Visual Creases in Urban Topology: High Streets as Visual Markers of Our Social

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ARTICLE INFO	ABSTRACT
	As continuously connected surfaces making up "80% of the unbuilt area" in our urban (UN-Habitat & Clos, 2013), streets are self-regulating urban devices for funnelling vehicles. High streets however are artefacts along this predominantly hostile network, that articulate temporal moments of sustainable meaning. In this study our relationship with urban meaning is considered through the analogy between high street and a concept of visual creasing in the landscape. It is a metaphorical representation highlighting how dynamic access points into the social exist at our intersection with high streets. High streets act as change agents of behaviour. They facilitate urban mobility of our senses, beyond the inhospitable agglomeration of autopoietic function. The paper engages philosophically with displaced space, mixed use, visual meaning, and conditions of alienation by referencing previously documented case studies; while simultaneously constructing a case study of its own. The conclusion reached is that there is a sense of visual sustainability evident in the persistence of meaning defined by the social armature that is the high street. The concept of visual creases as visual markers of social territories is an important consideration around future research into functioning aspects of high streets, including but not limited to viability, durability, and maintenance.

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Introduction
This is a theoretical study that looks at the process of territorialization in social landscapes and at how our high streets are visual markers. The terms high streets and main streets can be regarded as the same thing and are used interchangeably. This paper is not about visual markers in the high street per se, a concept which is more closely aligned with Lynch's theory of mental mapping (Lynch, 2005), but is instead about high streets as visual markers *in the landscape*. It does so by using a concept called *visual creases* to highlight the notion of adjacent social territories.

The term social in this study is based on Lefebvre's concept of "the physical… the mental… and, thirdly, the social"; specifically "the space occupied by sensory phenomena, including products of the imagination such as projects and projections, symbols and utopias" (Lefebvre & Nicholson-Smith, 2011, pp. 11–12). High streets therefore exist at the crossroads of this reality; as visual creases configured by, and existing within, the bounds of Lefebvre's spatial triad. The best way to think of a visual crease is as a visual interruption; one that serves as a change agent or access point, allowing access to the social and tapping into our sense of collective awareness.

Our high streets exist as containers of meaning because we aim at what we want (Jordan B Peterson, 2017a, 1:29:00, 2017b, 1:08:15). The high street is information and information is the meaning we seek; which is "… equal in importance to the drive for food or sex" (Berlyne, 1962; Ellard, 2015, p. 111). High streets also regulate meaning, they slow movement down. They allow us to observe, to familiarise, to reconnect with reality beyond the privacy and detachment of space in a vehicle. This study will explore some of the ways in which we first and foremost seek comfort in being oriented properly (Deleuze and Guattari, 'A Thousand Plateaus', cited in Ballantyne, 2007, p. 44; Polanyi & Grene, 1969, p. 131). A high street is thus an excellent construct that can be used to measure the presence of visual sustainability in our urban; by which is meant "the process by which people are enriched or sustained in daily life through the visual relationship they hold dear to their surroundings" (De Kock, 2019b). Prompted then by this definition, we can ask ourselves: why is a high street where it is? Is it really where the map says it is? And where does the mind say it is?

There appears in 'knowing' not just knowledge (Michaels & Carello, 1981, p. 62) to be a set of dependent variables at play in discovering the importance of high streets as visual markers. Firstly, in how enriched or sustained people 'feel' (Polanyi & Grene, 1969). Secondly, the degrees or gamut of 'feeling' they hold in their visual relationship with the high street that they hold dear. And thirdly, in how time sensitive these 'feelings' we have are, for example, the range between hourly, daily, or in daily life. A discussion around some key concepts follows (Figure 1) and these are summarised in Table 1 and 2.

Key concepts
The first concept is of a landscape which exists as a mental forcefield: a mental map of influences that represents a social which has been dissected and physically altered by a network of high-speed roadways. High speed in this context relates to traffic flows and speeds that disfigure physical space, compromise social integrity, and impede pedestrian movement. Punctuating this landscape are territorial constructs called visual creases. Time and space both claim territory. Speed too is a claim for territory. The natural desire as a human is to be represented wherever space is. Which is probably why we love using our roads and highways. This study holds that visual creases are the constructs which illuminate both the landscape as well as locate social territories that define our high streets. High streets in turn mark out social territory, for example, through spatial identity or sense of ownership. These occur in smaller sub-urban territorial patterns within the

parent-territory, for example, in spaces within a high street that have a different feel; which then allows groups of people to differentiate themselves in different ways.
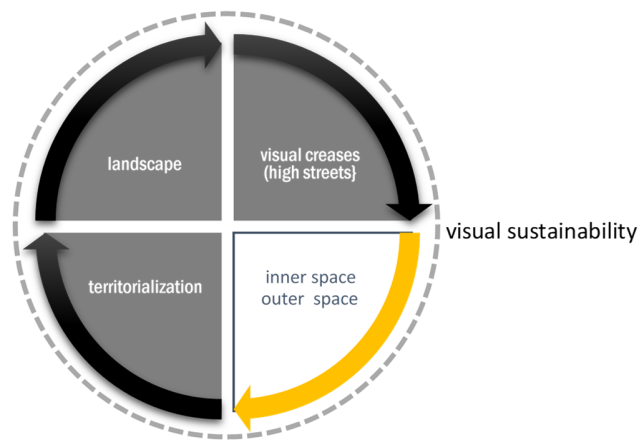

Figure 1. Key concepts (Image © Author, 2019).

The landscape, visual creases, territories and sub-urban patterns are all reliant on two more concepts: inner and outer space. It can be argued of our urban that the strongest connection between the space within us and our sense of outer physical space, is arguably where we intersect with our high streets. This it will be argued is due, in no small part, to the scale of the traditional high street. Inner space represents our intuition, which has no shared lexicon. Outer space is the space that we perceive to be physically 'out there' and for which there is an urban dictionary; one that we all loosely subscribe to. In the context of this theoretical study then, the high street can be said to thus be a modality of urban experience used to make the connection between inner and outer space.

