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A fiasco of volcanic proportions? Eyjafjallajökull and the closure of European airspace

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Abstract

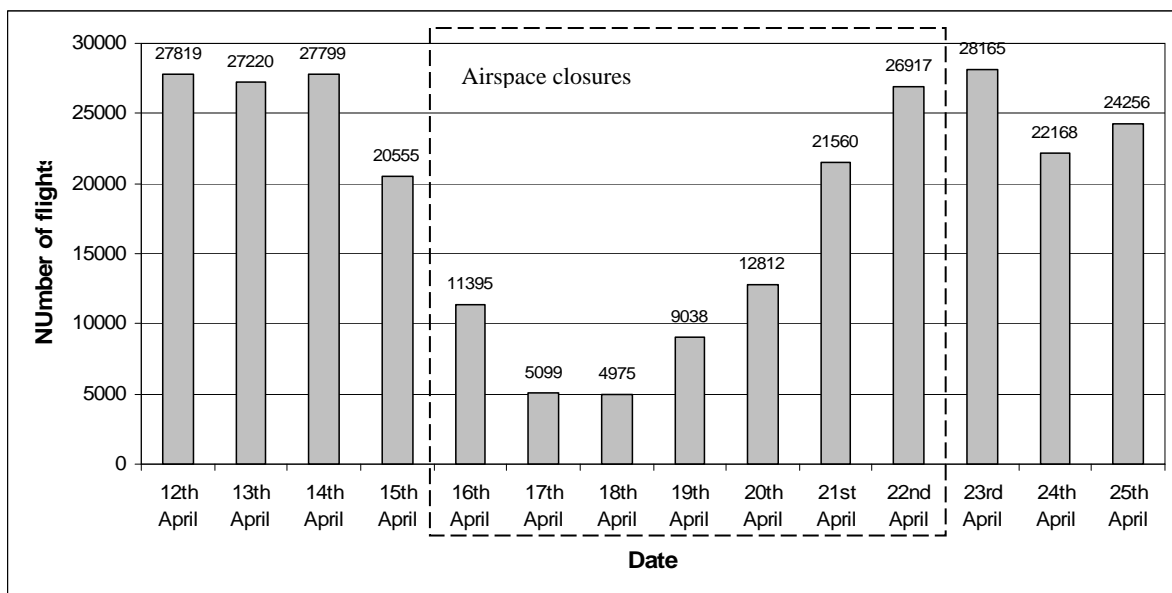
The unprecedented and recurrent closure of much of UK and northern European airspace from 14 April 2010, following the eruption of Iceland's Eyjafjallajökull volcano, caused the cancellation of 108,000 flights, disrupted the travel plans of 10.5 million passengers, and cost the airline industry in excess of \$1.7bn in lost revenue (Eurocontrol, 2010). The airspace closures highlighted the inherent riskiness of aviation and destabilised dominant cultural discourses of the 'superiority' and capability of aviation technology. It also brought issues of risk acceptability and our socio-economic reliance on air travel into sharp relief. This paper explores how the political and media framing of the response to the airspace closures as a human 'policy fiasco' served to obfuscate the inherent dangers of aviation and 'get Europe flying' again. Thus, this paper contends that this particular fiasco was 'necessary' in that it served to highlight the fragility of air travel and the vulnerabilities of the mobile citizen.

Introduction

On the morning of 14 April 2010, following three weeks of moderate volcanic activity, the main chamber of Iceland's Eyjafjallajökull volcano erupted. The main eruption released into the atmosphere 750 tonnes of volcanic material every second and sent a plume of volcanic ash and debris over 30,000ft into the sky. This plume contained both large ejecta, which rapidly fell to earth, and billions of tiny fragments of sharp volcanic glass and ash, many less than a micron in diameter. The volcano's location, an unusually stable jetstream, and anticyclones over the north Atlantic rapidly blew the ash cloud south and east towards mainland Europe and some of the world's busiest airspace.

