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Mobilities and sustainable tourism: path creating or path dependent relationships ?

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Abstract: This paper advances understanding of tourism mobility trajectories and outcomes by discussing if the trajectory of tourism mobility is path dependent or path creating and, therefore, whether tourism is locked into existing sub optimal pathways, or is there scope for creating significantly more sustainable future pathways. Tourism mobilities are understood in the context of overall shifts in corporeal mobilities, especially the impact of migration on networks and VFR tourism. Four main tourism mobilities drivers are considered – technology, markets, cultures of mobility and state intervention – but their impact on mobilities is contested. The concepts of enfolded and substitutable mobilities, and of scapes and flows, are explained and used as intermediary concepts for engaging with the key relationships influencing tourism mobilities. Path dependency is shown to be backed by existing technologies, cultures and markets, together with deeply embedded scapes and substantial investments in existing infrastructure. Trends towards path creation are shown to depend on technological breakthroughs, including virtual tourism, alternative life styles bringing cultural change, market conditions brought about by possible sustained high oil prices, and state intervention leading to behavioural change. The concept of 'path-dependent path-creation' is discussed along with the powerful influence of uncertainties and unknown future tipping-points.

Introduction

Mobility is a disarmingly simple concept for describing a complex and changing field of movements, which has significant implications for understanding sustainable tourism. In the late twentieth century there have been both quantitative and qualitative changes in mobilities. This paper considers the extent to which they are path dependent or path creating in relation to sustainable tourism. The focus on

mobilities, rather than tourism or travel, resonates with Høyer's (2000, p.156) comment that 'A tourism which is developed detached from the restrictions implied in a sustainable mobility, will not be in accordance with the demands for sustainable development'. This paper contends that tourism, and especially the trajectory of tourism, need to be understood in the context of the broader concept of mobilities. Travel is an alternative concept but it tends to disembed corporeal movement from its social and broader context, and its entanglement with other forms of mobility (as defined by Urry 2007, p.47). Given the complexity and diversity of mobilities, the paper draws mainly on only one other form of what Urry (2007, p.47) terms corporeal mobility, that is migration, while also briefly discussing virtual mobilities. Migration is particularly strongly interwoven with tourism, especially in relation to what Larsen, Axhausen and Urry (2006) term 'de-exoticised' tourism; that is the socially important mobilities that flow through and around social networks, as opposed to pleasure- and relaxation-seeking tourism. This is not intended to be a review paper, covering all the key issues and the literature in this field, but an attempt to conceptualize, and stimulate debate, about how relationships between mobility and sustainable tourism can be understood in terms of path dependency.

The high levels of corporeal mobility in recent decades have longer roots and stronger historical parallels than are often imagined, as evidenced in the long history of tourism (Towner & Wall, 1991) and the relative importance of international migration in the late nineteenth and early twentieth century (Chiswick & Hatton, 2003). However, the total mobility growth curve – at least in terms of distance, if not time, in more developed countries (Schafer, 2000: Hall, 2006) - has assumed a consistently steeper trajectory in recent decades than in any other period in the modern era. This provides the quantitative framework within which profound qualitative changes have occurred in the spatiality (the spatial characteristics), temporality and social composition of corporeal mobilities.

There has been a relative shift to shorter term, or temporary migration, as well as in the geographies of migration (King, 2002). As the Global Commission on International Migration (2005, 31) comments: 'the old paradigm of permanent migrant settlement is progressively giving way to temporary and circular migration'. While much of this centres on labour migration, there has also been sustained growth of international tourism, partly pleasure seeking, but also including circular

mobilities focussed on expanding second home ownership (Hall & Müller 2004; Paris 2010), and on visiting friends and relatives driven in part by migration. Both have mostly been enacted within macro-global regions, but they also demonstrate emerging genuinely pan-global tendencies (Shaw & Williams, 2002, chapter 2). There has also been a blurring of temporary migration and long term tourism (Williams & Hall, 2002, Bell & Ward, 2000).

These changing patterns of corporeal mobility are symptomatic, and constitutive, of deeper economic, cultural and political shifts, with three features being especially important in shaping the relationships between migration and tourism. First, there has been a stretching, intensification and interpenetration of the social relations that constitute globalization (Cochrane & Pain, 2000, p.15-17): a shift not so much from the local to the global, as towards the global interconnection of people and places, which has consequences for some forms of tourism. Secondly, and linked to this, from living in 'little boxes' to spatially dispersed networks (Larsen, Axhausen & Urry, 2006), which necessarily has mobility consequences. Thirdly, a shift from a world of tied work to increasingly fragmented individual workplace histories, in the face of structural economic changes (Mills, Blossfeld, Buchholz, Hofacker, Bernardi, & Hofmeister, 2008). This partly represents a shift from employment security to employability security (Opengart & Short, 2002, p.221), and the role of mobility in enacting employability. Changing employment and unemployment geographies have generated new and intensified patterns of mobility (Castree, Coe, Ward, & Samers (2004), which have re-spatialised and fragmented social networks. The above are, of course, mobility tendencies and trajectories, and these are rarely linear, but are constantly shifting as a result of the interplay of drivers such as technology, market relationships, culture, and state intervention.

The consequences of these, and other, shifts in the extensification and intensification of mobility are well documented and are only briefly quantified here. There were some 214 international migrants (UNDESA, 2011), and an estimated 940 million international tourists (UNWTO, 2011) in 2010. Intra-national corporeal mobilities are, of course, far greater, but also notoriously difficult to quantify. Within these aggregate figures there are significant distributional issues, and it is known that a small proportion of mobile individuals, that Gössling, Ceron, Dubois, & Hall (2009) term 'hypermobile travellers', account for a substantial proportion of all mobility. Yet there

has also been a 'democratisation' of mobility in the form of the sharp growth of visits amongst spatially fragmented social networks: up to a third of all arrivals in many developed countries are primarily to visit friends and relatives (WTTC 2011).

Scandinavian researchers provide useful insights into the relationships between tourism and mobility. Høyer (2000) estimates that tourism mobility accounts for approximately one half of total personal mobility in Norway, with road based tourism being significantly greater than airborne tourism. These flows generate substantial, and well documented environmental impacts. For example, as Peeters, Szimba, & Duijnsveld (2007) illustrate for EU25 outbound tourism: whereas cars account for almost two thirds of all journeys, they account for only about one quarter of passenger kilometers, and one fifth of emissions. In contrast, air travel accounts for almost the inverse proportions: approximately one fifth of journeys, over a half of passenger kilometers, and one fifth of emissions. As with overall mobility, tourism mobility has an uneven social distribution, recognized by Duboise, Peeters, Ceron & Gössling (2011) as the 'happy few' in one of their forecasts of future mobility.

