Terminal experimentation: The transformation of experiences, events and escapes at global airports

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Abstract
Recent debates in aeromobilities research have focused on global shifts in airport socialities generated by the redesign of airport terminals (Cwerner et al., 2009). This article examines transformations to identity and social relations arising from the reinvention of airport infrastructures and facilities, especially the experience of airport services. We suggest here that the arrival of ‘smart airports’, or how we use the term ‘Airport 3.0’, involves an experimentalist orientation deriving from contemporary economic and cultural life. The general argument is that the reinvention of global airport spaces is producing three key transformations: (1) experimentalist orientations arising from the deployment of new information technologies; (2) an experimental business engineering of consumer worlds, or ‘worlding’; and (3) travel-time use geared to a world of infinite innovation. Finally, the article reviews transformations in passenger experience in the light of these conceptual claims.

Keywords
Aeromobilities, Airport 3.0, experimentation, reinvention, experience, globalisation

Introduction
In 2014, global air travel volume increased by 6%, which was somewhat higher than the 10-year average growth rate of 5.6%.

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increasing value of time in these emerging countries, are inexorably pulling traffic from buses and trains into aircraft’ (Airbus, 2006: 9–10).

If global aviation as a complex, high-carbon system of aeromobilities has witnessed robust growth, there has been a parallel expansion and enhancement of airport spaces – conceptualised here as a complex set of social relations (at once material and semiotic) affording possibilities of development for and constraint upon mobile lives (Elliott and Urry, 2010). The unveiling of new airport terminals and improved terminal upgrades can be understood as part of the reinvention of what Andy Warhol termed the ‘airport atmosphere’ (1976: 145), in which airports worldwide are reordered to produce increased efficiencies (focused on better passenger flow), enhanced technologies and aesthetics, improved sustainability and a more comprehensive capturing of the needs of passengers. Understood in terms of the conjoining of a world of hypermobilities with the rise of ‘the experimental economy’ (Thrift, 2011), airspaces are increasingly redesigned to capture experiences, events and escapes relating to the transient, the temporary and the transitional. Such emergent social patternings at airport spaces link with the emergence of consumers on the move – or, ‘transumers’ – driven by experiences, events and escapes rather than fixed, ‘solid’ forms of consumption (Bauman, 2005). Such experience-oriented, individualised and experimental forms of airport service include:

1. ‘B4 You Board’, launched in 2011 at Sacramento International Airport Terminal B, is a mobile app in which passengers order food from airport restaurants and have it delivered at the gate just prior to boarding.
2. Munich Airport now offers ‘Napcaps’ – A private cubicle with full bed and workstation, a multimedia touch screen with preloaded video and audio, flight information, alarm clock and internet access.
3. Copenhagen Airport announced the world’s first indoor augmented reality application for passengers. The phone app uses geolocation data and phone compass to place a point of interest in relation to where the passenger is looking at through its phone camera.
4. Kuala Lumpur International Airport offers the experience of a ‘rainforest’, which is located in the main terminal. In addition, the terminal’s ‘all-inclusive traveler’s hall’ offers mini-golf, TV, Internet access and other services.
5. Singapore’s Changi Airport offers the ‘The Social tree’. Reflecting interactive technologies and social networking, the Social Tree is surrounded by eight touch-screen photo booths that enable travellers to ‘attach’ their photos onto the structure, made up of 64 giant 42-inch high-definition screens, offering a 360-degree display. Photos remain stored in the ‘tree’ so that returning passengers can access and update them.

This article examines emergent possibilities and enhancements to identity, professional life and social relations arising from the routine use by individuals of transnational airline flows, airspaces and global airports. It focuses not on air travel itself, but on how movement in and through airport spaces provide for various opportunities or affordances relating to commerce, careers, experience and events – thereby connecting individuals to transnational ‘network capital’ (Urry, 2007; Elliott and Urry, 2010). We are especially concerned to underscore the importance of the experimental dynamics of contemporary global airports and particularly airport spaces. In reviewing selected social science literature on the intricate connections between sociotechnical experiments and everyday, ordinary life, we develop an argument that relates to three central aspects of airport experimentation. These concern: (1) technological and informational experimentation; (2) the business engineering of consumer environments, or ‘worlding’ and (3) transformations in travel-time use. A core aspect of our argument is that time spent at airports is not co-terminous with wasted or
dead time (Elliott and Urry, 2010). Instead, airspaces provide new forms of ‘meetingness’ and ‘dwelling’ for mobile lives (Cwerner et al., 2009). Indeed, various sets of social relations are afforded possibilities for development in airport spaces given the extensive business, commercial and tourist services available. These range from conference centres (Munich) and gyms (Los Angeles) to discos (Frankfurt) and casinos (Schiphol). The analytical focus concerns how airspaces make possible very many different mobile lives: the forming of networks and the sustaining of relationships at airport cafes and restaurants, transit hotels, business centres, business-class lounges, shopping, leisure pursuits. In the final sections of the article, we are concerned with contextualising the rise of the ‘experimental economy’ (Thrift, 2011) in terms of airport reinvention and offer a brief review of some current trends. We conclude by looking to the future of airports, or ‘the aerotropolis’, with special reference to infrastructure and service delivery models projected by the aviation industry.

