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Following passengers/locating access
On recent attempts to disrupt terrorist travel (by air)

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Abstract: Following the attacks of 9/11, a number of actions were taken to disrupt terrorist travel at airports. Reviewing these responses both at the level of departures and arrivals contributes to a better understanding of how technical networks relate to territories. Contrasting the ways and the extent to which changes have occurred at both levels, the issue of "access" is suggested for further consideration by political sociology.

1. Introduction

On the morning of 11 September, 2001, airport security failed to identify a number of dangerous persons and objects at the departure level of various airports in the US. Four planes scheduled for domestic flights were hi-jacked, and used as weapons. Following the terrorist attacks on the New York World Trade Center and other targets, the US and their allies have declared a "war on terror". Among the multitude of actions taken, many are intended to "disrupt terrorist travel". Accordingly, access control at airports has been reconsidered. Reviewing recent responses to the threat of terrorist travel, the present paper captures reconfigurations of access both in terms of networks and territories. Focusing on the movement of passengers and contrasting points of access both to territorial spaces and technical networks, the paper sketches a "political sociology of access". Following the basic layout of contemporary terminals, it is organised in two main sections on changes at the departure level (3), and changes at the arrival level (4), followed by a discussion on similarities and differences (5).

In the social sciences, recent studies of risk and safety have been guided by an interest in resilience, responsiveness or preparedness as a property of social institutions. "If we cannot know the risks we face, how can we cope with unknown dangers? Taking the focus of the debate away from risks and safety to the choice between social institutions, we can suggest the qualities necessary for dealing with risks" (Douglas/Wildavsky 1982, 195). According to a founding contribution to the cultural study of risk, institutions built on "control by anticipation" are likely to fail as they lack "the capacity to cope resiliently" (ibid.). It follows that it is "our responsibility […] to create resilience in our institutions" (Douglas/Wildavsky 1982, 198). "Searching for safety", a later book by Aaron

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Wildavsky (1988) returns to the distinction between "anticipation" as opposed to "resilience", specifying that "anticipation is a mode of control by a central mind. [...] Anticipation attempts to avoid hypothesized hazards; resilience is concerned with those that have been realized" (Wildavsky 1988, 77). Once more, the author reaches a clear-cut conclusion on what is the more efficient and flexible way of dealing with the unexpected: "Thus, under considerable uncertainty, resilience is the preferable strategy. Under substantial certainty, anticipation ... does make sense" (ibid., 79).

The notion of "resilience" has been used both in the field of social studies of security and of safety. This is remarkable as common sense draws a sharp line between these fields. While both safety and security relate to (the absence of) accidents, causality is conceptualised in different ways. In the case of security, accidents are produced by an external threat and are related to malign intentions. Safety threats, in turn, are intrinsic to and specified in terms of technical systems.

Shifting attention to patterns of resilience has stimulated empirical research in both areas, including research on 9/11 terrorist attacks. On the one hand, the failure to cope with the terrorists is accounted for in terms of an asymmetry between different types of organisations. Faced with flexible terrorist cells, large and hierarchical organisations have been exposed as being slow and inefficient (Knorr Cetina 2005, 225ff.). On the other hand, it has been argued that the security of air transport has a remarkable record of institutional resilience. Airport security is even found to offer a model of "learning and policy improvement" (Birkland 2004). The capacity to quickly adopt a great number of important changes after 9/11 has been qualified as an institutional achievement that was made possible by reflexively drawing on earlier encounters with terrorist actions (ibid.).

The shift from anticipation to resilience has also been relevant in a subfield of studies that takes a critical view on the rise of surveillance society (Lyon 1994). A number of studies in this area have come to agree that anticipation should not be overstated (Agre 1994; Krasmann 2003). Instead of presupposing a vantage point which would allow for full observation and total surveillance, a more careful

analysis is called for in order to cover (or uncover) a greater variety of control activities.

The present study takes this call as a methodological advice. Abandoning a static panoptic model, it will provide a fine-grained empirical description of mobilities and how they are controlled at airport terminals (cf. Lyon 2004). Leaving behind the assumption of a closed world, however, does not imply that the notion of spatiality should be abandoned altogether. This is why the notion of access is put centre stage. To simplify, it would be pointless to study a closed world in terms of access, as it would be to use this term in a fully distributed world. While in the first case everything is about access or containment, the latter would be without access, devoid of spatial boundaries.

In this sense, the case of airport security, and the way it was tightened after 9/11, is a privileged object of inquiry. Airport terminals provide access to political territories (spatially confined) and to technical networks (linking up with the entire planet). Allowing for a situated analysis within a comparative research framework, they are a strategic site in which to take a first step towards a political sociology of access. The following sections benefit from the promising momentum gained by going *beyond anticipation* (and its failure). At the same time, the move towards resilience requires further clarification in positive terms (cf. Potthast 2007, 53-59). Therefore, instead of expanding on the notion of resilience, the present contribution will illustrate in detail the diverging strategies of access control at arrivals and departures. As a result, it will extend the range and the sense of political alternatives.

2. Sources

Ronen Shamir (2005) argues that emerging technologies of profiling are responsible for social stratification at a global scale. He claims that creating and linking large databases for personal identification has a double impact: It may speed up mobilities for some, while it produces effects of containment for others.