THEORETICAL FRAMEWORK

PROBLEM	Can high streets be said to be visual markers of our social?
APPROACH	High streets stand out as visual creases in a topographical sense and increasingly in a philosophical sense. They provide social meaning in a hostile high-speed and obstructive road network. High streets can be used to understand more about our social.

Table 1. Theoretical framework and summary of analysis (Lederman & Lederman, 2015).

In closing the circle of an argument thus far, this transition between inner and outer space, when perfectly synced, is often the same thing as a visual crease. And is best represented, it can be argued, in the construct of a high street. One which we access by way of the street network.

A visual crease represents a heightened state of awareness. It is simultaneously that stretch of roadway that gives way to positive meaning, that is both more sensual and tactile than the remaining high-speed or highly obstructive road network. Visual creasing is less a construct from Lynch's playbook and more a philosophical sensibility. It is more than a path, node, landmark, district or edge. It is not a hierarchical concept, but horizontally oriented. It is not so

much an urban physicality or single punctuation mark in the landscape, as it is a whole phrase from an unpublished urban lexicon that is reliant on intuition.

EPISTEMICALLY OBJECTIVE	ONTOLOGICALLY SUBJECTIVE
Visual significance	Visual creases are the territorial constructs that illuminate and locate social territories and define our high streets.
Landscape	A mental forcefield; a mental map of influences that represents a social that has been dissected and physically altered by a network of high-speed roadways.
Social territories	Evident in spatial identity or sense of ownership and linked to high street locations.
Sub-urban patterns	Spaces within the high street and differentiated through use or other factors.
Inner-outer space	It can be argued of our urban that the strongest connection between the space within us (our intuition) and our sense of outer physical space (our perception of reality), is where we intersect with our high streets. One principle reason being due to scale.
Territorialization	Synchronization of inner and outer space (as defined earlier).
Visual meaning/ visual richness/ durability over time	An assemblage of meaning that produces emergent properties of visual sustainability.

Table 2. Summary of proposed key concepts, regulated by two streams of thought process: epistemically objective vs ontological subjective conditions, as defined by Searle (2016).

And in a hostile road network which has disfigured so much of our urban, our visual creases are outwardly tensile forces; but inwardly compressed concentrations of social activity. The tension exists between two adjacent 'topological polygons' of the mind. It lies in how we slow down, space slows down, everything slows down while simultaneously compressed by increased levels of detail and fractal content. We are afforded the ability by our high street to pay attention again in the context of an understandable scale of urban fabric.

Visual creasing is not an object, it is a mental construct, a state of mind at a conjunction in social space. It is conjoined with the social. The high street is an example of visual creasing: a mental construct consisting of objects.

Inner and outer space speak to the concept of territorialization. Territorialization is a bringing together of parts and "refers not only to the determination of the spatial boundaries of a whole… [but also] the degree to which an assemblage homogenizes its own components" (De Landa, M. 'Deleuzian Social Ontology and Assemblage Theory' In: Fuglsang & Meier Sorensen, 2006, pp. 250–266). It can be said that we territorialize space by syncing between inner and outer space. When what is internal to us, our intuition and how we project meaning out into the world, are aligned.

Why study the territorialization of our social using high streets? Because a high street is a construct that we are all familiar with; that we all understand to some degree; and which it will be argued, represents or contains all the elements that define three important elements of our urban, namely visual meaning, visual richness, and durability over time. These three elements it will be argued, when combined with territories, sub-urban patterns, and inner and outer space, make up the meta-assemblage that holds the high street together; which is formed from the visual crease in the landscape.

Following this introduction and explanation of key concepts, the paper addresses the link between the social and the construct of a high street in a landscape of mental mapping, by breaking down the discussion down into four main overlapping themes:

1. Visual markers
2. Sustainability, suburbs, and use
3. Territorialization, and
4. Alienation.

Visual markers will address how high streets are markers of meaning, but not in the same way as buildings are. High streets connect to the surrounding urban landscape through a process that can be described as seeing with interiority (De Kock, 2020). By syncing inner and outer space they act as visual markers that serve to locate the body in collective space.

Sustainability, suburbs and use looks at three influencing factors: sustainability, the suburban context, and Vaughan's idea of spatial diversity vs mixed use (2015). This forms part of context mapping of the first theme.

Territorialization expands on the conditions of how we consume space and demonstrates how we are able to create context by participating in the urban, much like the good flaneur does (De Kock & Carta, 2019).

Alienation is a form of deterritorialization and is concerned with the phenomenon of loss, how we cope with losing space, and is especially relevant to the landscape of mental mapping and visual markers. Specifically, in the absence of visual markers: what is not present that should be. And how this affects conditions of sustainability in the high street.

Second to last is the discussion section which includes an appraisal of methodological influences and is presented in the form of a case study. And finally, the conclusion presents a synthesis of ideas and possibilities for future research.

Visual markers

High streets, it can be argued, are rarely judged by how busy they are, but in how comfortable they feel; and this is linked to the nature of the information they contain. Comfort is a visual marker and like most other desirable things in life, entirely subjective. It is visual as much as it is any of the other senses. A person may feel comfortable in chaotic areas and uncomfortable in quiet areas; and vice-versa. The comfort we seek out, transcends the ambiguity of what has been called a "plethora of agencies and actors" (Jones, Roberts, & Morris, 2007, p. 13), both visible and non-visible, that inhabit our urban. We may feel comfortable in Times Square, or in the view over a hedgerow towards a single rose in a bed of roses. The importance lies in where we direct our energy; as our thoughts leave our bodies and locate the meaning out in space, beyond its constituent parts (Polanyi) and beyond the sum of its parts (De Landa). This is a process that can be described as seeing with interiority.

In turning to the idea of comfort beyond the sum of parts, this study also seeks to understand the context in which the high street thrives. Evidently it does as "a 'morphological event'… in many ways offering a more sustainable lifestyle than in the inner city" and one which counter-balances the perception of a "crude residential

typology" (Griffiths, cited in Vaughan, 2015, p. 3). What we value is a visual marker and is implied in "the suburbs and their centres" in two ways: firstly, in the "stability of the street network over time" and secondly, in the adaptive nature of attached building shapes and patterns (Vaughan, 2015, p. 4).