This paper focuses initially on the determinants of changes in corporeal mobility, before considering whether corporeal mobility is essentially path dependent or path creating, a question which has profound significance for sustainable tourism mobility strategies. The discussion of dependency draws on a number of concepts, including substitutability, enfoldment, scapes and flows, terms which are explained later in this paper. The sustainability implications of mobility are well documented, including relationships to climate change, and are not considered here. Instead, the paper focuses on understanding the trajectory of the spatiality of tourism mobilities, rather than the impact of mobility on sustainability.

The determinants of mobility shifts

The major shifts in mobility have been driven by several inter-related changes, some of which are tourism specific, while others are rooted in general societal changes. The paper focuses on four major factors that have shaped corporeal mobility trajectories: technology, market relationships, cultures of mobility and the state.

Technology

Profound changes in the technologies that define the infrastructures of mobilities (Verbeek & Mommaas, 2008, p.634), have shaped major shifts in mobilities. The acceleration of technological change has been striking but the causal relationships between economic development and technological changes are complex and difficult to disentangle (Baumol, 2002). However, increased mobility has both been facilitated by, and has facilitated, growth in disposable incomes and consumption, and by technological innovation. The key innovations were not evenly distributed throughout this period but were highly temporally clustered. Kondratieff (1980, reprinted) provides the best known account of these clusters, although subject to a number of critiques (Smihula, 2009). He identified four main long waves of economic development, related to major clusters of new technologies, which were later extended to five main waves by Mensch (1979) amongst others. The implications for mobility are considered here, while noting that Banister and Berechman (2000) amongst others, provide alternative perspectives on these relationships.

The first wave, corresponding to the first industrial revolution, mostly had an indirect impact on mobility. Technological changes led to the spatial agglomeration of production and significant rural-urban population shifts, as well as the potential for circular mobility, and occasional return visits amongst spatially fragmented families (Williams & Hall, 2002). The second long wave, in the mid nineteenth century, included technological innovations in the railways. This increased the range and intensity of corporeal mobility for a range of purposes including travel to work, business transactions, and visiting friends and relatives. Thomas Cook demonstrated their potential for both domestic and international tourism (Brendon, 1991); pathways towards the growth of international mass tourism were opened (Shaw & Williams, 2002).

Key innovations in the third long wave included automobiles, and eventual mass car ownership, which spread from North America to Europe in the 1950s, and more recently reached take-off stage in the emerging industrial economies. Expanded car ownership has had a significant impact on tourism, as indicated by Høyer's (2000) work, quoted earlier. Probably the most significant innovations for tourism in the fourth wave, post World War Two, were developments in jet engines which transformed the spatiality and speed of commercial air travel, contributing to the growth of international air inclusive holidays from the 1950s (Hall & Williams, 2008).

This was a defining moment in the trajectory of international mobilities and the future challenges for sustainable tourism agendas, given the relatively high emissions of air travel and their climate impacts (Peeters, Szimba, & Duijnsveld, 2007). The fifth (and post Kondratieff) cycle is focussed on micro-electronics and/or the digital revolution. The digital economy has changed the power relationships between intermediaries and individual consumers (Hall & Williams, 2008). In combination with changes in state (or super state) regulation of air travel – discussed later– this has revolutionised the costs, volume and the spatial-temporal distribution of tourism activities, as well as circular migration.

A key issue for path dependency versus path creation is the extent to which technological changes are exogenous or endogenous to tourism, that is as external 'shocks' to the trajectory of tourism mobilities.

Market relationships

Markets are not economic abstractions, but are variably constructed. We start with the supply side where a series of product and process innovations, and not only technological innovations, have reduced real costs, and changed the quality, of mobility. Two outstanding examples are the organizational innovations that facilitated low cost air travel and the growth of budget hotel chains (Hall & Williams, 2008). These effectively expanded the supply side capacity, and therefore mobility, by reducing costs. Other innovations, such as new types of theme park attractions (Anton-Clavé, 2007), have diversified and increased the competitiveness of tourism products in relation to other forms of expenditure.

There are, however, limits to the expansion of supply, related to absolute scarcities of mobility- and tourism-related resources - and to regulation. This is illustrated by the peak oil thesis (see Urry & Larsen, 2011) which predicted that peak production had already been reached by 2004, although this is likely to be deferred given technological changes in shale oil extraction. Becken (2011), amongst others, emphasises that the social construction of oil supply is as important as its physical limits:

The futures markets (e.g., as used by airlines through 'hedging') are socially constructed and discourses by authoritative sources are likely to influence the

speculative market Some of these are ideology-driven, such as the Shell scenarios that present a neo-liberal narrative of the future that facilitates ongoing growth and dominance of oil and that (wittingly) omits alternative low-carbon futures (Becken, 2011, p.364).

The peak oil debate questions the notion of markets as simple economic meeting points of 'natural' supply and demand in respect to mobility. Similarly, tourist attractions as generators of tourism mobilities, while influenced by natural features, are also socially constructed and do not have fixed limits. This is particularly illustrated by the creativity of Disney, who redefined the supply of theme park attractions (King, 1981). In addition, the organization and ownership of capital, and the contestability of markets (Shaw & Williams, 2004) also influence the supply of mobility services and the development of scapes. For example, monopolies or oligopolies in many forms of public transport can substantially influence transport routes and services and, consequently, tourism mobilities.

Turning to demand, this is not just an assemblage of individual consumers, but is deeply reflective of social structures, illustrated here by reference to income and age, while recognizing the existence of other significant social cleavages, including gender, sexuality, ethnicity, and (dis)ability (Skeggs, 2004).

Starting with age, later life migrants, and tourists, have attracted considerable research attention (King, Warnes, & Williams, 2000; Dann, 2002). Although participation in both forms of mobility is highly socially selective, 'grey' consumers do shape total demand, because later life has been transformed from what crudely can be termed 'retire and die, to retire and fly'. This has also meant shifts in the temporality of demand as later life mobilities are less constrained by the institutional rhythms of work and school holidays. There have also been developments in youth and young adult mobility, and the 'middling forms' of mobile life (Conradson & Latham, 2005), such as backpacking, gap years, or student migration, have attracted attention, as counterbalances to the traditional focus on labour migration. Not only do these directly contribute to increasing volumes of, often long haul, tourism, but they also contribute to enfolded mobilities through the life course.

Age polarisation poses some of the biggest future challenges for sustainable mobility and tourism agendas . In 2000, for Europe as a whole, the proportion aged 65+ was

15%, while only 18% were aged 0-14. By 2050, these proportions are predicted to be 28% and 15% respectively, so more than a quarter will be aged 65+ (UN 2004, Table 15). In contrast, in Africa, even by 2050, the younger age group was predicted to have declined only to 28%, while the 65+ group would still represent only 7% of total population. These data starkly expose the inter-generational conflicts at the heart of sustainability debates. How will the needs and demands of an increasingly elderly population for mobility resources be reconciled with those of the younger generations, especially when they are so polarised between the Global North and South? The younger populations of the less developed world are still only aspiring to, rather than realising, even the current levels of mobility of the elderly populations of more developed countries.

