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**Anchoring (in) the region: The dynamics of university-engaged urban
development in Newark, NJ USA**

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Anchoring (in) the region: The dynamics of university-engaged urban development in Newark, NJ USA

While academic and policy analyses have explored universities' roles in urban regeneration and regional development, issues arising from *intraurban* collaboration and competition in multi-university city-regions have received scant attention. In response, this paper examines how higher education institutions (HEIs) connect and splinter urban space at multiple scales through a case study of Newark, NJ, USA. Newark's attempts to reposition itself as a hub for university-enabled innovation disclose the complex ways in which the infrastructures of knowledge urbanism are implemented, negotiated, and spatialised at local and city-regional scales. The study's multi-disciplinary analysis assesses the discourses, technologies, and territorial constellations through which HEIs (re)shape place and project urban peripheries into wider city-regional networks. The paper's findings reveal an emergent and decentred 'de facto' form of university regionalism crystallizing in Greater New York that illustrates the need for robust, scalar-sensitive assessments of anchor institution strategies as they are articulated within broader regionalisation processes.

Keywords: city-regions; regional planning; universities; urban development; qualitative case study; Newark, NJ

Introduction

On 17 October 2016, Ras Baraka, the Mayor of Newark, NJ, alongside Newark Downtown District CEO Anthony McMillan, and New Jersey Institute of Technology (NJIT) President and CEO Donald Sebastian launched ‘Brand Newark’; a public-private partnership and ‘open platform for innovation’ intended to drive Newark’s emergence as a nation-leading ‘smart city’ (Brand Newark, 2017). The initiative proffered a citywide recalibration of Newark’s digital infrastructure and a symbolic transition from perennially-deprived post-industrial city to a technologically-integrated hub of innovation and sustainability – one that recalled and reimagined Northern New Jersey’s historical significance as a centre of scientific discovery. Newark’s higher education sector is instrumental to this transformation. NJIT’s involvement in Brand Newark reinforced the central role played by the city’s higher education institutions (HEIs) in mobilising innovation and smart urbanism as tools for local economic development and urban regeneration. A year earlier, Rutgers University-Newark joined the City of Newark and industry partners including Prudential, Audible.com, and Dun & Bradstreet to create a new venture capital fund and associated tech accelerator. The establishment of ‘Newark Venture Partners’ prompted the Brookings Institute’s Bruce Katz (2015) to warn New York City’s Silicon Alley to ‘watch out’ for its neighbour as a viable, affordable competitor in the high-stakes tech economy.

Newark, of course, is not alone in embracing either the technocratic potential of the smart city or HEIs as enablers of what Amin and Thrift (2017, p. 19) term ‘the special character of urban intelligence’ – even as both frameworks are subject to ongoing debate surrounding their normative visions of the future, capacity for social inclusion, and privileging of elite institutions (Addie 2017; Goddard and Vallance, 2013; Luque-Ayala and Marvin, 2015; Shelton, Zook and Wiig, 2015).¹ The economic

successes of regions with prominent HEI clusters (e.g. Silicon Valley, Greater Boston, Cambridge-Kitchner-Waterloo, Cambridge, U.K., and the southeast Netherlands) have inspired numerous cities to attempt to replicate their experience of university-driven growth, notably by targeting the high tech, biomedical, and advanced manufacturing sectors (e.g. Leslie, 2001). What makes Newark a compelling case in empirical and conceptual terms is the combination of the city's higher education cluster, its experience of urban decline, and, significantly, its embedding within a set of multi-scalar urban structures that paradoxically construct it as hyper-connected to, yet splintered from, its wider city-regional context (Graham and Marvin, 2001). The rhetoric of Katz's alarm call across the Hudson River illustrates the conflicting logics at play here as he draws attention to the regionalisation of an urbanised tech economy while re-inscribing the fragmented imperatives of inter-locality competition onto the geography of innovation. Issues arising from *intraurban* competition and collaboration in multi-university city-regions, though, have largely been eschewed in literature examining universities, urban innovation, and regional development, and thus warrant further investigation.

This paper examines the tensions between Newark as a centre of accumulation and urbanization and as a social and economic periphery within the Greater New York city-region to interrogate the role of HEIs in (re)territorializing increasingly urbanised knowledge-based economies at a regional scale (Herschel and Dierwechter, 2018; Moisiu and Kangas, 2016). The study addresses three central questions: (1) how are HEIs in Newark positioning themselves (and how are they being positioned) as urban development entities, individually and collectively? (2) How does the geography of university-engaged urban development contribute the construction of urban space in discursive, infrastructural, and territorial terms? (3) What potential do Newark HEIs have to project the city into broader scalar arenas by producing regional space? The

paper argues that while hierarchical territorial arrangements continue to shape, and be reinforced by, their spatial strategies, Newark's HEIs are both place-based actors and entities that are active over multiple sites and scales; institutionally and via their research/outreach centres, faculty, students, and alumni. Given the diversity of institutions present, the study shows that university-engaged urban development in Newark emerges as a messy aggregate of activity across a cluster of institutions rather than an outcome of a cohesive urban development agenda or mature innovation network (see Asheim, Lawton Smith, and Oughton, 2011, pp. 878-879). Yet as the relational logics of regional innovation push against the entrenched spatial frames of American urban politics (Cox, 2010), decentralised institutional practices are producing a 'de facto' form of regionalism (see Harrison, Smith, and Kinton, 2017). This opens opportunities for HEIs to mobilise new structures that create novel, partially realised, terrains of engagement tentatively aligned with the dynamics of regional urbanisation (Soja, 2015).

