

Sick in the City: A clinician's perspective

J. Kane^{a,*}, Johanna Beyts^b

^a Royal College of Art, UK

^b University College London Hospital, UK

1. Introductory comments

Josephine Kane

Almost everything we do in daily life depends on maintaining balance. This physical ability is determined by our vestibular system, which receives inputs from certain parts of the brain, the ear, the eyes and proprioceptors which detect movement (Martin, 2015a). Loss of function in any of these systems, caused by infection, deterioration with age, or injury, can lead to problems with balance and associated symptoms of dizziness and spinning.

These disabling sensations are often described as vertigo, and can have a devastating impact on quality of life (Martin, 2015b). There are over 350 medically recognised causes of vertigo, and treatment varies from physiotherapy and cognitive behavioural therapy, to medication and, in extreme cases, surgery (Ménière's Society, 2018). The scale of the problem in the UK is unclear. Estimates of the occurrence of Ménière's disease, one of the better known causes of vertigo, for example, range from 1:1000 to 1:2000 (Ménière's Society, 2018). However, in the US, the National Health and Nutrition Examination Survey (2001–4) suggested that 35% of adults over 40 years old (69 million people) show evidence of vestibular dysfunction (Agrawal et al., 2009 cited in Kyoung-Bok et al., 2012).

For people with vestibular disorders, episodes of vertigo are rarely triggered by the experience of height alone but by simple bodily movement or visual stimuli and, significantly, *the built environment itself* and, as a consequence, everyday life can pose considerable challenges. In 1995, Adolfo Bronstein identified a condition known as visual vertigo, in which attacks of dizziness, nausea and even migraine, are triggered by complex visual and moving environments (Bronstein, 1995). For these patients, experiences which are commonplace in the contemporary high-tech, high-speed city, such as passing trains, flowing crowds, pulsating lights and digital screens, are especially problematic. And the effects of these motive landscapes are compounded by the material and architectural qualities shared by high-rise urban centres around the world. The seemingly ubiquitous

use of glass and other reflective exterior surfaces increases glare at ground level and obscures visual contour lines essential for balance, rendering the street even more of a challenge for light-sensitive patients. In other words, as cities become more densely packed, visually stimulating and super-tall, they become increasingly inhospitable to populations prone to vertigo.

Despite a growing body of research on the health implications of global urban growth on specific populations,¹ the links between super-tall, super-fast and super-dense urban environments and vertigo have yet to be fully investigated from a health geography or public health perspective. Similarly, cultural geographers who explore the human experience of buildings and cities using a range of approaches, including phenomenological, actor network and affect theory, have not yet turned their gaze to the ways in which vertigo sufferers produce public urban space through complex emotional and sensory responses and embodied practices (Rose et al., 2010). From a political economy perspective, the shift towards neoliberal urbanism and the resulting growth of privately owned, tightly controlled public space in cities across the world in the last thirty years (Pinson and Morel Journal, 2017) has led to a steady decline in street furniture, parks and other forms of urban refuge (Mitchell, 2017; Smith and Walters, 2017) which, as this paper explains, play a vital role in enabling vertigo sufferers to participate in urban life.²

Johanna Beyts has 30 years of clinical experience in audiovestibular rehabilitation, working at the Royal National Throat, Nose and Ear Hospital, University College London. As a result of the unpleasantness of symptoms, often equated to sea-sickness, many of her patients report negative emotional responses to the urban environment, including aversion, fear and panic. Beyts specialises in treating the secondary psycho-social symptoms of visual vertigo, such as agoraphobia and anxiety, following a long-established medical tradition which investigates the impact of sensory and spatial factors on the health of the individual.

The idea that the city itself can trigger mental and physiological problems was first formulated by clinicians working in the emerging field of psycho-neurology in the late nineteenth century. At this time,

* Corresponding author.

E-mail addresses: Josie.kane@rca.ac.uk (J. Kane), Johanna.Beyts@uclh.nhs.uk (J. Beyts).

¹ The ESRC-funded project *Place-Making with Older Adults* (Urban Transformations Network, 2016–2019), for example, employs design interventions to encourage active and healthy lifestyles for the growing number of older residents in cities.

² The impact of neoliberal urbanism on people with neurological conditions has received more attention from creative practitioners. See for example Public Selfcare System (2016), a performance project by Rhiannon Armstrong exploring emotional responses to people who cope with disabling migraines by resting in public (Armstrong, 2016).

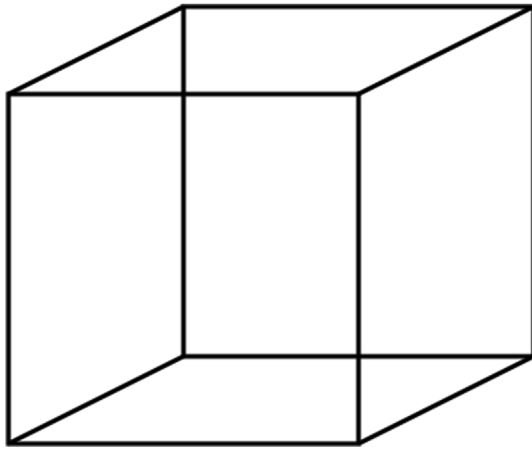


Fig. 1. The Necker cube. First published in 1832 by Swiss crystallographer Louis Albert Necker, this type of illusion shows us how our brains are constantly generating theories about how to interpret our environments.

urban space across Europe was undergoing a radical spatial and architectural transformation and, in response, leading psychiatrists attempted to articulate the relationship between the modern cityscape and emotive conditions such as dizziness, vertigo and agoraphobia (Ghazal and Hinton, 2016).³ Then, as now, there was considerable debate about the relative importance of *environmental* (i.e. the design and layout of cities), *emotional* (fear and anxiety) and *biological* (vision and balance) factors in causing and treating episodes of vertigo (Ghazal and Hinton, 2016; Yardley, 1994).