That the network of high streets is dependent on both stability of place and adaptation through connectivity, is key to understanding how the high street may be analysed. Case studies (Jones et al., 2007; Vaughan, 2015) offer an effective method and can be used to foreground visual meaning and visual sustainability; both in centralising and orienting us in our world (stability), and in their accessibility and adaptive capacity (Vaughan, 2015). This allows us to 'hook in' or 'latch on' to our surroundings (De Kock, 2019b) using the available visual markers contained in social constructs, mental maps, or physically as buildings and architecture.

Because we aim at what we want it can be argued that 'fast and frugal' heuristics (Gigerenzer & Todd, 1999) are ideally suited to visually navigating our world. This behaviour is also a visual marker and is in fact how we get around effectively. This holds true whether we are in a forest, garden, suburb, or city centre. And our high streets should be set up to take advantage of our innate human ability for heuristic thought, heuristic action and heuristic behaviour.

Urban theory is often drawn to understanding more about how social productivity generates "new forms of economic productivity" (Jones et al., 2007; Vaughan, 2015, p. 8). High streets in particular are devices that "have a key role to play… [as a] role model for the development of new sustainable communities" (Jones et al., 2007, p. 1). The link that this study supports, between social well-being and the visual marker of economic success, can be emphasised by how visual sustainability, through the durability of visual meaning over time, presents itself as the missing piece of the puzzle.

Visual sustainability in fact enables both social and economic conditions to be met, by presenting these two conditions as inseparable and interdependent entities. By enabling social well-being, we create the right conditions for businesses to flourish. And vice-versa. One key question then is: how do we enable and sustain social well-being over long periods of time? Perhaps the answer lies in overturning preconceptions about the urban. This has been advocated for by Brenner (2014) McFarlane (2011) et al.: that we should be "questioning and antagonizing existing urban knowledges and formulations, and learning alternative formulations" (McFarlane, 2011, p. 153). This will help us expose new ways of seeing and understanding.

The consequences of losing our high streets would be far-reaching. Another visual marker is mental. Bhugra highlights the modern-day plight of high streets "in many cities around the world" (2019, p. 5). In how they are diminished by change in functions, by the changing patterns of relationships between parts; and that their loss affects individual self-esteem because what was previously recognisable no longer exists (Bhugra et al., 2019, p. 5).

In concluding this section, it is entirely appropriate to point to McFarlane's own introduction and conclusion from his book 'Learning the City' in which he subscribes to the notion of learning as "shifts in ways of seeing" (2011, p. 16). His call is for us all to "attend to where critical urban knowledge comes from and how it is learnt" (2011, p. 2). His focus is on "translocal learning: learning that is place-focused but not restricted to that place" (2011, p. 2). This is a unique perspective on the urban and one that has gained a foothold in this study.

That "urban learning is not simply spatially bounded in local places, but is also relationally produced" (McFarlane, 2011, p. 2) speaks to a number of concepts captured by visual sustainability, not least of which is the idea that learning is an act of doing which is an act of being. The meaning we seek is an inside-out process of discovery and we are the link between inner and outer space.

McFarlane leaves the question of "how to research the translocal in urban learning assemblages" (McFarlane, 2011, p. 183) unanswered. One aspect of this study is to show how

this may be possible by way of the concept of visual sustainability. That subscribes to the idea of "how learning is lived" (McFarlane, 2011, p. 21), how we live through learning, and how before anything else we must be visually oriented and sustained in order to do both. This paper subscribes to Gibson's theory of direct perception (Gibson, 1950, 1974, 1975, 2015) to underpin the idea of visual markers. The concept of how we come to know by looking at relationships, for example between visual markers, introduces the next theme, which is a short section introducing relational meaning, context mapping, and the importance of urban spatial diversity.

Sustainability, suburbs, and use
This section looks at the relationship between sustainability (that contextualises the landscape, physically and mentally), suburbs (as a physical context for the high street), and uses (that places people in context).

A high street is a visually sustained marker of a town, village or suburb. Just as our attention is drawn to the "epistemological fragility of the term 'suburb'" (Laura Vaughan, Sam Griffiths and Muki Haklay. 'The Suburb and the City' In: Vaughan, 2015, p. 11), so too it can be argued, is the term 'sustainability'. Both these terms are inseparable contextually from our high street. The suburb provides context, while a high street's success lies in its sustainability. It is commonly accepted the world over that sustainability in a normative sense describe various ambiguous and wide-ranging natural and urban phenomenon and conditions of liveability. The ambiguity persists as it does in 'suburbs' because "it is far from clear as to what this term actually means or indeed, whether it can be thought to possess meaning at all" (Laura Vaughan, Sam Griffiths and Muki Haklay. 'The Suburb and the City' In: Vaughan, 2015, p. 11).

For both, the "festival of neologism is indicative of an underlying theoretical weakness that inhabits comparative research" (Laura Vaughan, Sam Griffiths and Muki Haklay. 'The Suburb and the City' In: Vaughan, 2015, p. 29). Modern-day sustainability has arguably, through its over-reliance on technology, begun to show signs of the formlessness of one-dimensional thinking generally attributed to the concept of suburbs (Harris and Larkham, 1999, 8, cited in Laura Vaughan, Sam Griffiths and Muki Haklay. 'The Suburb and the City' In: Vaughan, 2015, p. 19). And, just like the suburb, the formlessness of the word has produced countless false-starts in both theory and in practice.

A third term used often is mixed use. Some subscribe to the idea of mixed-use as

> being high streets, on main traffic routes running through residential areas outside the main town or city centre, with a mixture of shopping, business and public service uses, and residential dwellings either on higher floors, intermingled with other uses, or close by (Jones et al., 2007, pp. 13, 15).

Whether a high street is or is not part of a main town is arguable but a high street's regulatory usefulness can be broken down much like sustainability is, into four parts: environmental sustainability, economic sustainability, social sustainability, and liveability or vitality (Jones et al., 2007, pp. xi, 7). For others the emphasis can be extended to embrace a concept of spatial diversity (Vaughan, 2015). Spatial diversity can in this context be seen to act as the container for mixed-use functions.