> "[T]he differential ability to move in space - and even more so to have access to opportunities for movement - has become a major stratifying

force in the global social hierarchy" (Shamir 2005, 200). "[P]rofiling emerges as a more discrete technology of intervention that facilitates and complements the regulation of mobility by legal and disciplinary means. Moreover, while laws and regulations may formally enable governance through profiling, they nonetheless lack the instruments and the type of gaze that allows profiling to function as a mode of spatial containment that is able - on the ground - to maintain the selectivity of boundary-crossing and to effectively distinguish those who are licensed to move from those who are not" (ibid., 210).

According to Shamir (2005), what is at stake here is nothing less than a new mode of spatial containment. Have responses to 9/11 resulted in a new global order of access? Is it appropriate to portray these changes as depending on a new "discrete technology"? In other words, is there a strong case for *anticipation* built on technological determinism?

Turning to airports, it seems to be hard to object to this view. First, surveillance-capable technologies found in airports have been designed for that purpose. Second, there is no doubt that these technologies have left the stage of development and become partly implemented. Third, while these technologies have to be appropriated by users, there is not much space left for unpredictable ways of using them. Therefore, while for many complex work settings, technological determinism is a displaced concept (Mason et al. 2002; cf. Grint/Woolgar 1992), it should be reconsidered in the case of airport security. While this claim of technological determinism should be taken seriously, the present paper does not select a single "discrete technology" but seeks to trace changes all along the journey of passengers and their luggage through the terminal building. It is not designed to either accept or reject a claim on technological determinism but to depict security in action.

Unsurprisingly, access control at airports is a field of study which is difficult to obtain.[2] Standard procedures of generating qualitative data may therefore be simply inadequate. As exemplified by the few studies available, empirical investigation on airport security rests upon research strategies that are hard to

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[2] Following Bigo (1998, 5), studies on security and terrorism merit highest standards of methodological reflexivity. Surprisingly, therefore, reviewing 10 studies on terrorism and security published after 9/11, Neidhardt (2004, 263) finds that none of the authors has taken care to reflect on the methodological aspect of their research. For a succinct methodological discussion which is instructive beyond the problem of understanding suicide missions, see Gambetta (2005, 259-300).

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reproduce. Morgane Iserte (2008), for example, doing research in the restricted waiting area at Paris-CDG airport, reports that she was not allowed to talk to the persons whose legal status was uncertain, and that she was permanently accompanied by border police officers. Furthermore, she had to join a non-governmental organisation allowed on site in order to carry out her research. Provided these conditions, the state of the art in social studies on airport security has remained rather deficient (Adey 2004). There is no study which would be based on a fully comprehensive research strategy and a consistent and coherent body of observations. Among the few studies available, there is a noteworthy analysis of passenger screening at the departure level of Paris Orly based on fieldwork before 9/11 (Linhardt 2000, 2001; Jobard & Linhardt 2008). Finally, there is a more recent article on security screening which combines the analysis of publicly available documents from various sources with a series of crises experiments the author has carried out at several airports (Parks 2007).

In addition to the work just mentioned, there are three more continuous sources of information and research I will draw on in this contribution. As a first source, I will use reports provided to members of the US Congress by the Congressional Research Service (CRS). Within this large collection which has recently been made available online, there is a number of reports dealing with air transport security and related issues. A second source is *Passenger Terminal World*, a monthly commercial review that serves as a show-case for airport terminal technologies and services. For the purpose of this article, I will refer to contributions by major design and architecture studios. Their authors often take a comprehensive view on airports, reflecting on new technological devices in the context of "old technology" and the spatial layout of terminals. Finally, there is a French academic journal, *Cultures & Conflits*, which has closely followed the topic for more than ten years. Combining the three sources mentioned I will build up an empirical study of the ways in which airports have been equipped with and make use of security technologies.

The present article has two main sections reviewing recent changes of access control at departures (3) and arrivals (4). Observing security in action at both levels of airport terminals implies a reversal of perspective. In the first case,

access control is related to threats specific to air transport. In the second case, threats are defined with regard to the current doctrine of domestic policy which is applied to territorial boundaries in general, regardless of the mode of transport. By implication, terminal architecture can be said to draw a distinction between security related to the safety of a technical system and security related to issues of national sovereignty. Once introduced in the name of security, the strict separation between departing and arriving passengers has remained a stable feature of airport layout that has not been affected by recent changes. This is reflected by the organisation of the present inquiry. Building on the separate documentation of changes at departures and arrivals, it will address the following questions: Have changes taken at both levels affected each other? Has the relationship between arrivals and departures been transformed? The inquiry will be sensitive to both local and to translocal change: It will ask for distinctive features of terminals as a building type, and elaborate on issues which account for the fact that one airport's arrivals section is another airport's section of departures.[3]

3. Departures

On a cynical note, one could say that airplanes have been designed for taking hostages as they are difficult to invade and almost impossible to evacuate. What is more, for fear of crashing, passenger resistance is unlikely. Planes are spaces that are *easily controlled* – for good or for evil. This is why it has become so important to control access to them. These control activities have to be carried out in spaces which are particularly *difficult to control*: airport terminals are anonymous public spaces (and sometimes crowded). In this sense, these buildings offer a perfect hideout for terrorists as they cannot be distinguished from ordinary passengers (cf. Linhardt 2001). While this is a salient observation for public places and buildings

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[3] The author of this paper partly draws on observations taken as a passenger. More importantly, though, I have carried out ethnographic research on the crisis of baggage handling related to the introduction of hub-and-spoke operational schemes at the airports of London Heathrow and Paris Charles-de-Gaulle (Potthast 2007). I do not claim that responses to both types of crises (lost bags; security after 9/11) can be analysed within a common framework. However, both studies are complementary, both in a spatial sense (after check-in, passengers and bags are processed separately) and in a historical sense (fieldwork on the bag crisis has been conducted before 9/11 and therefore eclipsed the current concern for terrorist prevention). Further studies focusing on crises and transformations within the large technical system of air transport include an analysis of public responses to the Swissair 111 crash in 1998 (Potthast 2003, 2006) and an ethnographic account of the uses of paper strips in air traffic control (Potthast 2008, 2009).

in general, the specific vulnerability of airport terminals is obviously related to the fact that they are access points to planes.