Transformations in airspace and airports

There is growing evidence of global shifts in airport socialities as well as of new professional and business affordances generated by airspaces (Cwerner et al., 2009), and of why this now arises as a pressing matter for sociological study and social policy. Aeromobilities are fundamental to the production and ordering of the global electronic economy, as international travel flows promote transnational networks (Castells, 1996; Taylor, 2004). Airports can be usefully conceptualised as a ‘space of flows’ that mobilise people around the globe, largely through connecting hub airports in major global cities (Aaltola, 2005; Castells, 1996). Adapting Derudder et al. (2005), there are five reasons why transformations in global airports, air travel and their fields of commercial and professional activity provide a central insight into mobile lives, consumer identities, and worldwide business and professional networks: (1) airline routes provide reliable indices for transnational traffic flows; (2) airline route networks indicate the level of interaction between world cities; (3) notwithstanding new information technologies, the preference for face-to-face meetings remains high in business and the professions; (4) air travel is the preferred transport option of the global business elite, as well as tourists and (5) airline connections are a key component in the global competition among cities.

The complex, integrated infrastructures of airports have been the subject of detailed analysis in the literature (see Jarach, 2001; Pascoe, 2001). To summarise, in the past the core business of airports – which usually arose out of military facilities and were planned and operated by national-state public bodies – concerned aeronautical infrastructure and services. But the design of airports primarily as transport hubs – as organising structures for the arrival and departure of passengers, cargo and aircraft – has undergone significant change since the 2000s. Today, airports are increasingly broader and capacious in scope. The contemporary global airport is one reinvented as a place or locale for core aeronautical activities certainly, but also – and this is now fundamental – for non-aeronautical commercial activities, services and facilities. In a globalised world of private corporation airports (such as Heathrow in the UK) or private–public partnership airports (such as Dusseldorf in Germany), these new operational structures mix together numerous forms of travel, transport, consumerism, entertainment, business events and services, recreation facilities and cultural attractions. As commercialised global transport hubs, many airports today feature, amongst others, specialty retail, designer boutiques, duty free shops, ‘frequent flyer’ clubs, business office complexes, convention centres, leisure facilities, hotel accommodation, and health and child care facilities.

It is perhaps hardly surprising that, in an era of advanced globalisation and new communication technologies, airports are being reorganised, rebranded and reinvented. It
is not simply that all major airports are now continually upgrading and expanding their terminals in order to cope with the huge volume of passengers shifting through global airspace. It is also the sheer scale of the massive sprawl of new airports, of their monumental terminals of steel and glass, their skyscraper structures, their design by celebrity architects and their huge capital investments. Consider, for example, that oasis of indulgence known as Terminal 3 at the Dubai International Airport. At one stage the largest building in the world (measuring some 12.76 million square feet), Dubai International Airport’s Terminal 3 is the world’s largest air terminal. It consists of 97 escalators, 82 moving walkways, 157 elevators, 180 check-in counters and 2600 parking spaces. Designed to accommodate Dubai’s flagship airline Emirates’s fleet of A380s, Terminal 3 is an 86,000 square foot cathedral of consumption, in which travellers can engage in shopping around the clock. As a global transportation hub linking Dubai to economies such as Europe, the US, China and India, Terminal 3 is an airport at once commercialised, crowded, challenging and cosmopolitan.

But there is also a flipside to the rise of reinvented airports. Many analysts underscore that current trends in aeromobilities produce increasing social inequalities (Muller, 2008). All sorts of socio-economic discriminations bolster immobility and inequality, and it is crucial to be attentive to the broader structural context and political economy of today’s pleasurable modes of activity generated across global airports. This means recognising that ‘not all passengers in terminals are mobile in quite the same way’ (Cresswell, 2006: 222). Cultures of poverty, especially as a result of the calamitous proportions of young people caught up in structural unemployment, intersect with practices of mobility and immobility in complex ways. Burrell’s research (2011) on cultures of migrant air travel between Poland and the UK captures well the material discomforts of discount economy passage through bare, utilitarian airports. Similarly instructive is Cresswell’s (2006) study of the homeless in Schipol airport and Schipol taxi drivers who experience significant immobility relative to the more privileged flows of passengers. As Cresswell writes (223):

> Airports and air travel in general are replete with stories of comfort and illness, pampering and torture—bodies stopped and examined interminably. Some glide through the fast lane and have complimentary massages in the business lounge. Some bodies are found frozen in undercarriage wells.

There is, in short, a social and spatial unevenness in the production of aeromobile contexts. The question of mobility in the investigation of airports is usually approached, particularly by orthodox social science, as the other side of immobility. At first glance, this sounds logical. The politics of mobility, however, is deeply intertwined with immobility in cross-cutting ways (Elliott and Urry, 2010). Ohmnacht et al. (2009) have argued that, across the intersecting planes of mobility, stratification and inequality, we can detect the West’s obsession with technical forms of movement (planes, trains and automobiles) whatever the social cost. The discussion about airport socialities generated by the redesign of airport terminals needs to be placed in a wide context of political economy (Adey, 2009; Lyon, 2008; Salter, 2008), for inequality, poverty and forms of cultural exclusion (in matters of custom, religion, race and sexuality) are bound up with various types of airport localities – both across the mobility/immobility duality and the full stretch of mobility practices currently witnessed at airports, from first-class, fast-lane travel to the material and psychic discomfort of discount economy.

**Airport 3.0: Towards experimental life**

Recent work in social theory (Elliott and Urry, 2010; Bissell, 2013; Urry and Grieco, 2012) has sought to analyse the ways in which hugely complex, contested mobility systems are
reshaping the contours of high-carbon ‘mobile lives’ as a result of, among other social forces, new information technologies and global technological transformations. How this complex, contradictory rewriting of the interconnections between socio-technical systems and mobile lives produces airport spaces of infinite experimentation is the principal concern of this section of the article. To do this, we consider shifts in the global economy and look in particular at the social science which underwrites the significance of ‘experience’ in socio-economic fields and, most particularly, at the emergence of an experimentalist orientation in economic and cultural life.