The sudden presence of highly abrasive volcanic ash in the skies above northern Europe prompted European Aviation Authorities to take the unprecedented decision to progressively close sectors of European airspace as a precautionary measure to protect public safety. Scottish and Norwegian sectors were the first to be regulated on the evening of April 14th. However, as the plume spread south and east, further restrictions were introduced for Irish, Dutch, Belgian, and Swedish airspace. Additional sectors of sky over mainland Europe were then closed during April 16 and 17, grounding hundreds of flights and disrupting the travel plans of tens of thousands of passengers. By 18 April, airspace and airports from Ireland to Ukraine, and Norway to the Canary Islands, were effectively closed and less than a fifth of scheduled flights were able to operate (Figure 1).

Figure 1: Eyjafjallajökull's effects on European air traffic, 12-25 April 2010



Source: Based on Eurocontrol (2010: 1) figures

On the ground, confusion reigned. No one knew which sectors of sky might be closed, when, or the length of time they would remain shut. Some passengers were accommodated in airport hotels or slept in terminals awaiting news, while others abandoned their immediate travel plans and either returned home or had an unexpected extended vacation. Perishable goods, normally air-freighted into Europe, were left to rot in warehouses overseas and, as the disruption ran into its fourth day,

UK newspapers ominously reported that supermarket stocks of fresh fruit and vegetables were running low (Roberts 2010).

By 18 April, many passengers and airlines were becoming increasingly frustrated at what they perceived to be a lack of urgency by regulators to ‘get Europe moving’ and questioned whether the restrictions were proportionate to the risk the ash posed. The fundamental problem was an absence of data detailing ash tolerance combined with a lack of consensus among airframe and engine manufacturers, airlines, international safety regulators, and aerospace engineers as to what constituted a ‘safe’ concentration of atmospheric ash. While some maintained that the presence of any volcanic ash represented an unacceptable risk to flight safety, others contended that the airspace shutdown was an over-reaction and that ‘clear’ corridors could be found through the ash. With financial losses mounting, major airlines, including Lufthansa, KLM, and British Airways, performed a series of test flights to determine the effects of ash on aircraft handling and engine performance (Brown 2010). As a result, a new threshold of 2000 micrograms of ash (0.002g) per cubic metre of air was accepted and European airspace was progressively reopened from April 20th until further volcanic activity and strengthening winds necessitated further closures in early May (Calleja-Crespo, 2010).

Overall, this unprecedented and recurrent closure of much of UK and northern European airspace from 14 April 2010 caused the cancellation of 108,000 flights, disrupted the travel plans of 10.5 million passengers, and cost the airline industry in excess of \$1.7bn in lost revenue (Eurocontrol, 2010). However, such primarily economic evaluations of the closure of European airspace tell us little of how the volcanic eruption and the events surrounding it challenged the contemporary cultural politics of aviation and air safety. This paper seeks to supplement such narrow evaluations, suggesting that the airspace closures highlight the inherent ‘riskiness’ of aviation and destabilise dominant cultural discourses of the ‘superiority’ and capability of aviation technology. The closures brought firmly into the public domain issues of risk acceptability and our socio-economic ‘reliance’ on air travel. Indeed, the paper explores how in the UK the political and media framing of the response to the airspace closures as a human ‘policy fiasco’ served to obfuscate the inherent dangers of aviation and ‘get Europe flying’ again.

European airspace: making the ‘invisible’ visible

While Eyjafjallajökull was not the first volcanic eruption to endanger aircraft and disrupt air traffic (see Casadevall, 1994a, 1994b; Cantor 1998; Hufford et al. 2000; Simpson et al 2002; Guffanti et al 2005; Owen 2006; Prata and Tupper, 2009), both its short-term socio-economic effects and longer-term regulatory implications were profound. On an average weekday, 25,000-28,500 commercial flights, plus many thousands more military and private aircraft, use European airspace. For the most part, they are protected from collision by the skill and vigilance of flightcrew and air traffic controllers, increasingly sophisticated collision avoidance software, and strict adherence to international aeronautical regulations that stipulate how and where different air traffic may fly. Ordinarily, the complex, largely invisible, aerial infrastructure of flightpaths, control zones, and airways which facilitates this routine aeromobility, is taken-for granted and the only time passengers hear about airspace is when flights are delayed, diverted, or cancelled owing to adverse weather conditions, computer failure, terrorist activity, or industrial action. As Eyjafjallajökull

demonstrated, airspaces matter to the production of aeromobilities because air travel cannot function without them.