This territorial articulation of inter-generational conflicts is, inevitably, reinforced by equally sharply polarised income distributions. The global distribution of income – a key determinant of all forms of corporeal mobility – is deeply unequal but is being reshaped by the relative growth differentials between emerging market economies and the more developed countries (Sutcliffe, 2004). This has contributed to the sharp growth in mobility, and especially in car ownership rates and air travel in the emerging market economies (World Bank, 2012). However, per capita incomes remain highly unequal. For example, in the early 2000s, the poorest quintile of the population in France had higher incomes than every quintile in Indonesia. Although the more prosperous quintiles in an emerging market economy, such as Brazil, fared more favourably, the poorest quintile in that country had even lower incomes than in Indonesia. There are two major implications of the changing distribution of income. First, the implications of rising incomes in terms of catch-up mobility consumption in the Global South. Secondly, the deep – and in many cases, such as the USA, deepening - intra-national income inequalities underpin the significant growth of 'hypermobile travellers' (Gössling, Ceron, Dubois, & Hall 2009).

To income and age can be added many other sources of unequal access within markets, such as (dis)ability, gender, and urban-rural location. This is illustrated for gender by Pooley, Turnbull, & Adams (2005)'s historic analysis, which reported that, as expected, over time men persistently have had greater mobility than women in all UK age groups. More unexpectedly, the mobility of young people in the UK has declined since the 1960s as has the proportion of young adults holding driving

licences. To some extent, however, this picture is deceptive, as it focuses on domestic travel. In Sweden, while young adults had experienced a decline in their total and domestic mobility, their international air travel had increased at rates similar to those observed for domestic travel in earlier decades (Frändberg & Vilhemson 2011).

The overall picture is of growing, although highly unevenly distributed, demand for mobility. The effective supply of mobility has also increased due to new resources being brought into the market, whether by discovery of new sources (as with oil) or technological innovations (such as more fuel efficient aircraft and cars), or processes of producing services at lower prices (e.g. low cost airlines). Innovation has shifted the supply curve so that, despite significant increases in demand, the real prices of many forms of mobility – such as car or air travel – have declined or been relatively static over the medium and long term. Remarkably, although the price per liter of petrol increased sharply from the early 1970s, after the first major oil crisis, real prices after inflation, have been relatively unchanged between about 1900 and 2010 (<http://www.significancemagazine.org/details/webexclusive/1397283/The-historical-price-of-petrol--how-bad-do-we-have-it.html>) Aircraft fuel prices have similarly been relatively static in real terms over the long term (Peeters, Middel, & Hoolhorst, 2005). Figure 1 presents an idealised illustration of how demand and supply shifts can interact to produce relatively stable prices, a major factor underpinning mobility growth.

Figure 1 here

Given that prices are powerful mechanisms for determining mobility growth, this raises important questions about the future prices of mobility. Supply side innovations may continue to shift the supply side curve, but the significant if still highly selective global redistribution of income between the South and the North, and the intra-national inequalities in both emerging and developed economies, means that demand side pressures are likely to increase significantly. The extent to which supply will respond to this, or prices will rise sharply, choking off effective demand, is a key question for the trajectory of mobility. However, this is not simply a question about economic mechanisms: supply is socially constructed, as illustrated by what can be termed the cultures of mobility.

Cultures of mobility

While the analysis of demand and supply provide insights into the growth and distribution of mobility, there are limits to economic perspectives on both migration and tourism. Even labour migration, which best fits the framework of traditional micro economics, can only partly be explained in these terms (Massey, Arango, Hugo, Kouaouci, Pellegrino, & Taylor, 1994). For example, apart from life style migration, strands of international migration can be understood in terms of Beck & Beck Gernsheim's (2002) individualization thesis, and the value of migration in developing personal and peer esteem (Baláž & Williams, 2004). This is particularly evident where tourism and temporary migration blur, almost imperceptibly (Bell and Ward, 2000), in the use of gap years, certain forms of backpacking and international voluntarism, as ways in which international mobility can be used to acquire and demonstrate competences and self-confidence (Noy, 2004). In parallel to this, pleasure tourism can demarcate cultural capital (Urry, 1990). Nomadism, or restless and mobile lives (Clifford 1997:1), constitute an important part of the 'new world order of mobility', and is symbolic of this culture of mobility. All of these illustrate how mobility has become integral for both esteem and the acquisition of competences – which has implications for mobility trajectories.

'Motility' provides an useful perspective on these deep shifts in mobility. Flamm & Kaufmann (2006) define motility as how an individual or group acquires the potential for mobility and utilizes this to construct personal projects. The projects may encompass the worlds of work or of leisure and tourism, or simply new ways of working out familial relationships across space. These access rights are, of course, strongly rooted in socio-economic and socio-demographic differences, because they are determined by resources, whether financial, social networks, or personal competences. However, motility is also informed by 'the social values of travel independence' and the social status of travel so that 'the desire to be very travel-independent can lead an individual to accumulate access rights beyond what is financially reasonable in terms of their effective use' (Flamm & Kaufmann, 2006, p.184).

Motility is a form of cultural capital. It is articulated in many forms, including the automobility culture which helped define the twentieth century, especially in the USA (Lewis & Goldstein, 1983). The automobile has been eulogised and romanticised in many modes of popular culture, in terms of the individualization of mobility; ownership has arguably been extended far beyond 'what is reasonable in terms of their effective use'. It has become a means of 'objectifying personal and social systems of value' (Miller, 2001, p.2), now writ large into the norms and practices of modern society. In market economies, car culture has infused political ideologies, and state policies favouring private over public transport. It is reflected in the selectiveness of public investments in transport systems, shaping the built environment, and the growth of car-dependent suburbs and tourist accommodation and attractions. It has contributed to a situation whereby 'to be carless in America is to be confined to one's living room and the nearest strip mall' (Dinh, 2011), and to be excluded from many forms of tourism activity.

Consumption 'beyond what is reasonable in terms of effective use' (Flamm & Kaufmann, 2006, p.184) is also characteristic of air travel, a notion strikingly captured by the concept of 'binge flying' (Cohen, Higham, & Cavaliere, 2011). Binge consumption, more generally, was articulated by Urry (2010, pp.93-4) in terms of the 'freedom to become "addicted", to be emotionally and/or physically dependent upon excessive consumption of certain products of global capitalism'. He also contended that tourism contributes to 'binge mobility' (Urry, 2010). Dissenting voices have of course contested the culture of binge mobility, and Ralph Nader's (1965) book, *Unsafe At Any Speed*, is an iconic expression of this. This counter ideology has gained credence over time, and, as a consequence, binge consumption is often accompanied by negative feelings: '... increasing sentiments of guilt, suppression and denial of air travel's climate impact, which span a cognitive dissonance of practice and conscience' (Cohen, Higham, & Cavaliere, 2011, p.1085). However, car usage and flying remain binge habits in the developed world, habits that appear to be taking equally deep root in the emerging market economies.

