From Lonely Cities to Prosocial Places: How Evidence-Informed Urban Design Can Reduce the Experience of Loneliness

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"As a remedy to life in society I would suggest the big city. Nowadays, it is the only desert within our means."

Albert Camus

Loneliness in Context

Defined, a little coldly, by Peplau and Perlman (1982) as the *discrepancy between desired and achieved levels of social relations,* feeling disconnected from other people is a fundamental aspect of loneliness. This unwelcome feeling is as much about the experienced quality of social contact as about the amount of social contact with these factors appearing to matter more-or-less at different stages of adulthood (Victor and Yang; 2012). It extends across subjective time from retrospection to prospection meaning that chronic loneliness is bound up with languishing (the state of low wellbeing) and depression (Cacioppo et al. 2006). Not surprisingly, loneliness predicts worse symptom response in those already depressed and/or anxious (van Beljouw et al. 2010). Like low mood, chronic loneliness is far from unusual with Victor et al. (2005) reporting that 5-7% of the adult population will experience it at some stage, and a recent UK survey reporting that 28% of respondents wished for more friends ([i]Whitton 2015).

The report of loneliness is associated with living alone, on the increase in Western cities (Fleming, 2007), and living in private rented or social housing (Lauder and Sharkey, 2004; Routasalo et al. 2006). Amongst many robust correlates with 'health', the association of chronic loneliness with cognitive decline and later, dementia (Tilvis et al. 2004; Wilson et al. 2007) testifies to the gravity of loneliness as a public health concern. With Victor and Yang

(2012) reporting that 6% of their UK sample of 2,393 adults recounted feeling lonely all the time and a further 21% reporting that they were sometimes lonely, the importance of interventions that can address loneliness within communities at scale is clear. The association of loneliness with certain living circumstances puts the design of cities and the living environment central within a set of 'interventions' aimed at combatting this distressing existential experience.

Lonely Cities

Since 2008, more than half of the world's population has been living in cities, and according to the UN population fund, by 2030 a predicted 5 billion of us will live in built-up areas. On the face of it, rural lifestyles appear lonelier, suggesting that the dominance of city living may be good for loneliness. For example, Savikko et al.'s (2005) large scale postal survey of older Finnish people showed that the experience of loneliness was associated more with living in rural compared to urban areas. However, unwanted isolation seems to be strongly associated with urban living. The data collected within the UK's North West Mental Wellbeing survey of 2009 (repeated in 2012; Deacon et al., 2009) is testament to this. Compared to the other areas of the North-West coast of England, people living in the city of Liverpool reported lower sense of belonging; participating in fewer organisations and activities; feeling less able to ask others for help when they needed it; and feeling more isolated. Liverpool is not unusual. In an urban vs rural neighbourhood comparison from the latest U.K. Office for National Statistics Understanding Society Survey (2011-12) we see that people in rural communities tend to trust people in their neighbourhood more; express more willingness to help others in their neighbourhood; and feel a stronger sense of belonging to their neighbourhoods.

It is undeniably true that living in cities can be an isolating experience for some and that this experience is, in part, determined by individual differences in mental health and wellbeing, by neighbourhood design and by socio-economic influences. A recent report from the community wellbeing evidence programme of the UK What Works Centre for Wellbeing (2017) (https://whatworkswellbeing.files.wordpress.com/2017/03/measuring-wellbeing-inequalities-in-britain-march2017.pdf) illustrates the starkness of wellbeing inequalities in some of our towns and cities, demonstrating how loneliness and social isolation strike some more than others

Scharf and Gierveld's (2008) Anglo-Dutch comparison demonstrates stark national differences in the experience of severe loneliness in older people, quoting 13% of the UK compared to just 4% of the Dutch sample experiencing significant loneliness. The same research also reports that in both countries the "evaluated quality" of the residential neighbourhood accounted for a large proportion of variation in self-reported loneliness. The place-based factors thought to influence the experience of loneliness included the increasing focus in 'towns' on satisfying the needs and desires of a younger, economically active demographic as well as the loss of 'gathering places' or 'bumping spaces' that enable informal interactions.

