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Value in Places and Places in Systems

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Contents

Abstract

In a context in which universities and creative practices are used as part of place-making, this working paper looks at place-based approaches to evaluations which leads it to consider places as systems. Indeed, the key message is that capturing the value of place-based interventions is difficult, not just because of the 'standard' methodological issues arising for evaluation, but because places are both parts of systems and are systems themselves and it is not clear how their boundaries can be defined. This - the paper argues - has some interesting implications, including that 'franchising' of solutions across different places is not always possible because localities develop in a path-dependent way. Secondly, systems thinking - bringing to the fore the issues of frames, boundaries and stakeholders - makes visible 'the orders of worth' in evaluation practice. This means that a number of evaluative criteria co-exist for any given place at any given time and, rather than recording or representing, evaluating is about making choices about which frames, boundaries and stakeholder are documented and which are marginalised. This raises questions about the limits of the outcomes-based and objectives-driven evaluation approaches in relation to places, not just because cause-effect attribution is difficult in complex social environments but also because the value co-creation which underpins place-based projects cannot be 'bounded' in the way required by outcomes-based evaluation against fixed objectives. Equally importantly, the question 'whose values and which stakeholders' inevitably arises. This calls for supplementing those standard approaches with more open-ended forms of mapping, tracing and narrating. These considerations are presented in the paper against the backdrop of changing conceptions about the role of universities in place-making.

Introduction

The topic of this paper is value in places. More specifically, this is an attempt to critically assess the potential and limitations of the so-called place-based (PB) approaches to evaluation. As a way of delivering programmes, PB initiatives have long been popular with charities, foundations and state funders. In more recent years, with the growing interest in the anchoring and placemaking role of universities (Birch, Perry and Taylor, 2013; Goddard, Coombes, Kempton and Vallance, 2014; Fassi et al., 2020), the PB terminology has also permeated the higher education sector. This is an interesting development as it throws into relief the inherent limitations of the 'traditional' PB evaluation.

In a nutshell, any approach looking at a place as a relatively static and bounded locality will struggle because places are parts of systems and are systems themselves. In other words, what happens in specific places cannot be understood independently from the systems in which they are embedded; conversely, the complex interrelations of systems come to be concretised in specific places. This systems lens has become prominent in relation to universities because of the popularity of the multiple helix (MH) models (Etzkowitz and Leydesdorff, 1997; Arnkil et al., 2010; Carayannis and Campbell, 2012). Fuelled by the growing and strategic interest in "knowledge economies" (Gibbons et al., 1994), the triple and quadruple helix models came to epitomise the dynamic complexity of systems and were said to 'model' how universities operate in the 21st century. This, in turn, contributed to the perception that, while universities may well be local and regional anchoring bodies and placemakers themselves, simultaneously, they are nodes in global innovation economies.

These developments should be considered against the backdrop of changing conceptions about the functions of universities (Harding et al., 2007; Temple 2011) and the emergence of the powerful discourses around "the generation, use, application and exploitation of knowledge and other university capabilities outside academic environments" (Molas-Gallart et al., 2002, p.3). Coupled with the popularity of the MH models, these monumental changes to how universities operate — variously couched in terms of the growing emphasis on "public engagement", "third mission" or "knowledge exchange" (Pinheiro et al., 2015; Fazey et al., 2014; Chatterton and Goddard, 2000) — made it inescapable for places be considered as systems. Indeed, what is interesting from the point of view of this paper is that these discourses, including the most recent knowledge exchange (KE) rhetoric, bear an imprint of the same tension that underpins PB evaluation: namely the fact that places are both local and global. The two main 'paradigms' that have to be straddled as much in PB evaluations as in KE strategies are, on the one hand, the global systems-underpinned, entrepreneurial model (Etzkowitz, 2008) and, on the other, the regionally embedded, civic model (Goddard, et al., 2014). This is interesting because these models come with the attached regimes of valuations. The suggested ways of evaluating the civic and the entrepreneurial model are divergent, if not incompatible.