To deal with this problem, a number of spatial boundaries have been erected. First and foremost, departures are strictly separated from arrivals (Phipps 1991). Second, within the departures area, passengers are separated from and later "reconciled" with their bags. Separation of passengers and bags takes place at a considerable distance from the aircraft. "Separation" is a key term to describe security procedures at airport terminals: separation of persons (to be checked individually); of persons and their bags; of persons and carry-on luggage; of bags and bags. Finally, in case of doubt, various items within carry-on luggage are given a separate check. In short, the whole process is designed to transform a heterogeneous crowd entering the airport terminal into identifiable components.

Entering the airport terminal and finding their way towards the correct check-in desk, passengers are welcomed by security announcements reminding them *not* to engage in an operation of separation without assistance: They are requested to never leave their baggage unattended in the terminal area. At many airports, this announcement is combined with a warning: Objects left unattended are considered as dangerous and "maybe destroyed". To destroy unidentified bags has been a current practice even before 9/11. Alertness to it has certainly risen after these events. In addition to the invisible announcement an increasing number of security agents serve, among other functions, as a permanent visible reminder of the security announcements.

Passengers have to present themselves at a check-in desk. At this point of their journey, they will be identified by airline operators and will have to leave their bags. To describe the bulk of actions taken to disrupt terrorist travel after 9/11, I will now go on to the security checkpoint.

One of these actions is to screen passengers for explosives. To this purpose, technological equipment has been made available at airport security checkpoints (Shea/Morgan 2007). There are two ways of screening named "explosives trace detection" and "detection of bulk explosives" the latter of which has been

introduced earlier. Trace detection is carried out using ion mobility spectrometry. Usually deployed with portals, it targets traces or small doses of explosives on airline passengers themselves. One of the questions raised during its implementation was whether to use trace detection as a primary or only as a secondary check. If used as a primary check, would it allow for appropriate "passenger throughput"? What if too many "false positives" slow down the process in unacceptable ways? What if, for the purpose of mass (false) detection and disruption of airport operation, explosives are disseminated on commonly touched objects at the airport? Finally, what if new explosives are used which are not (yet) detectable (ibid.)? Up to now, trace detection devices and portals do not provide images. Hence, there is no way to use operators' intuition and experience in case of doubt.

Following significant investments into trace detection[4], the issue of liquid explosives (which escape trace detection) was brought up in 2006. Dangerous liquids were added to the list of dangerous substances – dangerous liquids which are difficult to distinguish from harmless liquids such as water or toothpaste. The consequences are well known. Passengers have to leave larger quantities of liquids at the security desk. The current situation remains challenging both for operators and passengers for the following reason: It defies common sense why a highly familiar "substance" like toothpaste is classified as dangerous and has to be confiscated for security reasons. Even more surprisingly, if considered dangerous, the confiscated bottles, cans and tubes are just piled up in the middle of a crowded place. Provided that a reliable method for discriminating dangerous liquids is not available, why make it so obvious to the public?

As exemplified by the handling of liquids, screening hand luggage has been given particular attention. Passengers have to take off their coats and jackets, or even their belts and shoes. Together with their hand luggage, these items are put on a belt for security X-raying. Passengers have to check their pockets for metal objects, and they have to hand over mobile phones. Laptops must be unpacked,

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[4] In the US, the system for explosive trace detection has been implemented at 400 commercial airports. When implemented in 2005, the cost per portal was 160,000 Dollars (Shea/Morgan 2007). Estimating the overall cost of this measure, one would have to include the cost of operation and maintenance (ibid.).

and they are requested to put liquids (which are not allowed to extend a maximum limit) into a separate transparent bag. Substances and objects considered dangerous may be confiscated. Finally, a passenger may him/herself be denied access to the plane. The tightening of security procedures has been accompanied by countless complaints by passengers, and many of these complaints appear perfectly justified. Some complain of having missed their flight due to longer queuing time. Others complain of the loss of private property classified "dangerous". Another set of complaints is directed at search practices judged too intrusive. A rare but particularly severe case is presented by those who have been refused from boarding the aircraft due to flawed information. Throughout these complaints, it is rather difficult, if not impossible, to identify a common line of critique. Neither is there an abstract concept of privacy behind the variety of indignations, nor is violation of privacy the only controversial issue. A great number of critical remarks suspects security checks to lack efficiency. Sometimes, security is not only questioned but clandestinely tested.

