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Stimulation and restoration
Part of the Urban Design and Mental Health series

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Following on from Introduction to Urban Environments and Mental Health, this article focuses on stimulation and restoration in urban environments and how these theories can help create places which support mental wellbeing. Environmental psychologist Dr Colin Ellard describes how stimulation in an environment influences our stress levels. In excess, stimulation can cause overload.

Stressful commutes are an example of overwhelming stimuli in urban areas: they force participants to stay alert, increasing levels of the stress hormone cortisol, when crossing busy roads or rushing through crowds of strangers. For example, pedestrians on the chaotic streets of Mumbai were asked whether they found their dangerous daily commute stressful. Whilst they reported feeling roughly neutral on a happiness scale and somewhat under aroused, their bodies reported an entirely different experience. The readings on skin conductance devices showed serious fight or flight stress responses.[1]

Daily activation of the fight or flight response exhausts our nervous system and can be detrimental to our mental and physical health, although the long term impacts of this are difficult to measure.

Stress and anxiety are only two examples of mental illnesses that can deteriorate in an urban setting, and both are linked to relapse and deterioration in mental conditions such as schizophrenia, addiction and neurodegenerative diseases, including dementia.[2]

Excessive noise exposure has also been shown to result in poor mental health, including anxiety.[3]

Streets should be designed to prioritise pedestrians, allowing them to pursue daily activities without unnecessary stress. Pedestrian oriented streets have generous pavements, cycle lanes, safe crossings and greenery, such as trees and hedges, which separate pedestrians from the road.

Pedestrians can be given greater authority by lowering automobile speeds and creating pedestrian only streets and plazas.

Conversely, absence of adequate stimulation can be equally as harmful. It can be the hustle and bustle, excitement and unpredictability of successful cities and towns which contribute to their sense of place and make them attractive to people.
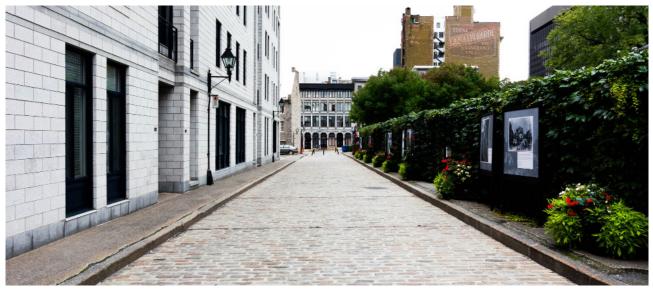
Unceasing immersion in oppressively dull environments, such as long closed façades and large monolithic structures, can decrease motivation and increase the occurrence of antisocial behaviour, such as substance abuse and vandalism.[4] Ellard advises that the average walker should see something new and interesting about once every five seconds, which equates to approximately every seven metres.[5] We must approach the design of our environments with greater care and consideration.

Towns and cities have the potential to be both interesting and restorative.

Our senses play a crucial role in stimulation and restoration – our design proposals need to actively engage the senses to create restorative environments.

Ground floor animation is key to creating a vibrant city street. Glazing allows those passing to see activity inside, and vice versa, encouraging interaction and activity. Entrances, colonnades, seating or stalls along building fronts can provide interest and a transition between public and private space.

Places should include richness in details – textures or forms – especially at ground level, giving the eye a variety of scales to focus on, instead of long blank façades.

Modern city environments are a relatively new paradigm, and operate in ways the human brain has not yet evolved to process. For example, our brains have adapted over time to manage social groups of approximately 150 as a maximum, but dense cities accommodate millions of people.[6] These levels of density amongst large volumes of strangers can have physiological costs and provoke anxiety.

It is therefore important to create restorative niches – physical places where people can retreat and relax[7] and also provide refuge for people who are sensitive to noise, experience PTSD, ADHD, or are on the autism spectrum.

The level of stimulation surrounding us is significant in catering for different personality types[8] whether that be extroverts who seek out environments to engage with others, introverts who benefit from quiet areas as respite from over stimulation or, most commonly, ambiverts who require both. In Jimbocho, Tokyo's book town, covered stalls open out from the shops onto the street to provide a dual function space which allows people to interact with the busy city rushing past, and provides an intimate, yet collective, space where people can get lost in a book.

These 'lodges' are also highly customisable and individual, bringing diversity and richness to the street.[9]

A key consideration explored in this article is the need to create a variety of spaces and levels of stimulation and restoration to cater for individuals' differing mental health needs. This could also include varying needs throughout the day, for example, an energising, animated route to walk to work, and a restorative green space to retreat to during a lunch break. Designing in a variety of spaces – from open, vibrant plazas to quiet, hidden courtyards – can help support mental wellbeing in urban environments.

We would love to hear from you if you are interested in collaborating.

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