What is obvious beyond the immediate ambiguity of these three concepts (sustainability, suburb, and use) is that a high street is a construct that contains all three; and the activation of all three produces environmental, economic, and socially liveable spaces. Space then that has been positively territorialized.

Territorialization

Traditionally we have intuitively understood territorialization in high streets through the intensity of its visual cues. These provided the meaning we relied on to orient and navigate our way around using one of the strengths of heuristics, our common sense. This has required our participation as well as engagement; not only of attentiveness, but in consuming and enabling visual stimulation to help us heuristically think for ourselves.

Visual cues are vital for sustainable practices because they facilitate a collective assemblage of two-way conversations; in which we are immersed in iterative processes of thoughtful action. Today however streets are cluttered with the wrong kind of information. Streets are now one-way conversations with instruction after instruction meted out on how to live our lives. Visual urban junk masquerading as visual meaning. Street widths today represent urban canyons that produce enclaves of urban segregation, choking the social of richness of meaning.

Some high streets too have become urban monologues. Located in one-dimensional suburbs that 'feel like' they exist outside of the reality of our 'city walls'. Where it can be argued, there is very little conversation because there is little to nothing to say visually. High streets in inner city 'suburbs' or 'edge city suburbs' are different especially in the UK, as are many high streets constructed from traditional English towns and villages. This does not however hold true for low density themed residential developments favoured by volume builders. These environments often struggle to support local high streets simply because there are not enough households to support them economically. By local in the context of these developments is meant the car-dependent retail parks that are spun off the entanglement of highways from which these residential enclaves have been spawned.

The limits of the definition of a high street by English standards is perhaps best described in Vaughan et al.'s research, which employs space syntax theory to differentiate the meaning even further. Such that "the specificity of suburban space and the complexity of its historical development need to be the starting point in understanding the nature of the suburb" (Laura Vaughan, Sam Griffiths and Muki Haklay. 'The Suburb and the City' In: Vaughan, 2015, p. 12). The question remains by analogy: does a divide between city and nature still exist? And if so, where does this imaginary 'city wall' now lie? And how can we recognise this 'urban wall'? Have the suburbs and their high streets not in fact become the new wall?

Virtual or digital progress provides a new dimension contextually and promises several improvements in the way which we interact with open space. One lies in the hope perhaps that the ROWs defined by hard infrastructural 'requirements' that span each side of our streets and highways, may one day become redundant. This will help close the gap physically as well as socially.

The purpose of this study is not to investigate the suburb per se, only to locate it in the context of the high street. While suburbs exists as "a distinctively dynamic domain that shapes and is shaped by society over time" (Laura Vaughan, Sam Griffiths and Muki Haklay. 'The Suburb and the City' In: Vaughan, 2015, p. 13) the point is that it is the high street that holds the suburb together; that gives a social dimension, shape and colour. The high street then is the face of a suburb; the gateway of visual recognition, meaning and territoriality. It exists to counter the growing sense in modern-day urban discourse of alienation in the built environment (Bhugra et al., 2019; Sussman & Chen, 2017; Salingaros, 1999).

Alienation

Mirror neurons have proved how "our minds connect to our surroundings" (Ellard, 2015, p. 20; Ramachandran & Hirstein, 1999; UCSD Ramachandran, 2012) and are relevant to our urban in several ways (Jan Golembiewski, 'Neurosciences of mental illness in the city' In: Bhugra et al.,

2019, p. 110). As a concept used in conjunction with assemblage theory and emergence theory it follows that we can and do connect to our high streets; not as a fragmentation of parts but in the first instance, as a single entity in our minds. In the singularity of our experience. We point to the high street and the high street points to us. We move our bodies through gradations from private to public. In the private domain we are not socially oriented. But as we transition into the public domain our bodies become triggered by use and scale evident in our shared built environment. Analogous to the phantom limb (UCSD Ramachandran, 2012, 00:07:00), in storytelling (Preskey, 2019) we feel the presence of our high streets because it is a visual fixture in our mind; reinforced and reified through haptic experience.

A healthy high street points us to a richness of visual meaning. Because in a high street we can orient ourselves and aim for what we want within the context of overwhelming overlapping and competing amounts of information; a phenomenon well described by psychoanalysts like Peterson. This sense of transformation in an environment such as a high street is confirmed by Ramachandran; in how everything we do biologically changes our brains. In using the high street, we therefore experience through biological changes in our brain, a different richness of meaning compared with use of other spaces, for example, a normal suburban street.

Richness of meaning also includes economic sustainability, and they key point here is that richness of visual meaning helps us remain sane, improves our ability to cooperate, defines sets of values with which to exist, to be productive, and to harness the full potential for our lives from these concentrations of activity. Visual health drives mental health, which drives social health, which drives economic health, which produces stability. But we tend to think the other way around: that economic health drives everything else.

Loss and mirror neurons
Urban configuration and reconfiguration has occurred as people have migrated to the edges of cities in a urban phenomenon cited by Bhugra et al. referencing Koolhaas's ideas around "spontaneous fragmentation" (2019, p. 4). The important point raised by Bhugra et al. is in how "from the perspective of the study of mental health, such fragmentation *also leads to fragmentation in whatever networks the individuals (or city dwellers) have*" (2019, p. 5, emphasis added). This then can be said to be true of our high streets. Although high streets serve to limit the fragmentation that shape our built environment, through their own deterioration they can also lead to a fragmentation of needs in surrounding neighbourhoods. This fragmentation of networks or of needs speaks not only to the previous theme of territorialization, but also to the whole notion of visible and invisible interactions and Lefebvre's concept of invisible needs (Lefebvre & Nicholson-Smith, 2011, p. 394).

In thinking about fragmentation we are also reminded of the failure "to explain the profound impact of the environment on neural development or why people react so differently to concrete and real jungles… [and] how the urban environment may be causal for psychotic mental illnesses" (Jan Golembiewski, 'Neurosciences of mental illness in the city' In: Bhugra et al., 2019, p. 110). One simple difference between concrete and real jungles can be found in the fractal-like content (Salingaros, 1999; Salingaros & Coward, 2005; Salingaros & Mehaffy, 2006), which in turn activates numerous other beneficial physical and mental restorative conditions through, for example, qualities of enclosure found in the gradations of light and shade.

