PATRICK GEDDES AS SOCIAL-ECOLOGIST: A CENTURY OF MAPPING UNDERUSED SPACES IN DUBLIN

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The emergent discourse on urban resilience can be considered a response to the rapid pace of change and severe challenges facing urban areas. Urban resilience is understood as the application of social-ecological systems thinking to the city, and this paper reports on research that places the discourse in a continuum of urban planning theory and practice stretching back to the early years of the town planning movement that was carried out as part of the EU FP7 TURAS project (Transitioning to Urban Resilience and Sustainability) (2011-2016). We explore the mapping of underused spaces as an example of urban resilience in practice by establishing links between urban resilience and key aspects of the theory and practice of Patrick Geddes (1854-1932); the re-examination of a map showing vacant sites in Dublin from 1914 influenced by Geddes; and the review of an online civic engagement platform called 'Re-Using Dublin', which facilitates the mapping of underused spaces in a participatory civic survey process. The paper seeks to illustrate that Geddesian ideas on vacant sites as a resource for alternative uses and civic engagement through the practice of surveying, are still very relevant and informing new experimental practices in Dublin.

INTRODUCTION

The EU FP7 TURAS project (Transitioning to Urban Resilience and Sustainability) seeks new adaptive and flexible approaches to urban planning and governance that can build social-ecological resilience in response to the convergence of crises such as climate change, natural resources shortages and stressed ecosystem services. Urban resilience is understood as the application of social-ecological resilience thinking to urban planning and policy in order to provide innovative approaches to urban problem solving. It is observed that there are few explicit examples of what urban resilience means in practice in the literature.[1]

The TURAS research reported here has a specific focus on underused spaces, which are considered to present opportunities for a city to reinvent itself.[2] The mapping of these underused spaces is put forward as an example of an adaptive and flexible approach to urban planning. This paper explores this practice by first establishing links between key aspects of the urban resilience discourse and the theory and practice of Patrick Geddes (1854-1932), before re-examining a map showing vacant sites in Dublin from 1914 influenced by Patrick Geddes. The paper then reviews a contemporary crowd-sourced web-mapping application, 'Reusing Dublin', developed by the TURAS Project. Discussion and conclusions sections assess what insights for urban resilience emerge from this research.

PATRICK GEDDES AS SOCIAL-ECOLOGIST

Patrick Geddes was a generalist thinker who is attributed such a broad range of expertise, including botanist, sociologist and town planner, that Lewis Mumford suggested "one might get the impression that Professor Geddes is a vigorous institution, rather than a man".[3] This paper explores the idea that Patrick Geddes applied social-ecological resilience thinking to cities over a century ago and that a re-examination of his theory and work may provide insight into the contemporary concept of urban resilience and what it means in practice. In this section, parallels are drawn between three key aspects of the urban resilience discourse and the theory and practice of Patrick Geddes.

THE HUMANITY-NATURE RELATIONSHIP

The contemporary multi-disciplinary field of social-ecological resilience thinking acknowledges that ecological systems and social systems are interdependent.[4] Social-ecological resilience refers to the adaptive capacity of a system to respond to change from internal or external processes and still maintain essential functions.[5] This replaces a deterministic conception of nature, science and ecology where man could control and repair the environment through science and technology.[6] In social-ecological resilience thinking, complex urban systems are understood to share many of the characteristics of ecological systems[7] and cities are viewed as metropolitan ecosystems that are part of nature.[8]

Parallels can be drawn with Geddesian thinking, which clearly articulates an understanding of the interdependent relationships within and between ecosystems and social systems. Patrick Geddes might therefore be described today as a pioneer of social-ecology. Geddes gave a lecture in 1919 in which he stated: "By leaves we live. Some people have strange ideas that they live by money. They think energy is generated by the circulation of coins. Whereas the world is mainly a leaf-colony, growing on and forming a leafy soil, not a mere mineral mass: and we live not by the jingling of coins, but by the fullness of our harvests."[9] Geddes linked humanity and nature in his "folk-work-place" paradigm, which was an adaptation of the triad "lieu, travail, famille" from the social philosophy of Frederic LePlay (1806-1882).[10] Geddes's concept of "natural occupations" represented how humanity adapts to nature through "work" and he considered the ultimate expression of the relationship between humanity and nature to be the city in its region:[11] "Like the living being it is, a city reacts upon its environment".[12]

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CITY IN TRANSITION

In the social-ecological resilience discourse cities are considered complex self-organising systems[13] and there is an emphasis on the observation and understanding of processes, cycles[14] and social learning.[15] The aim is to make the transition from urbanization as a destructive process to one that is sustainable and resilient.[16] The meaning of the word "social" is expanded to embrace cultural, political, economic, and technological systems[17] and the aim is to create healthier, happier lives through a sustainable and mutually beneficial balance in the humanity-nature relationship.