The role of the state

The state has long played a critical role in facilitating mobility, whether in generating internal and outbound mobility or attracting inbound mobility. This takes a variety of forms whether in terms of infrastructure investment, regulatory and security measures, or fiscal policies. Investments date from early road and bridge building through to the capture of the state in many countries by road lobbies. For example, state investments in road and airport investments were critical in opening the Costa del Sol and the Algarve to mass tourism from the 1960s and 1970s. State infrastructure investments represent a form of 'devalorisation of capital' (Damette, 1980) in response to the limitations of market economies to provide essential public or collective goods. State taxation, border regulation, and education and training policies, as well as intervention in the production of tourism services, also shape the attraction and generation of mobilities.

The attitude of the state to mobility has been influenced by a shift in the mode of regulation of capitalist societies, from Keynesianism to neo-liberalism (Dunford, 1990). Hayek's (1988) writings were particularly instrumental, emphasising that states had under-emphasised 'freedoms to' compared to 'freedoms from', such as freedom from unemployment (an object of Keynesian state expenditures). Instead, states should ensure individual freedom to undertake activities, which can be seen to include freedom to be mobile, including individual mobility through car ownership. Margaret Thatcher, the prime minister who shifted the UK state toward neo-liberalism, eulogised 'the great car economy' and launched the *Roads for Prosperity* policy white paper (Department of Transport, 1989) which proposed an unparalleled programme of investment in roads. Infamously, she once stated that 'any man who finds himself on a bus at the age of 26 can account himself a failure' (quoted in Garner, Ferdinand & Lawson, 2009, Box 10.2).

No state has been entirely captured by any one interest group. The state is a battleground of conflicting values and interest groups, especially between those committed to further expansion of an individual access rights agenda, as opposed to those promoting collective access rights and or environmentalist agendas. These conflicts are worked out varyingly across states, depending on differences in institutions, pervading views of the role of the state, and the power of competing interest groups. Tourism is one such cluster of interest groups and it shapes, as well as being shaped by, broader ideological conflicts over mobility rights (Hall, 2008).

Mobility and dependency: implications for understanding sustainable tourism

This section draws on the evolutionary economics concepts of path dependency versus path creation. Path dependence occurs when outcomes are significantly shaped by previous trajectories: "... the future development of an economic system is affected by the path it has traced out in the past" (Hodgson 1996, p.203). Previous investments and routines constrain the future behaviour of both the enterprises and other agencies that provide mobility services, and the individuals who consume them. This can partly be explained by the selective or constrained nature of learning: individual learning predominantly occurs in and around previous activities. In terms of spatiality this is expressed as 'search spaces'.

Path-dependency theories challenge the notion of optimization in relation to societies, emphasizing instead that previous events or investments can lead to a disposition to follow a suboptimal pathway. Systems "... can get locked into given paths of development, excluding a host of other, perhaps more efficient or desirable possibilities ... marginal adjustments towards perhaps more optimal outcomes are often ruled out" (Hodgson, 1996, p.205). Path dependency should not be equated with determinism. As North (1990: 999) comments: 'It is not a story of inevitability in which the past neatly predicts the future'. Instead, it is a story in where some outcomes are more likely than others.

In contrast, path creation emphasises the significance of discontinuous shifts in trajectories. Nielsen, Jessop, & Hausner (1995, p.3) consider that path creation means that "...within specific limits, social forces can redesign the 'board' on which they are moving and reformulate the rules of the game" (Nielsen, Jessop, & Hausner, 1995, p.7). In reality, there is a continuum between path dependency and path creation, whereby the relative balance between constraints versus changing "the rules of the game" shifts as you move along this. Nielsen, Jessop, & Hausner (1995, p.6) recognize this, explicitly advocating a "path-dependent path-creating" perspective: individual actors can create new pathways, but these are shaped by previous pathways. This resonates with Smith & Pickles' (1998, p.15) views, in a different context, that it involves 'institutionalised forms of learning and struggles over

pathways that emerge out of the intersection of old and new'. Institutionalised learning lies at the heart of the concepts of enfolded and substitutable mobilities.

Enfolded and substitutable mobilities

Path dependency theory only explains in highly abstract terms *why* systems sometimes become locked into path-dependency (Ostrom, 1999) so that the challenge is to 'explain the *microfoundations* of path-dependent processes' (Kay, 2003, p.407). The intermediary concepts of enfolded and substitutable mobilities, linked to the drivers of mobility, are used for that purpose in this paper.

Figure 2 here

Enfoldment is the notion that individual behaviour is socially embedded and cannot be understood as the outcome of (disconnected) individual decision making. Instead, individual mobility practices are enfolded within socially-embedded, individual life course mobilities. There are two main, inter-related determinants of enfolded life course mobility - knowledge and search spaces - although both can usefully be understood in relation to risk.

Drawing initially on behavioural economics (Tversky & Fox, 1995), individuals' perceived competence to manage risks determines their willingness to take risks in particular domains. In tourism, Williams & Baláž (2013) demonstrate that perceived competence to manage mobility-related risks, and previous mobility experiences, significantly influence tourist behaviour; these life-course, mobility experiences shape the enfolded nature of mobilities. (They also emphasise that the causality can operate in the reverse direction). These notions can be linked to Pearce's (1993) travel career ladder, which views tourism motivations as being organized in a series of levels that individuals generally – but not necessarily - move upwards through over time. Competence is implicit in this because Pearce noted that older tourists are more likely to be more experienced and, effectively, to have acquired greater mobility competences. The career travel model has been contested by Ryan (1998), who argued that personality types were more important than an evolving travel career;

however, his alternative model of the tourist experience acknowledges the importance of learning from previous travel experiences.

The notion of search spaces allows us to move from a general recognition of the importance of enfolded mobility, to a key mechanism through which this is realised. The notion of search spaces (Brown & Moore (1970) was first developed to explain how residential mobility is shaped by individuals' selective knowledge of particular places. King, Warnes, & Williams (2000) used the concept to explain how the destinations of later life migrants have been shaped by search spaces that were defined, in part, by their previous tourism experiences; in other words, they demonstrated how tourism and migration mobilities are enfolded through the life course. Similarly, there is evidence that previous travel experiences influence intended tourism behaviour, both generally and - implying the role of search spaces - the choice of particular destinations (Mazursky, 1989; Hales & Shams, 1991).