The arguments presented here draw from a qualitative case study based on 25 semi-structured interviews conducted with key stakeholders in Newark and the Greater New York city-region between 2014 and 2016, in addition to secondary data analysis of municipal, regional, and HEI strategic planning documents, newspapers, websites, and press releases. Interviewees were identified based on their institutional expertise or role as urban decision-makers, and included university administrators (7), research centre directors (5), and academics (6) based at 10 HEIs, as well as local and regional planners (4), and public officials (3). Interviews consisted of open-ended questions that explored how actors understood: the geography of knowledge production and exchange in Newark and the Greater New York region; the strategic actions being undertaken by universities; and how university resources and institutional capacities were leveraged by differing communities. Audio-recordings of the interviews were transcribed and

analysed via a thorough coding of the text; first, descriptive coding highlighted key actors, practices, projects, and attitudes as identified by research subjects. Second, axial codes were created based on the themes of the research that were then used to identify and analyse dominant discourses surrounding university practice and their spaces and scales of engagement.

Following a section detailing the study's theoretical background, the paper proceeds to introduce the Newark case site and analyse the varied: (1) discursive roles; (2) infrastructural functions; and (3) operational scales HEIs mobilise in planning, connecting, and fracturing the city and region. The conclusion summarizes the capacities of HEIs to project urban peripheries into broader city-regional spaces and calls for further robust, scalar-sensitive assessments of anchor institution strategies as they are articulated within broader regionalisation processes.

Universities as innovators and anchors in city and region

After decades of cutbacks in public funding for higher education across North America and Europe, varying schools of thought – operating at the interface of academic analysis and institutional practice – have attempted to conceptualise relationship between universities, economic resilience, and territorial development; ranging from the narrowly economic, through neighbourhood-focused, to broader sociocultural perspectives (e.g. Ehlenz, 2018; Pugh et al., 2016; Tripp, Sinozic, and Lawton Smith, 2015; Uyarra, 2010). Acknowledging the importance of geographic context on the economic, governance, and cultural landscapes universities operate over,² approaches to university-led urban development can be categorised within two broad, although not mutually-exclusive analytical orientations: entrepreneurial models that situate the university as networked agent in regional innovation processes and engaged models that

frame HEIs as a place-based ‘anchor institutions’ (Table 1).

<<TABLE 1 HERE>>

While constitutive of an extensively debated body of scholarship (Asheim, Lawton Smith, and Oughton, 2011; Doloreux and Parto, 2005), regional innovation systems (RIS) thinking theorises universities as deeply-implicated in the systemic architecture and practice of innovation. Universities hold a privileged position in such arrangements as supply-side actors providing necessary competencies and resources for urban economies and industrial clusters (Benneworth, Pinheiro, and Karlsen, 2017; Charles, 2006; Faggian and McCann, 2009; Martin and Trippl, 2017). Key processes here include technology transfer, collaborative R&D, the creation of university spin-off companies, and tacit knowledge exchange through networking and mentorship. The RIS concept has proved particularly influential in Europe where national (e.g. the creation of Higher Education Regional Associations in the U.K. in the late-1990s) and supranational policy frameworks (The European Commission’s ‘Smart Specialisation’ framework) have provided strong governmental mandates to mobilise universities in regional territorial and economic development (Harrison, Smith, and Kinton, 2017; Foray, 2014). Significant attention has been paid to the opportunities and challenges of effectively leveraging national-level and European structural funds through ‘triple helix’ partnership between government, business, and HEIs (Foray, 2018; Pugh et al., 2018b; Uyarra, Marzocchi, and Sorvik, 2018).

In the United States, debates over the role of universities as ‘the generative principle of knowledge-based societies’ (Etzkowitz, 2008, p. 1) have focused on comparable entrepreneurial discourses, but are conditioned by different regulatory, institutional, and cultural contexts that promote competition over collaboration amongst regional stakeholders. Following the passage of the *Bayh-Dole Act* by the U.S. Congress

in 1980 (which enabled universities to retain title to inventions whose development had been supported by federal funding) interest in capturing the economic potential of academic research has prompted the rationalisation and institutionalisation of technology transfer and commercialisation functions in many universities (Drucker, 2016; Etzkowitz, 2013; Grimaldi, et al., 2011). The rise of the ‘entrepreneurial university’ signalled a move from recognising universities’ implicit role in stimulating regional innovation to aggressively promoting such activity: extending an interest in technology transfer, through firm formation, towards universities assuming a leading role in regional development (Etzkowitz and Leydesdorff, 2000; Lawton Smith, 2007). Audretsch (2014) characterises this shift as a broadening of entrepreneurial universities initial focus on generating technology transfer to an embrace of new institutional orientations designed to meet the needs of entrepreneurial society; an approach that recognizes that university entrepreneurship extends well beyond the work of technology transfer offices (Aldridge and Audretsch, 2011; also see Pugh et al. 2018a). With these trends, U.S. innovation policy can be seen moving towards a more explicitly metropolitan orientation (Clark, 2014).

‘Engaged university’ frameworks present a contrasting metropolitan institutional mandate, advocating for a responsive, local social remit that may be operationalised through ‘third mission’ activities (Lebeau and Cochrane, 2015; Nelles and Vorley, 2010) and cross-sectoral coalitions (Nyden, Ashton, and O’Loughlin, 2017; Watson et al., 2011). Such thinking is clearly captured in the ‘civic university’ model advocated by Goddard and his collaborators in the U.K. (Goddard 2009; Goddard and Vallance, 2013), while research centred at the University of Twente in the Netherlands has examined the role of HEIs in anchoring polycentric knowledge-based urban development (Kopelyan and Nieth, 2018). In the U.S., academic and policy interest has

more readily focused on (predominantly Research 1)³ universities as ‘anchor institutions’ capable of fostering social cohesion and local development in urban communities by mooring people, businesses, and capital in place (Adams, 2003; Birch, Perry, and Taylor, 2013; Ehlenz, 2018). Anchoring functions are evident in processes of university-led ‘neighbourhood revitalisation’ (Rich and Tsitsos, 2018), the construction of ‘state-anchored industrial districts’ (Markusen, 1996) and precinct-based ‘innovation districts’ (Katz and Wagner, 2014). Across diverse instances, ‘anchoring’ success hinges on balancing interests of universities with those of local communities, industry, and government (Russo, van den Berg, and Lavanga, 2007) and creating desirable urbane urban environments attractive to highly-skilled workers (Bereitschaft, 2019; Florida, 2002). Current anchoring approaches go beyond working with communities (Cantor, Englot, and Higgins, 2013) to elevate ‘direct engagement in neighbourhood revitalisation beyond community partnership’ that foregrounds HEIs as urban developers and drivers of workforce development (Ehlenz, 2018, p.78).

