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Why is emotional data failing to produce more humane cities? Urban governance and the (interdisciplinary) problem of wellbeing

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ABSTRACT

The city is often highlighted as the key space in which our emotions and personal mental health can be shaped. Globally, place-based approaches to promoting urban health and happiness have become commonplace. Initiatives and policies improving urban and regional wellbeing operate at a range of scales, from global alliances of NGOs and supranational health bodies, to regional, local, and community action. This paper critically reviews the spatial imaginaries and limited discipline-specific definitions of the urban and wellbeing present in data-driven approaches to urban emotions and wellbeing, and the potential effectiveness of the policy solutions which are proposed 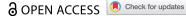as a result. Responding to the very specific forms of interdisciplinarity advanced to date, the paper outlines how a dialogue between humanities perspectives on emotional cultures, and political economies of place-based wellbeing interventions can be advanced to address these limitations.

1. Introduction

The establishment of international fora such as the *Global Happiness Council*, and publication of the *WHO Copenhagen Declaration on Healthier and Happier Cities for All* in 2018 testifies to the urgent search for policy solutions to a perceived crisis in how we live in and relate to cities today. Rapid global urbanization has led to substantial concerns about how city living can have dangerous impacts on our physical and mental health, and subjective emotional wellbeing (Lederbogen et al., 2011). There is increasing evidence that urban density, design, and atmosphere bear some responsibility for this crisis (Krabbendam et al., 2020). A paradoxical situation exists of a burgeoning urban mental health crisis (Bhugra et al., 2018; Ventimiglia & Seedat, 2019; Ventriglio et al., 2020) coinciding with a rapid expansion of knowledge and data on happiness, wellbeing and emotion science. But an individualized account of mental health, understood through diagnostic categories, is not equivalent to an understanding of the wider social determinants of mental wellbeing and the dynamics of collective emotional life, and a focus on individual emotions can limit the potential for the development of effective

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and long-term policy strategies for urban wellbeing. New sciences such as *happiness economics* (Layard, 2005), *neurourbanism* (Adli et al., 2017) and a data-driven *science of cities* (Batty, 2012) offer an appealing instrumental promise for city managers to scientifically diagnose, design for, and engineer urban wellbeing. But why are advances in emotional data collection and analysis failing to produce more humane cities in which people are happier and more mentally well?

This paper investigates how these three different forms of wellbeing analytics (happiness, neurourbanism and the science of cities) have shaped how wellbeing is being categorized and understood through emotional big data and life satisfaction metrics. It argues that these analytic strategies promote new technological solutions, specific spatial imaginaries, and governance discourses of risk and prevention. They can be considered part of an explicit "solutions industry" for city managers and developers (Bok, 2018), and yet little is known about their influence on public policies. Moreover, these solutions are based on the epistemological construction of wellbeing as determined by a limited set of disciplinary norms on data and evidence and a partial revival of organicist thinking, which I argue limits their potential for making cities more humane. The paper identifies the combined spatial imaginaries and political economics of this solutions industry, and brings these together with deeper analysis of the cultural contours of collective emotions. The first aim of the paper is to closely examine how urban wellbeing analytics have been produced and their implications for urban governance.

Our emotional cultures have come to signify a new terrain of spatial governance (Jupp et al., 2017). Knowing our emotions scientifically through the wellbeing analytic strategies identified in this paper is followed by novel forms of emotion self-regulation (Davies, 2015). However, the knowledge, methods and evidence that are being mobilized in the measurement and management of urban wellbeing is framed by a drive toward global standardization, managing (out) complexity, and individual optimization of health and wellbeing. Public dialog on the meanings and contradictions of wellbeing as an emotional experience are neglected. It has even been argued that our preoccupation with wellbeing and happiness may itself be counter-productive in the pursuit of alleviating suffering – by failing to address the societal influences on individualism and a lack of meaningful action on how people relate to and nurture the environments which we inhabit (Atkinson, 2020; Smith & Reid, 2018). Significant limitations have been identified to how wellbeing is currently defined and measured in the novel sciences of the "urban brain" (Fitzgerald et al., 2016; Manning, 2019). These limitations point toward the need for novel interdisciplinarity engagements to provide new insights into how urban wellbeing policies could more fundamentally address the contemporary challenges of inequality, human suffering and sustainable economic change (Callard & Fitzgerald, 2015; Krabbendam et al., 2020; Philo et al., 2019; Söderström, 2019). The second goal of this paper is to demonstrate how interdisciplinary engagements can advance a situated political and cultural economy approach to collective urban emotional experience.

The paper documents how the urban is conceptualized and emotions are spatialized through analysis of the emerging international consensus on measurement standards in happiness research, advances in neurourbanism and the science of cities. I analyze how scientific knowledge about urban wellbeing is produced in a specific global policy context (Section 2.1). I argue that this promotes a problematic account of the scientific knowability and economic value of subjective emotions. The spatialization of public

health and happiness in the idea of the global technology-enabled city (Section 2.2) prescribes how urban space should be scientifically engineered to maximize aggregate happiness informed by systems thinking, neuroscientific and partial definitions of emotions, and design and engineering paradigms which tend to downplay the role of urban politics and culture. Section 3.1 then addresses what is missing from these three approaches. It combines a political economic analysis of urban and regional governance with cultural theories and humanities perspectives on the economic role of the emotions. By unpacking what the urban signifies in urban wellbeing initiatives, the analysis demonstrates how the emotional life of urban and regional inhabitants becomes a key site for the governance of national and global socio-economic, public health, and ecological crises.