These ideas are echoed in Geddesian thinking, where the city was viewed as a socio-spatial system for human life and great emphasis was placed on observation and the need to understand the past in order to interpret the present and plan for the future. Geddes saw the industrial city at that time as being in a transition from an inefficient and crude "paleotechnic order" that was "dissipating resources and energies",[18] towards his vision of a future efficient "neotechnic city" with "a more subtle and more economic mastery of natural energies"[19] that achieves a sustainable balance in the humanity-nature relationship. Geddes highlighted the need to transform the prevailing definition of progress "from an individual Race for Wealth into a Social Crusade of Culture",[20] moving beyond mere spatial planning to cultural evolution directed towards making the earth a better place to inhabit.[21]

COMMUNITY CAPITAL

In the urban resilience discourse, community capital is considered key to building adaptive capacity to disturbance in an uncertain future. Adaptive capacity is reliant on cohesion and mechanisms for action in communities, which are recognized as social systems in transition that are impacted by internally and externally driven forces.[22] Actions affecting resilience can be most tangible at the community level.[23]

Urban resilience is operationalized through the process of adaptive co-management.[24] Adaptive co-management is reliant on social memory, which is informed by past and present learning through shadow networks, influencing what precautionary or mitigating actions are taken, and the ability to adapt to change.[25] The process of adaptive co-management creates the potential for collaboration between citizens and government, the transfer of knowledge, and identification of new solutions.[26] Adaptive co-management has a strong focus on community participation and social equity,[27] recognising that people have knowledge of systems and their own actions, and setting up a "mutually respectful dialogue".[28] In the urban resilience discourse there is therefore a recognition that people and attachment to place are key to delivering real change.[29]

In order to realise the transition to the future city Geddes also considered it essential to engage all citizens with the past and present of their place and one another so that they might share knowledge and self-organise: "...in all cities we talk about work-people and the submerged tenth as if they were mere passive creatures to be housed like cattle. We shall never do anything in that way. We must take them with us, and we must realize that we are working for the civic uplifting."[30]

Geographical local knowledge was considered a key aspect of citizenship that would lead to local attachment and belonging. Geddes believed that by understanding the local it would be possible to comprehend global issues and make local actions relevant[31] and that change would result from the aggregation of local efforts, "city by city, region by region".[32] However, he noted that citizens were 'half-blind' to the city and its history[33] and set out to address this through two strategies that used geographical local knowledge as a mechanism for civic engagement: the civic museum and civic survey. The strategies were to prompt an "arousal of civic feeling, and the corresponding awakening of more enlightened and more generous citizenship."[34] It is suggested here that "generous citizenship" was the Geddesian equivalent of "community capital".

PATRICK GEDDES AND THE DUBLIN INQUIRY MAP (1914)

Geddes's civic museum idea evolved into the touring Cities and Town Planning Exhibition, documenting the origins and development of urban civilizations through drawings, illustrations and models in an "encyclopaedic meta-view of all available knowledge".[35] The civic survey was to be realised through a multidisciplinary and interactive process that ideally involved the entire community in understanding all aspects of the city and its drivers of change over time.[36] The survey was to provide a "diagnosis before treatment"[37] in order to avoid "designs which the coming generation may deplore".[38]

The "Survey of Edinburgh" was the exemplar civic survey. Vacant sites were considered a resource for alternative uses and when the Cities and Town Planning Exhibition first visited Dublin in 1911 it included a plan of the Old Town of Edinburgh identifying 75 existing and potential open spaces for playgrounds and urban agriculture from 1908, and a plan of the entire city entitled 'Directory Map – Vacant Lands' showing "that 450 unused acres might be utilized"[39] from 1910 (Figure. 1). Both are attributed to Geddes's "Outlook Tower Open Spaces Committee", and the latter map specifically acknowledges the contribution of Mr Joseph Fels (1853-1914) from Philadelphia, a soap millionaire, philanthropist, and supporter of the single-tax on land value as proposed by Henry George (1839-1897).[40] This collaboration confirms that Geddes was very much engaged with proposals for land reform that promoted the productive and optimal use of land as a means to address the poverty and social injustice of the industrial city,[41] and perhaps suggests that the map was to communicate how much land was not productively in use in a synoptic and visual format.

