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## **Interfunctional business models: map grid for an uncharted quadrant of the blue ocean**

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**Abstract:** This article makes a case for the significance that borders have for new venture discovery. Since markets are social phenomena, new venture discoveries necessarily refer to the crossing of social borders. We draw on social systems theory and theories of social differentiation to understand how social borders are drawn. We demonstrate how this knowledge may be used to create and unfold a comprehensive market map that is useful for both the tracking of past and the anticipation of new venture discoveries. We use this map combined with illustrative cases to provide evidence that an entire quadrant of entrepreneurial opportunities is still uncharted in traditional maps

for new venture discovery. We conclude that the future of new venture discovery is about the strategic transgression of social borders not only between traditional market segments or strata, but also between the function systems of society such as the political system, economy, science, art, religion, or the mass media system.

**Keywords:** business model innovation; social systems theory; social differentiation; functional differentiation; blue ocean strategy.

**Reference** to this paper should be made as follows: Roth, S., Melkonyan, A., Kaivo-oja, J., Manke, B. and Dana, L-P. (2018) 'Interfunctional business models: map grid for an uncharted quadrant of the blue ocean', *Int. J. Entrepreneurial Venturing*, Vol. 10, No. 5, pp.581–595.

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This paper is a revised and expanded version of a paper entitled 'Interfunctional business models: a map-grid for an uncharted quadrant of the blue ocean', presented at 16th Annual EURAM Conference, Université Paris-Est Créteil, 1–4 June 2016.

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## **1 Introduction: barriers as necessary conditions for business model innovation**

One critical barrier to business model innovation is the neglect of the importance that barriers have for business model innovation. The dominant view is that barriers to business model innovation need to be explored to overcome them (Chesbrough, 2010). Yet, in their ground-breaking bestseller, Kim and Mauborgne (2005a, 2005b) demonstrated that it is not only the systematic transgression, but also the strategic development and positioning of barriers to business model innovation that creates uncontested market spaces and sustains entrepreneurial ventures. A comprehensive understanding of the role that barriers play in the creation and maintenance of competitive advantages is therefore of utmost interest to everybody who intends to learn “not how to play by the rules of the market, but rather how to change these rules” [Becker et al., (2015), p.167]. This legitimate interest, however, is complicated by the circumstance that a majority even of those who follow Kim and Mauborgne seems to be more concerned with barriers to the successful implementation of the blue ocean strategy to than with the prominent role that barriers play in their preferred strategy.

Our aim in this article is to make a clear case for the significance that barriers have for the discovery and creation of uncontested new market spaces. Given that markets are social phenomena, these forms of discovery and creation necessarily refer to the crossing of social borders. In responding to the recently confirmed “call for more theoretical insights” in entrepreneurship research [Becker et al., (2015), p.153], we hence begin by drawing on social systems theory (Spencer Brown, 1979) and theories of social differentiation (Spencer, 1895; Durkheim, 1933; Marx, 1867; Tönnies, 1887; Luhmann, 1977) to understand how social borders are drawn. We then show how this knowledge of social differentiation facilitates both the reverse engineering of past and the anticipation of new venture discoveries. To be more precise, we

- a show that a particular combination of only two basic social borders is enough to define and classify all variables ever used in social science and theory
- b demonstrate that this combination of distinctions both unfolds the map sheet and makes appear all map symbols necessary for a comprehensive market mapping
- c illustrate (in using exemplary cases) how such a differentiated market map facilitates the tracing of past, present, and future business model innovations
- d provide evidence that an entire quadrant of entrepreneurial opportunities is still largely uncharted in present maps for new venture discovery.

The most valuable souvenir of this theoretical expedition to the next blue oceans is that business model innovation is indeed a matter of boundary management, which is true not only with regard to international imports and exports or the transgression of class

boundaries, respectively, but also if it comes to the discovery of interfunctional business models. This article explains what this expression means.