A particularly important aspect of the definition of search spaces, and choices of destinations, is the role of social networks. Mobility is shaped by, but also reconfigures, networks - or as Larsen, Axhausen, & Urry (2006, p.163) contend, 'mobility biographies are relational'. The key to this is the ' .. Increasing significance of keeping-in-touch through recurrent long-distance communication and intermittent physical reunion' (p.262). There are many reasons for keeping-in-touch through 'intermittent physical reunion' via visits to friends and relatives: they offer pleasure of course, but also allow individuals to fulfil some of the responsibilities of family membership and friendship, and to refresh and renew levels of mutual trust and obligations. These visits are also sources of information and knowledge about particular places and serve to delimit search spaces (Williams, King, Warnes, & Patterson, 2000), thereby contributing to enfolding mobilities, which shape future mobility trajectories.

In contrast to enfoldment, substitutability focuses on how individuals are faced with different mobility opportunities, and have some degree of choice, flexibility and adaptability in responding to these. There are a number of key substitutions that are critical to sustainable tourism, including that between mobility and being sedentary, spatiality or choice of destination (typified by, but not only, short versus long haul) and mode of travel.

Starting with mobility versus being sedentary, this is of course in large part determined by socio-economic and individual ability constraints. However, the *potential*, if not yet the reality, of their substitutability is being transformed by how new technologies offer opportunities for virtual mobility: for example, talking to friends and family over skype, transacting business virtually, and videoconferencing of workshops. However, there is evidence of the enduring importance of co-presence and the limits to substitutability between corporeal and virtual mobilities (Larsen, Axhausen, & Urry, 2006, p.271). Amongst young professionals in the UK, while the relative and absolute frequency of face to face interaction declines over spatial distance, it persists because a minimal co-presence is critical in maintaining networks. Tellingly, at least one third of their journeys abroad and the vast majority of their UK journeys, were predominantly about co-present meetings with significant others. This is consistent with evidence that there are limits to the extent to which videoconferencing is a substitute for business travel (Lian & Denstadil, 2004). Arguably, it may even be that growing virtual communication has increased corporeal mobility to support the expanded networks that individuals can create and maintain in virtual space.

Turning to pleasure tourism and the substitutability of non-mobility, the post tourist thesis (Feifer, 1985) contends that the tourist does not have to leave the house in order to 'visit', or view many objects of the tourist gaze: these are readily available on television and the internet, where they are framed in ways that resonate with gazing through the windows of cars or coaches. It is a fascinating assertion of the potential for radical substitutability in how pleasure 'tourism' is experienced. However, there are compelling arguments why any such substitutability is likely to be limited in the foreseeable future. For most forms of pleasure tourism, there are clear signifiers of the places that are valued by tourists, including the co-presence of other tourists (Urry 1990). Moreover, 'being there' in real space accrues cultural capital (Urry, 1990) that cannot be substituted by virtual travel.

Looking beyond the future prospects of virtual-real tourism substitutability, Feifer (1985, p.269) also contends that post tourists desire a multitude of holiday choices: between and within individual holidays they may shift from wanting to visit somewhere sacred to somewhere that is warm and beautiful, or just do something different from their previous tourism experiences. Feifer can be criticised for failing to

address the issues of knowledge and learning, but there is evidence that many tourists have a portfolio of holiday types and destinations rather than being locked into either a single type, or some linear progression between 'levels' as suggested by the travel career ladder (Ryan 1998). For example, Williams & Baláž (2013, Table 1) demonstrate considerable overlaps in the extent to which individuals identify with different types of travel organization.

Substitutability has been the subject of considerable debate in the sustainable tourism literature, in relation to both destinations – especially short versus long distance tourism - and different modes of transport, and their differential emissions. In particular, Scott, Peeters & Gössling (2010, 400-401) examined 70 different scenarios involving different combinations of technology and consumption changes, and it is notable that only four of these resulted in significantly lower growth in emissions, and only one led to absolute emission reductions: this combined high-energy efficiency gains with major modal shifts, expressed preferences for more proximate destinations, and increases in the duration of stays. More specifically, it involved a shift from air travel to road and rail transport, and from long haul to short haul tourism. What are the prospects of such substitutability in both destinations and travel modes? There have, of course, been market-led, shorter term fluctuations in oil, petrol and air fuel prices, with a sharp increase in the last decade (IATA Economics, 2010). Rising prices tend to depress effective demand, but behavioural responses are complex. The price elasticity of demand is initially relatively inelastic. Ryley & Davison (2008) found that prices of return flights had to increase £50 before most people would 'probably fly less often'. However, Ryley & Davison (2008) also found the price elasticity of demand is highly segmented and 28% of those surveyed would not change their air travel behaviour even if costs increased by £100. Presumably this includes the 'hypermobile' elite.

If market changes cannot bring about such substitutability, then what about state interventions? In this we concur with Hall (2011) who casts a critical eye on the prospects of significant shifts from growth to sustainability policies. Most policy changes have been in terms of either instruments and indicators or, at best, within the existing policy paradigm. While there has been recognition of a fundamental failure to conserve natural capital, it has 'not yet been matched by an accompanying conceptual policy change that removes the focus on economic growth and the

market' (p. 664). This is reinforced in visiting friends and relations tourism by the constraints imposed on substitutability (especially of destinations) by the importance of intermittent co-presence in maintaining social networks. Moreover, the growth of migration has increased the potential importance of such tourism mobility.

Scapes

Scapes and flows are also useful concepts when considering path dependency versus path creation in relation to mobility and sustainable tourism. In the introduction to the first issue of *Mobilities*, Hannam, Sheller & Urry (2006, p.3) argued that: 'Mobilities cannot be described without attention to the necessary spatial, infrastructural and institutional moorings that configure and enable mobilities – creating what Harvey (1989) called the 'spatial fix'. Urry (2000) had earlier, and differently, articulated this in terms of scapes and flows:

Scapes are 'networks of machines, technologies, organisations, texts and actors that constitute various interconnected nodes along which the flows can be relayed. Such scapes reconfigure the dimensions of time and space' (p.35).

Flows, including flows of people, move along these scapes. 'Such flows generate for late twentieth-century people, new opportunities and desires, as well as new risks' (p.36)

The scapes are created by investments and by institutions, by the material and the intangible. Examples of the material include investments in airports, roads, railways, accommodation stocks and tourism attractions that shape the flows of people and their expenditures. The intangibles include organizational and institutional features, such as company structures, regulations and routines, which influence decision making and behaviour. The deeper the scapes, the more likely that trajectories will be path dependent, while the lighter, and more malleable the scapes are, the more likelihood of path creation. While scapes imply a tendency to path dependency, innovations can reshape scapes, whether responding to, or shaping, tourism demands through the creation of new types of tourism attractions (Anton-Clavé, 2007; Hall & Williams, 2008) – that is, changing the framework of substitutability.