Both entrepreneurial and engaged models have strong implications for urban planning and policy (often straddling analysis and advocacy) and have found resonance as the geography of innovation urbanises around technologically and socio-culturally integrated cities (Storper and Scott, 2009). As regional engagement and local impact emerge as vital pathways for academia to justify public expenditures, planners, policymakers, and academic leaders increasingly expect universities to think, act, and collaborate regionally – even if universities and colleges do not necessarily identify as, or actively embrace such roles or spatial imaginaries. Each framework, however, operates with distinct theoretical constructions of the city and region that result in key analytical blind fields.

First, both RIS and anchor institution frameworks tend to succumb to ‘one-dimensionalism’ in their structuring principles and fields of application; network-centrism for the former, place-centrism for the latter (see Jessop, Brenner, and Jones, 2008). Cities and regions are largely under-theorised as spatialised containers for predetermined social relations and not as essential environments that are themselves constitutive of processes of innovation, knowledge exchange, social mobility etc. Harrison, Smith, and Kinton (2017, p. 1022) argue much work at the interface of universities and regional development has tended to assume the territorial region as a pre-given spatial frame and not as the critical unit of analysis itself. This problematic is reflected in Ter Wal and Boschma’s (2011, p. 920) assertion that, in contrast to the clearly geographic nature of ‘clusters’, ‘network’ is ‘by definition an a-spatial concept’. The idea of ‘anchoring’ shifts the parameters of analysis to the city or neighbourhood level, yet, despite some notable examples (e.g. Adams, 2014), similar issues of spatial reification persist. Academic and grey literatures not only focus on a priori territorial constructs but tend to theorise ‘the city’ and ‘the university’ as rational, monolithic, and capable urban agents despite their institutional heterogeneity and complex (often competing) internal politics (Addie, 2017, p. 1094).

Second, although there has been growing interest in university-engaged urban economic and civic development (Goddard, 2009; Harkavy, 2006; Kiwan, 2018; Pugh et al., 2016) and the function of ‘entrepreneurial regions’ (Lawton Smith et al., 2013), little has been said about the significance of HEIs in and on globally-connected multi-university city-regions, particularly those with strong internal tendencies towards intraregional competition. In part, this reflects the tendency to start analyses from the perspective of an institution rather than through the lens of the ‘real existing’ region (Addie and Keil, 2015). Most studies of urban anchor institutions either focus on single

institutional case studies – like the University of Pennsylvania (Ehlenz, 2015; Etienne, 2012; Rodin, 2007) – or pursue quantitative studies that focus on particular university types rather than city-regional HEI systems (Andes, 2017; Ehlenz, 2018). This has important implications. Individual and institutional actors within city-regions operate with a diverse set of spatial political orientations, which may or may not synch with the interests of the normatively understood city/region. Urban and regional spaces are produced and understood in differing ways by diverse communities and look very different from where they are viewed from (Herschel, 2009). Similar pluralistic political orientations are held within and between HEIs and are further complicated when framed against their national and global ambitions (Addie, 2019a). Urban centres with a diverse cluster of HEIs may be able to capitalize on economic and innovation benefits of agglomeration while increasing opportunities for local students to access four-year college (Turley, 2009). Acknowledging the multiple spaces occupied concurrently by co-present, locally-dependent and globally-oriented institutions is necessary if HEIs are to be understood, and act, as (city-)regional actors (Cochrane 2018; Phelps and Li, 2018).

The view from the periphery

Addressing these issues is particularly pertinent when considering the role of universities in catalysing economic development in peripheral regions – a topic that has received increased attention in innovation and regional studies literatures, in large part resulting from interest in the European Commission’s ‘Smart Specialization’ agenda (Benneworth, 2018). Debates surrounding regional development policies in Europe tend to understand peripheral regions (at sub- and supra-national scales) in relation to their geographic distance from economic centres, negative lock-ins (tied to declining

industrial economies), their paucity of actors, and institutional fragmentation (Labrianidis, 2010; Svensson, Klofsten, and Etzkowitz, 2012; Tödting and Trippel, 2005). The lack of institutional ‘thickness’ or established innovation cultures present persistent obstacles to their integration into a highly-competitive knowledge-based space economy (Ashiem, Moodysson, and Tödting, 2011; Pelkonen and Nieminen, 2016) while a mismatch between graduates’ skills and local labour market demands often leads to the outmigration of, or persistent un/under-employment for, highly-skilled workers (Evers, 2019). Successfully leveraging universities – as centres of knowledge production and institutions with significant resources, capacities, and leadership potential – is seen as critical to spurring capacity building and economic growth in less developed European regions (Garcia-Rodriguez et al., 2017; Nieth, 2019; Raagmaa and Keerbergh, 2017).