Security staff is exposed to critique – not just in an abstract sense. Taking passenger complaints seriously is to stay close to the everyday worldly encounters between security staff and passengers and to the problems to generalise from these particular experiences. While airport security is composed of a stable sequence of operations, checkpoint encounters, mediated by technological equipment in multiple ways, are the object of considerable tensions.[5] A clear indication for this tension is that, at some airports, security checkpoints have been explicitly declared joking-free zones. It further adds to the ritualistic dimension of security procedures that, when approaching the security checkpoint, passengers are shown the following warning: "All comments regarding bombs and guns are taken seriously. Please no jokes" or "Making any jokes or statements during the screening process may be grounds for both criminal and civil penalties. All such matters will be taken seriously. We thank you for your restraint in this matter." Besides carrying out work that is physically challenging (Parks 2007), security agents are inundated with complaints. They are trapped by receiving contradictory

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[5] Of course, similar tensions arise in a number of customer service work settings, both within and beyond air transport. Cf. the early study on emotionally securising passengers before and during the flight (Hochschild 1983). Nightclub security checks (Hadfield 2008) might offer an instructive case for a comparative analysis.

complaints: On the one hand, they are criticised for taking their security mission too seriously; on the other hand, they are insulted for not taking their job seriously enough. They are confronted with resentment for both following and allegedly neglecting rules. Constantly interfacing with passengers and exposed to their humours and critiques, they were protected from joking and ambiguity.

To mention a further change post 9/11, security checkpoints at departures have been equipped with more sophisticated technologies of visualisation. Suspicious objects may be zoomed in and shown in contrasting colours. These devices have not replaced but rather complemented manual searching. Having screened passengers' belongings by means of visual analysis, some passengers and their belongings are selected for a second stage of manual search. The deployment of new technology has allowed for extending the process of screening, but it has not replaced a procedure that relies on training bodies (for manual research). Both vision and tactile senses are necessary to deal with a doubtful passenger or piece of luggage.[6]

As pointed out earlier, the separation of luggage and passengers is at the basis of the current mode of controlling access to aircrafts. Having processed, on separate paths, both passengers and their bags, there has to be reconciliation before take-off. Two failures of reconciliation may occur: Either the person or his/her luggage is not on board. While the first event is classified security threatening, the second is considered as a technical failure.[7] Therefore, in case of a missing passenger, the departure of a plane has to be postponed until his/her bag has been identified and unboarded. While this may cause disruption, its impact on overall flight delays is low.[8]

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[6] As body scan equipment is currently reconsidered for implementation in many countries, manual search may lose importance. In Germany, however, the announcement of this technology was not welcomed but regarded as highly problematic. One of the headlines read as follows: "Airport security. Politicians terrified by the announcement of a *Nacktscanner*" (Spiegel-Online, 23.10.08).

[7] In the case of a lost bag, there is no formal imperative on how to proceed (cf. Potthast 2007).

[8] According to the US air travel consumer report covering the period of March 2007, 73 percent of all flights at 32 airports in the US have been on time. Among those delayed, only a small fraction of 0, 06% has been delayed by "security reasons" that are defined as follows: "Delays caused by evacuation of terminal or concourse, re-boarding of aircraft because of security breech, inoperative screening equipment and long lines in excess of 29 minutes at screening areas" (Office of Aviation 2007, 26). Among the future "gridlocks" of air transport, "security" does only appear as a marginal problem (Elias 2006). The large technical system of air transport has a remarkable record of availability. Air traffic has experienced local shut-downs due to bad weather conditions, war or

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Assuring reconciliation is the last step in a sequence of security at departures. Reviewing responses to terrorist threats targeting air transport, the preceding observations confirm that airport security is a matter of incrementalism. A pre-existing set of trials has been extended by adding up a number of operations. Having undergone the modifications depicted in the preceding paragraphs, the process of controlling passengers and bags is still homologous to a scientific trial. According to the (pre 9/11) description by Linhardt (2001, 85), the aim of this process is to transform a worldly object into an epistemic one or to reduce a complex object to readable traces which can then be processed by laboratory-like technologies at the security checkpoints. Still following the account by Linhardt, the process of cleaning passengers necessarily relies on the back and forth of representations (generated by machines) and perceptions (based on operators' intuitions and prejudices).

For many observers of airport security, the story ends here. In terms of changes enacted by law and detailed in the relevant policy documents, the distinction of departures and arrivals is not relevant. For instance, the extensive list of measures included in the Aviation and Transportation Security Act (11/19/2001) did not come with a specification, but one would assume that changes relate to the departures section. Moving on the arrival section, the simple operation of "locating" the responses to terrorist actions takes a political implication. On the other hand, the subsequent sections will also reveal the limits of the attempt to locate technologies of control.

4. Arrivals

Video screening, combined with profiling based on biometric data, has been ready for introduction at the gangways of major airports since 2002.[9] This is a specific application of CCTV systems which contrasts with the generic use of video

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terrorist attacks, but it has never come to a global standstill. On 11th September 2001, civil aviation in the US came to its first standstill in history as air traffic controllers were ordered to land about 4,500 planes in a few hours (9/11 Commission 2004, 46).

[9] CISCO manager, personal communication, Passenger Terminal World Conference (Hamburg, 2002). This personal communication came with a demonstration of the time needed to capture and transform visual data.

cameras elsewhere in the terminal building (including the departure section). Many airports have multiplied the number of video cameras in response to the terrorist attacks. For instance, as decided in 2003, 6,800 cameras have been deployed at Paris-CDG (Iserte 2008, §18). At the exit door of the aircraft, the use of video taping and software for facial recognition serves a specific purpose, related to this particular location. The average time required to walk through a gangway is long enough to find potential matches in a biometric database. A person classified as being dangerous may then be identified and sorted out by security forces at the end of gangway.

Access control at the arrival section has moved up to the door of an arriving aircraft. For the rest of it, there is no stable sequence of control activities. The absence of it is reflected by passenger experience. To arrive is less of a ritual as compared to the much more structured procedure of separating and filtering at departures. Obviously, passengers will have to go through passport control (if boarded on international flights) before recollecting their bags and then passing the line of customs control. The arrivals section is divided up into various zones, too. One of these zones is "reserved" for arriving passengers that are refused to enter the country or even the transit zone. By definition, this zone is not linked to any sequence of standard operations applied to the entire public.