The rise of experimentation at the level of service provision and business innovation has its roots in the notion of an ‘experience economy’. According to this standpoint, the concept of ‘experience’ became increasingly important to economic life during the course of the late twentieth century, alongside debates over the ‘new economy’ (Pine and Gilmore, 1999; Schulze, 1992). The term ‘experience economy’ was one powerful indication that an old economic order geared to goods and products was shifted to the sidelines; instead economic activity became increasingly centred on the rise of services, and especially the experience of services. Whilst the ‘experience economy’ has become a catch-all phrase, it nonetheless underscores the importance of experiences and events to value creation in firms and contemporary economic dynamics.

In modern sociology, there has also been a focus on experience – especially in terms of an underscoring of the rise of short-termist, transient, temporary kinds of both consumer and interpersonal experience (Bauman, 2000; Sennett, 1999). Beyond the purely economic realm, the power of experience in identities and organisational life has been invoked in such debate as a means of highlighting that traditional ways of doing things have been transcended, or more accurately that traditional social practices have become open to intense questioning, revision and recalibration. Alongside this sidelining of custom and tradition, there is an associated experimenting with possible alternative lifestyles and life strategies. In place of the certainties of tradition or custom, the flexible orientations of the ‘experience economy’ grant a greater role to experimentation, innovation and creativity in social life. Giddens, for example, writes of the spread of ‘everyday social experiments’ (1992: 8). As he writes: ‘Personal life has become an open project, creating new demands and anxieties’ (1992: 8). A related concern with the contours and consequences of experimentation is also evident in more recent debates over ‘individualisation’, ‘hyper-individualism’ and a ‘new individualism’ (Elliott and Lemert, 2009; Beck and Beck-Gernsheim, 2001; Lipovetsky, 2005).

In many of these contributions, experimentation permits a particular exercise of agency in the context of wider social changes. We might say, therefore, that experimental behaviour reveals an overload of choice; that people are today, in a sense, compelled to experiment as a means of coping with information overload; endless consumer options; revisable life narratives and the globalising impacts of capitalism, culture and communication. So experimentation covers a whole gamut of experiences, events and escapes – and, crucially, is neither located singularly at the level of the individual subject nor culturally as ordinary social life, but rather as a rewriting of the complex interconnections between these spheres. Experimentation, as various theorists have recently argued, moves to centre stage today as a result of various global, institutional and technological transformations. Critics have spoken of ‘the experimental economy’ (Thrift, 2011), ‘the general modification of event-ization’ (Stiegler, 2009: 11), ‘experimentalist forms of economic organization’ (Kristensen, 2011: 1) and ‘the self-experimental society’ (Gross, 2005: 63).

For the contemporary age, the most noted phenomenon impacting upon experimentation is technology, in particular new information technologies and Web 3.0 (Han, 2011). Technological transformations however do not exist in a vacuum; such changes are bound up with social relations and cultural history. In what follows we will suggest that, whilst there is something transformational about experimentation today, something best reflected
by the extraordinary use of new information technologies across modern societies, there are other social forces – at once affective and cultural – impacting here and pushing experimentation beyond its traditional limits. Below we explore some of the central sociotechnical forces that are reconstructing the field of social experimentation. Whilst more factors can no doubt be found, we identify the following three global transformations as key: (1) new technologies producing experimentalist orientations; (2) experimental business engineering of consumer worlds, or ‘worlding’ and (3) travel-time use geared to a world of infinite innovation.

First, new social forms of experimentation have sprung up in a world in which mediated communication, digital technologies and global fields of data have become increasingly important. This refers to transformations not only in electronic writing, but the diagrammatic regimes of texts, images and soundscapes operationalised through global computational interfaces. From this angle, experimentation comes to mean blogs, wikis, the upload, posts, status updates, tags and many others. Such communication powers have rapidly spread throughout social life, and many critics view such new technologies as culturally generative – on the side of innovation, not of convention. According to Thrift an elasticity arises from new technologies ‘which sacrifices perceptual certainty for the alternative rigours of a continual experiment in experiment’ (2011: 8). This experimental cultivation of experiment as an end in itself, to paraphrase Thrift, involves among other things the revision of inferences, ideas and assumptions about social worlds and how they are interconnected. Such an auto-technologised world of experimentation arises out of the increased integration of mobile systems (especially machines of mobility) and mobile lives. The experimental-oriented economy engineers forms of life that can be informationalised and organised in and through relational technologies. The service industries and experience-based consumer sector, for example, are increasingly defined through the spread of touchscreens, virtual landscapes, location tagging and ‘augmented realities’ such as iPhone apps like NearestTube, Foursquare or Google Goggles. The informational contours of such life experimentation is, in turn, underpinned by the technical dispositifs of Wi-Fi, Bluetooth, WiMax, RFID (radio frequency identification devices) and a whole host of related communicational sub-networks.