However, as Benneworth, de Boer, and Jonbloed (2015) note in the Swedish context, multifaceted challenges, divergent mandates, and institutional mismatches exist on both sides of the university-region divide that infringe upon potential institutional and strategic alignment. Policy-makers have often overlooked universities’ organizational and political complexity, “[assuming] it is enough for universities to adopt a strategic regional engagement position” (Benneworth and Nieth, 2018, p. 1). In assessing the efficacy of collaborations between Karlstad University and Region Värmland in Sweden, Kempton argues that while readily-quantifiable metrics of university-region collaboration (patents, spin-offs etc.) garner immediate attention, “interventions that support longer-term outcomes are more difficult to define and measure” (2015, p.495). Critics have consequently questioned the appropriateness of supply-side approaches to supporting innovation peripheral European regions since they do not adequately account for the capacities and contingencies of place (Ashiem, 2019;

Pugh, et al., 2018b). Comparable issues have been noted in relation to engaged university practices in the United States, where counter to the inclusive rhetoric, anchor institutions continue to utilize top-down governance structures that have the capacity to perpetuate geographical and racially based inequalities (Adams, 2014; Lipman, 2011).

This paper aims to build upon existing scholarship while responding the above blind fields in several ways. First, it traces the strategic spatial orientations and entrepreneurial/engagement mandates held by, and within, diverse HEIs, and assesses how these inform the intentional and incidental ways in which they produce urban and regional space. As such, the study foregrounds under-researched multiscale issues of intraurban collaboration and competition in a multi-university city and city-region. Second, the study aims to avoid the spatial reification which emerges by assuming HEIs operative within pre-given territorial containers. Rather, it views space as a social product. At the city-regional scale, the analysis recognizes ‘real existing’ regionalism as a contested expression of discursive, infrastructural, and territorial geographies (Addie and Keil, 2015). Similarly, the periphery “is not something that is pre-given... undifferentiated and timeless” but a multifaceted dialectical relation that materially and symbolically co-evolves with various ‘centres’ (Kipfer and Dikeç, 2019, pp. 37-38). The resulting analysis illustrates the multiple spaces and developmental logics of university-engaged development in Newark as they emerge at the intersection of networked regional innovation and highly-localised anchoring modalities.

Situating Newark in the Greater New York city-region

With an estimated 2017 population of 285,154 (U.S. Census Bureau, 2018a), Newark is the largest city by population in New Jersey and the second largest in the Greater New York city-region, after New York City (Figure 1). The city is home to the second busiest international airport in the metropolitan area. Excellent transport connections

mean Downtown and Midtown Manhattan can be reached from central Newark in under 25 minutes by road or public transit. The city hosts major corporate headquarters including Prudential Financial, New Jersey Transit, Horizon Blue Cross Blue Shield, Audible.com, and Panasonic (lured from neighbouring Secaucus, NJ in 2013) and claims the fastest free Wi-Fi network and the most underground ‘dark fiber’ in the United States (NCEDC, 2017a). It also boasts a strong ‘eds and meds’ sector with six HEI campuses – Rutgers University-Newark, New Jersey Institute of Technology (NJIT), Essex Community College, Seton Hall University School of Law, and campuses of Rutgers Biomedical and Health Sciences and Berkeley College (Table 2) – and five hospitals.

<<FIGURE 1 HERE>>

<<TABLE 2 HERE>>

Despite its proximity to New York City and array of economic, institutional, and infrastructural assets, Newark’s location in New Jersey means the city faces significant material, political, and discursive disconnections from the city-regional core. The city continues to wrestle with a legacy of post-war economic decline and the impacts of ‘territorial stigmatisation’ (Wacquant, 2007). Urban uprisings in 1967 entrenched social tensions and racialised narratives of marginality in a city that is majority Black (see Mumford, 2007). Newark’s median household income in 2016 (\$33,025) was well below that of the rest of Essex County (\$54,277) and the New York-Newark-Jersey City Metro Area (\$71,897) (U.S. Census Bureau, 2018b). An estimated 39,862 individuals live below the poverty line (ibid.). While an exodus of manufacturing jobs in the post-war period left Newark struggling to find a sustainable post-industrial economic base, the city has emerged as a transportation, warehousing, and logistics hub. The ‘eds and meds’ sector is also a major employer with healthcare and social assistance and

educational services accounting for a combined 22.7% of employment by industry (25,446 jobs) in 2016 (ibid.). HEIs are a prominent economic and physical presence in Newark, yet ‘town and gown’ relations have tended to be contentious despite recent investments in the University Heights neighbourhood (Hill, 2012).

Newark thus occupies a paradoxical position in the Greater New York city-region: the city is both embedded in, and splintered from, an extended regional urban fabric (Graham and Marvin, 2001). It is an infrastructural and economic centre in its own right and proximity to New York’s global city core offers many potential benefits. Yet at the same time, persistent legacies of post-industrial decline and the material and discursive impacts of pervasive deprivation mean the city is a relatively periphery within its wider urban context (Kantor et al., 2012 pp.102-103). As such, Newark is a highly-distinct case study. Yet as a dynamic higher education hub embedded in a globally-connected city-region, it provides a provocative counterpoint to studies that have either actively eschewed analysing university-city relationships in such environments (Goddard and Vallance, 2013) or approach questions of development in peripheral areas at a broader but undifferentiated regional scale (Benneworth, 2018).

The spatiality of university-engaged urban development in Newark

Talking university-engaged urban development

Newark’s current reimagining as a ‘technological hub and the place to be for startups’ (NCEDC, 2017a) reflects a *localised* embrace of ‘anchor’ discourses and policy strategies and a broader regional embrace of university-engaged urban development in the wake of the 2008 Financial Crisis.⁴ The Regional Plan Association (RPA), an independent non-profit planning organisation covering 32 counties in Greater New York, affords a prominent role to leveraging the capital, human resources, and

economic outputs of anchor institutions, including some 340 universities, colleges, and hospitals throughout New York, New Jersey and Connecticut in their fourth regional plan (2017, pp.271-274, see Birch, 2013). A proposal for a cross-region ‘Anchor Opportunity Network’ further stresses the importance of collaborations around ‘urban anchors’ as a *regional* concern by encouraging the sharing of information and best practices and joint policy development to address metropolitan growth, resiliency, and sustainability (Regional Plan Association, 2018, p. 4). The RPA (2017, p. 338; 2018, p. 9) flags Newark, alongside the Bronx and Stamford, CT as a key site demonstrating the benefits of aligning institutionally-held assets with community-based economic development.

