterized the response to aviation security concerns" (GAO, quoted in Flight International..."
2001d). The International Air Transport Association’s (IATA’s) concerns were more specific, the association posting terrestrial interception as the only realistic solution to the hijacking threat. As Field et al. (2001) explain:

IATA has deployed the carrying of firearms anywhere in aircraft, contending that having guns on board threatens safety more than it might decrease the hijacking risk. IATA sees the 11 September disaster as the result of failures of intelligence and security on the ground, and believes that global cooperation on intelligence... could ensure that hijackers do not get onto aircraft.

Bennett expressed similar views: “You [safeguard aircraft through] effective intelligence and law enforcement, relevant laws, training security personnel, and paying them well, motivating them, and giving them the equipment” (Bennett, quoted in Murtogh 2001). Flight International (2001c) expressed a series of reservations in an editorial:

[S]urely it is better to remove the opportunity for a hijacking than trying to do something about it once it has begun... [A]re the changes a knee-jerk reaction to a one-off event that could, in some respects, set safety back, or will there be a genuine improvement in security for all time?

...[D]ealing with one emergency by creating another one is at best a dubious practice... The debate whether to lock the cockpit door or not is an old one, and for every person that says it prevents unauthorized access to the flight deck another points to the times when access has saved the day. (my emphasis)

(Given the less than 100 percent effectiveness of cockpit security measures, the view that hijackings are better thwarted on the ground would seem opposite). According to Flight International (2001f, p.46), by the end of October the air transport industry had concluded “...that the events of 11 September were a one-off tragedy.”

On the specific matter of locking cockpit doors, BALPA took the opposite view to ALPA. BALPA’s general secretary stated that locks that could only be operated if pilots left their stations were... ill-considered, ill-conceived, and potentially dangerous. ...Deadlocks will put passengers in more, not less danger” (Darke, quoted in Peachey 2001). BALPA stated that locked doors would prevent cabin crew from carrying out periodic checks on the captain and first officer and alleged
that pilots had not been consulted about the changes. The chair of BALPA’s Security Committee commented: “The locking of cockpit doors can in fact reduce the safety both of the crews and of the aircraft by denying access in the case of an accident or incident . . . [D]ead-locked cockpit doors . . . won’t stop the terrorist, and they do hinder the crew” (Kibble, quoted in British Air Line Pilots Association 2001, [see comments by Salenets and Queen, above]). While there was no overt reference by BALPA officers to CRM, the general secretary did state: “You cannot turn the cockpit, which is the nerve center of a complex environment, into a fortress. The success of a flight relies on a close working relationship between pilots and cabin crew” (Darke, quoted in British Air Line Pilots Association 2001; my emphasis). Research conducted by BA (British Airways 2001b) between November 26 and December 7, 2001, found reservations among cabin crews about locked flight deck doors.

Many crew . . . expressed regret about the deterioration in communication between flight and cabin crew that had resulted . . . This audit observed that crew thought the policy unpopular due to the introduction of a major communication barrier between flight and cabin crew (British Airways 2001b, p. 2).

According to the audit, “. . . cabin crew commented that they were unhappy about the isolation between them and flight crew as there is now a barrier between them again which has taken years to break down” (British Airways 2001b, p. 4).

There was little public discussion of CRM in post-September 11 debates over passenger safety. In the U.K., only BALPA made public reference to CRM, and then only in an obtuse (one might say cooked) manner, as in “The success of a flight relies on a close working relationship between pilots and cabin crew.” In the U.S., the public debate on safety has centered on such measures as reinforced cockpit doors and bulkheads, federalization of airport security, sky marshals, and onboard closed-circuit television (CCTV).