The development of commercial passenger flight in the 20th century demanded the extension of traditional Cartesian understandings of territory to embrace the aerial dimension, and this, in turn, necessitated the formation of new transnational forms of airspace regulation and governance. Aviation forced an awareness of the ‘depth’ or ‘height’ of the sky and airspace was increasingly delimited, controlled, and inscribed with numerous interlocking military, commercial, and political strata (see Budd 2009). Today, the routine production of European airspace is a complex, spatially distributed, and time-critical activity concerned with facilitating safe airborne transportation. To maintain safe and efficient coordination, practices of air traffic control and piloting are heavily regulated by internationally agreed procedures and are supported by a number of technologies that mediate the production of airspace and create safe and ‘useable’ spaces for aerial mobility. However, so attuned has western society become to these spaces of mobility that the spaces of aerial flow are rarely the subject of academic scrutiny. Certainly, as Budd (2009) and Williams (2010) have shown, the implicit positioning of airspace in much of the extant literature on air travel and aeromobility as mere ‘conduits’ or ‘spaces of air traffic flows’ negates serious considerations of the everyday socio-spatial practices that work to (re)produce them.

Taking inspiration from the seminal work of Castells (1996), Dodge and Kitchin (2004) explored how the production of specialist computer software, ‘code’, mediates the production of different ‘code/spaces’ of aviation. These spaces, they concluded, are not only produced by code but are also utterly reliant on code to function. In the context of air travel, Budd and Adey (2009) have similarly commented on the digital technicity of aviation and remarked on the extent to which code mediates the production of airspace and makes it ‘visible’ and known to pilots. This activity of ‘producing airspace’ is accomplished through a heterogeneous collection of situated and coordinated actions involving a variety of different technologies and human actors.

The fiasco

Within days of the closure of European airspace, and amidst reports that the UK emergency planning committee was to be convened, the then UK Prime Minister, Gordon Brown, instructed senior Cabinet ministers, who were then engaged on the general election campaign, to implement plans for ending the ‘temporary exile’ of some 200,000 British citizens stranded abroad (The Guardian, 19 April 2010). Raising the spectre of the evacuation of Dunkirk during the Second World War (The Independent, 19 April 2010), it was subsequently announced that the Royal Navy, cruise ships and commercial shipping would be deployed to repatriate British citizens. Indeed, Lord Mandelson, the Secretary of State for Business, Innovation and Skills, made the emotional appeal to the media that all options were under consideration for ‘getting our people back home’ (The Guardian, 18 April 2010).

The fact that the closure of European airspace was quickly articulated as a ‘crisis’ owed much to the strategic contribution of air transportation to capital accumulation in the contemporary post-Fordist economy. Over the last thirty years, but in particular following the deregulation of European aviation in the 1990s and growth of low-cost

budget carriers that ensued, there has been a huge expansion in the consumption of air travel. In the UK alone, passenger numbers increased five-fold during the last 30 years to the point where half the population flies at least once every 12 months and as many as 600 million passengers could be using UK airports annually by 2030 (DfT 2003). This dramatic expansion has been, in part, the product of sustained state support of the aviation industry which, within government circles at least, has been seen repeatedly as a key component of Britain's global economic competitiveness (see, for example, the rhetoric of New Labour's 2003 White Paper *The Future of Air Transport*). However, as with the promotion of the automobile and road transport, such expansion cannot be divorced from the cultural production of 'particular types of individuals attuned to constant mobility' (see Paterson's study of 'car culture', 2007: 91). The post-war expansionist regime of air travel has been predicated upon the articulation of fantasmatic 'jet-set' narratives, which have operated to prevent and displace the construction of antagonisms (Griggs and Howarth, 2011 forthcoming). These fantasmatic narratives, as the analysis of Randles and Mander (2009a; 2009b) suggests, have contributed to the 'normalisation' of air travel such that flying has become an 'ordinary' component of our daily lives, our celebrations and family events, and our professional and economic activities.