There is a clear recognition among municipal, state, and university leaders that the higher education sector has great potential to contribute to the socioeconomic vitality of Newark. Alongside its strategic location, ‘diverse and underutilized’ workforce, concentration of corporations and arts institutions, and ample developable land, the municipal government identifies the major HEIs located in the city as unique assets capable of enhancing Newark’s ‘vibrancy’ (City of Newark, 2017). The quasi-governmental Newark Community Economic Development Corporation (NCEDC, 2017b) discursively centres the city’s HEIs as active partners in Newark’s economic development that are strongly committed to ‘workforce development, business incubation and planning’.

For their part, HEIs in the Newark area have embraced broadened mandates, with the imperatives of entrepreneurial and engaged university models reflected (to varying degrees) across their missions, structures, and institutional drivers. With this, they have shifted how they articulate their own relations with the city and with regard to regional higher education, innovation, and urban systems.

Predominantly adopted by the leadership of science and technology-focused research universities (NJIT, Stevens Institute of Technology in nearby Hoboken, NJ), the rhetoric of the entrepreneurial university stresses the benefits of strategically positioning HEIs within a broader New York regional innovation system. This includes concerted efforts to re-align institutional orientations outwards and foster reputations as cluster-focused, business-marketed organisations. Strategic initiatives – e.g. enhanced technology transfer offices, the development of university-owned accelerator and incubator facilities, and the integration of business-training and technical education – aim at both building ties with industry and appealing to students who are interested in the application and economic-potential of STEM disciplines. The logics at play were captured by a senior administrator, who argues the adoption of entrepreneurialism is primarily an institutional response to external pressures:

Education, especially in the U.S., is extremely expensive. So, the idea is ‘how do you add value to students’ experience?’ That’s especially the case with private universities, given what they need to do to compete in this very competitive marketplace. The competition is not just regional, it’s global. What we are talking about, in my view, is a cultural change. Moving from a traditional academic culture to an entrepreneurial culture (Senior Administrator, Stevens Institute, interview).

Here, entrepreneurship training and patent commercialisation are viewed as major extensions to the institution’s core educational offerings. This discloses a mode of internal restructuring centred on internalising the imperatives of ‘entrepreneurial society’ (Audretsch, 2014; Pugh et al., 2018a) rather than the type of externally-oriented economic development activities captured in the RIS concept (Trippel, Sinozic, and Lawton Smith, 2015).

In contrast, Rutgers-Newark and Essex Community College have mobilised a set of discourses tied to the production of human capital and social mobility typically

associated with engaged university models. Rutgers-Newark, in particular, has actively sought to reorient itself as an institution both *in* and *of* Newark following the turbulent experience of the 1960s-70s ‘urban crisis’. Provost Norman Samuels (1982-2002) initially oversaw the establishment of a number of research centres, policy institutes, and legal and health clinics aimed at addressing community issues in Greater Newark, while Chancellors Steven Diner (2002-2011) and Nancy Cantor (2014-present) further solidified this orientation (Hill, 2012). Interviewees noted a concerted transformation on both side of the town-gown divide since the early-2000s, as Rutgers-Newark assumed an intentional agenda in relation to its urban situation and City Hall came to expect local institutions (HEIs, corporations, NGOs) to actively engage in, and contribute to, the city. The University’s 2014 strategic plan internalises an anchor institution approach that pursues academic excellence as an urban research university, invests in the quality of campus infrastructure, and creates ‘new spaces and places in which to engage collaboratively with community partners’ (p. 6). Over the past two decades, Rutgers-Newark’s interest in acting as an urban planner and downtown developer has helped catalyse nascent neighbourhood transformation associated with studentification (see Foote, 2017), including the growth of upper-income housing development, commercial activity, and increased pedestrian traffic in the central city.⁵

Infrastructures of innovation governance and growth

Shifting discourses and institutional expectations now position Newark’s HEIs at the forefront of plans for the city’s revitalisation. Formalising the collaborations required by such strategies, though, necessitates on-going processes of governance restructuring in addition to the development of new hard and soft infrastructures capable of institutionalising university-engaged urban development with multiple HEIs.

In Newark, although the Mayor and HEI chancellors/presidents work together and are involved in strategic discussions around the city's future, it is the Newark Community Economic Development Corporation (NCEDC) rather than the Mayor's Office that functions as the key agency coordinating HEI-City interactions. Actors in Newark noted the utility of the (seemingly) apolitical nature of the NCEDC in this arrangement; as one interviewee described, 'They are half a step removed from City Hall... They can still be political when they need to be, but what is nice about it is they are thinking about the whole city: *they need to harness the entire university-based community for the entire ecosystem*' (Entrepreneurship Director, Rutgers Center for Urban Entrepreneurship and Economic Development [CUEED], interview). The NCEDC has significant sway to direct projects in accordance with long-range economic development goals. As an institutional space and networking forum, it brings the city's HEIs into conversations regarding local economic development with cross-sectoral partners and opens 'access to the thought leaders in industry, from the professors and students at Rutgers and NJIT to the executives at Audible' (NCEDC, 2017a). In cases where such networking has been operationalised – e.g. working to connect entrepreneurship providers across Newark – the results have been viewed as highly productive for HEI and external partners. Yet the NCEDC has limited resources and capacity to compel networking between the city's HEIs and across the broader ecosystem. Initiatives that might target a specific development sector (e.g. life sciences or social enterprise) need to be housed in, and led by, a HEI rather than local government agency; although this has the purported benefits of limiting bureaucratisation and ensuring buy-in from university partners.