Access control at the arrival section is selective from the outset. Since 9/11, the focus on national identity has been renewed. Determining the country of origin is paramount. At Paris-CDG airport, passengers arriving from one of 34 countries that have reached the numbers of asylum seekers in the recent past are given particular attention (Iserte 2008, §30). If selection by nationality fails, border police units have to deal with persons of "unknown origins". In order to reduce their number some incoming flights are controlled directly at the exit door of the aircraft. This action has become a regular practice and serves to sort out passengers on the basis of intuition. Trying to identify those who might not be tourists, border police seeks to reduce the number of persons "losing their origin" between the aircraft and the transit zone. Tracing both official projects and more unofficial practices related to access control at Paris- Charles de Gaulle, Iserte (2008, §§40ff.) claims that this airport has become more "securised". Among

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other things, she became aware of "inader". Having emerged in French police jargon this term refers to the act of informally persuading a person to be *inad*missible and to make him/her return before creating an administrative case.

Moving further through the catalogue of changes, one will notice that some control activities related to the arrival section are carried out at a distance. Locally, departing and arriving passengers continue to be strictly separated. At the same time, territorial boundaries have become more flexible. Stated in another way, sections for departures and arrivals have gotten closer to each other.

Among the activities even *prior to* the control of passengers and luggage at departures, one has to mention the listing of dangerous persons and descriptions of dangerous items that should not enter the plane. The task left for the various points of control at the airport then consists in finding matches between those persons and objects listed and those to be checked at the gate. Since 2001, *screening* passengers has been intensified and complemented by an activity called "pre-screening". US authorities have put 20,000 persons on a "no fly" list. Airlines flying to the US are obliged to check passenger lists against this "no fly" list *before* take-off and to contact US authorities in case of a match. In addition, there is a second watchlist which is estimated to name about 325,000 "automatic selectees" who are given particular scrutiny at airports (Krouse/Bart 2007, 5). Collecting, storing and sharing large amounts of detailed passenger information have been the subject of controversy; also, there have been serious concerns about the quality of these databases, following the misidentification and mishandling of passengers. The notion of "pre-screening" is interesting in itself. From a passenger's perspective, it does not make sense, because screening has always been pre-flight (at departures). The operation referred to as "pre-screening", however, takes the destination of a flight as its reference point. Pre-screening involves the transmission of passenger data from the airport of departure to the Transport Security Agency (TSA). Every day, an average of 30 matches with the "no fly" list is reported to this agency (ibid.). In case a passenger list is incomplete or has been incorrectly transmitted to the US authorities, flights heading for the US might be diverted. This has occurred on a few occasions. As a consequence, among the measures taken to increase security, pre-screening has been widely

discussed and criticised for "extroverting" (US) borders (Cuttitta 2007, cf. Kaufmann 2006). Extending border control, persons classified as suspect are identified before entering the US territory. They are "located" at a distance. Listing, checking and (pre-)screening activities do not necessarily require the introduction of new technologies. Making use of databases, however, has not only led to the extension of territorial boundaries. It has also extended towards new types of data, notably biometrical data. During the last few years, technologies of collecting, storing and comparing biometrical data have been developed, tested and widely deployed.

Access control at arrivals no longer takes place in a single location. Instead it has developed towards a spatially distributed activity that comprises collaboration between several parties. To mention one example, cooperation between border police services with embassies and airlines in the country of origin has been intensified. This cooperation is built upon heavy constraints. Airlines that carry passengers without documents are fined penalty payments reaching 5,000 Euros. In 2004, airlines flying to Paris-CDG airport have been fined on 1,033 occasions (Iserte 2008, §36). Reading official documents the practice of shifting boundaries is depicted in terms of growing efficiency and accompanied by the following series of figures: Each year, some 12,000 persons arriving at the airport of Paris-CDG have been refused access to the French territory. In 2005, this was about half of the total figure in France. In 2006, more than 14,000 persons were placed in the restricted waiting zone at the airport. During the same year, almost 3,000 persons asked for asylum at Paris-CDG airport. Since then, this figure has decreased. Another figure presented as a key indicator to a successful migration policy regime is average "waiting time" in the restricted area (at Paris-CDG airport) which has gone down from 5 days in 2004 to 1.89 days in 2006.[10] Moreover, the French administration has celebrated itself for having speeded up the treatment of asylum requests. In 2006, 86 per cent of requests were handled within 4 days (all figures quoted from Iserte 2008). While these figures are meant to be evidence for good policy, they have raised serious concerns about the ways in which they have been achieved. As stated before, the French administration celebrates itself for

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[10] One might think that "waiting time" refers to departures. However, the concept has migrated to the "reserved waiting areas" at arrivals.

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reducing "waiting time" of passengers while clarifying their legal status and their admission to French territory. However, the reduction of waiting time is partly related to questionable practices. In turn, public announcements and appraisals on the speeded-up treatment of passengers of uncertain legal status or of "unknown origins" and an increasing rate of refusal may further encourage questionable practices.

While a thorough discussion on whether these concerns are justified is beyond the scope of the present paper, its comparative framework allows for highlighting the following difference: At departures, a stationary sequence of trials has been supplemented by further technical equipment. Its clear-cut spatial layout corresponds to a concise definition of institutional responsibilities. At arrivals, things have evolved in the opposite sense. Notwithstanding the speeding-up of local waiting time, access control has become more diffuse, both in the spatial and in the institutional respect.