There exists an "affordance/behaviour pathway… a chair says 'sit', a path tells us to walk, and so on" (Jan Golembiewski, 'Neurosciences of mental illness in the city' In: Bhugra et al., 2019, p. 110) and in the same way a high street tells us to 'shop', or 'meet'. It not only exists as a meta-affordance but shapes us through its "behaviour settings'. Our behaviour undergoes a mosaic of change as we draw closer to our high street, enter through its symbolic

gateway (wherever that is for each individual), walk along its pathways, or inside one of its shops.

That we belong to our high street and it to us, unlocks the analogy of the phenomenon of a phantom limb (UCSD Ramachandran, 2012, 00:07:00). When we lose something in life, two conditions can be said to become more apparent to us. Firstly, we mourn for a loss that we often never paid attention to or appreciated. And secondly, we mourn for the loss of utility or the value through use. When a high street that 'belongs to us' dies or is close to death, these two conditions it can be argued become real to us, as Preskey's storytelling reveals (2019).

In mourning we become aware of all the condition states of the missing urban armature. In the qualitative phase changes that we once absorbed intuitively; the tacit knowledge that we used to take for granted; and our awareness of a myriad of other affordances that no longer exist. We thus experience differently how our minds connect to their surroundings. Surroundings that are often physically the same, only now hollowed out and robbed of invisible interactions we depended on and that used to 'belong to us.'

Inner-city areas have of course not escaped the hollowing out effect through direct or indirect intervention, and this has led to severe conditions of alienation in high streets. This has been evidenced by extended periods of mourning by dispersed ex-residents. In post-war England many inner-city suburbs were cleared out for high-rise council flats, and the reputational damage inflicted on the concept of 'suburb' has been well documented by ex-residents. But the true nature of the emotional toll cannot be documented and remains hidden. The alienation experienced by dispersed communities defined these new suburbs more than anything else, and to some extent continue to do so. The 'Deptford experience' for example is a good case in point (35% Campaign, 2012, 2013; Larry And Janet Move Out, 2016; LSBUACCOUNT, 2013; Sheena, 2010). This along with urban sprawl from themed and car-oriented residential developments proved to cement the unpopularity of these urban crimes.

Many high streets have proved themselves resilient, robust spaces however and continue to hold their ground (Jones et al., 2007; Vaughan, 2015) despite a more recent influx generally of betting shops and other less sustainable uses. Others have deteriorated in the face of a mundane mix of uses (Simpson, 2019) which ultimately affects the quality and sustainability of the high street.

While it may be seen as "a kind of extended mind" (Jan Golembiewski, 'Neurosciences of mental illness in the city' In: Bhugra et al., 2019, p. 110) the significance to our urban then, of mirror neurons explained by Ramachandran (2012, 00:12:30), is that the pain from a loss of a high street endures. There is a real sense of loss similar in depth to mourning. The alienation we feel when a high street we know has changed beyond recognition is replicated when we find ourselves elsewhere, in another healthy high street. The important point here is that alienating effects travel. That is why alienation is such a devastating urban phenomenon. The importance then for our urban is in regulating or minimising these effects by cultivating conditions of visual sustainability.

The positive aspect of mirror neurons for our urban lies in their capacity for healing. The urban condition of co-presence illuminated by space syntax theory enables recovery through "emulation and imitation" as described by Ramachandran (UCSD Ramachandran, 2012, 00:17:00). When enriched and combined with fast and frugal heuristics (as championed by Gigerenzer) we create conditions for opportunity. Opportunity exists in the future. It represents "the idea of potential" (McFarlane, 2011, p. 183). And potential is the primary reason for the existence of any form of sustainability.

While there is generally a pervasive negativity in some of the urban discourse today around the dire conditions of our high streets and associated suburban context, Vaughan et al. paint a rosier picture, of "dynamic, persistent and familiar" (Laura Vaughan, Sam Griffiths and Muki Haklay. 'The Suburb and the City' In: Vaughan, 2015, p. 31) suburbs containing high

streets. It can however be argued that their study is narrowly focused on London; in conditions which from part of a much larger network and related support structures. And inner-city London especially is very different to what can be regarded as the normative condition found around many other parts of the country and the world. Where suburbs are subjected to "low-density car-based development and strict zoning" (Sam Griffiths, 'The High Street as Morphological Event' In: Vaughan, 2015, p. 33) that propagate much of the rest of our urban. The key thing to remember here is that these studies are biased in the sense of the wider network(s) that support or underpin these nodes. That the underlying strength of centralities that were once a collection of villages, must be borne in mind. A rosier picture is also painted by Litman about the effects resulting from how

> urban living can affect mental health and happiness, [and] whether these are associations or inherently caused by urban conditions… [concluding that] the association between cities and mental illness does not really mean that cities cause these problems. In fact, many people are saner and happier living in cities than they would be in smaller communities that offer less opportunity and support. (Todd Litman, 'Urban mental health strategies', in: Bhugra et al., 2019, pp. 303–318)

While it is important that this study not dwell on the negative aspects associated with high streets or evaluate elements out of context, it is equally important not to shy away from the negative. Negativity is after all somewhat of an enabler, a form of "inhibiting" (Jan Golembiewski, 'Neurosciences of mental illness in the city' In: Bhugra et al., 2019, p. 115) that stop us from doing stupid things.

> One of the current hypotheses for the deleterious effect of city life is the Ecological Hypothesis for Schizophrenia, which details a vicious circle around an inability to cope in the face of demands that the designed environment places of a person's neural attentional system. (Jan Golembiewski, 'Neurosciences of mental illness in the city' In: Bhugra et al., 2019, p. 109)

Causation is very difficult to prove beyond a shadow of doubt especially in relation to the myriad of intersecting complex abstractions that make up our urban. Association by contrast is a much simpler concept to prove. However, the causation or association of alienation in our urban is less important for this study than the fact that it exists.