As events unfolded, these discursive constructions of air transport increasingly surfaced through media 'vignettes' which recounted stories of individual travellers 'stranded' abroad. Only a few days after the eruption, the national tabloid newspaper *The Sun* (16 April 2010) featured the story of bride-to-be Kelly who had to call off her dream wedding in Antigua whilst presenting images of holidaymakers and businesspeople 'racing' off to buy bicycles in order to qualify for the last remaining tickets reserved for cyclists on cross-Channel ferries. The national tabloid also reported the somewhat comical image of 'City workers thumbing lifts from truckers'. Such images resonated with the interventions of a coalition of pro-aviation stakeholders who communicated, via the media, details of the economic losses and threats posed by the closure of UK airspace, both to our national airlines and airports and to our wider industrial and service sectors. The chair of the Airport Operators Association, Ed Anderson, conjuring up the metaphor of a Britain 'closed for business', claimed that 'the cost of ongoing disruption for the airlines and airports industry alone is £130m a day. Add to that the cost to businesses dependent on flights to move goods and people and the effect on the wider economy is critical' (*The Guardian*, 20 April 2010).

Faced with such dislocatory threats to individual mobility and economic performance, the closure of European airspace (and the ensuing travel disruption) was quickly articulated as a failure of government leadership or bureaucratic decision-making, in particular the collective failures of NATS (National Air Traffic Services), the Civil Aviation Authority and the Met Office. *The Sun* newspaper, in its edition of 16 April (see above), reproduced claims that the closure of airspace was a 'massive over-reaction', citing doubts from a marketing company, the Centre for Asia Pacific Aviation, that the closure of UK airspace was the result of 'super-cautious politicians and bureaucrats who are far more concerned about their own liability - while suffering none of the financial carnage that this will cause the airlines and their feeding chain?' The then leader of the Conservative Opposition, David Cameron, attacked the 'muddle and confusion in government', and called for 'a rapid inquiry to get to the bottom of decisions that have been taken' (*The Guardian*, 21 April 2010). Airlines too

came under attack, with condemnations of the legacy of industry protectionism and poor regulation which had prevented the setting of appropriate levels of dust in the atmosphere for fears of ‘damage to their reputation and finances’ and ‘a fear of legal actions arising from the deaths of all those who had been on board’ if a plane was lost after an all-clear (The Guardian, 21 April 2010). Although of course, at the height of the crisis, with the financial stability of airlines allegedly at risk, it was airlines themselves who were putting pressure on regulators to set a safe level of volcanic ash in the atmosphere.

The Mail on Sunday newspaper in its 25 April edition published a special report (Rose et al 2010) that characterised the government response as a ‘shambles’. Under the headline ‘the ash cloud that never was’, its authors doubted the extent of the crisis, arguing that the closure of airspace had ‘cost the airlines £1.3 billion and left 150,000 Britons stranded - all for a supposed volcanic ash cloud that for most of the five-day flights ban was so thin it was invisible.’ The report also condemned a series of errors by government and agencies, including the unserviceability of the main aircraft used by the Met Office because it was to be repainted, the failings of allegedly advanced computer models, the following of national policies that were out of step with other countries where ‘flight is affected by volcanoes, such as the United States’, and ultimately the failure of government to trust the professional judgment of pilots themselves. In a similar vein, Richard North, writing in the same edition, concluded that ‘it wasn’t volcanic ash that brought the air industry to its knees but decades of neglect, underfunding, poor planning and layers of bureaucracy behind the Government and Europe-wide response.’ Most importantly, he sought to situate the ‘crisis’ within the realm of the politics and policy-making, arguing that ‘the disaster may have been natural, but the mishandling was wholly man-made’ (The Mail on Sunday, 25 April 2010). Indeed, its sister paper, the *Daily Mail* (18 May 2010) was later to publish, alongside an investigation by David Derbyshire into the closure of European airspace entitled ‘So how did they get it so wrong?’