Observations

1. CRM was an established safety-enhancing discipline on both sides of the Atlantic prior to September 11.
2. Much of the early developmental work on CRM was done in the U.S.
3. Various incidents and accidents (both in the U.S. and U.K.) have illustrated the safety-enhancing potential of CRM.
4. Cockpit doors were routinely locked in the U.S. The immediate post-September 11 measures made the locking and unlocking of cockpit doors more cumbersome.
5. Although both ALPA and BALPA demanded enhanced security, they disagreed over the locking and barring of cockpit doors—although BALPA’s rhetoric was oblique.
6. Airlines on both sides of the Atlantic quickly launched cockpit door modification programs.
7. Both Mineta and Byers (and their respective national regulatory agencies, the FAA and CAA) were prepared to consider “interim” solutions that were cumbersome to operate.
8. Both Mineta and Byers were willing to consider other measures, like cabin CCTV and air marshals.
9. The airlines were willing to consider almost any measure to improve security, from banning hand luggage to removing glass tumblers and metal cutlery.
10. There was significant, prolonged media coverage of the attacks on both sides of the Atlantic. Given the potentially sensationalist tenor of media accounts (Toft and Reynolds 1997), any personal or institutional response informed by such accounts might have proven inappropriate.

Conclusions

This paper set out to explain why ALPA and BALPA formulated different policies on cockpit doors. ALPA’s response had implications for CRM. According to Pidgeon et al. (1992, p. 116), the social amplification of risk model “...will ultimately stand or fall on its ability...to provide new insights on risk perception...” Given (a) that CRM has made a positive contribution to air safety and (b) that this contribution has been recognized on both sides of the Atlantic, there is clearly a need to understand why ALPA was prepared to countenance physical and procedural changes that may have reduced the effectiveness of CRM (especially when the “quick fix” engineering changes mooted after September 11 were, according to some insiders, not 100 percent effective).

Kaspren’s (1992) risk amplification model provides a possible explanation for ALPA’s views on locked and barred cockpit doors. The attacks of September 11 received significant media attention. Sprent’s (1988) observations offer an explanation for this. First, the “kill size”
was significant. Second, the attacks imposed "concentrated" and "involuntary" risks on the American public. It has been theorized (a) that media reporting in the U.S. was not unbiased and (b) that this reporting impacted public opinion. Following Rayner's argument that "organizations actively seek out risks," ALPA, as a special interest group, would have "tuned in" to the debate. ALPA became an "amplification station" for societal and political concerns over aviation security. Kasperon theorizes that risk amplification generates "secondary effects" that "extend beyond the people directly affected by the original hazard event." These secondary effects are clearly visible in ALPA's contribution to the post-September 11 debate on aviation security. ALPA's demands for locked and barred cockpit doors and the arming of pilots, for example, constitute "political pressure" on government and regulators with a view to securing "changes in risk regulation."

Heuristics may have influenced ALPA's analysis and recommendations. To the extent that the attacks of September 11 were "easily recalled or imagined," they constituted an availability heuristic. Rachlin asserts: "In making judgments....we tend to use the information that is most available to us...." It could be argued that the media focus on risks from "superterrorism" pushed risks to passengers from poor in-air crew communication from ALPA's field of vision. Visceral images and demands from all quarters for solutions interacted with ALPA's public safety mission to cause a "coning of attention." Risks to passenger safety from cockpit incursions were foregrounded. Other risks, such as those pertaining to poor in-air crew communication, were not discussed (at least in the public arena). Regarding the possible "agency" of the U.S. media in regard to ALPA's policies, the words of Pidgeon et al. (1992, pp. 99-100) are worth recalling: "For causes with which we have little direct familiarity, mass-media reporting, particularly of vivid or sensational events, may well be influential [in the matter of risk perception]."

Informed by his studies of the U.S. media, Lewis (1990, pp. 74-76) asserts: "[T]he people in our regulatory agencies (to say nothing of the Congress)...read the press and watch television, and are guided in their priorities by what they see and hear." It may be that ALPA, too, was "guided by what it saw and heard."