The growth of such auto-technologised experimentation can be contextualised in terms of aeromobilities and the arrival of ‘smart airports’ or the Airport 3.0. These are airport environments manufactured around a digital grid, in which a carrier-class IP network facilitates high-speed broadband throughout the airport. Smart airports enable facilities and services integration, real-time information and cross-silo collaborative capabilities – all of which underpin the personalisation of the passenger experience from caterers to retailers to airline lounge operations. The airport digital grid is at the core of service innovation. As one leading commercial assessment summarises these sociotechnical enhancements as concerns ‘smart airports’:

Airports, airlines, and partners will use Web 2.0 and 3.0 technologies, sensors, processors, and always-on communications to produce a new, foundational framework, enabling real-time sense-analyse-respond capabilities. Passenger touch points will no longer be defined by key information interchanges at check-in, security check, or boarding. Instead, a pervasive and persistent connection to the passenger will permit continuous, real-time communications anytime, anywhere. Such capabilities will enable all airport stakeholders – airlines, security, operations, concessionaires, and other service providers – to engage the passenger with relevant and compelling information and offers. As capabilities evolve over time, these conversations will be personalized, media-rich, and value-laden. (Fattah et al., 2009: 4)

The second category of globalised experimentation concerns the worldwide transformation of the relationship between production and consumption in the post-industrial enterprise and
The formation of a generalised ‘new economy’ geared to the growth of services, experiences and events is undoubtedly the sine qua non of widespread experimentation in modern businesses. But not only does today’s consumer play a more active role in the constitution of products and services but also the production of services, goods and experiences is increasingly part of a social process of ‘world creation’, or ‘worlding’, in which the relationships between businesses, employees and consumers are conceptualised and framed. As Lazzarato contends:

It is important to be clear on the implications of this. With the advent of the new economy, business experimentation takes on a different character. This concerns not only a growth in services, but the introduction of experimentation into the very social relations of service, such that social communications and global networks are continually reconstituted and modified through the production of such consumer worlds. Businesses today do not therefore simply produce products, services or objects. The enterprise of business is rather focused on the production and reproduction of worlds, into which products, services and objects continually circulate in and out of such (re)designed environments.

So not only is there no clear-cut division between producer and consumer, but also there is no clearly separable line between a particular product or service, and the embracing consumer-level environments or worlds that are designed as a means to new life through the activity of consumption itself. A whole host of techniques are involved in this engineering of new consumer environments, although again new information technologies and the advent of global digital networks are especially consequential for grasping how consumer spaces have become systematised in ways not previously possible. The present transnational corporate order is based increasingly on the engineering of experimental environments in which new forms of coordinating consumption, shopping, leisure, events, experiences, meetings and many more can unfold, cross and tangle. The embedding of Wi-Fi into the infrastructure of environments – from Starbucks to McDonalds – is an instance of ‘worlding’ that businesses today build for consumers to dwell in.

Finally, the uses of travel time (and including its associated periods of waiting, delay, etc.) are not co-terminous with wasted or ‘dead time’ (Elliott and Urry, 2010). The intricate interconnections between mobile lives, complex transport systems, new communication and technologies, and newly engineered consumer worlds or environments means that travel time is less likely to be approached by individuals as unproductive, ‘wasted’ time and more likely to be used productively for a range of both professional and personal activities (see Lyons and Urry, 2004). Indeed, communications scheduling and connected networking ‘on the move’ takes up large swathes of time for many travellers today. In contrast to the immobile, fixed desk of yesteryear’s work environment, today’s digitised, mobile workstations made up of palmtops, laptops, PDAs, WiFi and 3G phones means that portable offices can be set up almost anywhere – at cafes, bars, hotel lobbies, airport corridors and many others. These also provide ready access to and immediate communication with friends and family through phone connectivity, the uploading capability of visual images and blogged updates of ongoing travel experiences, allowing for identity making on the move.

It is important to note that it is not only the substantive time of the journey itself that can be ‘filled’ with productive work or leisure pursuits. It is also the ‘edges’ of travel time – waiting in an airport terminal lounge, sitting in delayed traffic – that become potentially usable in this way. It is characteristic of contemporary attitudes to work and related professional activities that people seek to undertake various productive activities – mobile
telephony, SMS texting, email – whilst experiencing unanticipated temporal delays when travelling. Only when ready-to-hand miniaturised mobilities are more or less easily available, however, can we speak of networked communication and information as productive possibilities for people in this context. These delayed edges of travel time have been captured nicely by Gasparini (1995), who writes of ‘equipped waiting’. Equipped waiting, situated on the delayed edges of travel time, allows for an inhabiting of, or dwelling within, information communication networks and from which individuals can conduct business, work, romance and family negotiations. There are, however, also important limitations arising from this increased mobilisation of work. More and more, working life invades travel time as a result of mobile connectivity, and this produces increased stresses and strains. For some passengers, the advent of new technology also means that they cannot escape from the demands of work even when they are moving between places of work, such as through airport spaces. The expectation is that travel time represents more time for productive work. Smart airports therefore produce, in Linder’s terms, an intensification of ‘harried’ passengers (Linder, 1970).

A possible misunderstanding about experimentation within global airports should be addressed at this point with two qualifications. First, we are not suggesting that experimentation did not exist prior to the era of modernity. On the contrary, there is a fundamental sense in which experimentation is a significant characteristic of all human action and central to the exercise of human creation (Castoriadis, 1987). But what is characteristic of modernity is not that human action is undertaken without reference to pre-existing guidelines, but rather the intrusion of experimentation into the institutional order of modern social activity itself. This intensification of experimentation, which unlocks social relations free from the hold of pre-established ways of doing things, is of a magnitude that radicalises and globalises the dynamics of day-to-day social life – especially of commercialised social life.