Reflecting the logics underlying the RPA's 'Anchor Opportunity Network', municipal and regional planners argued that smaller institutions need to be connected to

larger universities with deeper resources to effectively utilise the sum of their regional higher education systems. In Newark, the ‘Council for Higher Education in Newark’ (CHEN) provides a platform for such interaction. CHEN brings together NJIT, Rutgers-Newark, Rutgers Biomedical and Health Sciences, and Essex Community College to promote collaborative education and research practices; contribute to the revitalisation of the University Heights neighbourhood; and support economic development agendas in the city and region. However, the process of building cooperative modes of working is no simple matter (Kempton, 2015). While CHEN has amassed a record of successful projects – including cross-registering students among institutions, public space revitalisation, and partnering with the Newark Board of Education and others to set up Science Park High School – the scope of their activities and their capacity to positively spillover into surrounding neighbourhoods were questioned by many interviewees inside and outside the higher education sector. HEIs and the City continue to operate with differing organisational cultures, strategic imperatives, and spatial strategies that need to be carefully negotiated. Questions of strategic alignment, raised frequently during interviews, persist when looking to turn partnership discourses into cooperative practice between HEIs. Economic development might be a (discursively) shared interest but the absence of strong external oversight or incentives has meant interactions between HEIs that are pursuing divergent educational goals through varied missions have tended to be limited.

Forging successful collaborative action between HEIs, and between HEIs and public and private partners, hinges on identifying and acting upon strategic interests, capacities, and timelines (Benneworth, Pinheiro, and Karlsen, 2017; Cantor, Englot, and Higgins, 2013). The elevation of HEIs as strategic anchors in Newark’s post-industrial economic development landscape is differentiated, rhetorically and in practice, through

a targeted engagement with entrepreneurial training, the promotion of expertise in commercialisation, and other networking arrangements that draw on the varied capacities of different institutions. The specific constellation of industrial activity, technologies, institutional expertise, local capacity, capital, and urban space available in Newark has fostered three main approaches to university-engaged economic development:

- (1) *Capital and capacity building to support technology start-ups.* The creation of ‘Newark Venture Partners’ (NVP) in May 2016 has established a venture capital fund backed by the City of Newark, private sector investors, and Rutgers Business School with the aim of stimulating a tech ecosystem in Newark. NVP provides up to \$1 million annual investment and mentoring opportunities targeted at new start-ups and companies seeking their first significant round of venture capital financing. Tying this investment to the city, prospective companies are encouraged to utilise Newark ‘as a real-world lab for creating innovative technologies from transportation to education to smart city infrastructure’ (Newark Venture Partners, 2017). NVP has also created Newark’s first accelerator space; the 25,000ft² Newark Venture Partners Labs, housed at 1 Washington Park. Companies entering NVP programs receive an \$80,000 investment in return for a 5% equity stake and are provided with access to engineering and business expertise from Rutgers’s faculty and interns.
- (2) *University-led investment in research and lab facilities,* predominantly tied to the life sciences sector and Newark’s hospitals. Life science commercialisation requires a different approach in terms of infrastructural needs, capital, and temporal horizon compared to the tech sector’s accelerator and venture capital model. Here, a \$13.5 million investment from the State, through the State of

New Jersey Higher Education Capital Facilities Grants Program, has helped finance the construction of a new NJIT Life Sciences building, featuring 24,500ft² of wet and dry laboratories, offices, and collaborative workspaces, and capable of hosting biotech start-ups and established ventures. Proponents of this strategy argue situating boundary spaces and actors within a university ecosystem offers strong interfaces for industry-academic interaction.

- (3) *Training in business and entrepreneurship* for students and local businesses, often with corporate backing. The importance of the soft infrastructure of university-engaged urban economic development is reflected in the internal shift towards entrepreneurial education (in content and practice) and in the externally-facing programs being strategically developed by Newark HEIs. Interviewees from NJIT pointed to the impact of their participation in the I-Corps method of entrepreneurial training whereby a student, faculty member, and business mentor collaborate on commercialising a technology (occasionally via the ‘New York City Regional Innovation Network’ (NYCRIN); a network of 25 universities located in New York, New Jersey, Connecticut, Delaware, and Pennsylvania), and emphasised the efficacy of virtual networking forums like NJIT’s ‘People 2 Business’ when promoting cross-pollination between entrepreneurs and investors. Rutgers-Newark has developed city-oriented mentoring programs in house, including an executive MPA for City employees (launched at the request of then-Mayor Cory Booker), and the ‘Entrepreneurship Pioneers Initiative’ which provides training to non-student entrepreneurs from the Newark region who are at least three years into the development of their companies.

The sum of these strategies is a multi-pronged, if informally co-ordinated, approach to university-engaged development. On one hand, it presents a promising

institutional and infrastructural assemblage. Peripheral regions struggle to generate fertile innovation beds for university spin-offs due to a lack the necessary mass of knowledge capital in their ‘territorial knowledge pool’ to support sustainable accumulation regimes (Benneworth and Charles, 2005). The differentiated leveraging of hard and soft infrastructures opens varied opportunities to engage. Academics can assume roles as ‘bridging’ actors in collaborative partnerships that enable peripheral localities to tap into global networks (Atta-Owusu, 2019), although this is dependent upon individuals’ personal motivations and the epistemic (not simply geographic) proximity between HEIs and other local stakeholders (Ahoba-Sam, 2019). The institutionalization of entrepreneurship solidifies third mission activities internally, and externally through the development of regional boundary actors (Pugh et al., 2018a). On the other hand, the absence of European-style structural development funds and the decentred governance of the Newark ecosystem mean its success is precarious. Public funding from the State of New Jersey a major source of investment, yet austerity politics in the United States at the local and State level threatens the ability of public HEIs to support broadened economic mandates in the long-term (Klein, 2019; Marcus, 2017).