Fels was also founder of the Philadelphia Vacant Lots Cultivation Association and observed the environmental and social benefits of urban agriculture: "A large number of vacant, unsightly spaces became attractive centres of local interest and activity, the public became interested in thrift and co-operation".[42] These ideas would have resonated with Geddes, who saw gardening as a core activity for cultural evolution that engaged citizens in "vigorous health and activity, guided by vivid intelligence".[43] Geddes and Fels corresponded regularly on their shared interests and it is also possible that the 450 acres in Edinburgh were identified for urban agriculture uses. Geddes had already been involved in developing numerous community gardens on vacant sites in Edinburgh, many of which can still be visited today.[44]

In Dublin, Geddes and his daughter Norah worked with the Women's National Health Association (WNHA) on the reuse of vacant spaces as gardens and playgrounds. The WNHA aimed to transform "derelict spaces into centres of brightness and happiness" throughout the island.[45]

The influence of the Edinburgh maps can clearly be seen in a subsequent plan of Dublin, published in 1914 in the appendix to the report of the 1913 inquiry into The Housing Conditions of the Working Classes in the City of Dublin. The Dublin Inquiry Map (1914) locates a total of 1,359 derelict sites and buildings across the city (Figure 2) and provides an informed basis for strategic planning to address a severe housing crisis, identifying numerous layers of information such as "Derelict Sites", "Land available for building", "Insanitary areas", "Areas for which schemes are in preparation" and "Dangerous Buildings",[46] all illustrated in one singular synoptic view.

Geddes's evidence to the Inquiry records that he considered the derelict spaces an opportunity for improving the health of citizens and for giving communities agency to look after their own local environment: "there is not sufficient recognition given to the fact that the people themselves are quite desirous of carrying out the improvements."[47] Geddes notes the sites were ideal for urban agriculture, and suggested all vacant land be reclaimed "in the public interest" and allocated amongst the poorer classes in order to create a level of income and nutrition.[48] This proposal would appear to reflect Henry George's ideas that land belonged to the people by natural right, and that inequality in the distribution of wealth was core to social and environmental problems.[49] Mr E.A. Aston, a founder member of the Housing and Town Planning Association of Ireland, advocates in his evidence for
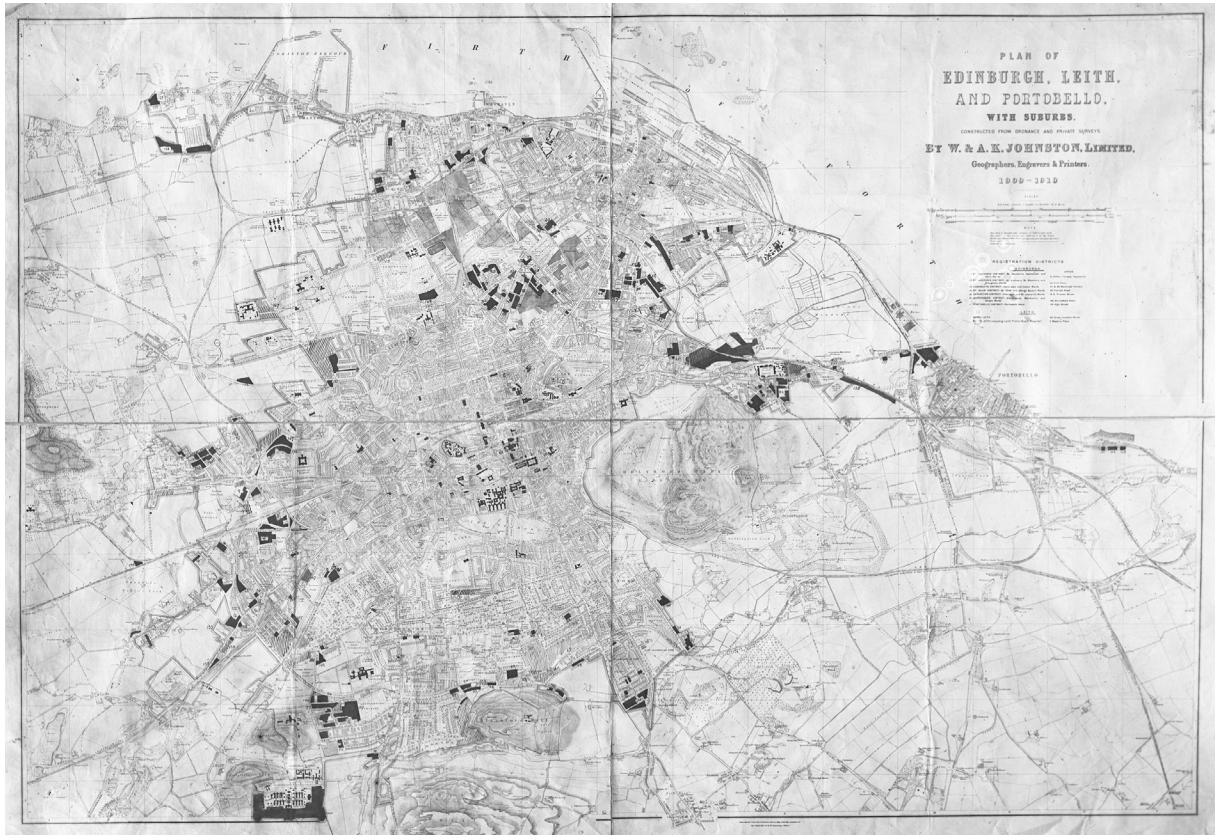
FIGURE 1 Map of derelict sites in Edinburgh, 1910. University of Edinburgh, Centre for Research Collections: Patrick Geddes Collection, Volume II, A2
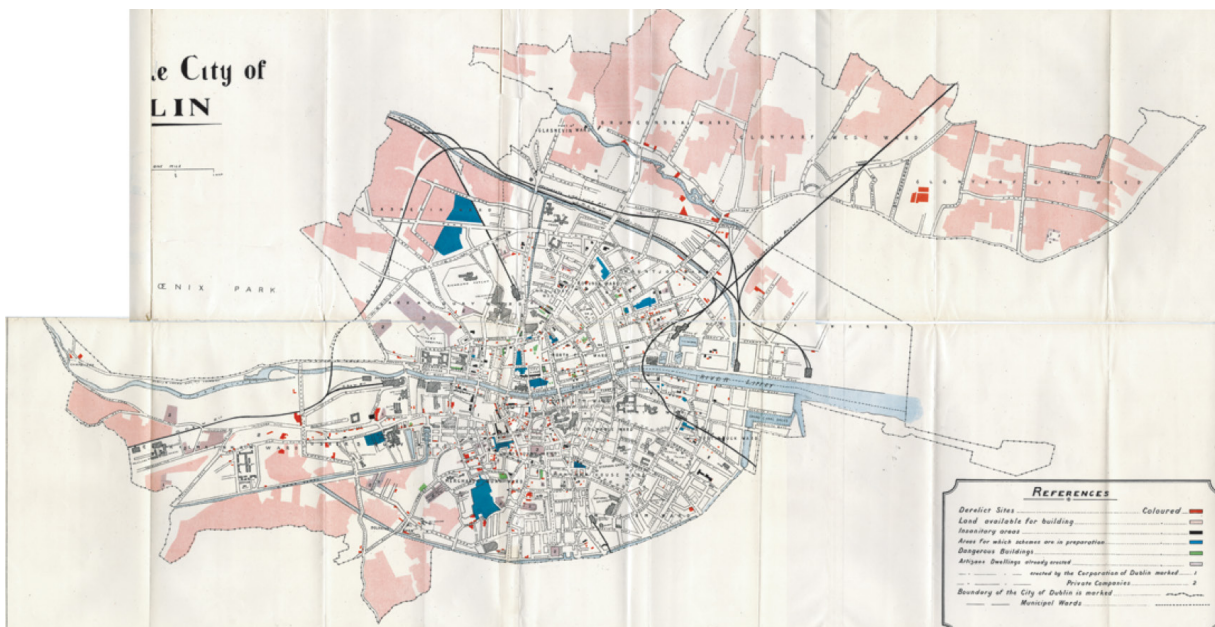