Second, nor are we suggesting that the dynamics of experimental life are either uniform or universal. As concerns the framework of analysis we develop here which connects experimentation to the globalisation of airport terminals, and specifically the rise of smart airports encountered at global hubs, it must be emphasised that experimental social practices differ from airport to airport. Experimentation, at the level of consumerism on the move, also differs from person to person. We contend, however, that passenger experience today has to be accomplished amid a puzzling diversity of experimental possibilities. Under conditions of advanced globalisation, the scale of technological redesign of airports, the pervasiveness of new mobile digital experiences and the blurring of consumer–producer boundaries are increasingly discernable in the complex ways passengers negotiate and react to such transformations. Moreover, this environment of experimentation is continually being modified or altered as a result of these inputs at the level of airport terminals – thus creating a complex, uneven interplay between the institutional order of airport experimentation and the passenger activities to which these environments are geared.

**Terminal experimentation: Transforming passenger experience**

The reinvention of global airports in the image of mega-shopping malls is probably the most obvious impact of the spread of globalisation and its culture of rampant consumerism. Globalisation, however, is pushing this reinvention of the form, function and financing of airports still one step further. The more globalisation intensifies the movement and mobility of people, the more airports are reshaped and redesigned to mix commerce, events and experiences. Let us briefly note just some illustrative examples in this connection. Singapore’s Changi Airport offers passengers a range of innovative services, including a
swimming pool, saunas and movie theatres. Beijing Capital International Airport has an extensive array of free passenger services, such as art troupe performances including singers, dancers and magicians. Amsterdam Schiphol Airport has its own Dutch master’s gallery run by the world-famous Rijksmuseum. Las Vegas McCarran Airport also operates a 24/7 museum – the Howard W. Cannon Aviation Museum. Stockholm Arlanda Airport possesses a chapel, which conducts hundreds of weddings annually. Munich Airport offers the AirportClinic M – a ‘full concept service’, state-of-the-art medical hospital covering everything from orthopaedics to cosmetic plastic surgery. And South Korea’s Incheon International Airport boasts not only an entire ‘golf town’ (complete with 330-yard driving range and 18-hole putting course), but also what it enticingly labels ‘Ice Forest’ – a skating rink installed with plastic artificial ice to keep passengers dry when they fall.

Such innovations are the latest form of the reinvention of airport cultures to better serve and sustain the dwelling of passengers in transit. Transit time is now based not just around shopping but also the accumulation and diversification of experiences and events. Transit is no longer conceived as a passive experience, in which the passenger has time to ‘kill’. Transit now increasingly revolves around a different concept. Since our culture promotes the ideal of do-it-yourself lifestyles and reinvented identities, so too transit time is more and more bound up with the accumulation of novel experiences, the self-design of airport services and the innovative interspersing of leisure and work activities. From this angle, the contemporary airport comes to mean, among other things, fashion, shopping, culture, lifestyle, marketing, advertising, business, networking and communications media. Moreover, as passengers navigate the dizzying array of airport services from gyms to conference centres to art galleries, there is unfolding of a massive mixing together of very many different mobile lifestyles and identities. In this sense, global air traffic results in transit spaces that juxtapose holidaymakers, business travellers, drug traders, money launderers, artists on tour, people smugglers and many others.

Experimentation, we are suggesting, lies at the very core of the Airport 3.0 and especially the form and function of airport terminals. But this is not all. Above all, new cultural and commercial ideas have sprung up relating to the possibilities for ‘airport cities’ – or what John D Kasarda (2008) calls the ‘aerotropolis’. The definition of the aerotropolis business model, according to Kasarda, involves the bundling of corridor development, fast connectivity, multi-modal transport infrastructure, aviation-linked business clusters and related residential developments. In one sense, the notion of aerotropolis seeks to underscore the increasing restructuring of business operations along airport corridors. The aerotropolis model, however, has also arguably arisen as airports have become key attractors for regional corporations and information-intensive firms. As Kasarda contends:

Firms specialising in information and communications technology and other high-tech industries consider air accessibility especially crucial. High-tech professionals travel by air 400 percent more frequently than workers in general, giving rise to the term ‘nerd birds’ in the US for commercial aircraft connecting ‘techie’ capitals such as Austin, Boston, Raleigh-Durham and San Jose. Many high tech firms are locating along major airport corridors, such as those along the Washington-Dulles Airport access corridor in Northern Virginia and the expressways leading to Chicago’s O’Hare International Airport. In this sense, knowledge networks and air travel networks increasingly reinforce each other. (2008: 15)

**The airport and the ‘total trip’ experience**

Our argument is that the future of global airports is increasingly focused on liminality – that is, the airport as a space of affordances for experimentation, experiences, events and new forms of
identity transformation. The confluence of technology, consumerism and the drive for meeting the needs of ever-increasing multitudes of airport travellers impacts on the forward thinking and strategies of airport planners, architects and terminal authorities. This section of the article considers some of these changes in the development of global airports, specifically the ways such changes impinge on social relations and identity transformations.