> The influence of affect – that is the positive or negative feelings about circumstances (be they architectural or social) – cannot be underplayed in this dynamic because feelings change the nature of reactions in a way that really separate those with mental disorders and those who do not (Jan Golembiewski, 'Neurosciences of mental illness in the city' In: Bhugra et al., 2019, pp. 115–116).

Another point worth making finally is that alienation over an extended period especially in relation to the built environment may trigger an avalanche of mental disorders, that may not have materialised otherwise. It may boil down to something as simple as being overwhelmed by the pervasiveness of an architecture of brutal insensitivity. For example, research has proved how: "Participants were significantly more likely to behave aggressively when they are surrounded by art with sharp angled shapes" (Ellard, 2015, p. 135). Alienation therefore can be said to be the first domino that sets a chain of events off and therein lies the potential of its devastating effect on our urban.

> The absence is real. As continuously connected surfaces making up "80% of the unbuilt area" in our urban (UN-Habitat & Clos, 2013), streets are self-regulating urban devices for funnelling vehicles. But high streets provide hope, as artefacts that articulate temporal moments of meaning along this predominantly hostile network. In the following discussion this paper

will explore how we might go about reclaiming high streets space, lost or displaced by an inhospitable agglomeration of surrounding autopoietic devices.

Discussion

Methodology for a methodology

To reclaim space and reinforce the concept of our high streets as visual creases or access points into the social, we need to understand them. We can of course achieve this through data collection but the point about data collection is not the data itself; it is in understanding why it is being collected. The significance of a concept such as a visual crease lies not in what we already know about the built environment, but about new perspectives. A new way of seeing something may lead to a new way of doing something. The investment of resources into this theoretical study is precisely to look for and engage with new ways of thinking about the same things. One key consideration therefore is to collect data for everyday assemblages and not necessarily of exemplary architecture or urban design. In order to manage the philosophy, a methodology for a case study, for example, of Trafalgar Road in the Royal Borough of Greenwich, UK is useful as a strategy to explore the notion of a high street as a marker of our social landscape. Trafalgar Road (Figure 3) has historically struggled economically as a main street but is unofficially recognised by most local residents as East Greenwich's high street (which is also reinforced by results from an online survey). This street has been chosen because it represents a typical main street. It can also be considered together with another case study related to visual data (De Kock, 2019a) which looks at assemblage creation from an individual observer's point of view in the built environment. Because

> in all its simplicity [assemblage creation] also holds interesting possibilities at particularly community and neighbourhood levels; by building on connectivity. This can be achieved because meaning can be recorded, tracked and incentivised to produce self-census data and documented networks of meaning; responsive then to the individuals in the community. The promise is for profiles of depressed areas to be raised, and regeneration projects better aligned with residents' interests (De Kock, 2019a).

This kind of methodology can be beneficial to understanding more about the significance of social drivers and social identity of high streets; based on urban visual creases (Figure 4).
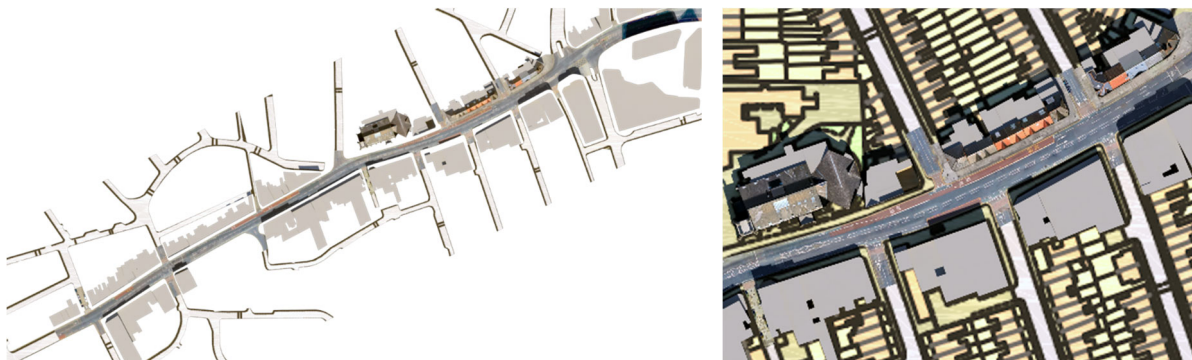
Disfigured street network.   Sub-urban pattern analysis