The importance of place design was highlighted recently by cross-sector stakeholders involved in the collaborative development phase of the community evidence programme, part of the UK's What Work's Centre for Wellbeing[1], with a systematic review exploring what works to boost social relations amongst the forthcoming outputs of this programme. The importance of empathic design is emphasised in Wen and Wang's (2009) study of rural to urban migrants in Shanghai where experienced discrimination was a large factor related to loneliness. This led to recommendations for the design of bespoke community neighbourhoods where former neighbours and family members migrating to the city can live together, retaining established connections.

The Complexity of Loneliness in the Urban Context

Dykstra (2009) uses the distinction between emotional and social loneliness in an attempt to unpack the complex nature of loneliness and its association with other psychological responses to company, community and society. Emotional loneliness encompasses feelings of desolation and insecurity that result from missing or losing an intimate attachment and so having no-one to turn to. In seeming contrast, social loneliness is characterised by the perceived lack of a circle of friends and acquaintances who can provide a sense of belonging, companionship and community. When thinking about the role that urban design or place-making has in addressing loneliness the obvious conclusion would be that the focus should be on social loneliness. While this seems un-contestable, some qualitative data we have gathered suggests that it may be premature to draw such a narrow conclusion. This data demonstrates that an ambivalent attachment to place, a reaction most closely aligned to emotional loneliness, can itself determine one's sense of belonging – a characteristic of social

loneliness. The following section of transcript provided by one of our participants in a place-making workshop, part of our Prosocial Place research programme, illustrates the point:

> '... I feel _ashamed_ being associated with part of that area ……. people would come and say 'oh my god look, looks rough round here'. _But the people are lovely_. I'm not _ashamed_ to be associated… I'm _ashamed_ of people that have got no _shame_ in themselves and they just throw litter. Maybe I've used the wrong word saying I feel _ashamed_ because I'm not _ashamed_ of coming from where I've come from because I've come from there all me life, and _it's better_ for me because _I'm not a posh nob_ or I don't try and be what I'm not.'

This ambivalent attachment to neighbourhood, stressing simultaneous paradoxical pride and shame, may be particularly related to deprived neighbourhoods per Stafford et al. (2007). Accounts grounded in 'lived experience' serve well to remind us that our rush to dissect complex psychological concepts into dimensions often serves only to over-simplify for the purposes of an organised and seemingly meaningful analysis.

The complexity of the construct of loneliness and its relation to place is brought out further in a study of Australian adolescents where Chipuer and Pretty (2007) found urban rural differences in the social vs emotional elements of loneliness. While the participants in this study reported greater social than emotional loneliness overall, young men from rural areas and young women from urban areas reported the greatest levels of social loneliness compared to emotional loneliness with no differences in levels of these different typologies found for rural females and urban males. Putting to one side the question of whether this specific finding would be replicated, it reminds us of the complexity of the experience and that we are dealing with 'intersectionality' whereby what may work to address loneliness for some in some contexts may not be effective for others in the same or different contexts. Clearly, a 'one size fits all' formula will not work when it comes to thinking about how place design and policy can address loneliness. Indeed, in the light of reports showing that features of neighbourhoods have little to do with the experience of loneliness (e.g. Moorer and Suurmeijer, 2001), it would be unwise to argue that design of place and space can vanquish loneliness.

Just like traditional quantitative psychologists, built environment professionals, following industry processes, prefer to impose order and regulation onto complex, disorderly, systems. They often endorse formulaic place-making tools and spatial plans as if these were place-

making strategies, seemingly not accepting the strongly organic element of growth that characterises the thriving unique places that do help us to feel good and function well. Risk aversion, fear of complexity and uncertainty can make the development and implementation of strategy hard to establish and sustain. However, risk, complexity and uncertainty are precisely the features of human existence that makes strategic, flexible planning so necessary.

So what should a place-making strategy aimed at reducing loneliness look like? Below we explore the impediments and opportunities to this in design practice before suggesting three related strands that can inform the design, development and stewardship of our future places. These strands focus on understanding the human experience of loneliness in the context of human habitat and Western political economy.