Faced with such charges, the Brown Government repeatedly sought to frame the closure of airspace as an issue of passenger safety. Brown himself argued that the government would ‘never be forgiven if we had let planes fly and there was a real danger to passengers’ lives’ (The Guardian, 21 April 2010). The head of the Civil Aviation Authority was at pains to point out that the government had put no political pressure on the Authority during the crisis. In his defence of the decision to re-open British airspace, he even added: ‘I would happily fly myself’ (The Guardian, 21 April 2010). Such claims were designed to assuage public concerns over what constituted ‘safe’ concentrations of atmospheric ash. The day before the airspace was reopened, the president of the European Cockpit Association claimed that he did not ‘think there is a definitive answer to whether it is safe or not ...’ (The Guardian 20 April 2010). Yet, even when arguing in support of passenger safety, the Brown government came under attack. Notably, Max Hastings writing in *The Daily Mail* used passenger safety to berate the overbearing health and safety ‘culture’ across society, questioning society’s poor understanding of risk and the ‘assumption that increasing public safety is an absolute good.’ Echoing charges of over-reaction, Hastings concluded that the ‘great volcanic ash air shutdown is part of the price we pay for this [culture]. Until, as a society, we learn to measure risk realistically, we shall continue to face draconian responses to even marginal threats’ (23 April 2010).

With the accumulation of such media interventions, the unpredictability and ‘natural’ origins of the volcanic eruption were very quickly dismissed in favour of the construction of the event as a policy fiasco. Drawing upon the work of Bovens and ‘t Hart, policy fiascos are widely understood as ‘a negative event, that is perceived by a socially and politically significant group of people in the community to be at least partially caused by avoidable and blameworthy failures of public policymakers’ (Bovens and ‘t Hart, 1996: 15; Gray and ‘t Hart, 1998: 8-9). Against this background, what we see in the response by the media to the closure of the European airspace is repeated attempts to construct the series of events surrounding the volcanic eruption as the ‘avoidable and blameworthy failures’ of government and bureaucratic decision-makers. Thus the charges of incompetence that were levelled at NATS and the Met Office cannot be divorced from argumentative strategies designed to identify events as ‘negative’, to claim that human intervention could have made a difference to how events unfolded, and to allocate blame - all stages in the construction of an incident as a policy fiasco. In other words, the eruption of Eyjafjallajökull is re-inscribed over time in a causal narrative (c.f. Stone, 1989) that reframed the volcanic eruption as a ‘policy problem’ with its origins in human error; thereby shifting attention from the contingency of the eruption to the failed management of European airspace which might be addressed by better planning and human agency.

Surfacing the cultural politics of aviation

It is tempting to reduce this construction of the events surrounding the Eyjafjallajökull eruption to no more than the outcome of the instrumental calculations of politicians fighting an election or newspaper editors looking to sell copy. However, such interpretations say little of how the eruption and the closure of European airspace came to challenge the symbolic underpinnings and embedded social and political discourses of air travel. As we suggest above, the volcanic ash cloud challenged society’s widely-held cultural perceptions of air travel as a safe and normal activity. Stories of threatened supplies of fruit and vegetables, experiences of missed weddings and stranded passengers dislocated public conceptions of human beings as ‘mobile subjects’ in ‘mobile economies’. Newspapers regaled the strategies of stranded passengers, including those of celebrities such as the actor John Cleese who allegedly paid £3,300 to hire a taxi to undertake a one thousand mile trip from Oslo to Brussels when his flight was cancelled due to volcanic dust (Jamieson 2010).