UAL's project MAKE@StoryGarden — as an example of a PB intervention supported by a university — is implicated in these different discourses. This paper shows that evaluating it is, accordingly, complicated. It is so not just because of the

methodological problems arising but also, and perhaps more interestingly, because of the presence of many competing impact discourses and valuation systems which lay claims on capturing the value of this place and interventions into it.

What makes an approach 'place-based'?

Place-based initiatives have been characterised as offering "a comprehensive, whole-of-community approach" (Heery et al., 2018) and are said to respond to complex issues that "cross departmental boundaries and resist the solutions that are readily available through the action of one agency" (Perri, et al., 2002, p.34). Indeed, according to the Association for the Study and Development of Community, in most cases, PB is more "than just a term to describe the target location of funding"; it also describes a style of approach that seeks to achieve 'joined-up' systems change (Anheier and Leat, 2006). The objective of 'placemaking' has also been characterised in terms of "seeking to maximise the 'shared' value of a place (Project for Public Spaces, 2016; Wyckoff 2014, 2015)" (quoted in Eggertsen, 2019, p.290). This raises obvious questions: who is doing the 'making'; who is sharing and benefiting, and which systems are at issue? As we will see later, no less pressing is the question: how big is a place?

Charity, foundation and state-funded initiatives

This idea of PB interventions is not new. Arguably, the first recorded PB initiatives took place in San Francisco in the 1950s; the approach was turned into a strategy by the US government from the 1960s. The War on Poverty (1964–), the New Deal for Communities and Comprehensive Community Initiatives are the flagship programmes developed since. The discourse on 'wicked problems' helped to establish these as responses to the persistent social problems which could not be 'solved' by traditional government interventions. As described in Appendix 1, Our Town — a programme developed by The National Endowment for the Arts (NEA) — and a similar initiative supported by ArtPlace America, are recent manifestations of this long tradition but with a special focus on the arts, design and culture. In the UK, area-based (AB) initiatives have been used as a tool for urban regeneration for over four decades (Matthews, 2012). The Community Development Project began in 1968 and others followed, including: "Enterprise zones" in the 1980s; the Single Regeneration Budget and New Deal for Communities in the 1990s; the Neighbourhood Renewal Fund and Single Community programme (Davies, 2019). The Joseph Rowntree Foundation's initiatives which gathered momentum in the late 1990s and 2000s, including its work in Bradford (IVAR, 2016), exemplify the scale of what can be achieved by foundations. With a general move over the last two decades towards a revival of the "local" in the belief that "place matters" (Phillips, Jung and Harrow, 2011), initiatives such as: Big Local, Big Lottery Fulfilling Lives, Our Place and the Community Organisers Programme followed. Arts Council England's Great Place Scheme and Creative People and Places is perhaps the most recent addition targeting cultural value specifically.

PB interventions thus come in many different varieties and scales. They can involve anything "from grant-making in a specific geographic area to long-term, multifaceted collaborative partnerships aimed at achieving significant change" (IVAR, 2017, p.6). It is difficult to speak of a unified doctrine. What is striking is the range of motivations among the funders working with PB approaches: these can vary from fighting deprivation, addressing 'cold spots' in funding portfolios, responding to changes in policy/external context and observing and testing hypotheses about systems change (IVAR, 2016). This compounds the difficulties of evaluation.

Situating universities

Universities are spatially situated. Although many higher education institutions (HEIs) have multiple branches and satellite campuses, work increasingly in a networked way and deliver teaching online, they also do things locally. HEIs have long been recognised as relatively stable and influential 'actors' in urban and regional development (Fulbright-Anderson et al., 2001). Of course, old universities played an important role in Medieval towns but the roots of the more active 'placemaking' can be traced back to the second half of the 19th century when a set of explicitly 'civic universities' was set up in the UK (Jones, 1988) and the passing of the Land-Grant College Act in the US in 1862 paved the way for the establishment of land-grant colleges (Christy and Williamson, 1992). The ethos of these new 'civic' or 'anchor' institutions was significantly different when compared to Oxford and Cambridge, or Harvard and Princeton. The new institutions were conceived not just as rooted but also engaged in their local communities (Watson et al., 2011). As Goddard has outlined:

> The engaged civic university … is one which provides opportunities for the society of which it forms part. It engages as a whole with its surroundings, not piecemeal; it partners with other universities and colleges; and is managed in a way that ensures it participates fully in the region of which it forms part. While it operates on a global scale, it realises that its location helps to form its identity and provide opportunities for it to grow and help others, including individual learners, business and public institutions, to do so too (Goddard, 2009, p.5).