Sections 3.2 and 3.3 propose the need for closer examination of how emotional cultures are shaped, how emotions are governed and how socio-spatial inequalities are thereby left intact. Turning to literary (Section 3.2) and historical (Section 3.3) sources, the paper argues that defining emotional health and wellbeing as data components in an organic urban system is far from new. The integration of humanities methods, historical fiction, and cultural economic analysis builds on analyses of previous efforts to position the emotions within a narrow remit of preference satisfaction, and in the significance of the emotions for governing the circulation of capital at times of rapid economic change. These perspectives can provide fresh insight on what is lost when emotions are potentially instrumentalised and individualized through narrow data-driven approaches to the promotion of urban wellbeing. The analysis suggests that a broader interpretation of collective emotions and emotional cultures might usefully expand our capacity to imagine alternative economic futures and the complex intertwining of emotions, space, and value. A deeper exploration of feeling as it is represented, manifested and created through literary forms could provide the basis for a more contextualized, transformative, just and culturally sensitive understanding of urban wellbeing.

2. Healthy and happy cities for all

2.1. Global standards of happiness: happiness economics, technology and urban design

Whilst wellbeing has a long historical association with ideas of political economy and utilitarian forms of government, happiness – the feeling of subjective wellbeing, finding satisfaction or pleasure in life – has recently become a target of governmental measurement and intervention (Durand, 2018). Since the pioneering activities of Bhutan's Gross National Happiness Index in 2008, New Zealand is perhaps the most well-known country to be integrating wellbeing into central government policy, budgeting, and decision-making (Grimes, 2021). The UK's Office of National Statistics launched a Measuring National Well-being programme in 2010 (see Allin & Hand, 2017) and has since implemented a Beyond GDP Initiative to bring together statistics on personal and economic wellbeing at a household level (Tonkin, 2019). It is now commonplace to hear assertions that the measure of a nation's success is no longer its comparative economic advantage but the happiness and wellbeing of its people and those of future generations.

The work of many national-level statistics agencies has been supported by global co-ordination by organizations such as the OECD, through the development of standardized international frameworks for measuring wellbeing (work programmes such as the Better Life Initiative and Measuring Well-Being and Progress, since 2009), and the European Union Statistics on Income and Living Conditions survey since 2003. This is complemented by global surveys administered by commercial polling companies, such as the Gallup World Poll since 2005 and the Gallup Emotions Report since 2017, and by international academic alliances, such as the World Values Survey since 1981 – reflecting substantial developments to the Social Indicators movement of the 1970s. Global indices of happiness have been produced by the UN Sustainable Development Solutions Network – who have published the World Happiness Reports annually since 2012. Whilst some of these measures are used to compose sets of (objective; quality of life, living standards) well-being indicators, others rely on surveys to aggregate individual subjective wellbeing – through questions asking directly about a person's evaluation of their own happiness or perceived life satisfaction on a numerical scale.

Despite a proliferation of global initiatives and (inter)national wellbeing indicators and their longer history, the extent to which this statistical data does actually influence policy is still debateable. And key actors in the development of national wellbeing measures within the UK's Office of National Statistics acknowledge their limitations. They highlight a need "to confront and debate what we mean by national wellbeing and progress and how to achieve them" (Allin & Hand, 2017, p. 16). Over the past decade there has been substantial growth in what we might call the "happiness solutions industry" – a range of governmental, non-governmental institutions, individuals, and academic-industry partnerships which promote happiness metrics and apply these to the problem of urban wellbeing. Yet in the drive for universal and standardized measures to aid national comparisons, there has been something of a narrowing of both the definition of and the disciplinary perspectives advanced on wellbeing. Open and pluralistic debate about the meaning of collective progress can sometimes be side-lined as a result.

In 2018, for example, the Global Happiness Council was established at the World Government Summit in Dubai to bring together a global network of policymakers, academics, and influential figures to advance evidence, research and policy aimed at improving happiness and wellbeing. The Council and wider committee included several economists, statisticians, behavioral scientists, positive psychologists, technologists and designers, business and management scholars, demonstrating the kinds of disciplinary expertise, which have come to be valued in the promotion of happiness (The Global Happiness Council, 2018). Happiness here is defined as "subjective wellbeing" or a personal evaluation of one's one happiness as defined by oneself – proposed as a universally applicable measure not hampered by any cultural differences. Elsewhere, it has been argued that a narrow behavioral economic definition of happiness dominates the global policy agenda, which prioritizes evidence on individual behavior, lifestyle/coaching-type interventions and environmental nudges which shape people's decision-making contexts at a micro-scale (Pykett & Cromby, 2017; Segal, 2017, p. 4).