The Impediments to Places for Flourishing.

The design of cities has been discussed since the beginning of civilisations and defining urban design remains problematic. While this may stem from a deficiency in the scientific basis of its practice and theory (Marshall, S. 2012), it reflects the vigorous interest in cities from diverse disciplines collectively referred to as the 'built environment industry'. In the absence of a shared understanding, a dominant architectural narrative has emerged, emphasising an understanding of cities as buildings, with only vague reference to the spaces they define, the activities within them and the human movement patterns and purposes that link them. People are often referred to as 'users' of the space, their 'lives' in the city seldom addressed. Nature and the underlying landscape are sometimes mentioned, but often forgotten, in accounts that focus on the 'site' and the 'development'.

The foundation of city building theory stems from Aristotle's 'teleological' understanding of nature. His belief that the "form" of all things is relatively fixed came to underpin Medieval Christian learning and so to dominate our culture. In 1414, the work of Roman architect Vitruvius (born c. 80–70 BC; see Morgan, 1914) was 'rediscovered' and is known today as 'The Ten Books on Architecture'. According to Vitruvius, architecture is an imitation of nature and a key tenet of his work is that structures must exhibit the three qualities of "firmitas, utilitas, venustas" –being 'solid', 'useful' and 'beautiful'. These Vitruvian Virtues still form the central plank of urban design guidance in the UK today (Design Council CABE – formerly Commission for Architecture and the Built Environment[1]).

Resulting from this architectural formulation, the 'public realm' outcomes from contemporary urban design have become standardised and homogenous across the UK. These outcomes appear as economic spaces for transient socialising on the back of a primary retail or commerce activity. These are places that are visited rather than lived in; where you meet people you already know. They include office and retail 'quarters' with facilities like markets, cafes, bars, cinemas etc. These are not the places where new relationships can emerge and flourish and they may seem inaccessible or intolerable for people prone to loneliness. The outputs of this formulation are pepper-potted around cities and contained within 'red-lined projects', rather than being consistently and strategically applied to support the performance of the whole city. Unfortunately, the application of urban design thinking is much less directed at creating adaptable 'social' space where people live and interact.

A further impediment is the silo approach to city administration where urban design typically appears low on the agenda and is considered a luxury. The validity of the 'theories' is weak and their implementation relies on practitioners exercising professional judgement in the application and delivery of policy. More importantly though, urban design practice tends only to be applied to a minority of new developments and not in the ongoing stewardship of places.

Urban design has enormous potential to address issues like human loneliness and the health and wellbeing of citizens. To realise this promise, it must be valued differently and formulated around contemporary social scientific understanding of human 'needs', not aesthetic architectural narratives.

Developing a Resilient Place Strategy to Address Loneliness: The Need for Prosocial Places

Loneliness is distressing because we are a social species. We need companionship to participate in a full life, making cooperative activity a key factor in functioning well. As a species, Homo Sapiens tend to consider others by default. This 'other'-focus is demonstrated most obviously by our uniquely evolved language capacity. It is evident through our non-verbal communication capacities and our automatic and instrumental tendencies to acknowledge other's feelings demonstrated in politeness, tact and humour. It is encapsulated in concepts and skills such as empathy, 'theory of mind', co-operation and altruism. These fundamental socio-cognitive attributes have been captured by the umbrella term – 'prosocial'.

There is evidence that certain environments challenge the human tendency to be prosocial. We can define these environments as 'harsh' places because they work against this human default, challenge community coherence and become 'hot spots' of social loneliness. In pioneering work in Binghamton, New York City, evolutionary biologist David Sloan Wilson has mapped his neighbourhood for levels of prosociality using a range of indicators to objectively measure people's co-operative tendencies (Wilson et al., 2009). The prosocial map that Wilson and colleagues have developed of their community is compelling in its own right but Wilson's group has also found that the extent to which participants co-operate during visits to neighbourhoods is related to the perceived quality of the neighbourhood environment they find themselves in. Using behavioural economic 'games', the team found that when neighbourhood resources were perceived to be low (an inference made based on visual cues to impoverishment, bad odours, sounds associated with distress etc.), co-operative offers tended to diminish. This work provides direct evidence of the importance of 'made' environments in determining our prosocial behaviour, intentions and feelings.