Figure 2. Understanding the nature of sub-urban patterns (Images © Author, 2019).
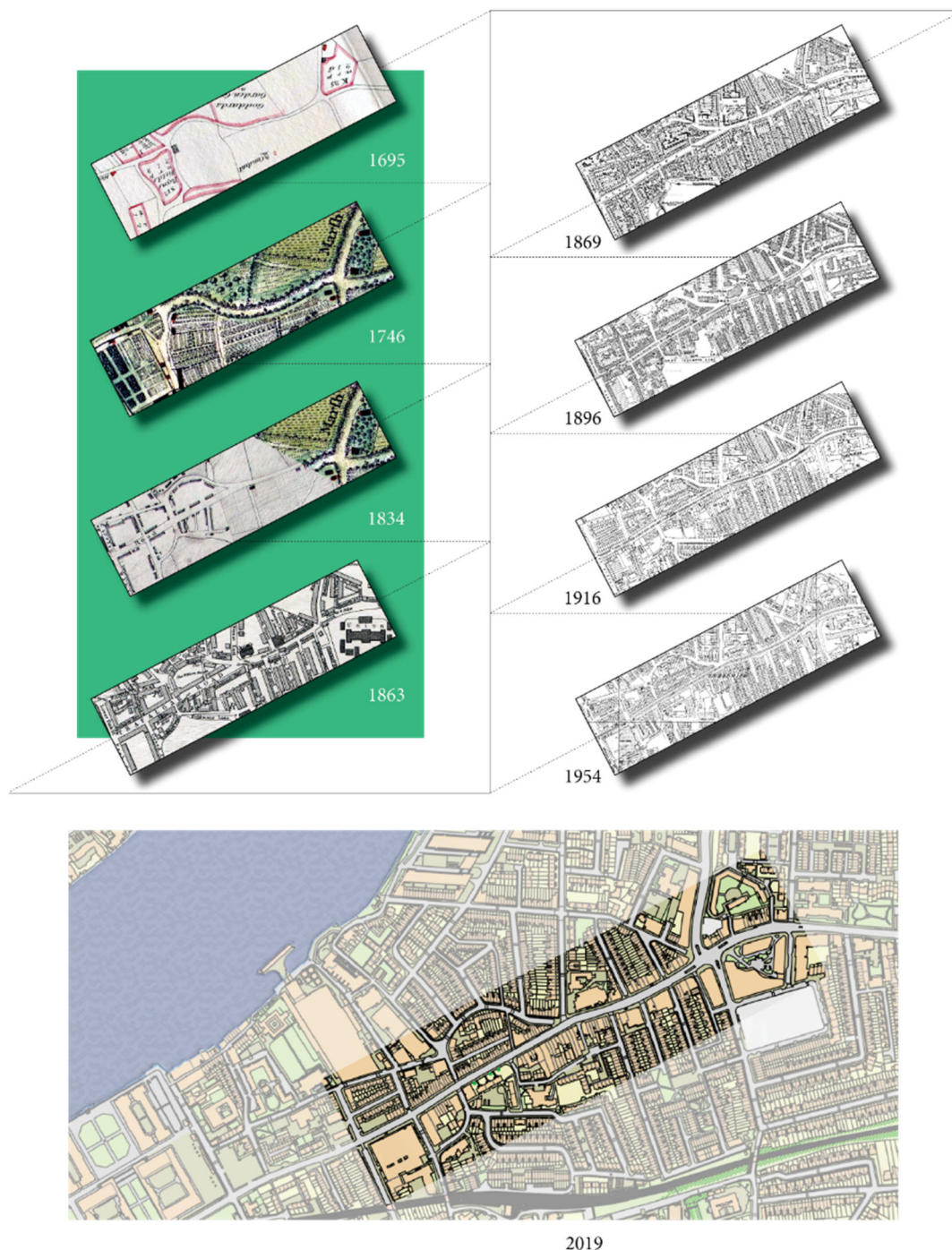
Figure 3. Trafalgar Road, London: a struggling main street. The fastest or most direct route is not always the best. The high street as visual marker in the landscape. Time and space both claim territory. Speed too, is a claim for territory. (Image © Author, 2019. Based on Images LHS: 1695 to 1863 © 2014 – 2019 Graham Dolan http://www.royalobservatorygreenwich.org/articles.php?article=1271. Images RHS: © Crown Copyright and Landmark Information Group Limited 2019).

By examining whether a relationship exists between social integrity and a device such as a main street, this paper has considered aspects not only of direct perception of urban elements but also of an urban that is internal to us; that resides within us. Wherever we go the inner urban co-locates. What is meant by an inner urban? Simply, it is the dialogue that we have with ourselves; that exists between inner and outer space. Our high street is like a wallet, handbag, or iPad. We carry it around with us, in our mind. It is an abstract construct that presents itself to us through its parts as a physical object in our virtual world, instantly recognisable in

our mind without the need to describe. It may seem odd to refer to a physical construct in a virtual world, but it appears to us as a physical thing. "The complexity and organisation of architectural information is crucial to our state of mind" (Salingaros & Coward, 2005, p. 44); information that when properly constructed, it can be argued, helps counteract the threat posed by "amorphous and expanding spaces of modern networks" (Bhugra et al., 2019, p. 3).

Figure 4. Visual creases as social territories- high streets as visual markers in the landscape: a conceptual analysis. (Image © Author, 2019. Based on: Contains OS data © Crown copyright and database right 2019).

We heuristically navigate around space but we do so not as a servant of

logic or probability, but rather to examine how it fares in real-world environments. The function of heuristics is not to be coherent. Rather, their function is to make reasonable, adaptive inferences about the real social and physical world given limited time and knowledge (Gigerenzer & Todd, 1999, p. 22).

We navigate heuristically in and out of networks of meaning. Bhugra et al. refer to four networks of urban significance: the "physical architectural network of the city… the physical-emotional network of the people… the physical-emotional space… [and the] cognitive network between individuals [oriented around] self-esteem" (Bhugra et al., 2019, p. 4). In the argument put forward thus far we have to some degree covered each one of these urban networks.

Figure 5. Understanding sub-urban patterns and orienting. Buildings as visual markers in the main street (Images © Author, 2019).

Except of course these networks are as virtual as our virtual world. We cannot touch the construct of a high street; but we do know it. And it knows us. A high street reinforces us through heuristics of experience; through its diversity of uses. Our mind knows what we are looking at, without hesitation. In a physical sense we "can extract the gist of a scene… in an incredibly short time… about 20 milliseconds" (Ellard, 2015, p. 41). We know it knows us because we are greeted at its edges, in its corners, along its rooftops, in its windows.

We know it's uses: the bakery, a pair of longs, a cup of tea, places to get drunk and where to eat. They all greet us wherever we are. And when we are near, we greet them. And even in its presence, where our eyes trace its physicality, along its fractal edges where memory lives and past and future merges effortlessly, we still feel it's 'virtual-physicality'. Because as Polanyi and De Landa would have it, its wholeness has transcended it parts.

Power law behaviour in complexity theory reveals how there are many more smaller bits of information than larger. This is true for buildings we admire, as well as for our social. In our social there are many more small interactions in life than big ones. High streets should consist of many more smaller things than big things. A healthy high street it can be argued is a microcosm of social transactions. An intangible quality to being served in a local shoe shop, or tearoom may be remembered well after memory of a larger event or social exchange in the town square. Not to mention that it would not be possible to replicate in an online shopping experience. And that this study argues, is what the custodians of our high streets need to pay attention to.

The high street never leaves us. How could it. It has formed us, and in our presence, we have formed it. The affordance of objects and ideas that are the jumble of objects in our wallet, handbag or iPad, with which we transact meaning, are like the lanes and streets that feed into our high street; that support and connect nodes of transparency as well as obstruction.