The theories of Kasperon and Sprell offer an explanation for BALPA's reaction. Kasperon states that, with regard to their perception, risks can either be amplified or attenuated through "psychological, social, institutional, and cultural processes." While BALPA, like ALPA, would have been "tuned in" to the events of September 11 and subsequent demands for improved on-board security, it is possible that being
physically removed from the locus of events "lent enchantment." The fact that the attacks took place on U.S. soil meant:

1. That the victims were, for the most part, U.S. citizens;
2. That the murdered aviation professionals were members of ALPA, not BALPA;
3. That economic dislocation was greatest in the U.S. (there were major impacts on the airlines, airports, manufacturers, insurance companies, and business generally); and
4. That media reactions were extreme. To paraphrase Kellner (2002), "[T]he major television networks drove the country into hysteric.

The risk attenuation (or "enchantment") produced by physical dislocation would have made it less likely that CRM would slip down BALPA's "agenda of concerns." While airlines like BA and Virgin Atlantic did not hesitate to implement new security measures, it is possible that they were motivated more by marketing than by security concerns. (In its October 31 press release, BALPA hinted that the decisions were driven by "public relations and marketing" imperatives. Both airlines had been hit hard by the slump in traffic between the U.S. and Europe). It might be argued that BALPA, as a "trade union," was able to evaluate issues of safety and security more objectively than corporations trying to recover lost business.

Advocates of "fortress flight deck" could argue that BALPA's equanimity (as between issues of cockpit security and CRM) compromised safety by misdirecting risk-reduction efforts. In light of a persistent risk of suicidal hijacking after September 11, any delay in implementing "fortress flight deck" might have compromised safety. The potential negative safety impacts of risk attenuation are described by Kasprzak (1992, p. 162): "[A]ttenuation of the risk may . . . enhance risk probabilities by . . . diverting efforts to other risk domains, with heightened human . . . harm the result."

Having said this, it could be argued that the only impact of "fortress flight deck" was to displace the threat to the aircraft cabin—as with British Muslim Richard Reid's attempt to destroy an American airliner by igniting explosives concealed in his shoes. Applying Maguire, Morgan, and Reiner's (1994, p. 675) theory of crime displacement to Reid's attempted suicide attack, the only impact of enhanced flight-deck security was to cause a "tactical crime displacement."

Reid, conscious
of the enhanced security measures, attempted the same crime (a suicide attack) by using a different method (blowing a hole in the aircraft from his seat).

BALPA’s policy was formulated against a background of media coverage no less intense than that in the U.S. (although it is debatable whether the British media drove its viewers, listeners, and readers to “hysteria”). Following Lewis’s (1990, pp. 74-76) argument that “[T]he glue in setting America’s regulatory agenda is the press, including television, whose interpretation of risk can be decisive. . . . [P]eople . . . read the press and watch television, and are guided in their priorities by what they see and hear. . . .” it may be that organizations like ALPA (and the FAA?) are more susceptible to media influence than their U.K. equivalents. This aspect of the response to the attacks of September 11 merits further analysis. (The impact of the Daily Mirror’s reporting on Stephen Byers’s resignation decision provides a starting point for evaluating the agency of the British media).

It is clear that commercial aviation faces numerous risks and hazards. Some are external, such as suicidal hijackers or missiles fired in error (Bennett 2009). Some are internal, such as crew fatigue or poor in-flight communication. The June 1, 1999, crash of an airliner at Little Rock, Arkansas, was attributed, according to Flight International (2001g), to “. . . flight crew mistakes precipitated by fatigue.” Towards the end of 2001, the National Transportation Safety Board (NTSB) asked the FAA to “establish, within two years, scientifically based hours-of-service regulations” (NTSB, quoted in Flight International 2001g).

As mentioned above, some BA cabin crews believe that cockpit security measures are inhibiting CRM. Because of the diversity of risks and hazards faced by commercial aviation and the fact that risk management resources are finite, it is imperative that resources are focused on those areas where they will have most impact. This requires that risks and hazards are evaluated scientifically (using both quantitative and qualitative risk assessment techniques). Risk management decisions—even those taken under conditions of “national emergency”—made on any other basis may prove inappropriate. This is not a criticism of ALPA per se. It is conceivable that had the attacks been carried out on Canary Wharf (London’s new commercial center) and the Ministry of Defence in Whitehall, BALPA would have acted as ALPA did following September 11, and ALPA would have acted as BALPA did.
References


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