Of course, such experiences, and their reporting, did not automatically threaten to destabilise the regime of aviation expansion that has characterised the post-war development of air transport. On the one hand, they illuminated our taken-for-granted dependency on air travel and our apparent ‘need’ for air travel. Yet, on the other hand, they offered the possibility of a life ‘without’ air travel. Environmentalists and newspaper columnists were quick to point out the unusually quiet skies and the benefits of the airspace closure in the fight against global warming (Walsh 2010). Stuart Jeffries, writing in *The Guardian*, commented on the delights of walking in Syon Park, West London, during the flight free days which allowed him to ‘savour the birdsong [and other]...restful sounds, so long obliterated by Virgin Atlantics laden with victims of global Disneyfication and Lufthansas packed with businessmen [*sic*] who could just as well conduct their fatuous meetings via Skype from Munich’ (2010: 9).

Most importantly, the eruption and the dust cloud challenged our supremacy of the skies, making visible the inherent riskiness of air travel and the fragility of scientific discourses of human control over nature. The advent of heavier-than-air powered flight at the beginning of the twentieth century transformed patterns and practices of human mobility. Aircraft have rapidly come to represent freedom, escape, and emancipation from the confines of an otherwise terrestrial existence and embodied notions of twentieth and twenty-first century modernity (see Crouch 2003; Wohl 2005). Yet, in addition to being a source of cultural inspiration, aviation has also provoked unease and anxiety. Many maintained that flight was a highly artificial and unremittingly dangerous activity and, in order to reassure potential passengers that aircraft were safe, airlines invested heavily in staff training and new technology. Throughout the twentieth century, increasingly sophisticated aeronautical technologies co-evolved alongside cultures of aeronautical safety to minimise known potential risks and make air travel statistically one of the safest forms of transportation. Yet, in the words of John Urry (2009: 28) flight remains ‘risky for those flying, for those organising and managing those flights, and for those on the ground as viewers or innocent bystanders’.

An awareness of the inherent ‘riskiness’ of air travel is apparent in much of the emerging literature on ‘aeromobility’ (on which see Adey et al 2007; Adey 2010), with recent discussions identifying the threat posed by terrorism, human failings, and emerging infectious diseases. This paper has sought to build on these literatures by suggesting how a natural geological process, or ‘act of God’, rendered otherwise highly sophisticated aircraft impotent and called into question the illusion of human technological achievement and infallibility. While nervous flyers have long remarked on the seeming impossibility of aviation and wondered how something so big and so heavy can leave the ground and fly for thousands of miles with seemingly no means of support, the ash plume caused others to ask how a multi-million pound engine, complete with the latest electronic management systems, could be incapacitated by tiny fragments of ash. The ash cloud thus did more than merely disrupt air traffic for a few days, it causes us to confront the limits of our technological capacity and re-evaluate the extent to which we have really ‘conquered’ the air.

Conclusions: a ‘necessary’ fiasco?

That the eruption of Eyjafjallajökull brought chaos to air travel across Europe, resulting in billions of dollars of lost income and travel disruption and personal hardship for thousands of passengers is not contested. Yet, the construction of European airspace as a policy fiasco says much about the politics of air travel and our understandings of mobility in contemporary societies. Policy fiascos are often characterised as moments of dislocation in which the limits of established policy routines and ‘normal politics’ are made visible. However, in this particular conjecture, the labelling of the events surrounding the eruption, and specifically the response of government, as a policy fiasco played a more nuanced role. Here, we suggest, it served to offset the potential dislocation to our underlying assumptions of the utility of ‘mobile subjects’ and our normalised reliance on aviation, in particular our displacement of the risks attached to air travel. In fact, this particular articulation of a policy fiasco characterised the closure of airspace, which it re-defined as the ‘real problem’ facing government, as the fault of politicians and bureaucrats and a result of repeated mis-management by individuals. It thereby distanced the contingency of the ‘natural’ eruption and fears over safety from the alleged incompetence of the policy

response, dividing the crisis of air travel into two sets of disentangled events so as to privilege that which was manageable through the allocation of blame and causality to agents. In so doing, it negated attempts to frame the eruption in terms of safety, our over-dependency on aviation and mobility, or the impact of aviation on climate change, bringing to our attention the often unrecognised capacity of narratives of fiasco to suture potential dislocations. Against this background, we conclude that the fiasco of the closure of European airspace was a ‘necessary’ fiasco that served to mask the fragility of air travel and the ‘mobile citizen’.

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