This interest in the link between emotional and bodily responses to the city spread beyond clinical practice and was taken up by writers and scholars who keenly documented the impact of modernity on the life of city-dwellers. At the beginning of the twentieth century, for example, pioneering sociologist Georg Simmel observed how, in order to cope with the ceaseless barrage of sensory stimuli, urbanites attempt to mentally and emotionally distance themselves from their environment in differing ways. Most commonly, an indifference towards human relations, the blasé attitude, is assumed by people living in cities. In extreme cases, Simmel proposed, the response manifests itself as agoraphobia and hypersensitivity, which leads to a kind of nervous breakdown (Levine, 1971; Frisby, 1986).

A century later, Beyts treats patients with an extreme sensitivity to urban stimuli, and uses visual exercises and behavioural techniques designed to ‘desensitise’ them to visual triggers encountered in the city. It is fascinating to note that, while medical understanding of the causes of vertigo has evolved enormously since the nineteenth century, there remains a strong continuity in the blurring between psychological and physiological diagnosis and treatment. The nineteenth century idea that vertigo is a form of neurosis and that those who suffer from it are predisposed to hypochondria is, as Professor of Health Psychology Lucy Yardley acknowledges, still familiar today (Yardley, 1994).

2. A clinician's perspective

Johanna Beyts

As a clinical scientist specialising in rehabilitating balance disorders, working in an international centre for audiological medicine and research, I deal with a large number of medical conditions that make balancing difficult. I see around three hundred new patients each year and design individual rehabilitation programmes for them. Patients referred by an audiovestibular physician undergo an extensive

array of diagnostic tests on the inner ear, including a rotating chair and a caloric test which provides a more accurate identification of the cause of dizziness. I also work with elderly and post-surgical patients referred by Ear, Nose and Throat surgeons following removal of tumours. The duration of treatment varies from three months to three years, depending on the severity of the symptoms. The level of disability can be heightened by additional pathologies such as arthritis, fibromyalgia or migraine.

Most physiotherapists or audiological scientists use a range of standard physiotherapeutic techniques designed by Susan Herdman (2007) which are usefully combined with psychological techniques. These include autogenic training, a desensitisation-relaxation technique developed by German psychiatrist Johannes Heinrich Schultz in the 1930s for migrainous patients, and paced breathing and relaxation techniques to treat hyperventilation syndrome, a precursor to panic disorder which is common among visual vertigo sufferers (Nestoriuk and Martin, 2007; Kennerley, 1991). In my own practice, I have found systematic desensitisation particularly effective in helping visual vertigo patients to cope better with visually complex urban environments and crowded places. This involves a walking programme, starting indoors, and building up through gardens and parks to eventually tackle crowds, busy city streets and supermarkets (Beyts, 1997).

Medical conditions associated with vertigo-like symptoms are more common than many people realise. Recent studies of the prevalence of migraine in Germany suggest that 16% of the population experience migraine across their lifetime, and 7% vertigo (Lempert and Neuhauser, 2009). Vestibular migraine, a condition where patients suffer with episodes of both vertigo (sensations of spinning) and migraine (head pain, light sensitivity and other migraine symptoms), affects about 5% of adults in one year (Neuhauser et al., 2005). In the US, it is estimated that 45,500 new cases Ménière's disease are diagnosed each year (NIDCD, 2018). Drawing on over 25 years' experience in clinical practice, this article focuses on the impact of the urban environment on different patient groups, both in terms of their experience of vertigo and their emotional response to particular kinds of space.

2.1. ‘Normal’ and ‘abnormal’ perception

There is a continuum of ‘normal’ visual reactions to complex stimuli, visual stress, and visual vertigo which is worth exploring. Common visual illusions, such as the Necker Cube (see Fig. 1) illustrate the way in which most people constantly use perceptual skills to hypothesise about environments. Human vision allows perception of three dimensions on two dimensional drawings but, in doing so, the illusion of movement occurs. Looking at the Necker Cube, for example, creates an illusion of flicker as the brain decides which side is closest (Gregory, 1997).

Colour and tone can also trick the ‘normal’ brain into perceiving movement where there is none. For example, juxtaposing paler shades of orange with yellow, black, grey and white in close proximity creates an illusion of movement because we are used to interpreting bright things as being closer than dark things (see Fig. 2). Indeed, many different visual illusions demonstrate how static images appear to move as brains ‘try out’ different perceptual hypotheses (see Gregory, 1997 for a full review). These illusions reveal why the changes that occur in patients with light sensitivity can be so disabling: the brain's reliance on senses cannot be ‘turned off’ and it attempts to draw conclusions from the perception of reality. When these sensory and perceptual conclusions contradict each other – such as the sensation of spinning when standing still – the effect on anyone is extremely disturbing.

For people with vertigo-inducing medical conditions, this is part of everyday life. In so-called ‘abnormal’ reactions, patients report that during a shopping trip, for example, the parallel lines of a supermarket aisle and densely stacked shelves makes navigation difficult because of dizziness, or that flickering lights over a freezer section make it impossible to focus and likely to trigger a full blown migraine. Others

³ Including German psychiatrist Carl Westphal (1833–90), Austrian neurologist Moritz Benedikt (1835–1920) and, in France, Henri Legrand du Saulle (1830–86).

Download English Version:

<https://daneshyari.com/en/article/7322650>

Download Persian Version:

<https://daneshyari.com/article/7322650>

[Daneshyari.com](https://daneshyari.com)