The city, in terms of its design and management, is also a key thematic strand of the activities of the Global Happiness Council (2018, p. 1). Engagement with urban design, business, and digital entrepreneurs is implied by the involvement of committee members such as urbanist, Charles Montgomery (author of *Happy City. Transforming Our Lives*

Through Urban Design, 2013). Scott Cain, founder CEO of an urban health mobile app, brings input as former Executive Director and Chief Business Officer of the UK academic-industry partnership, Future Cities Catapult. Urban innovator, Ger Baron, supports this urban technology focus, as Chief Technology Officer of the City of Amsterdam. A cognitive behavioral perspective of happiness economics is provided by Lord Richard Layard. Public–private partnerships and forms of research informed by urban experimentation and "living labs" to improve happiness are evident, and there is often an emphasis on exemplars and research perspectives from high-income countries.

This approach is evident in "global cities" such as Dubai, United Arab Emirates, where the explicit national commitment to making Dubai "the happiest city on earth" has been combined with their smart city agenda and capacity to collate behavioral data, to develop "a live, target-driven measurement tool to monitor satisfaction and happiness levels for the whole city." (Smart Dubai Office, n.d.). Within the first Global Happiness Policy Report, the director of Smart Dubai Office envisages a complex systems approach to governing citizens' happiness, enabled by technology. Within this approach there are:

> Various components and examples in the feedback loop, analogue and digital, that may be used by civic leaders to fulfil the promise of new sophisticated ways of engaging citizens, not just asking, but real time responses to behavioural data, and creating an efficient city working towards delivering happiness. (Bin Bishr, 2018, p. 162)

Both the normative foundations and methodological assumptions of happiness economics underpinning these measures have been subject to extensive debate (see Alexandrova, 2017; Davies, 2015; Fabian, 2018; Fabian & Pykett, 2021; Stutzer, 2020). In essence, the increasing range of empirical evidence on the spatial distribution of national happiness and novel technological methods for capturing real-time happiness data in situ offers a rationale for re-valuing subjective wellbeing as a goal of public policy (Frijters et al., 2020; Layard, 2005). However, it often does not provide sufficient grounds for public argumentation and agreement on what wellbeing or happiness actually are. Instead, it has been argued that happiness policies could lead to piecemeal interventions which misdiagnose the structural causes of misery, suffering and inequality (Segal, 2017). Contemporary happiness economics explicitly eschews judgment about what should be valued and why (Alexandrova, 2017). Furthermore, whilst subjective wellbeing has emerged as an common measure of happiness, it remains inattentive to the processes by which human subjectivity is produced and how cultural processes operate (Fabian & Pykett, 2021). The dynamics of emotional life are complex and contextual – happiness or wellbeing are not the opposite of mental ill-health (Keller, 2020), and nor should they be narrowly limited as properties of individuals. Yet according to Mazzucato (2018, p. 271), many economists maintain that definitions of wellbeing can be derived from a market economy of aggregate individualized emotions, which will be revealed through people's behavior (revealed preferences) and measures of subjective wellbeing. In this formulation, the individual subject (self) of subjective wellbeing is given *apriori* status which denies its situatedness within a particular emotional culture and relationship to circumstances. Such measures "build on a version of the self as a largely independent, autonomous and intentional individual [...] emergent with modernity and capitalism and entrenched within contemporary regimes of neoliberalism" (Atkinson et al., 2019, p. 6). There is thus a substantial gap in accounting for subject-positions which are culturally

situated. Instead, subjectivity is reduced to a behavioral subject defined by their economic preferences and choices (Whitehead et al., 2018). This is a problematic assumption when behavioral and emotional data are then adopted as an input into complex systems modeling of city dynamics used to inform urban wellbeing policies.

2.2. Complex urban systems of happiness and wellbeing: public health, life sciences and neurosciences

A narrow behaviorism can also sometimes be sensed through the more specific public health conception of happiness and wellbeing, which is provided in the *Copenhagen Consensus on Healthier and Happier Cities for All* (World Health Organisation [WHO], 2018). This builds on the UN Sustainable Development Goal 11 to "Make cities inclusive, safe, resilient and sustainable" by 2030. In the work of the WHO's Healthy Cities Network, the situation of the city – its social, environmental, cultural, behavioral, commercial, and political contexts are seen as the key drivers of health inequalities: "Health is created and lived by people within the settings of their everyday life; where they learn, work, play and love" (WHO, 2018, p. 3). Here there is an emphasis on the subjective experience of living well, and this shifts a focus from the individual to the city as the locus of good health and wellbeing. It implies an embodied account of wellbeing, which explicitly links the wellbeing of people and planet, regarding the city as an ecological system (WHO, 2018, p. 8). Corresponding with the interests of the Global Happiness Council, the WHO identifies the transformative potential of cities, and the importance of investments in urban design, technology, and infrastructure in shaping future health of cities. The Healthy Cities network is therefore aimed at place-based solutions to urban problems:

> We emphasize the need for healthy urban planning – urban planning that considers environmental health and human health, especially in relation to key urban challenges such as air quality, water quality and waste disposal. (WHO, 2018, p. 5)