According to recent industry reviews, the development of the ‘future’ airport centres on the ‘total trip’ experience (Amadeus, 2012). Passengers are not simply numbers to get through the turnstiles, but ‘transumers’ whose ongoing needs can be catered to at every point. Airport planning, design and management have recently sought to extend expansive leisure and entertainment choices for passengers, giving rise to a new category of airport persons: ‘the airport tourist’. The focus here is on speed, simplicity, convenience and reliability in terms of airport processes and facilities. From flight bookings to flight arrivals, airports of the future will cater to and provide services for passengers’ needs and desires in an attempt to create the ‘stress-free experience’ of air travel. According to this industry assessment, the objective is to make ‘the airport and flying part of the overall experience rather than a “process stop” en route to the experience, and [the importance of] transforming the airport into a culturally sensitive and authentic destination in its own right’ (Amadeus, 2012: 27). For some passengers, therefore, the airport will no longer simply be a means to get to a future destination but will become a destination in itself (Urry, 2007: 138). Airports, in this context, are arguably emerging as places of the future in the present – as new and innovative technologies are mobilised and integrated. Certainly, some European passenger surveys suggest the importance of making ‘the airport and flying part of the experience rather than a means to get to the experience’, for it to be a ‘sense of place – a more culturally sensitive and authentic experience tied to the location’, ‘restoring a sense of glamour/wonder/magic associated with air travel’ and personalisation wherever possible (Amadeus, 2012: 27). How passengers ‘dwell’ within airport spaces has moved centre stage, both at the levels of airport planning and social science analysis (Cwerner et al., 2009).

Especially significant here is the mobilisation of communication and information technology, which has dramatically transformed the interfaces through which passengers interact with the Airport 3.0. In the manner of many other business models, global airports have been remodelled on the convergence of technological functions into the single device of the smartphone – the small mobile screen of which allows passengers through an Internet-enable computer and GPS to virtually explore the airport and ‘beyond’ from the moment airport security is negotiated. But the smartphone is only one element in the wider informational overlay through which passengers are tagged, screened and monitored. From touchscreens to location tagging to virtual landscapes, passengers engage with the Airport 3.0 through interactive surfaces which include ‘self-service’ immigration/passport, control/boarding, frequent flyer cards as electronic boarding passes and many others. Thus, the emergent ‘airport-of-the-future’ delivers a holistic vision – one geared to information provision, access, regulation and control. By 2025 premium passengers will be able to check-in offsite, using biometric (e.g. facial recognition and iris scanning) and/or genetic information to process passengers through check-in immediately upon entering the airport. This is already taking place in such airports as Schiphol Amsterdam which deploys the Prithium system (Adey, 2007: 89).

The point, however, is not just to record or underscore that a whole range of new technologies are refashioning passenger experiences at global airports, but to recognise in it the uncanny power to transform the airport system itself. In social and political terms, this is most evident in terms of airport security. New advances in technology, communications and risk profiling have spawned a multitude of identification and surveillance processes at airport
check-ins, such as the aforementioned biometrics and genetic profiling, as well as embedded identifier chips, anno cells and automated risk profiling (Adey, 2004, 2010a; Amadeus, 2012). For example, automated risk profiling – pioneered by the American defence corporation Raytheon and operationalised across the UK’s smart-border scheme – can automatically scan 53 pieces of information in advance of the passenger’s journey. Such ‘algorithmic security’ identifies hidden connections between people, groups and networks, geared as it is to ‘reading’ for signs of abnormal, risky behaviour (see Urry, 2014: 152).

This digital dissection of passengers into various degrees of risk is true enough of the many disciplinary techniques operationalised throughout airport security check-ins. Politically speaking, such cyber-security is routinely undertaken with reference to terrorism and the nation-state’s struggle to anticipate and prevent attacks. Sociologically speaking, these new technological systems of security and surveillance spin off in many directions all at once, and the ‘total security’ developed by global airports – everywhere proclaimed, but nowhere fully realised – is arguably the flipside of an experimentalist orientation in which women and men shift continuously across moving fields of data. From this angle, airport security is not simply a designated space through which passengers must pass, but rather a continuous and unobtrusive digital monitoring from beginning to end. Passengers are monitored, tracked, tagged – caught in an ongoing process of constant feedback. The predictive policing embedded across multiple kinds of surveillance that populate global airports are increasingly geared to the identification of propensity, aberration, the unexpected – in short, the transformation from invisible and unmappable into viewable and mappable risk. Certainly, increased non-intrusive surveillance and control has its own set of issues especially related to human rights and privacy concerns and these will have a limiting effect on how fast and how broad these technologies will be implemented. The concern is not just that increased airport security relates to potential human rights violations, what happens to and who controls the data, but that these processes maintain and produce social and class differentiation (Adey, 2004; Cresswell, 2006; Lyon, 2007; Urry, 2007). The very same security innovations that allow certain groups speedy mobility for the privileged ‘lower-risk’ ‘kinetic elite’ also enable airport authorities to deploy more staff to monitor ‘higher-risk’ economy passengers who do not or cannot pay for the same services (Adey, 2004). The experience of the highly mobile privileged passenger therefore becomes increasingly differentiated from the less mobile non-privileged passenger (Jensen, 2011). ‘While mobilities may be differentiated socially’, writes Adey, ‘these differentiations reflect and express existent social differences and hierarchies’ (Adey, 2010b: 92).

The contemporary passenger experience at global airports turns on a number of distinctions – between entertainment and security, experimentalism and surveillance, enlivened experience and virtual informationalism. Increasingly, contemporary ‘airport atmosphere entertainment’ is overtly experienced, whilst ‘airport atmosphere securitization’ is covertly experienced. This highlights the securitisation–entertainment duality that Thrift (2011) theorises in his discussion of the experimental economy. For Thrift, the new security–entertainment complex can be characterised as an ‘era of permanent and pervasive war and permanent and pervasive entertainment’ (2011: 10). That is to say, society is increasingly recast as prepared for the unexpected threat while at the same time permanently alert for new ways of engaging experimentation. It is this duality of securitisation and entertainment that defines the contours of airports of the future. While at one level global airports represent confinement and rigidity in terms of securitisation, on another level airport spaces represent movement, the constant flow and interaction of people, machines, information and experiments interconnected with novel technologies of
the digital world. That movement is not pre-given: navigation, mapping and experimentation are key.