In recent years, the concepts of civic engagement and local anchoring have indeed made it possible for many universities to position themselves as active "placemakers" (Birch, Perry and Taylor, 2013; Goddard, Coombes, Kempton and Vallance, 2014; Ramsden, Potts, Mayo and Raymond, 2001; The Work Foundation, 2010). This role — and the 'strategic positioning' this entails — is not, however, uncontested. To start, the civic narrative has been used much more commonly to describe institutions with "vertical/horizontal specialisation" and in contrast to those with "universal/generalised" orientation (Laredo, 2007). This distinction overlaps with the difference between the vocational and research-intensive model. To use the phrasing suggested by Perry, the former focus on "relevance" whereas the latter on "excellence" (Perry, 2012).

Indeed, the emerging discourse of KE could to some extent be characterised by a rift between what came to be known as a civic university model on the one hand (Goddard, Coombes, Kempton and Vallance, 2014), and the entrepreneurial university model on the other (Pinheiro and Stensaker, 2014). The former would

typically emphasise a mission oriented towards community engagement and social service, local and regional pro-bono engagement; the latter speaks much more to the themes of global innovation and knowledge economy and is underscored by business orientation. In some cases, these two models are difficult to disentangle in practice; in others, however, they develop specific organisational forms and management structures (Jongbloed, Enders and Salerno, 2008; Vorley and Nelles, 2008; Pinheiro et al., 2015). What is apparent is that the two discourses converge and clash in different localities, a conflict often managed with the talk of 'global-local' universities, as reflected in the KE strategies developed by University College London, King's College London or Newcastle, to name just some. CSM's MAKE@StoryGarden, as an example of a KE initiative supported by UAL, occupies an interesting place in this discursive space.

Do things change in the targeted localities?

A consistent theme in evaluation of PB initiatives is the difficulty of demonstrating impact (Davies, 2019; Atkinson and Kinton, 2001; Duncan, Jones and Moon, 1998). In line with the old dictum that absence of evidence is not evidence of absence, we should ask whether this tells us more about the limitations of the evaluation practices in PB approaches rather than the limitations of the approaches themselves. Simply put, the changes that happen are not accurately registered in evaluation. (The discussion in Appendix 1, which looks at the alleged "outcomes problem" of the Creative Placemaking initiatives in the US in terms of the limitations of the indicators-based benchmarking supports this.)

The fact is that the empirical evidence of 'area effects' remains inconclusive. PB approaches in the US have not eradicated neighbourhood poverty (Cytron, 2010), and the best-known programme of this kind in the UK — New Deal for Communities — allegedly made no demonstrable difference in at least 16 of the 25 areas for which there is data available (with the exception of London which, the study argues, is a special case) (Taylor, 2016). There are some general trends: it is easier to record a positive impact on the individuals involved in PB approaches (the so-called positive people outcomes) but place outcomes or area-level effects are more difficult to achieve; furthermore, in contrast to the more intangible outcomes, changes in infrastructure and physical environment are relatively easy to see and "measure" (Ecotec, 2006; ASDC, 2007; Nowosielski, 2012).

This creates perverse investment incentives: to invest in the kind of developments likely to drive gentrification and to allow the funding to follow specific people and groups, not the area (Baker et al., 2009). This is further confounded by the well-known fact that impact depends on the starting point for a programme/approach. For example, the evaluation of the Joseph Rowntree Foundation's Loneliness approach found that the neighbourhoods with most assets showed most impact but those with fewer showed most progress (Collins and Wrigley, 2014). This is in addition to the well-known predicament that funders are interested in evaluating the effects of individual projects in "splendid isolation"' (ODPM, 2002) which distorts the area effects.