Changes at departures are exclusively related to security issues. At arrivals, security is inextricably tied to migration policy.[11] "Establishing alienage" (Wasem 2008) is a prerequisite to deny illegal entrants access to "federal benefits" (ibid.). For this purpose, arrivals have been equipped with various technologies of verifying identity and citizenship. Speaking of "federal benefits", what are the costs related to false claims of citizenship, and how do they compare to the costs of fighting false claims by technical and organisational means? Without specifically referring to airports, many observers estimate that the cost of the latter approach is much higher (Romero 2007). In addition, one should not suggest that new technologies (for instance, more sophisticated identification documents and document control systems) will provide a durable technical fix. This assumption is questionable at best provided the scale and the social complexity of the issue of "illegal immigration" and "alien residents".[12] Without going deeper into the details of immigration policy, it is obvious that security concerns, whether founded or

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[11] See Carter 2008 for countless illustrations.
[12] For a brief illustration, the estimated number of illegal alien residents in the US is 11 millions. How many of these persons live in families of mixed status? And how to deal with these families that are partly composed of legal residents, for instance children born on American soil (cf. Wasem 2008)?

not, have been an important political resource for restrictive migration policy doctrines in many countries.

Looking back to the previous sections, there is a remarkable shift of attention extending from departures to arrivals. This is remarkable for a simple reason: on the morning of 11th September 2001, all terrorists had checked in for domestic flights and never reached the scheduled destination. Responses to the terrorist threat, however, have not been limited to departures. On the contrary, the US and other countries have redefined their territorial boundaries and modified access control (at arrivals).[13]

The objective to "disrupt terrorist travel" has led to refining and intensifying passenger control both at departures and arrivals. In addition to screening up to 150,000 daily passengers, access control also applies to airport staff, a workforce that cannot be divided up between the two sections of departures and arrivals. In 2005, Paris-CDG airport received 63,000 requests for badges authorising airport staff to work in sensitive zones.[14] At many places, these employees were chosen to pioneer access control technologies based on biometrical screenings. Biometrical information collected at all access points allows for tracking and tracing movements of staff members throughout the airport.

In addition to the shift to a new technology of identification, checkpoints used by airport staff have been equipped with machines designed to prevent tailgating. These devices consist of two doors, the second of which will open once the first

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[13] The French journal *Cultures & Conflits* has closely and critically accompanied this development, including a number of thematic issues on "security and immigration" (issue 31-32, 1998), "critical approaches to security studies" (54, 2004), "identification and surveillance" (64, 2007), "circulation and the archipelagos of exception" (68, 2007), and "confinement of foreigners: between circulation and arrest" (71, 2008).

[14] In the same, the rate of refusal was between one and two percent. Total staff at Paris-CDG airport was 83,000, employed by some 700 companies (Smolar 2006). Security staff, including customs, gendarmerie, border police and private security firms at both Paris-CDG and Paris-Orly was 10,000 in 2002 (Smolar 2003). In France, discussion on the security of airport staff has been fuelled by a right wing politician's book on "the mosques of Roissy" (Villiers 2006; cf. Boltanski 2006). Shortly after the publication, a number of baggage handlers have been refused access to the airport as they were suspected to belong to islamist organisations. Elsewhere, the discussion was not dominated by the issue of racial profiling. In the US, for example, the status and training of airport security workforce has been a major concern. Security staff has been federalised in the aftermath of 9/11. As reported by Parks (2007), however, turnover rates continue to be alarmingly high.

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door is closed, and the person has been successfully identified. In the meantime, checks by sensors and control of weight will be carried out to make sure that only one person is allowed to enter the sensitive area. With regard to these check-points, it can be noted that biometric control may be carried out without local assistance. At the same time, and even if flow is low, new technology does not equal with miniaturisation. Controlling access by biometrical means has prompted investment into heavy mechanical artefacts and is therefore bound to a specific location.

5. Departures/Arrivals

According to the "control revolution" hypothesis, new bureaucratic technologies of control have emerged as a response to railroad accidents (Beniger 1986). More generally speaking, the invention of anticipation can be attributed to operators of large-scale technical systems. Taking a closer look at the related field of study, the control revolution hypothesis is more difficult to grasp. There are studies showing in detail that (and how) technical uncertainty is transformed into a resource (Crozier 1964; cf. Potthast 2007, 72-79). But has there ever been an age of anticipation? Isn't the "bureaucratic phenomenon" (Crozier 1964), above all, a product of symbolic action? Undeniably, both risks and responses to risks may be used for the public staging of power and control (Gilbert 1992). In the case of recent terrorist action, there was plenty of opportunity to observe the return and reaffirmation of state power, somehow related to the marketing strategies of industrial suppliers (Ceyhan 2007). Summarily, a lot of attention has gone into strategies of public staging that are loosely coupled to the emergence of new technologies and activities of control.

Have the 2001 terrorist attacks triggered a control revolution? If so, where exactly did it take place? So far, changes have been reported without questioning the future of the terminal as a building type. The present section will turn to this issue, providing a context which will then allow both inventories to be drawn together.