Evolutionary psychology provides another set of ideas, coalesced in Life History Theory (Kaplan and Gangestad, 2005), that shows how habitats are associated with predictable, general behaviour patterns determined by experienced 'resource' availability. It argues that in resource-rich environments, people anticipate a long life of relative ease. They can be confident in their futures and so can invest in planning for them. The predictability of resource affords the luxury of, occasionally, sacrificing direct self-interest in favour of future benefits that emerge from co-operation with other future-minded individuals. By contrast, in environments where resources are experienced to be low or unreliable, a future-discounting pattern emerges. Here, lives are played out at a faster pace in an adaptive mode of gratifying one's immediate needs and desires. In such environments, hedonism tends to take precedence over looking after one's future prospects, wellbeing and health.

Thus, Life History Theory argues that our prosocial tendencies exist in context. Confidence in one's own survival, itself determined by the perceived resources of place (e.g. social relationships, abundance, state of repair, security), predicts the tendency to consider others. The 'behavioural equation' associated with perceived resource-richness or resource-impoverishment has implications for the development and stewardship of cities, notably through the association of materialism with experienced loneliness.

When considering how 'design' of cities can address these issues, we must keep in mind the idea that contemporary guidance and practice is based on a selective view of ancient civilisations and historic communities to fit an architectural and economic narrative. However, an alternative historical perspective emphasises more frequent references in classical Greek literature to the Corinthians, the Athenians and the Spartans rather than Corinth, Athens or Sparta. The ancient Greeks "spoke of communities rather than cities made of buildings" (Scott, 2016[1]). This is important because their survival as communities depended on their human ecology and on the evolutionary stable strategy of co-operation (Nowak and Highfield, 2011). Given our knowledge of the impacts that 20th century cities have had on our health and mental wellbeing, in the 21st century, we need to reinstate the understanding of the people as the city; a 'living environment', as practiced by the Ancient Greeks, instead of the 'built environment' that is current practice.

Greek cities were small and set within productive landscapes that involved everyone in co-production and cooperation for survival as a single identifiable community. Although we know that these societies were tough (particularly the Spartans) they were most likely cooperative. Life in Medieval Europe was also demanding, but individual urban communities remained identifiable with religion promoting a prosocial ethos. Within societies like this, social loneliness would likely be minimal. More recently, industrialisation and technological advance has given rise to rapid urban growth across the planet where different communities are layered and tend to compete for resources within vast urbanised landscapes. Here, some communities inevitably become subjugated, their positive identity lost or insignificant. The complexities of economic stratification, commuting and zonal planning conspire against the survival of viable community and even family groups. Religion is less relevant for the majority, whilst an understanding of our behavioural ecology is not reflected in urban planning practice or place stewardship. This results in social fragmentation and a rise in the physical isolation of individuals and family groups.

This is socio-cultural evolution, that slow process of change where we haven't fully emerged as flourishing urban dwellers. In seeking to create optimal environments to satisfy our needs we have made mistakes that are evidenced most starkly by the thrival of some at the expense of others. These mistakes provoke natural adaptations for survival which, over time, become habitual behaviour. However, there is a cost to all in society in these mistakes, notably health inequality, low educational achievements, reduced opportunity, alienation and isolation. These human outcomes drain local and national economies. When civilisations have become

unsustainable in the past, they have collapsed (Diamond, 2005). We now have the knowledge, and importantly, access to it, to choose to avoid collapse. Whilst we can co-produce mega-cities, we have lost the art of place-making for prosocial cohabitation within our cities and through the economic model of place, we are building lonely urban environments focussed on the individual rather than community.

Re-balancing Purpose: from the economics of materialism to the economics of inclusion.