It has been increasingly common in recent years to approach planning for urban wellbeing through a systems approach, since "cities are complex social-ecological-technological systems where numerous actors and processes interact" (Bai et al., 2016, p. 70). This requires attention to be paid to multiple, open systems, distributed networks, interactions between them, spillovers and feedback loops, adaptive forms, emergent properties, and non-linear dynamics. It sets out to avoid unintended negative consequences, siloed thinking and fragmented service delivery in achieving urban wellbeing. Specifically, an organicist vision of the city has superseded the idea of the city as a hierarchically organized machine, drawing on the complexity sciences (in biology and physics). This offers an account of the city functioning as an emergent property of a complex, open bioeconomic and physical system in which "multiple decisions from the bottom up often give rise to unexpected, innovative and surprising behaviours" (Batty, 2012, p. S10).

The promise of a new *science of cities* is closely associated with new forms of data simulation, modeling, visualization and forecasting. The spatial imagery of the city is no longer as a bounded entity but a network, emphasizing flow and interaction – its transport infrastructure is as amenable to mapping as its social connections. This is to

be achieved through consideration of proposed "laws of scaling", combining the rapid acceleration of new and dynamic urban data sources with mathematical insights from the field of social physics to understand collective behavior (Batty, 2012, p. S15). While "social determinants" and systemic interdependencies are central to this approach, there is still a sense that real time, urban big data (e.g. behavioral or emotion data harvested from social media, human-worn sensors or geo-located survey results) – of the nature being collated in Dubai – will suffice to understand subjective experiences of culture. The science of cities posits that the city is made up of a complex, measurable relationships which can be planned, designed, and managed to promote wellbeing and prevent ill-health (Carmichael et al., 2019; Barton, 2009, p. s117). Therefore while the city is clearly the central focus of the science of cities, there is a reliance on individuated forms of data entities which potentially narrow the scope to understand the deeper cultural and political processes characteristic of cities. In this sense 'culture is reduced to "collective behaviour" and "social connections" which can be represented and captured as specific data points. Some proponents of urban emotion science are beginning to call into question the technological and economic interests served by this form of research, for instance, arguing that "human-centric urban data science must actively reject the ongoing erosion of democratic processes in unreflectingly implemented "smart cities", and it must reject the abuse of technology and data collection for surveillance capitalism" (Resch & Szell, 2019, p. 4).

Beyond the applied disciplines of engineering, urban design, and planning and medical/public health research, "basic" biological and neuroscience research are also increasingly viewed as both a source of valuable knowledge for improving urban livability as well as a source of economic value. Understanding why an organicist complex systems approach has come (or as argued later, come back) to dominate the urban health and wellbeing agendas in the UK involves investigating the evolving relationship between the increasingly instrumental state funding of research and disciplinary dominance in this national context. Portraying urban life as manageable interactions of individual behavior in complex systems paves the way for new academic-industry partnerships, such as Life Sciences impact hubs and Urban Living Labs. These signify an aforementioned "solutions industry" (Bok, 2018) which is built on the proposition that the city is both the root cause of a wide range of global challenges, as well as the source of innovative and expert intervention. Thus cities, understood as loci of "wicked problems" and hubs of complex systems are linked with "newly assertive modes of solution-oriented interdisciplinary inquiry that promise to address multiple global challenges through various experimental interventions" (Barnett, 2021, p. 4).

An example of this industry is the provision of government funding in the UK for business facilitation, innovation and research products and services in the pursuit of economic growth. *Future Cities Catapult* is one such new actor in urban wellbeing research and promotion. It has been funded since 2014 by *Innovate UK*, which was also a key vehicle for the UK's revamped Industrial Strategy (HM Government, 2017). The focus of the Catapult has been on commercializing research ideas and on integrating digital and built environment/planning research for "building better cities" (Hill, 2015). It aims to "contribute insight to increase the user experience of cities, which in turn, leads to greater productivity, wellbeing and desirability" (Camargo et al., 2018, p. 8). A central role for the neurosciences is demonstrated in *Neuroscience for Cities*:

> Cities are intricate sensorial ecosystems connecting people for the survival of culture and society. With neuroscience we can discover how to help people respond to their sensorial perceptions so that this ecosystem can really work for them (Tyler, in Camargo et al., 2018, p. 4)