Robust evaluations of the initiatives supported by universities are likewise nascent:

> … despite widespread usage and potential value of the anchor institution concept (Friedman et al., 2013), the research literature is devoid of empirical studies examining the comprehensive influence and impact. Researchers have not substantially considered how strategies employed and considered effective with a university in one city might translate and work in another. Single case studies (Groves, Revel and Leather, 2003; Hubbard, 2009; Macintyre, 2003 ; McGirr, Kull and Enns, 2003) have explored and identified individual initiatives that collectively can be "cobbled together" to demonstrate a university's impact. However, single case studies are less effective in suggesting the need and importance of a university's efforts to promote a city's economic and social development (Harris and Holley, 2016, p.401).

The dearth of "empirical research that explores the real-world functioning" (Vallance, et al., 2020, p.1) of local arrangements involving universities has now been acknowledged and it has started to be addressed. A notable example here is the case of Newcastle City Futures (NCF) — "a university-anchored platform for collaborative urban foresight research, public engagement and innovation" and specifically engaging the public in co-design in the context of a 'test-bed city' (Vallance, et al., 2020). With more thorough case studies like this one, aided by the growing emphasis to improve the quality of the impact case studies returned through REF (NCCPE, 2019), value narratives spanning different case studies are likely to be established.

The current situation, however, is that, while there is a plethora of evaluations for charity, foundation and state-funded initiatives (some written with admirable sensitivity to the 'place' and the issues identified as important by the local stakeholders), they do not add up to solid evidence (as highlighted above). This is so partially because evaluation practices reflect various organisational and institutional cultures and the findings are often difficult to interpret independently of these framings, thus making evaluation and benchmarking across different places difficult (see SDI's Working Paper no. 3). This is also a reflection of the methodological challenges that arise for PB evaluation and the fact that the bulk of existing evaluations have taken the form of either economic impact analysis or the traditional indicator-based assessment. Here the lessons emerging are that: the economic impact analysis tells us very little about what actually happens in the assessed localities and often provides misleading calculations while supporting perverse incentives (Arefi, 2014; Corkery, 2016). Regarding the indicator-based evaluation, the conclusion is that the complexities of places are such that comparisons across different localities are difficult in the absence of comprehensive, multivariate models and scientifically backed-up Theories of Change (ToC) (see Appendix 1).

Place within systems and as a system

The evidence of area effects remains inconclusive but one lesson that is clear is that change cannot be achieved simply at neighbourhood level because local activity is connected to what is going on elsewhere (Marris and Rein, 1974; Imrie and Raco, 2003). So, the evaluation of the existing evaluations of PB initiatives

points consistently to the need to link local interventions with structures beyond the area (ODPM, 2002) and to work across different levels and systems (Hall and Hickman, 2002; also see Appendix 1).

Related to this is the second point highlighted strongly in the existing evaluation research, namely that places themselves have to be seen as systems. In the words of Mark Stern, "place matters" and the key consideration is that "policymakers and funders need to conceptualize a neighbourhood's cultural ecology instead of focusing on one type of asset" (Stern, 2014, p.94). As already mentioned, in order to understand places, we need multivariate models where different actors of the local ecology interact and respond to systemic changes outside.

Perhaps this point could be made more broadly by pointing out that there is a growing realisation that places are, in many ways, like organisations in the accounting and management literatures, that is, complex systems that function as parts of larger systems (Malmi and Brown, 2008). Here the multiple helix models (MH), as developed in relation to universities (Etzkowitz and Leydesdorff, 1997; Arnkil et al., 2010; Carayannis and Campbell, 2012), are useful as an illustration (see Appendix 2).