To begin with, terminals are very large buildings. Major airports receive up to 80 million passengers per year. As passenger flow is unevenly distributed, and often

split up between several terminal buildings, terminal design is based on the expected number of "busy hour passengers". A UK-based airport designer has presented the following calculation: Adding up 20 square meters for public use, 20 for non-public use; 6 for public commercial use and 1.5 for non-public commercial use, airport terminals should provide 50 square meters per busy hour passenger (Stewart 2004). The built space per passenger ratio varies with different terminal layouts. Horizontal layouts are less space-consuming than vertical layouts. However, in the case of horizontal layouts, passengers will have to walk longer distances. To give an example, Terminal 2E in Paris Charles-de-Gaulle extends over a surface of 220,000 square meters. It was designed to handle 11 million passengers per year and 7,500 departing passengers per busy hour (Salat 1998, 264). As to check-in queue areas, the "congestion standards" released by the International Air Transport Association recommend 1.4 square meter per occupant as the "minimum design objective" (IATA manual, 1992). If it falls beyond 1.0 square meter, this is qualified as an "inadequate level of service; condition of unstable flow; unacceptable delays; inadequate level of comfort." These figures might suffice to remind of the fact that all revisions with regard to access control take place in a built environment of considerable scale and complexity. Under these circumstances, airport terminals appear to be unlikely hosts of a "control revolution".

If we are not to expect the end of the terminal, how then to characterise airport terminals as a building type, and is this building type affected by current changes? What is the role of the revised security regime as compared to other factors?

Much like railway stations, airport terminals are run by more than one organisation. This is hardly worth mentioning unless these organisations have to coordinate their activities – as in moments of emergency. In critical situations, they have to collaborate without already having agreed on a common mode and common rules of coordination. The studies conducted by Isaac Joseph and his collaborators (1995) focus on "situations perturbées". In their understanding, to keep large railway stations "accessible" is to manage all sorts of crises that may result in leaving spaces of flows decoupled from spaces of communication. Focusing on situations of crisis, Joseph and his collaborators have decided on a

horizontal mode of coordination between various actors. Anticipation, apparently, is no option in complex spaces such as major railway stations.

To underline this point, and to better understand airport terminals as a building type, they may be compared to the contrasting "model of castles" (Phipps 1990, 1). For obvious reasons, organising access to air travel cannot follow the example of defending a castle. To apply this model would be to create a clearly defined closed or controlled area and to impose severe limits both with regard to the temporal dimension (short period of service; limitation of visiting hours) and the social order of access (staff and visitors limited to personal acquaintances). While this may be a standard for good practice with regard to castles, it is inappropriate in the case of airport security management facing: "[1. v]ery large workforces with high levels of individual responsibility spread over a complex and widespread organisation. 2. An increasingly intimate involvement of the general public within the work places and operational areas of the industry. 3. An increasing spread of highly valuable tangible and non tangible assets outside protected areas of operation. 4. An increasing dependence on the continuing function of sophisticated electronic systems, equipment and communications in order to be able to operate" (Phipps 1990, 1).

In short, managing access to castles is a matter of buildings. Faced with multiple uses, access control to airport terminals cannot rely on the (passive) quality of a building. Rather than being achieved by design, "access" needs to be (re)conceived of as a capacity. This is where the introduction to airport security management (Phipps 1990) joins the analysis by Joseph et al. (1995). However, similar to castles, and unlike railway stations that have often fused with surrounding urban spaces, access to airport terminals is limited to a few points.

For its methodological limitations, the present study cannot offer microscopic observations on crisis management and the related forms of coordination.[15]

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[15] See Parks (2007) for a little more detail on how new technologies of security have been appropriated by their users. Waiting for more systematic studies, the following questions should be addressed: has new technology led to higher levels of complacency? Has developing and implementing new technology been accompanied by sufficient efforts to train operators and users? Has the introduction of new technological systems devalued competences relevant to the

Instead, it has taken an organisational structure as given that is inscribed into the basic layout of terminal buildings: the separation of arriving and departing passengers. Contrasting castles and railway stations, airport terminals have to cope with the dynamic evolution of a global technical network. This is why, from an architect's point of view, terminals are regarded as a building type which is particularly short lived (Moore, Taylor and Vacchione, 2004, 55). Again, did recent responses to security threats affect the basic layout of terminal architecture?

Airport terminals have been equipped with additional security devices prompting the extension of security areas for both passengers and staff. By consequence, terminal spaces have been reorganised and further extended. In the same way, more space was made available for queuing. New control rooms have been set up and existing control rooms have expanded or merged. Despite not being exhaustive, the list of spatial adaptations mentioned so far does not affect the separation between arrivals and departures. Moving backwards from security to check-in, the introduction of biometric identification has an effect on the spatial organisation of terminals. However, biometric identification has not yet replaced check-in desks. Due to the increasing use of biometric identification, check-in halls may be significantly transformed and, therefore, cease to be the icons of terminal buildings (ibid.). But still, even if check-in halls were to disappear, this would not be the end of terminal buildings and their major principle of spatial organisation. Pointing to the arrival of technologies capable of tracking and tracing passengers, one should not conclude that the guiding vision of creating a continuous flow of passengers has already been accomplished (at the expense of previous ways of ordering).

Next to refurbishments and extension related to security innovations, airport terminals have gone through a number of changes. As a result, the building type has differentiated rather than developed towards the single form of a large and integrated terminal. Both the introduction of new (especially larger) aircraft and the increasing diversity of aircraft have imposed changes on terminal architecture. Speeding up this sort of trend, airlines have adopted divergent business models

achievement of security? Has it affected the users' sense of controlling their immediate environment of work? If so, what are the consequences?

that are unlikely to be realised under the roof of a common terminal (cf. Moore, Taylor and Vacchione 2004). Nevertheless, the shifting and diversifying commercial logic of airport terminals does not entail the end of this building type. Airport terminals continue to provide a stable context for organising departures and arrivals.