Path dependency and sustainable tourism mobilities

In the path-dependent perspective (Figure 3), it can be suggested that there is strong coalescence of the driving forces of mobility around previous trajectories that militate against significant, society-wide shifts to more sustainable tourism behaviour. This is consistent with the evidence that there is more continuity than change in everyday mobilities, as Schafer (2000), for example, has demonstrated with respect to the financial and time budgets allocated to travel.

Figure 3 here

First, mobility-related technologies are considered to be relatively static (see Geels, 2005; Kemp, 1994): there are continuing changes in, say, car and train designs or theme parks, but these are rarely considered likely to lead to significant relative shifts in costs and prices. Technologically, the foreseeable future is one of incremental rather than radical innovations. Moreover, while the latter -such as developments in mobile technologies – may change travel experiences, they are less likely to transform scapes, the volume of mobility, destinations or modes of travel. Secondly, mobility cultures are deeply embedded in the popular psyche, as epitomised by the notion of binge consumption (Urry, 2010). Similarly, in a different context, Cohen (2006) argues that major cities in the USA display little evidence that changes in mobility are likely in future because of the entrenched (and culturally informed) reliance on private transport.

Thirdly, markets are viewed as being locked into growing demand for mobility, despite the impact of the 2008+ economic crisis. This is because of increasing global incomes, and the expansion of a middle class, outside the Global North, particularly in East Asia, as well as demographic shifts. Supply side constraints, notably in oil production, potentially could lead to significant, price-led behavioural changes, although enhanced technologies to extract shale oil may postpone the timing of peak oil (Urry, 2008). Investors in market economies are also considered to have essentially short term horizons, militating against some of the riskier, scape-transforming investments. Monopolies and oligopolies may also be inured from the competition pressures that drive innovation (Baumol 2002), in for example transport

infrastructures. Consequently, there are potential price-stabilising mechanisms in the short and medium term. Consumer demand for mobility is, in any case, considered to be relatively price inelastic (Brons, Pels, Nijkamp, & Rietveld (2002; Brons, Nijkamp, Pels, & Rietveld 2008). Finally, neo-liberalism may continue to constrain the development of state policies to promote more sustainable development, where these clash with access rights agendas, while the limits of traditional environmentalist movements are exposed in the face of competition and globalization pressures (Faber & McCarthy, 2003).

This path-dependent coalescence of the driving forces of mobility will be reinforced by deeply embedded scapes in the landscape of mobilities. Investments in existing transport infrastructure involve enormous sunk costs (Hausman & Myers, 2002) that engender inertia in market economies. This is reinforced by the high costs of developing entirely new infrastructures (scapes), incorporating radical innovations, whether in transport, accommodation or attractions. In other words, there is a strong 'spatial fix' in how mobilities are shaped by built environments, as evidenced by how the intra-urban distribution of hotels influences tourist behaviour at destinations (Shoval, McKercher, Ng, & Birenboim, 2011). The scapes are also institutional. Pooley, Turnbull, & Adams (2006), for example, have argued that, although the twentieth century saw significant changes in the materialities associated with everyday urban mobility, the underlying aspirations and routines that influence everyday travel have remained largely unchanged. Taken together, the interaction of scapes and driving forces constrain the modal and distance substitutability inherent in more sustainable tourism mobilities.

Moreover, this is reinforced by the enfolded nature of mobility, especially the enfolding of tourism and migration. For example, the later-life and life-style migrations from northern to southern Europe are strongly rooted in how earlier tourism experiences had defined migrants' search spaces. King, Warnes, & Williams (2000), for example, demonstrate that tourism had been the only prior connection of almost three quarters of later life UK migrants to southern Europe. The banal tourism of visiting friends and relatives is also strongly path dependent. De-exoticising tourism (Larsen, Axhausen, & Urry 2006) in this way emphasizes how historically accumulated networks have evolved into institutional (and sometimes material) scapes that shape tourism flows. Becken (2011, p.374) echoes these thoughts in her

commentary on the social distribution of the impacts of future oil price increases: 'Tourists who travel for reasons other than leisure (e.g., education, religion, medical treatment) may also be differently affected than the often researched holiday tourists'.

In summary, the path dependent view sees mobilities as being locked into historical trajectories, It is the equivalent of what Scott, Peeters and Gössling (2010, 397) term the 'business-as-usual pathway' that will see tourism 'become a key source of GHG emissions in a world seeking to decarbonize all other sectors of the economy. . Although there are occasionally discontinuities, such as the enabling of low cost airline growth by air travel de-regulation, technologies, cultures, markets, state policies, material and institutional scapes, social networks and enfolded mobilities lock the trajectory of mobility into a scenario of more of the same in terms of growth and behaviour, even if the macro global regional distribution of mobility is being radically changed. The outcome is the continuation of sup-optimal mobilities, even in terms of individual utility, let alone sustainable tourism mobilities.

Path creation and sustainable tourism mobilities

To paraphrase Nielsen, Jessop, & Hausner (1995, 7), a path creating perspective envisages that social forces can redesign the rules of the mobility game. In other words, shifts in the drivers of tourism can lead to mobility substitutions, and sustainable mobility trajectories (Figure 4).

Figure 4 here

First, it emphasizes the scope for radical technological changes, perhaps through niche management (Kemp, 1994), which may at least reduce significantly the environmental consequences of continued mobility expansion. In extremis, it asserts that developments in virtual tourism can reduce (the growth of) corporeal mobility in the medium to long term. More realistically, it argues that technological changes, such as the growth of high speed rail, may impact on travel modality shifts, and to a lesser extent on travel destinations. Secondly, in terms of cultural change, it

envisions the possibility of binge consumption being challenged by alternative visions of tourism and life styles, inspired by effective and insistent attempts to build shared values around more sustainable travel behaviour. This is a view which believes, above all, in the potential of collective and individual learning, although the work of Barr, Shaw, Coles, & Prillwitz (2010), amongst others, poses questions about the limitations to such learning and adaptation.

Thirdly, and perhaps more compellingly, it draws attention to market mechanisms, particularly to oil price increases and the peak oil thesis (Becken, 2011). Globally, demand is likely to outstrip even radical innovations in oil production such as shale oil extraction, so that *sustained*, higher oil prices could arguably eventually choke off growth, as they exceed the critical thresholds that individuals are willing to pay even for binge mobility consumption (Urry, 2010) – but note the earlier reservations about price-insensitive hypermobile elites. Finally, governments are seen as easing their way, however gradually, to prioritizing environmental agendas over access rights agendas, due in part to the challenging of neo-liberal orthodoxies by the 2008+ economic crisis (but see McCarthy, 2012 for a cautionary note), as well as to the hesitant but strengthening voice of new forms of environmental activism (Faber & McCarthy, 2003).