Systems in local articulations

In a nutshell, the multiple helix model purports to describe an interactive arrangement based on the operation of overlapping institutional spheres or systems. In the initial triple helix model (TH), these were: university, industry, government (Etzkowitz and Leydesdorff, 1997). Civil society is the additional dimension that figures in the quadruple helix model (QH) (see Appendix 2 for more details about how the model has been developed and how it is thought to operate). What is most relevant from the point of view of the present discussion is whether the joint action of the actors — as represented in this model — can be considered in PB terms. This has been a topic of discussion for the 'founding fathers' of the MH model. For instance, Ranga and Etzkowitz (2013) proposed the concept of "TH spaces" spanning knowledge, innovation and consensus spaces to enable region-level analysis. Carayannis et al., (2018) have resorted to the notions of clusters to give QH a more local articulation. These in turn have fed into the development of the 'more applied' constructs: regional innovation systems (RIS) (Stejskal et al., 2018); innovation districts (Katz and Wagner, 2014); creative hubs (Virani, 2015); living labs (Eskelinen et al., 2015). All these build on the idea of so-called "third spaces" and the neutral ground for collaboration these are said to provide; collaborative working with delivery partners and other organisations (Comunian and Gilmore, 2015); and real life settings providing access to active users/researchers from multiple sectors (Higgins and Klein, 2011). This way of working is believed to lead to open innovation (see Appendix 2) and "faster and improved acceptance, with end users gaining a greater sense of empowerment and ownership" (Eskelinen et al., 2015, p.30). The existing evidence shows, however, that these notions are more policy instruments than empirically embedded concepts. Just like the initial localised translations in the form of 'TH spaces' and clusters, they remain more prescriptive than descriptive. Indeed, a number of scholars have questioned whether the local and regional TH/ QH manifestations have been implemented, in particular insofar as citizen-driven QH innovation is concerned. For instance, Arnkil et al., (2010) reports that the instances of QH social innovation where citizens are actively driving and shaping

the collaborative dynamics remain limited (see Meroni, 2007; Franqueira, 2009). In the same vein, Vallance and colleagues find that "the empirical evidence that supports the real world presence of fully functioning urban living laboratory and QH arrangements (either separately or in conjuncture) does not currently match the theoretical claims and policy rhetoric around these phenomena" (Vallance et al., 2020, p.2). Rodrigues and Melo likewise point to "the lack of a strong social architecture supporting the interactive dynamics that foster innovation" (Rodrigues and Melo, 2012, p.1685) and claim that the MH model is more of 'symbolic' rather than objective significance.

These reservations notwithstanding, the systems constructs discussed here — be they the MH models or their more localised translations, e.g. living labs — can be useful to consider from the point of view of PB evaluation. Simply put, they provide a host of new approaches to evaluation which could, in principle, inject new ideas and overcome the impasse reached by those approaching placemaking from the perspective of urban planning and economic regeneration. Indeed, the more recent frameworks developed to understand open innovation initiatives in relation to specific organisations (e.g. Whitham et al., 2019; see also Appendix 3 for the proposed valuation framework), in addition to the more traditional performance management systems (Jones-Evans et al., 2018) are interesting from the standpoint of evaluative practice and PB evaluation specifically. What is notable is that these approaches could provide a means of cross-cutting systems in order to enable a more 'textured' investigation of their local instantiations. The reality is, however, that most performance management systems are dominated by the consideration of financial or commercial outputs and designed to respond to easily accessible statistical proxies. Thus, they remain heavily skewed toward the entrepreneurial model. In order to use them for PB evaluation, frameworks balancing the civic and entrepreneurial demands — which always co-exist and sometimes clash in relation to PB interventions — would have to be developed.

Looking at a place through a systems lens

Applying the lens of systems thinking can be helpful for the practices of evaluation in PB interventions and for understanding what happens in places more generally, even though — rather than offering solutions — systems approaches alert us to a range of issues that can sometimes be overlooked in PB evaluation practice.