## **2 A map sheet for next business models**

Research on business models and business model innovation can be traced back to the dot-com era, where the digital revolution was being observed to fundamentally transform the business as usual (Timmers, 1998). Research in business models conducted in that early phase predominantly was descriptive rather than analytic and featured a (s)elective affinity for start-ups and e-business models (Mahadevan, 2000). Many colleagues initially focused on definitions and classifications of internet business models (Timmers, 1998; Applegate and Collura, 2000; Kaplan and Sawhney, 2000; Bartelt and Lamersdorf, 2001) before the depths, scope and scale of publications on business models increased in line with the growing interest in the topic. Explorations of business models became more comprehensive and complex, now also zooming in on components and sub-components of business models as much as on the corresponding design, implementation, and change processes (Hamel, 2002; Osterwalder et al., 2005; Magretta, 2002; Dubosson-Torbay et al., 2002; Shafer et al., 2005; Smith et al., 2010). The ambitions clearly shifted to more integrated perspectives on business models (Morris et al., 2005; Spieth et al., 2014; Roth et al., 2015; Zott and Amit, 2013) and to connections to established research fields such as strategy (Chesbrough, 2006; Zott and Amit, 2008; Richardson, 2008), technology and innovation management (Zott and Amit, 2010; Gambardella and McGahan, 2010; Chesbrough, 2007), or sustainability management (Schaltegger et al., 2016). Today, business model innovation is in many places recognised as effective response to dynamic business environments (Chesbrough, 2010; Gambardella and McGahan, 2010; Zott and Amit, 2010; Spieth et al., 2014), with the provision that business model innovation strategies necessarily are as manifold as environmental challenges can be diverse. It is hence not our ambition to zoom in on more concrete forms or contexts of business model innovation. Rather, we start from the general assumption that business model innovation is a means to capture and transform market opportunities into value (Becker et al., 2015; George and Bock, 2011; Spieth et al., 2014).

Against this background, it appears that a critical factor in business model innovation is the observation of market opportunities and, consequently, the observation of markets. This commonplace on the commonplace and its importance for business model innovation, however, appears less commonsensical once we remind ourselves that markets are social forms and that increasingly differentiated observations of markets therefore are exercises in social differentiation and require at least implicit knowledge of the borders that indicate and distinguish different forms of society. Accordingly, it is safe to say that business model innovation in general and new venture creation in particular needs to follow or cross the dividing lines made by social differentiation, which is why this article suggests systematically exploring the relationship between the discovery of uncontested market spaces and the transgression of social borders.

In order to prepare this expedition, we draw on social systems theory and particularly on some of its form theoretical foundations (Luhmann, 1993, 1995; Spencer Brown, 1979) to make a both methodologically sound and practicable map for new venture discovery. As social systems theory is a theory-method rather than 'just' a theory, our theory statement also represents a methodology statement. We assume that a categorical

separation of method and theory would be a mistake (Elias, 1978b). From our point of view, a theory also acts as a methodology whenever the theory applies its own distinctions not only to its objects of observation, but also to itself, and thus indicates how its observations come about and can be replicated. A research venture based on social systems theory, i.e., a social theory deeply rooted in a culture of self-application and a circular epistemology can consequently be considered methodologically robust. The quality of such a theory-method is consequently not in its robustness against falsification or the richness of the data it is grounded on, i.e., not in the number of problems that have been solved by or for the theory, but rather in the scale and scope of scientific problems this theory allows to generate (Merton, 1959). Social systems theory is such a literally creative theory-method, which is why it is particularly well-suited for explorative research ventures.

Our mapping of business models hence does not start from the “abundance of meanings” [Seelos, (2014), p.6] and established definitions and categories of business models. Rather, we will have to start from scratch, and that is a good thing: social systems theory is strongly inspired by form theory (Spencer Brown, 1979), which starts from the imagination of an unmarked space, in which forms appear as “differences that make a difference” (Bateson, 1972). Against this discreet background, all we have to take as given is “the idea of distinction and the idea of indication, and that we cannot make an indication without drawing a distinction” [Spencer Brown, (1979), p.1]. In order to indicate the importance that distinctions have for the discovery of new ventures, we therefore take a blank sheet of paper and think of the distinctions we need to draw so as to turn the blank sheet into a map

### 3 The social differentiation of market opportunities

Since market research is a form of social research, we need to draw social distinctions to make a comprehensive map for new venture discovery. This ambition is facilitated by the happenstance that only two distinctions are sufficient to create a map sheet that allows for the mapping of all so-far know variables of social research (Roth and Schütz, 2015; Roth, 2015a; Roth and Kaivo-oja, 2015). In fact, if we cross-table two basic social distinctions – “the distinction between similar and dissimilar and the distinction between equal and unequal” – then the result of this exercise already allows for one of the briefest possible mapping of (the evolution of) human societies (see Table 1).