The extent to which these forces reshape mobility will partly depend on the extent to which new scapes can be created that facilitate new flows. This is critical because scapes are the outcome of long processes of cumulative investments, whether materially, or institutionally. The path creation view points to the remarkable growth of low cost airlines, or expansion of high speed rail in China, as evidence that radical innovations are possible in the scapes of mobility due to a combination of technological innovations, state interventions (including re-regulation) and changes in demand and supply conditions. The question remains, however, whether such shifts succeeded because they were consistent with pervading cultures of mobility and with the implications of enfolded mobilities. In contrast, many of the shifts required to move in the direction of more sustainable tourism may run counter to the dominant cultures of mobility, and the demands of enfoldment.

This brings us to the balance between enfoldment and substitutability. There are strong elements of enfolded mobilities, but these do not mean that mobility outcomes across the life course are inevitable. Individuals have more diverse tourism portfolios

than had previously been thought, and many individuals can simultaneously identify themselves with different types of travel organization. For example, Williams & Baláž (2013) have shown that about one third of those who strongly identify with being package tourists, also strongly identify with being participants in small or specialist package tours, and with individually organized tourism utilizing comfortable accommodation and travel. This indicates the potential for significant substitutability in tourism and mobility preferences. This echoes Gössling, Scott, Hall, Ceron, & Dubois' (2012), argument that there is greater capacity for individuals to adapt their tourism behaviour to the risks and opportunities posed by climate change (Scott, Jones, & Konopek, 2008) than there is in most other forms of mobility.

In summary, a path creating view would see cultural, market and state-led changes acting as forces to create demand for, and opportunities for, changing the board on which new forms of mobility can be enacted. Evidence of substitutability in mobility behaviour, particularly in respect of pleasure tourism, adds weight to the path creation perspective.

Final thoughts

This article is neither a review paper, nor an attempt to be prescriptive in terms of policy and practice. Instead, it seeks to advance understanding of tourism mobility trajectories and outcomes in relation to path dependency versus path creation theories, which address whether or not technological, institutional and other factors cause systems to become locked in to sub-optimal trajectories (Nelson & Winter, 1982; Boschma & Martin, 2010).

The balance of arguments outlined above suggest that rather than seeking to conclude whether mobility trajectories are best seen in terms of dependency or creation, it may be more appropriate to think in terms of 'path-dependent path-creation' (Nielsen, Jessop, & Hausner, 1995, p.6), whereby individual actors have potential to create new pathways, but these are significantly shaped by previous pathways. Inevitably, the future is likely to take on a far more nuanced character than is suggested by either a simple path dependent or path creation perspective. This conclusion resonates with Gössling, Hall, Ekström, Engeset & Aall (2012) on transition managements, seen through a typology defined in part by renewal versus

reorientation, echoing the notions of path dependency and path creation. In their Norwegian case study, they conclude that 'given that in many cases the long-term outcomes of actions are unknowable, the system unsteerable and the effects of deliberate intervention inherently unpredictable yet, ironically, it is this that actually sustains concepts of agency and management' (p, 913). In other words, their conclusions can be seen as consistent with a path-dependent, path-creating perspective on the future trajectory of sustainable tourism mobilities.

This is not to say that there will not be radical innovations and mobility shifts, for one thing only is certain about the future, and that is its uncertainty. Tipping points are sometimes reached. As Gladwell (2000, p.259) asserts: 'Look at the world around you. It may seem like an immovable, implacable place. It is not. With the slightest push – in just the right place – it can be tipped'. For Gladwell the three agents of change are the law of the few, the stickiness factor and the power of context: in other words, radical changes are brought about by a few individuals with the right mixture of competencies, who have a memorable and contagious message which sticks in popular and policy discourses and perceptions, which are tailored to specific contexts. Where these ingredients coalesce, then radical changes are possible, and we may be further along towards the sustainability end of the path dependency – path creation continuum than we first thought. Climate change is one such issue which has stickiness, but where hitherto the tipping point in terms of leading to more sustainable mobility policies has been occasionally flirted with, but not yet surpassed. And much depends on the role and lines taken by powerful media organizations in shaping policy discourses, a little researched determinant of tourism demand.

However, some cautionary comments are necessary here. First, tipping points can tip into negative consequences for sustainability as well as positive ones: they have no normative associations. Secondly, tipping points in intentions may not be matched by outcomes because of the constraints posed by scapes, and because of deeply enfolded mobilities inherent in social networks which have been spatially extended and intensified via quantitative and qualitative changes in migration. As Larsen, Urry, & Axhausen (2007, p.249) contend, if we consider 'de-exoticised' tourism, this is 'less the privilege of the rich ... even "immobile" individuals might occasionally visit or host distant kin.' Face to face contacts are difficult to replace by

contacts at a distance in terms of providing care and emotional support, renewing trust, and reaffirming mutual obligations. Finally, the challenges for sustainable tourism mobilities are magnified several fold if we address, rather than ignore, the deep inter-generational, social and territorial inequalities that characterise current mobilities (Schafer, 2000) and resource utilisation, let alone those that are likely to inform the future trajectory of tourism mobilities. Arguably, price mechanisms constitute the most likely means to enact radical innovations in mobility, but these are, of course, socially and politically constructed. As Skeggs (2004, p.49) asserts, 'Mobility is a resource to which not everyone has an equal relationship'