In *Silas Marner: The Weaver of Raveloe*, George Eliot tells of the association between the unbalanced pursuit of 'resources' and loneliness. The complexity and progression of the relationship, described much later in a starkly contrasting manner by Pieters (2013), is vividly portrayed by Eliot. Marner's miserly lifestyle emerged in response to deep loneliness and isolation following rejection and expulsion from his childhood community. Fear of further rejection compounded his loneliness in his new home and, to fill the void, Silas collected gold. This infatuation escalated his further isolation until the day his gold was stolen, when Marner sought the help of the villagers:

> "Left groping in darkness, with his prop utterly gone, Silas had inevitably a sense, though a dull and half-despairing one, that if any help came to him it must come from without; and there was a slight stirring of expectation at the sight of his fellow-men, a faint consciousness of dependence on their goodwill."

The replacement of the lost money with the richness of purpose found in human love and companionship in the form of the golden-haired Eppie, and her ability to bridge between Silas's cottage and the community replaced Silas's life and his faith in others:

> "Marner took her on his lap….Thought and feeling were so confused within him, that if he had tried to give them utterance, he could only have said that the child was come instead of the gold — that the gold had turned into the child."

Pieters's (2013) large scale longitudinal growth model analyses of the relationship between materialism and loneliness, is a considered attempt to understand the motives or psychological purposes of materialism, helping us to understand how the process from and to loneliness unfolds. In short, according with previous notions of the void-filling function of acquisitiveness, he shows how the experience of loneliness breeds increasing 'competitive'

materialism that displays comparative wealth using 'others' or 'past' as yardsticks. In a second stage, Pieters shows how the ongoing acquisition of materials adds to the social and eudaimonic void by sapping time and attention.

Within the UK, 'economic growth' dominates the national urban agenda. It is a hard agenda to argue against, but its narrow approach results in every place working to a duplicate, unidimensional template where the identity of individual communities becomes lost along with the ability of people to behave prosocially. The most obvious symbols of this are the ubiquitous high streets, retail/ business/ industrial parks and volume-build suburban estates that have homogenised many our urban places following zonal patterns established by 'spatial economic plans'. The nub of the problem is that this urban agenda is too narrow with very little, if any, focus on inclusion, community building, health or wellbeing.

To varying degrees, this is the story across Western society where urban development programmes tend to be driven almost exclusively by economic materialistic growth agendas with attenuated design efforts sighted on 'aspirational' volume house building, lifestyle retail, commercial leisure, tourism, cultural/arts and business 'quarters'. These models are now being rolled out in the developing world without any objective assessment in terms of social sustainability. An unfortunate outcome of this 'growth agenda' is the promotion of aspirational hedonism which, as explained above, will tend to take precedence over future prospects, wellbeing and health. This is particularly significant where rural populations are being rapidly urbanised and risk of embedding 'loneliness' is high.

A less obvious symbol of the negative impacts of the growth agenda is highway planning, where the goal is to remove all impediments to free vehicle movement for the good of 'the economy'. The inevitable outcome is that nowhere is a destination anymore, save defined nodes like multi-storey carparks in the 'central' retail, leisure and business districts. Local high streets become traffic corridors and the economic and human ecologies within their neighbourhood's collapse. The unpleasant public realm becomes deserted and hence, people become strangers. Suburban housing estates, because of their low densities, lack the critical mass to support essential services and facilities for their communities. They are therefore car dependent urban forms that both contribute to the traffic problems within existing places, and simultaneously reduce the opportunity for people to get to know each other within their own neighbourhoods.

Life History Theory tells us that the reducing quality of these environments changes behaviours which, in turn, provoke new negative impacts. If we follow the single focus highway planning approach in typical Victorian high streets, we see them become four lanes wide with fast uninterrupted traffic flow, no parking allowed and minimal pavements cluttered with highway furniture. Pedestrians can only cross at designated points and their movement is secondary to strangers' vehicles in their own neighbourhoods. The street becomes increasingly unattractive to the local community and businesses struggle to survive, replaced by new businesses that take advantage of increasingly isolated and hedonistic lifestyles. A familiar downward spiral ensues that it is not attractive to any form of positive investment, including building maintenance. The residential side streets that have been closed to keep the 'strategic traffic' flowing become neglected and so are regarded as dangerous places – becoming a barrier to free movement within communities. Next, the local authority stops investing in the place. The outcome is reduction in community movement, connectivity and, with it, opportunities for positive interactions as the public realm is eroded. When urban fabrics become denigrated like this they are perceived to be low value, people respond to them in predictable ways, and populations often become transient. In environments like this it is easy for individuals to become isolated and lonely, often in response to perceived threat.