Understanding that places are complex and situated systems

Systems thinking allows us to see places in terms of interrelations and interactions giving rise to emergent patterns and feedback loops. This is a helpful way to approach places where changes to one aspect influence the whole. Furthermore, the systems lens enables us to see places not as self-enclosed units of analysis but as systems situated within systems. This obviously resonates with the broader shifts to embrace networks as a fundamental unit of social analysis (Castells, 2010) and to see knowledge production as a global phenomenon (Johnsen, et al., 2015). Hence, the systems perspective is helpful to apply in order to understand a place as a system and as situated within systems.

Collaborative forms should not be assumed but need to be constructed

An insight from systems thinking for PB approaches is that just 'throwing things together' is unlikely to produce good outcomes. The emerging studies into collaborative work patterns and the alignment with the larger-scale systems point to the need for very deliberate design (Jongbloed, et al., 2008). In the same way that innovation systems should not be seen as pregiven and innovation should not be taken for granted in any set-up involving three or more selection environments (see Appendix 2), intermediary actors who "can operate between sectors to bridge gaps in practice and encourage collaboration (MacGregor et al., 2010)" (quoted in Vallance et al., 2020, p.4) are needed for successful placemaking.

Places (as intersections of systems) develop in a path-dependent way

The last 50 years or so of research in organisational theory — especially the neo-institutional approaches (DiMaggio and Powell, 1983) — teach us that explicit and implicit norms vary from place to place and influence, if not determine, how places develop. Thus, how places change cannot be captured with a universal trajectory, rather this is subject to path-dependencies related to the existing precedents for doing things, influenced by what infrastructure and resources are available and shaped by other contingent features of a given place. Interestingly, universities are also shown to develop in a path-dependent way where what is a product of contingent historical factors often gets to be presented as a "constructed" strategic choice (Krücken, et al., 2007; Pinheiro and Stensaker, 2014; Laredo, 2007). Thus, when it comes to evaluation across different localities, it is hardly surprising that defining 'universal' systems of indicators has proven so problematic and that benchmarking practices — assuming same outputs from same inputs in different geographical locations — run into difficulties (see Appendix 1).

Systems thinking makes visible the orders of worth in evaluation practice

Places are where different systems meet and intersect; different systems are subject to different evaluative criteria. Simply put, systems thinking forces us to acknowledge that there are many criteria according to which a place, and a PB intervention, might be valued and that these standards reflect presuppositions of different justification discourses or what Boltanski and Thevenot dubbed "orders of worth" (2006). As we have seen, it makes a difference whether the significance of place is narrated through the civic or entrepreneurial prism. These discourses use different criteria for what is significant, embody different assumptions and allow for different justifications. Whereas the former is supported by communitarian and social ideals, the latter's standards are linked to the neoliberal ideas of efficiency and competitiveness (Farazmand, 1999; Christensen and Lægreid, 2011). Place can be construed as both a node in a networked global economy and a space for civic interaction and thus both of these discourses are likely to be present in the PB evaluation practice.

Two tentative conclusions can be made on the basis of this discussion, both with significant implications for MAKE@StoryGarden and similar initiatives. On the positive side, MAKE@StoryGarden offers an opportunity for developing a sophisticated framework for understanding the systemic issues of places as well as the plurality of evaluative-justificatory orders. On the negative side, the discussion above — showing as it does that PB initiatives are the 'battlegrounds' where

different orders of worth and value registers interact — calls into question one of the fundamental assumptions of placemaking, namely that it should seek to "maximise the *shared* value of a place (Project for Public Spaces, 2016; Wyckoff, 2014, 2015)" (quoted in Eggertsen, 2019, p.290). We are back to asking: whose value, or perhaps more accurately, value according to which system?

Appendix 1. The case of Creative Placemaking

In the 2010 Creative Placemaking white paper for the NEA, Anne Gadwa Nicodemus and Anne Markusen characterised creative placemaking as a process where "partners… shape the physical and social character of a neighborhood, town, city or region around arts and cultural activities" (Markusen and Gadwa, 2010, p.3). In this context, creative placemaking was said to "bring diverse people together to celebrate, inspire and be inspired" as well as to animate "public and private spaces, rejuvenates structures and streetscapes, (and) improve local business viability and public safety" (Markusen and Gadwa, 2010, p.3).