**Table 1** Social differentiation

		<i>Equal</i>	
		+	-
Similar	+	Segmentation (Families, tribes, nations, etc.)	Centralisation (Civilisations, empires, etc.)
	-	<i>Functional differentiation</i> (economy, science, art, etc.)	Stratification (castes, estates, classes, etc.)

Source: Roth (2015b, p.113)

Archaic societies emerged by segmentation. Similar and equal segments formed the main building blocks of these social systems. Segmentation may be used not only to

distinguish individual segments, but also to group segments into larger segments. Such, several segments like families are observed to belong to the same clan, or several tribes to the same nation. Moreover, segmentation can also be applied to zoom in on a given segment; for example, women and men may form two different segments within a given tribe. The logic of segmentation obviously is still valid today: We still distinguish nation states, and most market researchers literally engage in market segmentation. We shall come back to this point, right because we know that the archaic situation fundamentally changed during the Neolithic Revolution, when some segments started to exert larger influence on their surrounding segments than others. Individual segments may hence be observed to be unequal as to their importance. In many cases, this centralisation has also been a basis for a stratification of societies, the latter of which refers to the differentiation of a society in dissimilar and unequal subsystems such as castes or classes. New forms of differentiation can then be observed to overrule rather than overwrite the older ones. In fact, the old forms remain intact as long as they do not cancel the newer forms. For example, an archaic logic according to which the elder discipline the younger (and not vice versa) might well remain unchallenged within the families of a stratified society; even if the situation has changed insofar as an elder farmer cannot possibly punish a younger nobleman anymore. In a similar vein, nowadays, we would hardly consider a nobleman of humble intelligence to be the better scientist as compared to an intelligent person of humble beginnings. This is true because in spite of all the still strong influence exerted by hierarchies of all kinds, yet another form of differentiation is observed to be the current prime form of social differentiation today. In effect, the distinction of both dissimilar and incommensurable function systems such as the political system, religion, art, the economy, or education is currently being discovered as key principle of modern societies (Beck et al., 2003; Beck and Lau, 2005; Baecker, 2007; Brier, 2007; Laermans, 2007; Roth, 2015a; Roth and Schütz, 2015). Notwithstanding the importance of functional differentiation, however, most social scientists remain focused on the cross tabling of variables that emerge from the observation of the more traditional forms of social differentiation (Roth, 2013). This also applies to market researchers, whose favourite occupation obviously continues to be market *segmentation* – even in cases where the observed segments clearly result from the distinction of different market *strata* such as the middle class, premium, or luxury ‘segments’. If it plays a role at all, functional differentiation plays a marginal role in market research, so far.

In the subsequent two chapters, we suggest to observe markets, and thus the horizon of new venture discovery, through the lenses of *all* the above forms of social differentiations, with our particular focus obviously being on functional differentiation.

#### **4 Standard cases of cross-border business model innovation**

Market research in general and new venture discovery in particular implies the identification of key variables that influence the outcome of entrepreneurial ventures. The main variables processed in this context are identified by segmentation, centralisation, and stratification, while the variables of functional differentiation remaining largely, if not fully, ignored. Consequently, many otherwise accurate analyses remain contingent on this limited set of variables, thus running the third-order risk of giving right answers to wrong questions (Godet, 1986). It is hence our goal to, firstly, demonstrate that and how the observation of market opportunities depends on the identification and transgression of

social borders; and, secondly, to illustrate that the margin of new venture discovery ventures is itself defined and confined by these social borders, and that the identification and transgression of so-far neglected social borders leads to a new horizon for new venture discovery.

#### *4.1 Segmentation (e.g., inter-national business models)*

It is almost redundant to state that value creation and new venture discovery often involves the crossing of national or regional borders (McDougall and Oviatt, 2000; Hitt et al., 2001; Oviatt and McDougall, 2005; Young et al., 2003; Wright and Dana, 2003; Acs et al., 2003; Keupp and Gassmann, 2009; Roth et al., 2013). In fact, first movers across national borders are continuously observed to have considerable advantages, the most popular of which is the blue ocean of a more or less durable monopoly. Yet, international borders are not the only barriers the transgression of which might lead into blue oceans. Other examples include inter-segmental business models that follow and cross the dividing lines of age and gender. E.g., face moisturisers have recently been sent across the gender border and now also target male markets. Or, business models linked to mobile phones with extra large numbers clearly focus on certain age segments.