The data is telling us that our existing urban habitats are failing to nurture our health and wellbeing needs, and whilst we can adapt and survive, it is at a cost. Paradoxically, the 'growth agenda' is exacerbating the problem at significant cost to the whole economy. The need to address these issues is immediate and cannot wait for an urban design 'solution' that relies on the rebuilding of cities to a new 'Garden City' model. Indeed, without understanding how existing places work best, it is difficult to know what that new model should be. However, we do know that the urban agenda needs to be expanded to encompass a wider definition of 'resource' that includes all people and place assets. Success should be measured in terms of social sustainability and social value. Health and wellbeing impact assessments should inform the progress of infrastructure investments like highways. This re-balancing of our cities and redefinition of success and sustainability requires visionary leadership backed up by evidence-informed policy and ongoing monitoring of outcomes against a wider, integrated agenda. We suggest that places with a vision to attract happiness first, followed by business, and to promote cohesion not materialism, would see a reduction in urban social loneliness.

Re-thinking Design: from Good to Well

The final strand of a place strategy to tackle loneliness concentrates on the mission and outcomes of place design. We have argued that evidence-informed policy on wellbeing can replace the now dismantled planning policy in the UK to produce better human outcomes (Corcoran and Marshall, 2016). By embodying the Five Ways to Wellbeing (*Connect, Keep Learning, Take Notice, Stay Active and Give*[1]) into place-making practice, a methodology exists to improve social cohesion and sense of belonging. Although distinct concepts, we may reduce loneliness by increasing community wellbeing via urban infrastructure that supports interaction, connection and community.

This approach to place-making will require strong leadership and integrated policy making. Evidence that such an approach is possible exists already. The authors recently (2016) undertook an accreditation review of Yangzhou City on behalf of the International Self-Care Foundation for its *World Healthy City Award.* It was a successful bid based on their achievements in developing an urban living environment conducive to self-care and healthy lifestyles. Yangzhou, a large and growing city in one of the most densely populated provinces of China, is managing a rapid growth agenda while preserving its historical traditions, cultural values and natural resources. There is a clear vision and dedicated focus on the health and wellbeing of the city population within the urban planning and design process. The city leadership is working cooperatively, with strong coordination between departments, effectively delivering a "health in all policies" approach. Implementation is strategic, for example completing support infrastructure, services and public facilities before residential construction.

Aspects of this vision-led, strategic approach to city design include 60 new parks allowing every citizen to be within 10 minutes' walk of a local community facility. Good multi-functional use of areas that might otherwise be left derelict (e.g. spaces under highway viaducts), enables natural inter-generational connection, helping people avoid loneliness and maintain a sense of purpose.

Furthermore, the public realm of the city uses a 'human ecology' approach to enable movement, flow and interaction. Indigenous Gingko trees provide the lasting structure of place and cycle paths and lanes, established across the whole city, provide a viable alternative for commuting, avoiding motor traffic dominance.

Reflecting Wen and Wang's (2009) recommendations for urban migrants in Shanghai, the Yangzhou's Wenchang Garden Community has addressed the many social issues related to resettlement of rural communities, hosting a wide range of initiatives such as volunteer programmes and amenities that act as a hub to connect to other city communities and institutions. This integrated wellbeing support system, replicated across the city, mitigates against the determinants of social loneliness and embodies place-making for human need rather than aesthetic principles.

Yangzhou City's achievement is founded on cross sector governance with a clear mission of social sustainability. For sound economic reasons, the city has placed the wellbeing of its residents at the centre of its vision showing that urban loneliness and the other grand challenges of public health can be tackled. The establishment of inclusive Place Directorates within public authorities removes policy and professional silos to enable evidence and practice to align for the long-term benefit of citizens.

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