Others have begun to explore the contours and consequences of a world in which social acceleration, ecstatic speed and constant change are increasingly the norm (Elliott and Urry, 2010; Hassan, 2011; Rosa, 2003; Tomlinson, 2007). The fast-paced nature of society has largely moved away from the security of established knowledge, the reliability of a guaranteed future; this has been replaced with an emergent orientation towards the unexpected and novel, an embrace of uncertainty and ambivalence. This is not to say that such capacities have not flourished in the past, but that the extensity, intensification, velocity and complexity of global transformations have heightened, particularly in an increasingly globalised world driven by the communications revolution and transnational corporations (Held et al., 1999; Kinnvall, 2004). In the consumerist world of ‘total sensory experience’, entertainment is not passive ‘enjoyment’ of an event but increasingly active participation and interaction (Campbell, 1989; Smart, 2010). Or, as summarised in terms of airports of the future, ‘New forms of entertainment will emerge for the new generation, who has to be constantly entertained...’ (Amadeus, 2012: 32). Airports are already exploring multi-player games that use the airport environment, gaming and entertainment options that move effortlessly between airport and airplane and – for the not too distant future – Holodeck-style immersion (large-scale holography) (2012: 32).

Responding to the idea that airports are ‘non-places’ (Augé, 1995), airport planners are increasingly attempting to imbue airports with a sense of identity and symbolism, a sense of place (Appold and Kasarda, 2011). It has been pointed out that sensory experiences that permeate a particular place are an important factor in encapsulating ‘this place as what it is’ (Jensen, 2011: 264). Airports offer this sensory experience in different ways as they increasingly seek to create a sense of cultural place for passengers. Passengers can experience the feeling of the tropics in Singapore’s Changi Airport’s Butterfly Garden – vibrant butterflies flitting through warm, humid environs; or the calming signature Finnish natural design effect throughout Helsinki Airport. Airports are also increasingly pandering to this sensory interest by offering leisure options and retail therapy. Sanitago Calatrva, the architect of Munich airport which promotes itself as ‘being more than an airport’, proudly claims that ‘when you emerge from that airport it feels as though you are in an actual place. There are plazas, gardens, regular events, an upmarket hotel, a feeling of life and ambience’ (Amadeus, 2012: 29).

One could argue that the explicit attention to delivering the total sensory experience to airline passengers is not simply about ‘customer service’ but also about embedding a positive memory of the specific airport/airport experience into the lives of those who pass through. Moor (2003: 45) speaks of the ‘experience economy’ in terms of market branding and makes the point that those consumers who were ‘touched’, or affectively imprinted, by the experience of a particular brand are more likely to pass that information onto their social networks. The embodying of the experience, the memory of what they have encountered, will mean that passengers are not only more likely to return again to relive that experience, however fleeting and temporal, but they are also more likely to encourage others to route their travel through the same airport space in order to experience for themselves – encouraging a socialising of the experience (Giussani in Pine and Gilmore, 1999: 57; Moor, 2003). Much like the experience of the music concert attendee, airline passengers are afforded the opportunity to enjoy the airport experience in the company of others who are doing the same, connected not necessarily through person-to-person interaction and conversation, but through affective shared experience and experimentation. While some suggest that airports have become one of the ‘non-places’ of super-modernity where people
exist with one another without living together (Augé, 1995; Urry, 2007), there is here a real sense of a mutuality of people experiencing and experimenting together in airport space – whether that be solitude, security or pleasure.

Terminal experimentations in security and control on the one hand, and pleasure and entertainment on the other, remind us that Thrift’s ‘continual experiments in experiment’ function within ‘boundaries’ of agency and system, actors and networks. Passengers are regulated but desire autonomy. Passengers desire freedom of choice, indeed a multiplicity of choices, but are only free to choose what is offered and marketed throughout airport spaces (Smart, 2010). Airport ‘leisures and pleasures’ are as much about airports creating atmospheres and choices for consumer spending and airport profits as they are about creating positive passenger experiences. Airport spaces are created to enable passengers to dwell for longer periods and these are in turn transformed into spending spaces. Adey claims that airports are specifically designed to create ‘spaces of spectatorship’ in order to get passengers to ‘spend, spend, spend’ (2007: 516, 522). So while it appears that there is a plethora of choices offered to passengers dwelling in airports there is also a strong sense in which passengers are being engineered to pay for that experience. Freedom, in terms of opportunities for experimentation and experiences, is therefore limited and regulated by systems and networks – in this instance, airport authorities and businesses – to give us ‘what we want’ (Thrift, 2011: 11). There is a limit, a boundedness, by what is offered, by where this experience is offered and by what technology is able to deliver. Yet just as with the increasing security measures embedded in the function of the airport, what passengers are not overtly aware of they often are content to accept.