As part of the initiative, key funders supported the development of creative placemaking indicators "to enable practitioners and other stakeholders to better identify and understand potential outcomes of their efforts and how they might be communicated" (Morley and Winkler, 2014, p.49). For instance, the National Endowment for the Arts (NEA) proposed a set of Arts & Liveability indicators for their Our Town grants programme.[1] Similarly, ArtPlace America identified an initial set of 10 Vibrancy Indicators intended to "help assess its investment in creative placemaking and learn more about the contributions of arts activities to creative placemaking". Indicators have also been developed for some local creative placemaking projects.

In spite — or perhaps because — of the relatively large levels of investment in both the programmes themselves as well as the evaluation of the programmes, two years later, when the first evaluation efforts were publicised, it transpired, allegedly, that creative placemaking is not able to demonstrate that it has met/achieved significant outcomes.[2] This has sparked a debate which largely concluded that the funders made a mistake in proposing to evaluate these programmes using 'one-size-fits-all indicators'.

Now is not the place to rehearse this discussion[3]; however, it is worth reflecting selectively on some key points as related to PB evaluation.

Indicators are used as proxies (proxy here defined as "a figure that can be used to represent the value of something in a calculation") and this often presents a problem of validity (in simple terms, whether indicators measure what they claim to measure). As Ann Markusen points out, "various indicators are supposed to capture traits such as 'vitality', 'vibrancy' and 'liveability' that mean different things to different people" (2013, p.291) and are differently measured in different contexts.

What has also resurfaced in the context of the debate is the common problem of performativity related to metrics and indicators. In a nutshell, the choice of indicators will often inform not just the rest of the evaluation plan (including evaluation methods, data analysis and reporting) but also the design of the programmes themselves. It is in this sense that indicators can be strongly performative. We are told that good indicators are "simple, precise and measurable (some programs aspire to indicators that are 'SMART': specific, measurable, attainable, relevant and timely)". These Criteria, while of course desirable in one sense, can mean that indicators are selected on the basis of what is easy to measure, not what matters.

Lastly, and perhaps with most relevance to the current paper, an important consideration explaining why the indicator-based approach proposed arguably failed to capture the change that occurred across multiple locations is the fact that places are systems. Changes in a place come about due to multiple factors across multiple systems [4] and, thus, to be able to understand them we need to "create models that are causal, acknowledge other forces at work and are applied over time" (Markusen, 2013, p.299). Such models currently do not exist for arts and design-based innovation.

Appendix 2. About the MH models

The model of helices, as originally proposed by Etzkowitz and Leydesdorff (1997), describes an interactive arrangement based on the operation of overlapping institutional spheres. In the initial triple helix model (TH), these were: university, industry, government. Civil society is the additional dimension that figures in the quadruple helix model (QH). There are several definitions of the fourth helix developed in research (e.g. Arnkil et al., 2010; Carayannis and Campbell, 2012). The main point concerns the need to acknowledge the democratisation of research and expertise, and to recognise the contribution of "bottom-up civil society and grassroots movements, initiatives and priorities to interact and engage with each other toward a more intelligent, effective and efficient synthesis" (Carayannis and Campbell, 2009). In recent years, the quintuple helix innovation, taking account of the natural environment, has been popularised (Carayannis, Barth and Campbell, 2012).
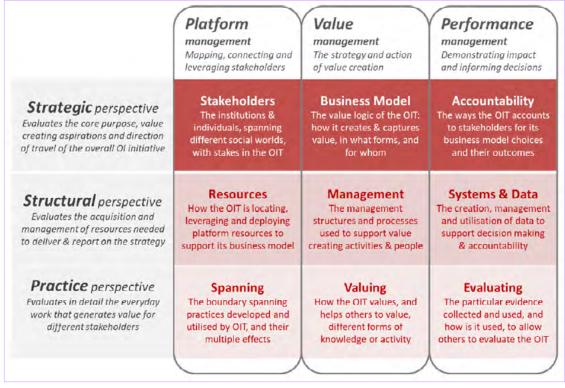
Two key features on these complex systems are: substitution and redundancy. Regarding the former, substitution occurs when, in addition to fulfilling their traditional functions, participating actors swap institutional roles, for instance, when universities support directly entrepreneurial activities normally carried out by the industrial sector (see Ranga and Etzkowitz, 2013). Regarding redundancies, these occur in the process of knowledge and information exchange between the institutional spheres and actors. The model — in the words of Etzkowitz and Leydesdorff — operates on "these complex dynamics of innovation as a recursive overlay of interactions and negotiations among the three institutional spheres" (1997, p.113). Because of the new combinations and re-combination of codes of communications 'spiralling out' of the helixes, new — ostensibly redundant — options become available. Significantly, the process involves both nesting (Braczyk et al., 1998) and intersecting (Breschi et al., 2003). In this sense, the resulting system is "vertically layered and horizontally differentiated" (Leydesdorff and Ivanova, 2016, p.3). It is important to realise that this model is not a static network model, but it is neo-evolutionary in the sense that it promotes interactions among selection environments (economic, scientific and political). Innovation (open innovation specifically[5]) is said to be the outcome of these interactions. The process is inclusive of multiple and potentially multiplying stakeholders.