The territoriality of regionalisation versus localism

The capacity of hard and soft infrastructural investments to catalyse resilient urban development opens further questions surrounding the scale of economic activity and the ability to integrate key institutional actors and peripheral or deprived areas into wider city-regional systems. Several interviewees based at New York City HEIs noted the significance of the metropolitan region when engaging in urban innovation. However, their geographic and institutional centrality buffers them to a great degree from the

challenges presented by working across *intra*-regional jurisdictional and state lines. Within this milieu, we see a pervasive discursive slippage, captured in the following quote: ‘When we’re talking about New York, *we’re really talking about the metropolitan area*, generally... It’s problematic, but is it a big problem? I don’t think so’ (Innovation Manager, New York-based university, interview, emphasis added). This reflects the regional dominance of New York City and the realities of extended urban economies, infrastructures, and governance. Scalar jumps do not significantly concern the City of New York and the universities that call it home, but fuzzy territoriality is more problematic for city-regional actors who cannot readily access the benefits and resources of the global city core. Those looking to leverage Greater New York’s critical mass of HEIs, venture capital, technology companies, and tacit knowledge in peripheral locations must negotiate a more complicated geography (see Cox, 2010).

Municipal and HEI interests in Newark are keenly aware of their position in the metropolitan landscape but, as captured in the following quotes, operationalise different rhetorical frames when situating Newark’s HEIs relative to the city and metropolitan area:

One of our competitive advantages here is our location in the metropolitan area. It’s easy to get in and out. We’ve got planes and highways and subway systems: that’s why companies like it! They want their headquarters to be sitting in Downtown Newark (north New Jersey-based university centre, interview).

I’m trying to counter the narrative of Newark only having poor people, only having problems. For us, the region has done fairly well, so we want to think about how Newark can benefit from that, too. That’s why I think we focus so much on the Newark narrative... We certainly hype the advantages of being in Newark because it is near New York, but we’re not saying you have all those New York resources available to you (Entrepreneurship Director, Rutgers CUEED, interview).

The idea that ‘New York’ provides a wealth of resources, but resources that are

removed from the formal structures available in Newark is a recurring trope. This incongruence discloses the weakness of cultural and institutional proximity between New Jersey and New York (Boschma, 2005). Distinct state-based governance and business cultures are further seen as reinforcing strongly territorialised ecosystems, although there is an increased interest in ‘working across River’ (west of the Hudson, at least). In other words, while the ‘regional spaces’ of urban innovation promote university collaboration (including informal tacit knowledge exchange and more formalised regional networking programs), the task of forging ‘spaces of regionalism’ through which such relations can be harnessed and governed remains unresolved (Jones and MacLeod, 2004).

The Greater New York city-region does exist as a spatial reference – constructed by both regional institutions like the RPA and university networking initiatives like NYCRIN – and there are positive externalities and tacit knowledge that flow across both the urbanised area and between universities. Regional networking among technology transfer officers is particularly strong, even as university patent officers prefer to capture the revenues resulting from new developments for their own institution rather than sharing the revenues with other HEIs. Initiatives like the ‘Anchor Opportunity Network’ offer some potential to strengthen and institutionalise such activities. Yet because State government activities stop at their jurisdictional borders, it is difficult to build cross-boundary connections that transcend the city-region’s internal geopolitics, especially for public HEIs. Trans-local interactions subsequently crystallise around sub-State regional spaces, echoing Cochrane’s (2018, p. 610) observation that universities located in ‘a complex (mega) city region’ have the capacity to forge place-based identities by ‘inventing a (sub)region’. While articulating a spatial imaginary tied to the political geography of New Jersey, interviewees based at Rutgers-Newark (part of

the State public university system) pointed to the institution's growing desire and capacity to realise strategic alignment by engaging people from an up-scaled 'Greater Newark region' into the universities planning and programming (Entrepreneurship Director, Rutgers CUEED, interview).

Anchoring (in) the Region: Lessons from Newark

While shaped by highly-distinct circumstances, including the fragmented and decentralised governance of higher education in the U.S. compared to Europe (Addie, 2019a; Drucker, 2016), the Newark case highlights three interrelated conceptual and policy issues for university-engaged urban development in theory and practice. First, examining the differentiated ways through which HEIs' spatial strategies connect and splinter urban space reveals university 'anchoring' to be messier and more incidental than the current academic and policy literature suggests. Katz (2015), for example, sees Newark as embodying the two central tenets of innovation districts – the urbanisation of the tech economy and the proliferation of university-anchored local economic growth coalitions – and indeed the above case study suggests cross-sectoral projects may be pursued around research, entrepreneurship, and civic engagement. Newark benefits in this regard from the differing missions and target populations of its HEIs which serve to limit direct *intraurban* competition. However, even as specific innovation projects like Brand Newark and NVP come together, collaborations are largely conducted on an ad-hoc basis and targeted towards specific internal objectives rather than expressing a coherent or comprehensive sector-wide place-based agenda. Shared interests are not a given in a diverse metropolitan area with multiple institutions pursuing their own goals, and strategic alignment may only be temporal. HEIs operate with multiple mandates and expectations that vary internally and between schools. The dynamic mix of institutions and the 'enlightened self-interest' of HEIs in this urban assemblage cautions against the

uncritical implementation of ‘fast policy’ anchor strategies by HEI or city officials (Power and Malmberg, 2008).