#### *4.2 Centralisation*

Hollywood, Bollywood, and similar cultural industry clusters earn their money by playing on centre-periphery-differences. In fact, virtually all dissemination media businesses either sell the culture of a centre or have their niches in one of the peripheries. In a somewhat similar way, many tourism business models also follow and cross the lines between centres and peripheries, with the centres mainly selling again culture and distraction and the peripheries nature and relaxation. Furthermore, in selling what once only had been available in urban centres, many mail-order and e-commerce business models are also bridging precisely the gap between centre and periphery.

#### *4.3 Stratification (e.g., inter-class business models)*

Next to the popular international business models, there are an equally uncountable number of inter-strata business models, some of which even are associated with the most radical business and industrial revolutions. In fact, Henry Ford's most successful attempt to bring the former luxury product car to the middle class market required a number of production and business model innovations that are today known to have triggered a second industrial revolution. Numerous social, technological, and business innovations later, including the recent innovation of frugal innovation, the Tata Nano illustrates that the car is currently being handed further down to the bottoms of the global pyramid, where it is increasingly being made accessible for the lower middle classes of the emerging economies. In fact, the career of many – if not most – of today's *basics* actually started at the top of the pyramid. For example, the handkerchief initially had been a luxury product (Elias, 1978a). Consequently, noble people used it not only to clean their noses, but also to distinguish themselves from uncultivated people from the lower ranks of the society, and it took centuries to pass the luxury item down the social hierarchy until – o tempo, o mores – even the simplest cotton handkerchief made way to the paper

version that is accessible for virtually everybody today. The same pattern can be observed with regard to the diffusion of further basics such as perfumes, watches, or mobile phones and the corresponding business models; and if we re-read Rogers (2003), then we realise how huge is the number of innovations that have been or are currently being handed down from often privileged, innovation-affine avant-gardes and groups of early adopters to the broader middle class and later on to the mass markets at the cultural or financial bottoms of our societies.

Yet, sometimes, innovations may also take the opposite direction: Trends and fashions such as tattooing, piercing, or Punk paved their way from the bottom to the top of the pyramids, and so did corresponding business models (tattoo shops, Vivian Westwood, etc.). This upward mobility of products, however, is often hard to achieve, which we can learn again from Ford, i.e., from the case when Ford bought the Volvo Car Corporation and then more or less unsuccessfully tried to re-brand the dry middle-class cars as luxury products (Twitchell, 2001); two exceptionally successful example of the upgrading of former commodities to premium product clearly is Nespresso (Brem et al., 2016). In a similar way, the famous Yellow Tail case (Kim and Mauborgne, 2005a) illustrates how wine of very modest quality can be upgraded to a middle class product.

Regardless of the direction, we find that the strategic transgression of borders between the castes, estates, classes, or other layers of a given society may as regularly as clearly be associated with often-unprecedented opportunities for value creation.

**Table 2** Map grid for interfunctional business models

	<i>PO</i>	<i>EC</i>	<i>SC</i>	<i>AR</i>	<i>RE</i>	<i>LE</i>	<i>SP</i>	<i>HE</i>	<i>ED</i>	<i>MA</i>
PO		2								
EC	2				1					
SC						3				
AR										
RE		1								
LE			3							
SP										
HE										
ED										
MA										

Note: Capitation: 1 = selling of indulgences; 2 = new public management; 3 = patent trolling.

## 5 The uncharted quadrant of interfunctional business models

In the precedent chapter, we showed that a social differentiation lens on business model innovation allows for the tracing of the transgressive nature of many successful business models. In this chapter, we will demonstrate how a systematic consideration of functional differentiation allows for the detection of a new type of both already existing and possible future business models, which we call interfunctional business models. By interfunctional business model we mean a business model that systematically involves the crossing of the borders between the function systems of society. To facilitate the detection of further

existing as well as the design of future examples of interfunctional business models, we are using a 10x10 matrix that serves as map grid for the mapping of interfunctional business models insofar as it allows for the observation of combinations among the currently ten known function systems (Roth and Schütz, 2015): political system, economy, science, art, religion, legal system, sport, health, education, and mass media (see Table 2).