In order to consider the potential of and gaps in this approach, it is useful to investigate their spatial imaginaries, not least how they deal with scale in their explanations for human behavior and management of complex urban systems. In advancing a novel neuroscience for cities, there is a tension to be resolved between a focus on the molecular scale of neuroscience and the socio-ecological system of the "sensorial" city. This posits a focus on people's immediate perceptual environments and processes of spatial cognition, for instance, in the field of "neuroarchitecture" (Zeisel, 1981/2006). Such research has much to say about urban environmental *stressors* such as noise, light and air pollution, way-finding, street layout and building design, and their effects on cognitive function and neurodevelopment. This provides solid empirical grounds for the potential for city managers to "design out" stressors and their psychological harms, yet does little to address the root causes of these harms. For instance, neuroarchitecture has less to say about longer term risk factors for *urban stress*. By contrast, the emerging field of "neurourbanism" is specifically interested in the negative mental effects of the urban social environment over the longer term (Lederbogen et al., 2011) and is based on a discourse of risk avoidance and prevention. Neurourbanism also engages more substantially with the concept of scale – a focus on the molecular scale is envisaged as one part of an interdisciplinary framework combing neuroscience with epidemiology, experimental urban emotion research and mapping, and prevention and therapy research (Adli et al., 2017). There is a focus on urban risk factors for mental ill-health, and appreciation of the two-way dynamic between poverty and mental health diagnoses (Gruebner et al., 2017). In both cases of neuroarchitecture and neurourbanism, however, the prevailing model of wellbeing is a biomedical one based on individual diagnosis, brain scanning, and prevalence studies. The collective dynamics of emotional wellbeing are rarely considered, and the notion of the urban as a public and political realm is underplayed. There are limitations to the disciplinary and methodological scope of these fields which could be usefully addressed by engagement with humanities perspectives.

While these new fields are seen as promising in terms of designing more effective or targeted mental health interventions and prevention strategies, researchers are also keenly aware that no adequate causal relationship between urbanicity and mental illness has yet been identified (Solmi & Kirkbride, 2019, p. 143). Nonetheless, as with the global policy discourse on happiness measurement, there have been several calls for global guidelines on urban design solutions to urban mental health (Okkels et al., 2018; Ventriglio et al., 2020). Yet the limited form of interdisciplinary envisaged here between neuroscience and architecture/engineering and urban theory may work to limit understanding of the dynamics of emotion and the specific political landscapes of urban places. The uneven distribution of psychological vulnerability is strongly associated with socio-economic inequalities (Allen et al., 2014). On the one hand, such interdisciplinarity, a holistic perspective and concern for "upstream" interventions which place individual health in a wider social and environmental context are clearly to be welcomed, not least as a timely corrective to the challenges, ethics posed by a lifestyle and behavioral approach to public health which is by now regarded by some in the medical

establishment as ineffective (British Medical Association [BMA], 2012). However, it is also worthwhile to examine the research field of urban mental health in terms of its causal narratives and its preventative ethos, and to explore opportunities for more plural disciplinary insights for urban wellbeing research. While data and evidence are clearly essential elements of policy making and well-being promotion, navigating the contours of urban environmental change also requires interpretive analysis of the core concepts of the "urban" and the "emotions". The next section develops this analysis by considering theoretical frameworks from political and cultural economics to outline how they matter for the strategic urban wellbeing interventions and possibilities that can be envisaged and designed.

3. Political and cultural economy of urban emotions

3.1. On the need for empathic urban wellbeing strategies

Urban political economy research warns of the mistake of localizing or misdiagnosing the urban either as a technical problem or as a solution to inequalities, which are political and economic in nature. At the same time, urban political ecology has developed to analyze uneven and unjust urban development from globally diverse perspectives (Swyngedouw & Heynen, 2003). These approaches focus on how urban experiences and forms of inhabitation are driven by interests, power relations, land and resource exploitation, decisions and activities which take place elsewhere. In this account, the relational intersections of the global and local, the material and the symbolic – rather than the human psyche – are the principal sources or barriers to urban wellbeing. In this sense, technical solutions to urban systems which are based on behavioral and emotional data will always be insufficient pathways to urban change. Instead defining the urban region in these terms, as a "spatial configuration of a built environment for production, consumption and exchange" (Harvey, 1989, p. 145) rather than as a complex system to be managed technically allows us to focus on the spatial dynamics of polarization, marginalization and discrimination which act as drivers of urban wellbeing inequalities. Urban political economy thus frames place-based claims for political agency and distributional justice as a call to shape how the urban is spatially produced and experienced in collective rather than individual terms. One example would be policies which address the unequal consumption of positional goods and habits of social comparison which are known to have detrimental effects on subjective wellbeing (Ballas, 2013), or more ambitious "upstream" spatial strategies, which address regional inequalities, income, and occupational polarization. (UK2070 Commission, 2020).

It has thus been argued that urban wellbeing strategies that are informed by political economic approaches could be more just, inclusive and empathic, by "embracing a shift from efficiency to sufficiency and wellbeing embedded regenerative perspective for conceiving the built environment" (Biloria, 2021, p. 3). Yet an attentiveness to diverse human values, citizen engagement, deliberation, and collective cultural practices can be said to be largely missing from global and standardized subjective wellbeing metrics. Place-based approaches to urban well-being economies, which acknowledge the many meanings of the urban and recognize the scale of the crisis tendencies of urban capitalism thus have demonstrable potential to address these shortcomings. Insight from

approaches, which conceptualize cities as places where cultural practices are formed, contested, and reformed have been proposed (Bai et al., 2016). Some of the limitations of dominant data-driven approaches to urban wellbeing promotion can begin to be addressed by attending to the emotional, cultural, and political dynamics of economic value and urban change, as explored in the next section.