Second, Newark’s situation within the multi-scalar geography of the Greater New York city-region further complicates extant accounts that abstract conceptual and policy lessons from small and medium-sized cities that host one or two universities, or studies that use individual HEIs as their unit of analysis. Diverse HEIs operate within a broad web of jurisdictional and sectoral governance structures that impact their spatial imaginaries, terrains of engagement, and involvement in Newark’s regime politics. Some position Newark as an urban centre (notably in relation State and sub-state territoriality in New Jersey) while others situate the city on the periphery of the wider global city-region. This challenges how we theorize university-engaged development within peripheral regions. Newark is not centre-in-isolation competing with other centres or a peripheral region directly analogous to Sweden’s Region Värmland, for example (Kempton, 2015). Rather Newark’s centrality-peripherality is dialectically produced and co-evolves, as Kipfer and Dikeç (2019) argue, in material and symbolic ways with various other centres that come into focus as our scalar lens shifts (the city, ‘Greater Newark’, the Greater New York region etc.). This relational understanding of peripheral regions suggests the need to focus on addressing both endogenous struggles relative to ‘institutional thickness’ or absent innovation cultures and the exogenous discursive, material, and institutional mechanisms that inhibit the integration of peripheral locales within wider sociospatial structures.

Third, universities are not simply territorial actors (i.e. institutional operating with a jurisdictional mandate, as with Smart Specialisation strategies); they are territory-makers (see Cochrane, 2018). The role of universities in RIS thinking has been noted to manifest differently dependent on the territorial and policy landscapes in

question (Benneworth, Pinheiro and Karlsen, 2017). HEIs are emerging as territorial players in Newark but the territories over which they operate are not pre-given. Rather, they are produced, codified, and performed through the specific tactics and strategies pursued by public, private, and academic actors. As the hard and soft infrastructures of innovation at once embed capital and amenities in place (as with Brand Newark) and mobilise extended networks (e.g. via NYCRIN and the RPA), a precarious form of ‘de facto’ university regionalism is emerging from the aggregate activities of Newark’s higher education cluster (per Harrison, Smith, and Kinton, 2017). In this context, we can observe the spatiality of the city-region being negotiated, mediated, and limited, at least partially, through university spatial strategies that support innovation and urban development relationally over extended metropolitan space. Such multi-scalar processes require robust, scalar-sensitive regional assessments of anchor institution strategies in practice (Brenner, 2019).

Conclusion

This paper has sought to enhance our understanding of the imperatives driving the discursive construction of HEIs as urban and regional actors, the material and social infrastructures being rolled-out to support university-engaged urban development, and the territorial geographies which such strategies mobilise. In Newark, we see HEIs beginning to recognise the need to push against prescribed territorial structures, albeit in limited ways. In an era where urban politics increasingly operate through regional frameworks that are both territorially-defined and structured through topological connections between urban places (Massey, 1991), universities’ spatial fluidity and capacity to think beyond the local (and their local dependencies) offers them the potential to act as agents of ‘relational metropolitics’ (MacLeod and Jones, 2011). As

the challenges of contemporary urbanisation are not confined to the city in political or geographic terms, the ability of universities to juggle spatial and scalar priorities becomes more significant. And for civic and university actors operating in city-regions that straddle political borders, there is a need for higher education structures to transcend hard territorial arrangements in meaningful, sustainable, and systematic terms. This is especially pressing for peripheral city-regional locations where despite the production of significant forms of urban centrality, the full benefits of global city agglomeration are kept tantalisingly out of reach.

What, then, are the prospects for the higher education sector in Newark to articulate the city into urban, economic, and innovation governance at the city-regional scale? Jonas and Moisisio (2018, p. 351) observe that although neoliberal forms of state intervention have tended to be mapped onto the city-region, they often ‘neglect to consider how city regionalism is shaped by territorial politics – both domestic and international – operating around the state’. University-engaged regionalism in Newark illustrates the differing territorial logics and politics that integrate (or not) city-regional space into broader state visions. Opposed to the Smart Specialisation strategies being rolled out in Europe, not only is the territorial region absent as a pre-given spatial container for innovation and economic development practices in this case, but the entrenched presence of both municipal parochialism and State demarcated funding mechanisms inhibit the emergence of a political space comparable to the ideational economic activity and regional geography of innovation. Specifically, it highlights the determining role State-level governments have on the prospects for city-regionalism in Greater New York as the administrative basis for higher education policy and funding (alongside the obligations and imaginaries that derive from this). As most universities in New Jersey are public, they are subject to State-based politics and diminishing budgets

even as they are viewed as catchall economic development engines. Federal projects like the MetroLab Network (see footnote 1) appear more likely to stimulate intra-regional collaboration than those orchestrated at the local level, which can antagonise pre-existing competitive impulses. Higher education leaders and urban decision-makers must therefore look towards institutional solutions to these challenges by adjusting their scalar imaginary while acknowledging the need to negotiate within and across the confines of entrenched urban political geographies.

¹ Brand Newark itself is a project developed as part of the ‘MetroLab Network’; a group of over 35 city-university partnerships across the United States (including a New York City-Columbia University-NYU collaboration) working with the support of industry to generate and share data analytic solutions to urban challenges ranging from public service provision to environmental sustainability.

² Including difference between public and private HEIs (Breznitz and Kenney, 2018), the larger proportion of research and operating costs provided by national governments in Europe, and the reliance on, and competition for, tuition dollars in the U.S.

³ Research 1 universities are doctoral-degree granting HEIs in the United States characterized as having ‘very high research activity’ by Carnegie Classification of Institutions of Higher Education. 131 universities were classified as ‘R1’ institutions in 2019.

⁴ Such thinking is captured in the ‘Applied Science NYC’ initiative, launched in 2010 by the New York City Economic Development Corporation (Addie, 2019b).

⁵ Campus expansion includes the construction of student housing on a traditionally commuter campus, the relocation of Rutgers-Newark’s Business School from an on-campus location to 1 Washington Park in 2009, and the redevelopment of the Hahnes & Co. department store as a commercial-community facility.

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