Wholeness, that construct that we hardly ever reach for, but which explains without explaining, is visual sustainability. We carry it around with us. It is the reason we are able to physically move. It is the anchor in our lives that separate us from each other and from the void of insanity. So clearly, if we want to understand our high streets, we need to understand wholeness, of how we have come to know our high street. And because knowing is "something that the organism does rather than knowledge as something the organism has" (Michaels & Carello, 1981, p. 62) the high street exists because we do.

The high street is an 'urban crease', a configuration, an ordering device, a reward system, an acquaintance. It can exist as an urban armature or even simply as a product of nature such as a unique row of trees. Or stretch along the banks of a stream. Often a friend, sometimes a foe, but always a thing or event.

Kelley in his perception of causality (2013) may describe a high street as that unseen event that lies in the interaction between objects, or in the birth or death of an 'event'. Or its activity may be described as "the "launching effect"… [in] Albert Michotte's study… [where it is] impossible to describe what… had [been] seen without invoking the idea of causality" (Ellard, 2015, p. 58). The point made of rapidly getting the gist of a scene relates to this idea of being ordered by a device such as a high street, before we go on to being transformed as a willing participant exploring its parts.

The methodological analysis is all about the need to orient ourselves properly. "Urbanism demands learning" (McFarlane, 2011, p. 181) and because our urban is the visual manifestation of territorialization, that learning is shaped by perception. The "study of perception is the study of an animal knowing its environment, [and] the unit of analysis must, by the nature of the theory, be an animal-environment system" (Michaels & Carello, 1981, p. 17). The 'system' in this study has been the high street. A high street is an example of how man "and environment join together to form systems" (Michaels & Carello, 1981, p. 42) in a process of territorialization. And in the broader context the system of the high street exists as a visual crease because it has the ability to change local conditions.

We normally look to visual richness for meaning through the surrounding "richness and diversity of activity" (Jones et al., 2007, p. 1). But the

> diversity and mix of existing buildings and uses on the high street are often belied by their appearance, and therefore not adequately valued… [because] high streets are much more than parades of shops [but also] places of work, culture and community, and every kind of activity that sustains a city (Fiona Scott, 'Case Study 1 High Street Productivity' In: Vaughan, 2015, pp. 205, 208).

High streets are thus visual markers of our social because the meaning in visual richness transcends all else. The meaning *is* the activity. Through use and in how we are oriented.

That we are first and foremost oriented through the affordance of our visual world. This is true whether we are mentally visually aware (through a mapped landscape) or physically (directly tuned in to our surrounding visual markers).

And because urbanism demands learning, a summary of the learning from this study follows (Table 3).

CONDITION	FINDINGS
Visual creases	Are ordering devices that defines social territories; possessing several mutually inclusive meanings: ▪ A form of orienting. ▪ Act as change agents. ▪ Act as access points into the social. ▪ Produce a heightened sense of awareness. ▪ Two examples of visual creases are high streets (physical); and the condition state that exists between inner and outer space (mental).
Visual significance	Main streets are *markers of social significance* and exist as visual creases in the landscape. Spatial diversity is an outcome. ▪ By contrast, buildings are *markers of space* in the high street. Social meaning or significance is an outcome.
The landscape	Exists as a container for visual meaning, of both things (objects) and events. ▪ Is an abstraction. ▪ A mental map. ▪ The construct that allows people to orient. ▪ Possesses physical and mental properties.
Social territory	The space occupied by people's minds. ▪ Between visual creases (high streets). ▪ Can change (deterritorialize and reterritorialize space). ▪ Can relocate. ▪ Temporal qualities.
Sub-urban patterns	Regulates and tempers meaning within a high street. ▪ Are sub-objects. ▪ Support events. ▪ Assemblage qualities
Inner-outer space	Reconciling outer space with inner space produces sustainable meaning. ▪ Mediates both physical and social meaning. ▪ Regulates intuition which modulates our understanding of the built environment. ▪ Enables seeing with interiority.
Territorialization	The act of producing identity and meaning. ▪ High streets are urban devices that territorialize space.
Visual meaning/ visual richness/ durability over time	Three interrelated and interdependent concepts that produce visual sustainability.
OVERALL FINDINGS	Philosophy is more important than data. The concept of visual creases as visual markers of social territories is an important consideration around future research into functioning aspects of high streets/ main streets, including but not limited to: ▪ viability ▪ durability, and ▪ maintenance.

Table 3. Study findings: a working hypothesis

Conclusion

This paper has looked at what may be described as 'new ways of seeing old ways of doing'. It does not claim to have found new meaning as much as to have settled on promoting a heightened sense of awareness. It has arguably achieved new perspectives on the condition states that exist in high streets, and the effect this has on the surrounding social landscape. It does not claim a new theory or claim to disprove any existing theories.

We have looked at overlapping themes, from high streets as visual markers of the landscape; context mapping through spatial diversity; how we consume space; to social aspects of territorialization and deterritorialization or alienation. Our senses deserve so much more than a vehicular or technological response to urban mobility. And by urban mobility is meant the way in which our senses travel.

The findings are central to future research into visual sustainability, not only for the conceptual hierarchy that has been suggested (Table 3) but also because visual creasing appears to exist as a horizontally oriented phenomenon. It is not dependent on hierarchical processes for success but is established through social affordance in a manner perhaps graphically (Figure 4) more like connectivity and centrality found in, for example, space syntax theory.

It can be argued that a sense of heightened awareness reaches out into the landscape. It does not reach up or down for its meaning. Reaching up or down implies contesting or searching for new meaning. On the other hand, heightened awareness, as a reward system for discovery, may best be described as meaning along a spectrum of validation.

One recommendation for future research is that we should be encouraged to look more deeply into the effect of this urban armature, in the form it takes as a system territorialized by human perception. Another exciting prospect for future research is to use decision tree theory (Gigerenzer & Todd, 1999) to explore how it is that we heuristically aim for what we want in our high streets.

Territorialization produces high streets, which are shaped by human decision-making processes. These decisions are based on visual meaning. And visual meaning points to "the idea of potential" (McFarlane, 2011, p. 183). Potential, in turn, implies a future and a future implies and requires visual sustainability. The concept of visual creases as visual markers of social territories is an important consideration around future research into functioning aspects of high streets, including but not limited to viability, durability, and maintenance.

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