3.2. The cultural and emotional economy of cities

The medical and health humanities, and health geographers have paved the way for a more interdisciplinary perspective on wellbeing (Andrews et al., 2012; Atkinson et al., 2015; Crawford et al., 2015), and have called for more purposeful engagement with creative practices, cultural difference and systematic health inequalities (Crawford et al., 2020). Others have explored narratives, storytelling, theater and the arts in relation to health and wellbeing (Kearns et al., 2019; De Leeuw et al., 2017). However, there has been less attention in this work specifically to urban emotional landscapes and urban emotional cultures. Meanwhile architects, urban designers and others have argued for the need to move from smart cities based on economies of efficiency to more empathic cities based on a renewed connection with the whole urban environment as a common local good (Biloria, 2021). This reflects widespread calls to rethink the economistic models on which cities and regions are founded, and instead to focus on regenerative economics (Axinte et al., 2019). However, there is currently little dialog between these economic/regional, architectural and health humanities literatures, such that the emotional dimensions of urban economies remain underexplored as potential pathways of global urban change. This section considers some potential avenues of enquiry based on the idea from cultural studies of "affective economies". This denotes how emotions circulate, actively producing particular social formations, creating and binding individual and collective bodies through narrative, representations, signs and embodied experiences (Ahmed 2004). A literary perspective on urban emotional governance provides a lens through which to view public feelings, and the ways in which these feelings are structured and circulate in cities. A more pluralistic form of interdisciplinarity for urban wellbeing can unravel how emotions have become an apparent source of value in free market economics, and shed light on the strategic governance of the emotions in the management of individuals, populations, resources, and space.

While the sub-discipline of literary geographies has long explored urban imaginaries in fiction and film (e.g. Gold, 2001; Johnson, 2000) there have been limited efforts to use literary analysis to inform geographical theories of urban governance. Cultural theorist, Raymond Williams's analytical mode of "structures of feeling" has been used to highlight how spatial representations of the rural and urban are co-implicated in a "pattern of interpretation of a radically changing social order" (Dirksmeier, 2016, p. 887). In terms of urban wellbeing, these spatial representations are based on nostalgic desires for "goodness", "nature" and "community life" associated with rurality, which are exposed as part of the colonial power of the metropolis, which in turn become positional goods to be consumed by urban dwellers.

By highlighting the importance of subjective meaning-making with regards to spatial representations evidenced in literary fiction, Williams' work has also been adopted in accounts of the "affective atmospheres" of urbanicity (Anderson, 2009; Close Stephens,

2015; Thrift, 2004) explore how we make sense of, appraise and react to, collectively and individually embodied urban experience (Dirksmeier, 2016, p. 890). Engagement with literary fiction can be productive for several reasons. It can develop an account of emotional cultures, which shape how we *experience* urban wellbeing, it can shed light on prevailing *social relations,* which inhibit or enhance empathy, and it can be *disruptive* in the sense of challenging conventions and imagining alternative futures. This potential has been recognized in analysis of the links between speculative fiction, smart cities, and urban policy making (Bina et al., 2020; Marvin, 2000). In this sense, the connections between culture, representation, norms, values, and reflexive embodied practices are important for understanding the emerging and historical contours of social change. Emotional encounters in urban space and collective affective experiences traverse different scales and temporalities which take into account the global drivers of urban experience (Harris et al., 2019, p. 157; see also Amin, 2007; Darling & Wilson, 2016; Simonsen, 2010).

As an example, structures of feeling has been a useful idea for geographers who have documented the experiences and causes of urban precarity. Philo et al. (2019, p. 151) identify a failure to combine political-economic and social-cultural accounts of "the vagaries of human emotion". These are brought together with reference to how films and cultural representations of urban "unliveablity" provide insights on the connections between mental ill health and the city. They indicate a form of emotional governance which is termed, after Judith Butler, as the "psychological terrorisation" of shaming, marginalization and epistemic violence against people with mental health diagnoses living in particular situations of socio-economic precarity.

This sensitivity to the spatialization and power relations of structures of feeling – understood as collective affects and emotions – is now also informing exciting developments in ethnographic research on the experiences of urban mental health (Krabbendam et al., 2020; Richaud & Amin, 2019; Söderström, 2019). Urban geographers have for instance, collaborated with life scientists on studies of psychosis, while retaining a definition of mental ill health broadly as a problem of socio-economic precarity rather than (an exclusively) biomedical category (Söderström, 2019, p. 81). Others have used ethnographic and conversation analysis between GPs and patients to examine how poverty has become pathologized through both "moralising narratives" and high levels of anti-depressant prescribing in low-income communities in UK cities (Thomas et al., 2018). Central to these approaches is a problematizations of the assumed meanings, definitions and categories of wellbeing used as the key focal points for particular research programmes. They support disciplinary plurality rather than integration.