In the context of business model innovation and new business venture discovery, the way to use our map grid is to hold it against the invisible background of economic value creation (which implies that our grid can be used for non-economic purposes, too). If we hold the grid against an economic background and focus the borders between religion and again the economy (1), then we find that the *selling of indulgences* is a proper example of an interfunctional business model. In fact, the selling of religious content – here: absolution – both has been identified as violation of the borderlines between religion and the economy by nobody less than Martin Luther and has been an attractive business model, with the proof of success of which being the Saint Peter’s Basilica in the Vatican.<sup>1</sup> This historical example of an interfunctional business model furthermore suggests that many, if not most, business models involve the ‘economisation’ of something non-economic. Yet, a more recent example of an interfunctional business model also indicates that a transfer from the economic to a non-economic system may also lead to the desired business success (2). In fact, in the case of *new public management* we are looking at a process in the context of which business management principles have been applied in or rather translated into a public administration context. This economisation of political organisations has often been criticised as such, not least because the McKinsey Stalinism [Ulrich Beck in Lorenz (2012), p.609] represents a globally successful business model implemented by some of the most notorious international management consultancies. An even purer example of an interfunctional business model is *patent trolling* (3), sometimes also referred to as property right hacking or patent piracy (Chaudhry and Walsh, 1995; Pénin, 2012; Durand and Vergne, 2013). These trolls or hackers are individual or corporate actors who near-randomly buy patents, then look for solvent institutions that conduct research in fields remotely similar to those covered by these patents, and claim damages against these alleged property right infringers. As a pending lawsuit would prevent the defendant institutions from continuing their research, thus causing considerable costs or losses of earnings, some defendants sign out-of-court agreements and pay considerable amounts in settlements, with these ‘compensation’ payments being the actual goal of the patent trolls. If we observe this business model through an interfunctional lens, then we find that the trolls, hackers, or pirates creatively navigate the borders of science and the legal system in order to make economic profit. This is an interfunctional business model par excellence.

## **6 Conclusions: off to the next blue oceans for entrepreneurs and social entrepreneurs**

Our excursion to and beyond the borders of entrepreneurship research has demonstrated how important borders are for the detection, creation, and maintenance of new entrepreneurial opportunities. In drawing on social systems theory and theories of social differentiation, we therefore mapped the four basic types of distinctions that may be used

to establish social borders. We then showed how this basic map can be used for the tracking and tracing of past and present business opportunities as well as for new venture discovery. In further zooming on to one so-far neglected basic form of social differentiation, functional differentiation, we showed that “an entire quadrant of entrepreneurial opportunities is still uncharted in traditional maps for new venture discovery”. One main advantage of our social differentiation framework for new venture discovery is hence that it allows not only for the reverse engineering of past and present business model innovation processes, but also for the discovery of an all-new type of business models, which we refer to as *interfunctional business models*. The first examples of interfunctional business models presented in this article – such as the selling of voluntary carbon offsetting or patent trolling – suggest that the future of new venture discovery will be not only about the strategic crossing of the borders between traditional market segments or strata, but also about the crossing of the borders between the function systems of society: political system, economy, science, art, religion, legal system, sport, health, education, and mass media. To facilitate the discovery of such interfunctional business models, we presented a map grid that allows for the systematic explorations of opportunities that emerge from the strategic transgression of borders of and between any of these ten function systems. Yet, one limit of our  $10 \times 10$  matrix clearly is in the fact that it does not allow for the mapping of more complex business models involving more than two or three function systems, respectively. Still, we remain confident that the tool will prove helpful in many new venture discovery contexts, and that early adopters will benefit from considerable first movers’ advantages.