Along with the convergence of security and entertainment the airport is also where passengers share experiences of global risk (Urry, 2007: 139ff). Increasingly behaviour is negotiated around managing, preparing for and avoiding risk. This is no more evident than in the confines of airport space where passengers accept as necessary an amazing array of security surveillance and control (Dillon, 2003; Urry, 2007). Passengers put themselves through security check-in, baggage control, x-ray and/or body frisking, finger/iris identification procedures and face the prospect of ‘private’ security encounters when targeted by officials for one-on-one checking. Whilst it may cost passengers something in terms of a sense of violation of personal privacy and humiliation, they are prepared to experience it in order to gain the privilege of entering the world of the airport, not to mention to reach the plane that will get them to their next destination. But in a curious way this often takes place in full view of others. Here airport travellers accept at the airport what they may refuse in another environment – we enter another world with different rules and different criteria for behaviour. The contents of our hand luggage are opened and distributed, publicly shamed as it were, while all look on almost voyeuristically, willingly or unwillingly, because we are stuck in the queue waiting ourselves to get through.

Airports also offer passengers the opportunity and the space to experience the miniaturisation of the world. Perhaps there is no other place/space (other than a World Cup soccer match!) where one is able to experience the intensity and diversity of the global world in microscope. No longer dominated by the ‘rich Western’ North, air travel has become the domain of truly global, and increasingly non-Western, proportions. Population growth in Africa and the Middle East, Asia and South America coupled with rapidly developing economies and a bourgeoning upwardly mobile middle class with money to spend on travel, means that the airport, the place where air travellers converge, is becoming a truly global experience. The airport, as it were, is becoming a social experiment in globalisation and cosmopolitanism, where worlds and peoples connect in one, albeit constantly moving place, united by the same technology and desire to move,
travel and experience the world; the common DNA for those who are fortunate enough to enter the airport terminal. It is an opportunity to enter into this shared experience, a commonality regardless of race, gender, nationality, political, religious or other differentiation. We enter anonymously (i.e. apart from the careful watch of security eyes) into the melting-pot airport world united by our common desire and ability to travel, to explore, to experiment and to experience; in doing so we find ourselves developing a global identity while fostering a sense of the ‘small world experience’ (Elliott and Urry, 2010) – we are not that far away, and so different, from each other than we sometimes think we are. The airport space facilitates opportunities and experiences with people from around the world in person-to-person real-time encounters (Urry, 2007: 151). Although traditions may no longer hold complete sway over defining the exact contours of the ‘experience economy’, propelled by the impulse to explore new frontiers of experience (Elliott and Lemert, 2009), it is not lost altogether either in the airport world. Our uniqueness, those things that differentiate ourselves from others, that often reflect traditions and custom are catered to as well, for example, the provision of religious places such as mosques within airport space. But like so much of our changing society the encounter in the airport with the miniaturised world is but a fleeting, transient, short-term or episodic experience (Elliott and Lemert, 2010).

The airport ‘total-trip’ experience is experienced by travellers in multifaceted ways that are often not positive. Travel is at times a required or imposed experience for many such as the global business passenger, the deported immigrant or the hired low-income work force of developing economies. Far from a romanticised experience for all, the airport becomes for these a stressful place where one ‘has to be’ not where one ‘wants to be’; and for the latter, tantalisingly representing the goods and opportunities – the experiences and experimentations – they are not able to pleasurably experience.

**Conclusion**

In this article, we have developed an analysis of how the dynamics of experimentation in the context of the global electronic economy are impacting upon the activities of smart airports – and in the wider frame of global airport hubs. We have tried to show that the contours of experimentation encompass both personal shifts (from passenger to transumer) and system transformations (the arrival of ‘Airports 3.0’).

Whilst this article has focused only on some major international airports as global aviation transport hubs, there is a need for further research to consider if, and how, these trajectories may also apply to smaller, regional airports. The basic feature of our argument has been that global airports, operating within the field of aeromobilities, spawn the following kinds of terminal reinvention: (1) new technologies producing experimentalist orientations; (2) experimental business engineering of consumer worlds, or ‘worlding’ and (3) travel-time use geared to a world of infinite innovation, redesign and reinvention.

Overall, terminal experimentation is an uneven, ambivalent phenomenon. It is at once enabling and constraining. The idea that airports for the twenty-first century need to redesign their operations beyond the shopping-mall blueprints of the last century has become well established, both by airport planners and a significant proportion of the world’s hyper-mobile population. But to the extent that airport experimentation begets more terminal innovation, our argument has been that forms of reinvention are emerging that are open-ended, multiplex, complex, diverse and endlessly multiplying. For example, the turn to information and communications technology across airports has opened many different aspects of life-design alternatives, as transumers now routinely use the airport atmosphere to ‘virtually
depart’ from the physical confines of the airport soon after checking in for their flights. But this process of being ‘half-in half-out’ of the airport through virtual interactivity is very subtle and complex, and breeds ongoing, automatically generated connections and links into other connections, associations and online communities (see Dourish, 2001). Further, such widespread system shifts across airport terminals also produce new infrastructures of aeromobilities and surveillance, one current complex of which is the pairing of entertainment and securitisation which we have sought to chart in some detail.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
Research for this paper was conducted as part of an Australian Research Council Discovery Grant – “Investigating international work-related travel, global airports and transnational networks: Innovation, Shape and Boundaries of Mobile Lifestyles”, DP120101628.

Notes
2. Research for this paper was conducted as part of an Australian Research Council Discovery Grant – ‘Investigating international work-related travel, global airports and transnational networks: Innovation, Shape and Boundaries of Mobile Lifestyles’, DP120101628. This included ethnographic research in three international airports in Europe, Australia and Asia (2013–2014). A variety of mobile methodologies were employed to investigate, observe and interview different types of people within the airport including passengers, airport personnel, shopkeepers, cleaners, security staff and those involved in various hospitality services.

References


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