One of the consequences of focusing on culture not as an abstract system or set of measurable components – but as a lived process – is to develop a more reflexive approach to how particular ideas and feelings about the urban emerge, some becoming dominant and others residual (Williams, 1977). This matters because how the city is imagined, how these framings are institutionalized and implemented, shapes urban policies on the ground. Thus, to revisit the emerging consensus of the urban as a complex organic system of interconnected (material, symbolic) infrastructures, it is helpful to be aware of the ways in which such organicist visions of the city were also common in the evolution of late 18th and 19th Century European political economic thought and the spatial imagery of the "vitalist city" (Huxley, 2006). One key problem with taking a scientific

approach to cities at face value is that it obscures the cultural specificity of these ideas to North American and Western European cities (Barnett & Parnell, 2016, p. 7). The models, representations and experiences derived from these specific contexts are unhelpfully assumed to apply in the global "new urban agenda" of standardizing supranational bodies such as the UN, OECD and WHO, as evident in the production of standards for happiness measurement. A more historical perspective can address this weakness.

3.3. Toward an urban humanities approach to emotional cultures

In this final section I demonstrate how interrogating the historical specificity of the relationship between the emotions and political economy is productive in two primary ways. First, it addresses the limitations of narrowly defining urban wellbeing through big data and subjective wellbeing metrics. Secondly, it contextualizes the dominance of specific forms of well-being analytics in the new urban agenda as part of a discursive contemporary revival of organicist complexity thinking. I provide an example of the novel insights that can be generated on the governance and spatio-temporalities of urban wellbeing from an historical analysis of literature.

Literary theorist, Catherine Gallagher (2006) provides an account of the intersections of 19th Century British political economic thought and Victorian literature in the work of the romantic lake poets Samuel Taylor Coleridge and Robert Southey, and novelists Charles Dickens and George Elliot. She calls into question the idea that (emotionally sensitive, humanist) romantics and early Victorian novelists were necessarily at odds with (apparently rational, empiricist) political economists by pointing out their shared commitment to relocating the source of economic value away from God and toward organic life. In doing so, they held in common the idea of emotional sensations of pleasure and pain as the source of that value, and as a central notion for connecting the wellbeing (or not) of workers to the creation of value. The distancing of political economy from moral considerations, and its embrace of new life sciences of psychophysiology to advance the economics of happiness were key to the development of modern economics as a science, and it is this version of economics and econometrics – rather than the early political economists – which is manifest in the global policy agenda informing standardized metrics of happiness.

Having a better understanding of the intellectual trajectory of economics as a science and its deep connection to culturally specific assumptions about happiness and subjectivity is an important first step to addressing the potential limitations of urban wellbeing analytics based on happiness economics, the science of cities and neurourbanism. A second step is to articulate the spatial imaginary of the economy and the circulation of capital during particular eras. This can shed light on the normative claims made for how the economic body (labor, material/capital flows, urban and rural spaces, value, emotions of subjective pain/pleasure) should be governed. Gallagher reports on how during the industrial revolution in the UK, the economy was seen as an organic entity. It was both a living being or ecosystem which must grow, adapt, and innovate in order to survive (bioeconomics), and a life-form which was an aggregate of the pains/pleasures of each individual worker (somaeconomics). Impediments to free-flowing capital were described geographically and biologically – as much by poets, such as Coleridge as they were by political economists. In 1809, Coleridge for instance, described:

> . . . our Roads, Rivers, and Canals being so truly the veins, arteries, and nerves, of the state; that every pulse in the metropolis produces a correspondent pulsation in the remotest village on its extreme shores! (cited by Gallagher, 2006, p. 20)

This organicist metaphor is equally evident in Thomas Malthus' "bioeconomic" account of descriptions of the emerging industrial economy and its impact on what was held to be the *real* productive agricultural economy. Gallagher (2006, p. 48) summarizes Malthus' critique as an organic problem of circulation:

> Pounds of healthy flesh, rightly destined for productive bodies, became stuck in the wrong places, such as manufacturing towns, which prevent the flow of capital back to the country-side, and consequently soil is left uncultivated.

Notwithstanding this common ground, Coleridge in fact vilified the organicist rhetoric of Malthus and other political economists, arguing that they could not accommodate or abide the health of individual persons. Instead, they focused only on aggregates which denuded people of their humanity. Coleridge insisted that"[w]hat the political economists called a social body [. . .] was merely 'a self-regulating economic machine', the workings of which severely injured actual people" (Gallagher, 2006, p. 21). Yet it was as a result of both the emerging psychophysiological science of emotions toward the end of the 18th Century on which these 19th Century political economists drew, *and* in the self-regarding emotional cultures of the romantic poets that our emotional life became individualized; separated from political accounts of societal suffering and subject to new forms of emotional self-management (Hewitt, 2017, p. 425). This account establishes how collective emotional cultures are historically specific, as well as how our theories about them (in this case happiness economics, political economies of urban emotions or somaeconomics) are shaped by contemporaneous sociological, material and geographical realities as well as metaphors.