Our tool may also be understood as a reminder of the originally broader (read: trans-economic) meaning of the term venture. In this context, it is furthermore good to remember that even straight business firms need to match business model innovation not only with specific forms of technological innovation but also with certain forms of social innovation. If these three kinds of innovations are systemically inter-connected, then organisations can create better synergy and results by complementary innovation forms. It is important to understand that systemic changes in one of these three innovation types can also require or trigger change in the other two innovation types. One key challenge in developing systemic innovations is to create good synergies between these three types of innovation. Companies in search for innovative business models hence need to integrate business model innovation, technological innovation, and social innovation [Kaivo-oja, (2011), pp.6–8]. Yet, in real-life contexts, normally business- and technology-related aspects of innovation dominate product development, branding, and general strategy. Against this backdrop, our interfunctional approach demonstrates how beneficial it is to systematically challenge the narrow focus on business and technological innovation.

An interfunctional approach to market research will furthermore increase our understanding of foundations of brand images and brand strategies of firms. The technical potential of functional differentiation is today much larger than before, because BigData analytics and digitalisation with ubiquitous technologies provide new possibilities and tools for interfunctional screening and monitoring. BigData analytics will change companies’ market ‘segmentation’ strategies, which can lead to smarter market ‘segmentation’ strategies and smarter specialisation, which again is in line with blue ocean strategies.

Another relevant field of application for our interfunctional model clearly is social entrepreneurship, which is most often only negatively defined as non-economic or not-(only-)for-profit entrepreneurship so far; and even attempts to positively define the social dimension of social entrepreneurship remain \* focused on the opposition with economy-driven entrepreneurship as indicated in cases whenever self-regarding and other-regarding forms of entrepreneurship are contrasted. In observing social entrepreneurship through the lens of functional differentiation, however, we may break up the old-familiar economy and society opposition and understand that economy-driven entrepreneurship is one form of social entrepreneurship among others such as political entrepreneurship, religious entrepreneurship, or educational entrepreneurship. Intuitively using interfunctional approaches to entrepreneurship, throughout the history, visionary plutocrats have made successful attempts to combine economy-driven and further forms of entrepreneurship, thus promoting hybrid concepts of such as *venture philanthropy*, “an adventurous approach to funding unpopular social causes” as defined by John D. Rockefeller. Today, a large number of ‘social businesses’ are operating at the interfaces of several functional systems and target education-, health-, or mass media-related issues at local and global scale; *TED*, *TeachforAll*, *KIVA*, and *ImpactHub*, are just a few examples of successfully up-scaled and globalised social business models, while *Aravind Eye Hospital*, *Grameen Bank*, or *Barefoot College* are local social enterprises though well-known globally. These approaches further indicate the existence of an immense blue ocean of opportunities for interfunctionally oriented ‘social’ enterprises. In fact, the interfunctional dimension of these ‘business’ models is so novel and challenging that several countries even tried to introduce new legal forms to account for new constellations of organizational purposes (e.g., *Benefit Corporation* in the USA, *Società Benefit* in Italy). These new ‘business’ models the corresponding impact targeting approaches also required introducing sets of complex instruments and parameters to assess social impact; as a side effect, even traditional investors benefit from these new forms of impact data because they seem to help with reducing portfolio volatility, identifying risks beyond the balance sheet, and targeting formerly unknown opportunities in the marketplace [see Snider, (2015), p.5].

All the above reminders of a broader meaning the concepts of entrepreneurship hence do support the discovery and systematic exploration of ‘business model’ that do not (only) focus on economic activities and support the idea that further knowledge on these trans-economic ‘business models’ might reframe or corroborate our background assumptions and knowledge of the particularities and the general principles behind business models and business model innovation.

Against this backdrop, the key message of this article remains that we must take seriously the shift from medieval stratification to modern functional differentiation in the fields of entrepreneurship and innovation management, too. As functional differentiation still is an under researched field, we assume that the first to possess knowledge of this yet-uncharted quadrant on the maps of social differentiation will have considerable first movers’ advantages, which will be particularly true for those who realise how important for new venture discovery are the borders between the function systems of society and who develop the ability to cross these borders as systematically and successfully as earlier role models of entrepreneurship have crossed international borders or class limits.

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## **Notes**

- 1 A contemporary version of this business model has been implemented by service providers that offer voluntary carbon offsetting for air travellers (Gössling et al., 2007; Mair, 2011), which may be observed in terms of "the 'convenient truth' that air travel passengers are willing to pay to offset their GHG emissions" [Brouwer et al., (2008), p.310], or as an eventually not so secular form of the above commodification of a pure consciousness.