While a number of proposals have been made to capture the value of this complex system using inferential statistics (Leydesdorff and Ivanova, 2016), the indicators for capturing innovation they construct rely on the existing datasets and, hence, risk reproducing the existing biases. In the past, journal articles and patents were used as indicators of the connection between knowledge production and technology development (e.g. Park and Kim, 2005), however, this has

become more problematic with the shifting of the focus from measuring research collaboration to directly measuring the linkage between scientific knowledge and technological development.

The upshot of this is that the economic point of view dominates the evaluation of TH systems, with non-economic outcomes that are hardly addressed by the existing statistical approaches to TH. Indeed, the TH model has been linked to "entrepreneurial" strategic aims (Etzkowitz, 2008) where 'marketability' is the key consideration. The QH model was, to an extent, introduced to address this imbalance. As Vallance et al. point out, "for Carayannis and Campbell (2012, 2014), leading proponents of the QH model, this represents a more 'democratic' approach to innovation. It also more easily allows for the outcomes of these interactions across institutional boundaries to be conceived as forms of social, rather than just technological or business, innovation (Klein et al., 2013; Lehtola and Stahle, 2014)" (Vallance et al., 2020, p.3). That said, arguably, the dominant KE narratives using the MH model remain entrepreneurial and tied to commercial indicators. This poses challenges for HE institutions with fewer obvious links to industry. Notably, networks such as the European Network for Research Evaluation in the Social Sciences and the Humanities (ENRESSH) and the European Consortium for Humanities Institutes and Centres (ECHIC) eschew the MH models and the concomitant ways of capturing 'value' in financial and commercial terms. They also emphasise the need for new value narratives originating in the traditions of arts and the humanities.

Appendix 3. The Open Valuation Framework – exploring value creation across organisational boundaries

Framework from an independent evaluation of the Cabinet Office's Open Innovation Team (OIT), (Ford and Mason, 2018).

Endnotes

1 https://www.arts.gov/sites/default/files/VALI-Report.pdf

2 http://createquity.com/2012/05/creative-placemaking-has-an-outcomes-problem/

3 Those interested should consult Ann Markusen (2013) Fuzzy concepts, proxy data: why indicators would not track creative placemaking success, *International Journal of Urban Sciences*, *17*(3), 291–303, DOI: 10.1080/12265934.2013.836291. The discussion on the on-line platform Createquity (see footnote 2) is a good starting point.

4 As Markusen explains: "projects might look great on indicators not because of creative placemaking initiatives, but because another intervention, like a new light rail system or a new community-based school, dramatically changes the neighbourhood" (p.299).

5 In the words of Chesbrough and Bogers: open innovation is "a distributed innovation process based on purposively managed knowledge flows across organizational boundaries" (2014).

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