6. Conclusion

Are we witnessing a control revolution? The current debate on surveillance society is framed by huge questions. After the age of panoptism, what awaits us next? Are we now entering the age of distributed power and traceability? Or is it that the apparatus is back in and preparing for a more disguised version of panoptical control? Analysing shifts in control and surveillance is a difficult task, even more so if one seeks to distinguish between action and talk, between real and symbolic policy, or between more or less symbolic actions taken to disrupt terrorist travel (Birkland 2004, 358)?

In various domains of security, it is evident that policy change is influenced by the logic of "staging" (Hitzler and Peters 1998) and of "symbolic matching". For the purpose of the current paper, however, I have adopted as a methodological guideline not to distinguish between real changes and symbolic actions. In other words, while I cannot claim to have presented an exhaustive review of the recent refinements of airport security, I have not only stopped at the most *visible* changes. On the other hand, I refrained from denouncing security actions for being *nothing but visible* (in the sense of symbolic action). Instead I have followed ordinary passengers throughout the entire journey, noting and locating changes at both arrivals and departures. This has enabled me to include a range of technical devices and to depict ways in which they relate to each other, thereby providing descriptive breadth.

Faced with the problematic sequence of terminals (difficult to control) and airplanes (easy to control), access control at departures has erected a number of spatial barriers. First and foremost, sections for arrival and departure are strictly separated. Within the departure section, passengers and luggage are separated and

processed on different paths. "Separation" turns out as a keyword to describe security at airports: Separating passengers (to carry out individual control), separating passengers and their hand luggage, separating various pieces of hand luggage. The whole process is designed to transform an obscure crowd that may contain problematic connections into identifiable elements (cf. Haggerty and Ericson 2000, 612).

The history of airport security (at departures) seems to be easy to write. The process of controlling passengers and their bags has been organised in a sequence of operations of separations which have been more and more fine-tuned. Separating persons from their belongings and objects from objects, airport security is about producing more traceable objects that can be compared to a list of dangerous persons and objects. A history of airport security had to concentrate on the classification of dangerous persons and objects in order to account for the constitution of the lists and their updates. Finally, a history of airport security would have to integrate various technological devices that have been implemented to support analytical operations of separation and identification. This is where the historical account is unlikely to pursue a linear path. For certain, airport security is no candidate for automation.[16] This is most obvious as all steps of separation are heavily assisted both at check-in desks and at security checkpoints.

If the analysis was restricted to departures, one would have to agree that airport security has a record of political incrementalism. Many authors have highlighted path dependency and a process of learning that is structured by interactions between terrorists and national and supranational authorities. Fully subscribing to this perspective, one author is keen to emphasize that the 9/11 attacks were only a minor innovation: "The only new aspects were the use of the seized aircraft as weapons and the prior acceptance by the hijackers that they [...] would die" (Wilkins 2007, 43).[17] As mentioned earlier, policy analyses have come to a

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[16] With the exception of the sub-process of sorting and screening bags which has been automated at all major airports.

[17] Sketching a short history of terrorism, Wilkins (2007) puts centre stage its "interaction" with airport design and operation, and the resulting effects of learning. Prior to the 9/11 attacks, he accounts for two moments of close interaction, followed respectively by stages of security refinements. A first wave of actions to secure air transport has been triggered by a number of hijackings in the 1970s and early 80s. These actions were based on the assessment that terrorists

similar conclusion (Birkland 2004), resonating with the founding text on "resilience" quoted in the introductory section. As Mary Douglas and Aaron Wildavsky (1982, 192) note in passing, it is almost proverbial knowledge that airports are constantly under construction.

In order to account for recent changes at the arrival section, one has to present a different story. Most significantly, various technical elements (including video taping, database technology and a software for pattern recognition) have been combined to establish an operation of surveillance next to the opening door of an arriving aircraft. Looking at this particular site, controlling access from technical networks to political territories has been changed by new technical means. This example, however, should not be regarded in isolation. Nor should it be declared a model of all changes related to airport security.

Comparing access control at departures and arrivals, one may conclude that recent revisions have strengthened both resilience and anticipation. Therefore, to recur to these terms remains a valuable option to account for the resulting tensions between these divergent modes of coordination. Airport terminals continue to be a distinct type of building at the encounter of two different spatial logics. On the one hand, they are tied up with limited territories and closed worlds, on the other hand, they are connected to a global network of transport. Both types of spatial orderings appear to be irreducible. It follows that frictions and paradoxes of access, and the articulation work carried out between territories and networks, are a promising subject of study. To invest in this line of research is to prepare for a complement to a more conventional type of analysis as practiced by political sociology. Without this complement, the present inquiry would have been guided by a different set of questions: Who were the relevant actors in the field of airport security? How did they manage to impose their actions? How did these actions feed back on the relative power of actors? This analysis would have concluded

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were ready to die for a political goal. As a response to this threat, special forces were set up and trained to invade planes once landed. Learning from this response, terrorists did not change their target (namely planes) but their strategy. The second wave is marked by the use of explosives and includes the Lockerbie crash in 1986. As a response to this renewed strategy of terrorism, airports changed their process of handling hold baggage. Most significantly, separation and reconciliation of bags and passengers was given made mandatory. This response to the second wave of terrorist attacks has once more been followed by a renewal of terrorist strategy, displayed on 9/11.

that the US Homeland Security Department has been a winner while the Department of Transport and international authorities have lost influence (cf. Mariani 2005, 32). Comparative analyses, possibly based on ethnographic fieldwork, offer a potential for reformulating these constellations, making use of categories rarely used but highly familiar to all parties involved.

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