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Figure 1

Idealised representation of the demand, supply and prices of mobility

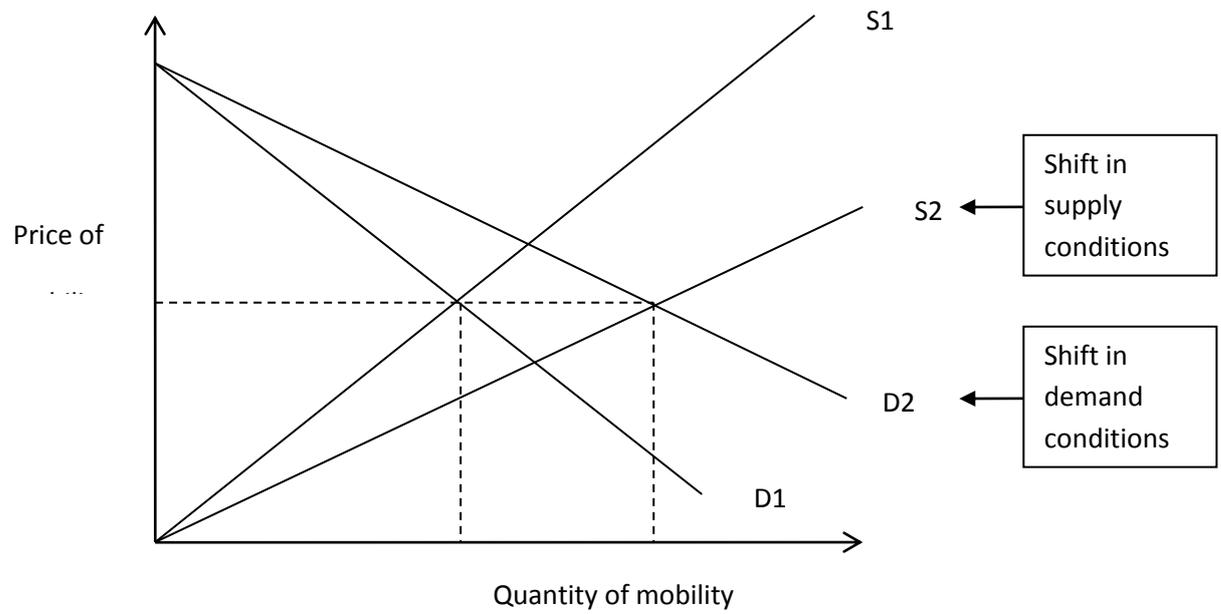


Figure 2 Mobility drivers and sustainable tourism: enfolded and substitutable relationships

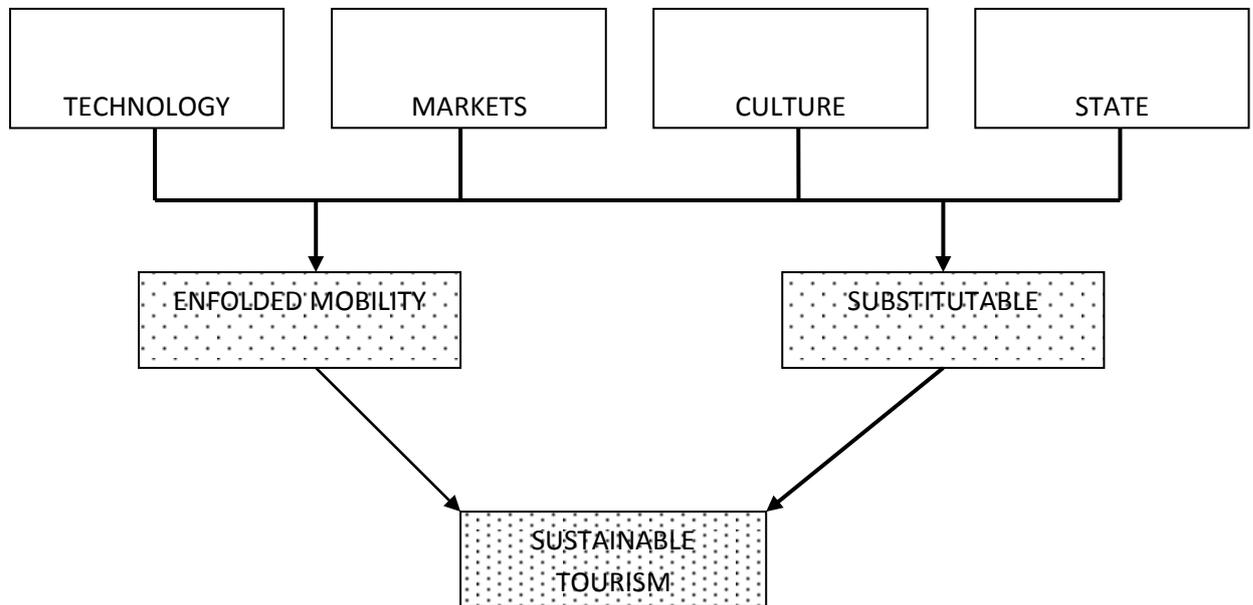


Figure 3 Path dependent mobility and tourism: more of the same?

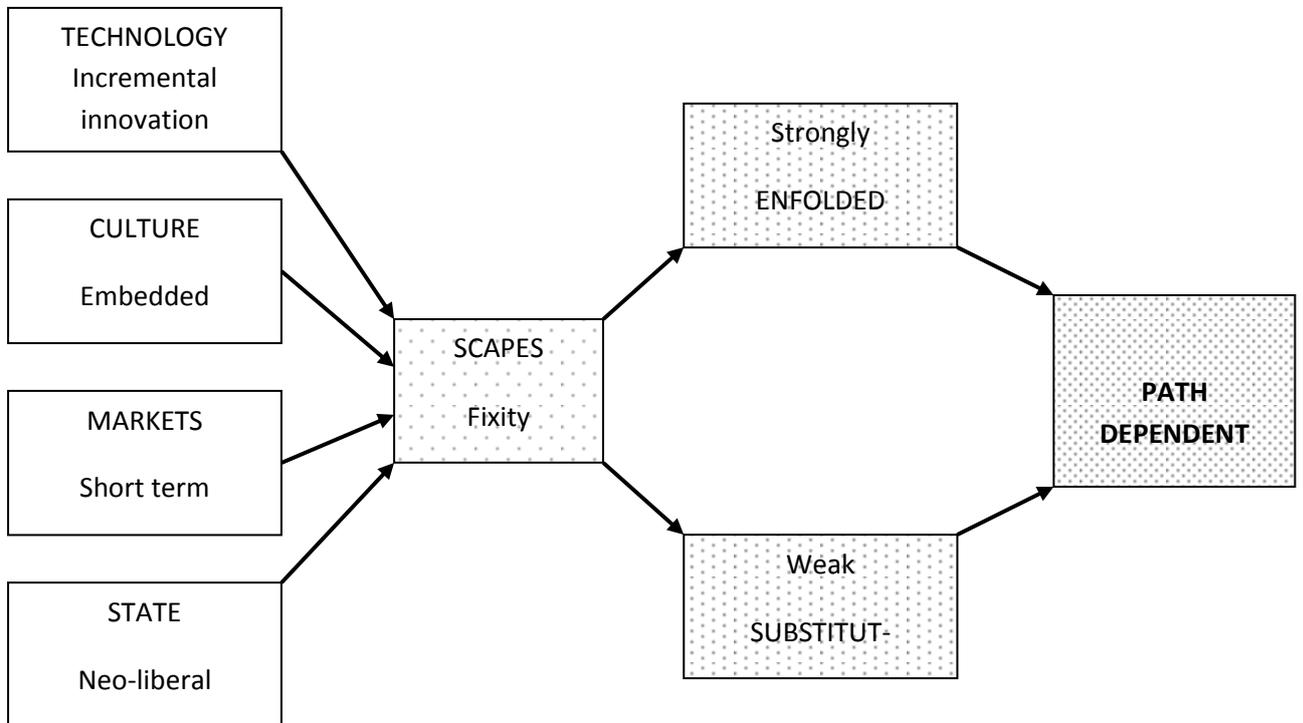


Figure 4 Path creating mobility and tourism: towards sustainability