This brief glimpse into an historical analysis of embodied politics and emotional culture through literature provides us with a starting point for exploring how some of the tensions of contemporary efforts to promote urban wellbeing in cities and regions are being navigated. It helps to identify the historical precedents for thinking of the city as a biological system and of the emotions as a source of economic value. Others have similarly proposed a more expansive conceptualization of the urban to resolve challenges of sustainability, inequality, and wellbeing from humanities perspectives (Cuff & Wolch, 2016). They question the marginalization of diverse forms of expertise that has characterized contemporary urban research. Cuff and Wolch (2016, p. 14) propose a definition of the city as "situated collective life emplaced in an urban context, comprised of historical interpretation, material environments, contemporary culture, and speculative futures". This contrasts with the assumptions of neurourbanism, which is interested in urban dwelling, neuroarchitecture, which is preoccupied with urban form, science of cities and happiness economics, which are concerned with the geo-location of happiness and wellbeing. Historical analyses and interpretations of contemporary literary fiction could pose a new starting point for understanding how specific disciplinary knowledge such as happiness economics, neurourbanism and the science of cities become influential. These can be interpreted as manifestations of the influence of the life sciences and biotechnological developments characteristic of the current "4th industrial revolution", and are reflected in existing in depth analyses of the complex spatio-temporal imaginaries

of political economic thought at previous times of extreme industrial change such as that provided by Gallagher. Such analysis could help to interrogate the promises, missteps, assumptions, and normative implications of new forms of expertise on contemporary agenda setting for urban wellbeing.

In this way, humanities research offers tools to identify the discursive formations which underpin specific approaches to urban data, urban systems, urban knowledge production, and governance. This can establish out how certain courses of action or policy frameworks have been made possible, or become sedimented as common sense. While spatial theories have been useful in casting doubt on the discursive formation of the "regional problem" (Massey, 1979) with regards to urban inequalities, so too, historical and cultural economic analysis can help us to articulate the power of urban crisis narratives in specific national contexts (Andrews, 2018). Literary analysis adds an attention to the characteristics and trajectories of particular emotional cultures. Through attention to fiction and its reception among audiences, we can gain an understanding of the contexts of people's biographies and diverse experiences, potentially empathizing with socio-economic conditions and community relations that may not be our own. Analysis of historical fiction can help us to identify the sources of (economic, emotional) value and types of knowledge which have shaped these. For instance, this can unearth traces of biological metaphors for urban living and point toward the ways in which the circulation and flow of value has been governed. This can advance our understanding of how urban wellbeing is framed in specific and limited ways, and highlights the emotional scripts and values on which these approaches are based.

As philosopher, Martha Nussbaum (1995, p. 52) has argued, assessing the validity and ethics of wellbeing measures in real-world contexts where the distribution of opportunities for wellbeing is highly unequal, should be supported by an empathic emotional culture. Although there are also limitations and transnational boundaries imposed on how empathy is experienced (Pedwell, 2014), for Nussbaum a culture of fiction reading is central to the development of the kinds of public thinking, reasoning and judgment that are necessary for fair and just policy making. The related insight that narrative is central to the relationship between evidence and policy is now widely acknowledged yet under used in policy studies and policy design (Dillon & Craig, 2021; Lowndes, 2016).

4. Conclusions

Current investments in interdisciplinary research on urban and regional wellbeing advance a complex, place-based, urban systems approach in which the city mimics an organic ecology – adapting, evolving and changing in response to material and social forces which, it is argued, need to be carefully monitored and governed. This approach draws on large datasets, using the most advanced "smart" forms of data analysis and linkage, globally standardized measures and indicator sets, behavioral analytics, technological innovations, machine learning, modeling, visualizing and forecasting economic and social trends. The aim is to transpose research evidence on personal and subjective emotions, our mental health, and our affective experiences into new data practices. These practices are evident in new forms of urban experimentation, the search for causal pathways between urban living and mental health, and the design of wellbeing interventions in cities. It is easy to see the appeal of research insights, which could be used to

shape the local conditions for wellbeing, renew the physical and social fabric of cities, and improve the mental health and wellbeing of individuals. Approaches which address inequalities in wellbeing suggest welcome progress.

However, the science of cities, neuroscience of urban emotions and economic accounts of happiness, are themselves epistemological constructs that are contested and debated. It is important to examine how they are mobilized in the definition, creation and realization of economic value and the instrumentalization of emotions, and to consider their gaps. Data and evidence are necessary but insufficient to shape future urban wellbeing. To better understand the contours of social, economic and political change required, humanities perspectives have an important role to play in analyzing causes, explanations and the complex economies of emotions. The interpretive methods offered by humanities and literary research will be central to unpacking narratives of causation and prevention within novel interdisciplinary research agendas on urbanicity, mental health, happiness, health and wellbeing promotion.

Interdisciplinary engagement between neuroscience, psychiatry, urban design, engineering, and economics has been celebrated as a promising route for urban wellbeing research. However, achieving inclusive urban wellbeing in the long term will require interdisciplinary engagements which acknowledge the full complexity and contradictions of human experience, the need for implementing whole-systems change, interdependences between political discourse, cultural norm shifting and socio-economic conditions, attention to deeper avenues of explanation and empathy, and the need for imagining new futures. These shape and are shaped by specific and geographically situated emotional cultures. Paying attention to our *feelings about* feelings will allow us to critically analyze the priorities proposed for how urban wellbeing is researched and governed.

Disclosure statement

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