FIGURE 2 The Dublin Inquiry Map. Report of the Dept. Committee appointed 'to Inquiry into the Housing Conditions of the Working Class in the City of Dublin, Cd.7317, Dublin, 1914, between 324 and 325.

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a tax on derelict sites to encourage their use, and compulsory purchase powers for Local Authorities on sites that have remained vacant for over two years.[50] Again, these ideas reflect the discourse on land reform at that time, such as the Liberal Party's proposed tax on the capital value of undeveloped land.[51]

The Dublin Inquiry Map (1914) was therefore a management tool for the remediation of the city, diagnosed through the surveying process, that had the potential to support a number of activities including the strategic planning of a transformation of housing provision and the administration of a tax on land values or status. However, there is no indication that this map was generated through the type of dynamic and participatory process envisioned by Geddes in his writings on the civic survey.

"VACANT AND UNDERUTILIZED SITES" MAP (2013) AND "REUSING DUBLIN"

A century later and Dublin is still characterized by vacant sites and buildings,[52] there is a housing crisis in the private rented and social sectors,[53] and there is a lack of green space in the city centre.[54]

In 2013, as if to commemorate the centenary of Mr E.A. Aston's evidence to the 1913 inquiry, the Lord Mayor of Dublin proposed a vacant land levy for the city. Motivations originate from a recognition that existing tax mechanisms on property in the city effectively encourage vacancy and the incapacitation of buildings, and an understanding that the hoarding of vacant land was a contributing factor to the property boom as it led to a false impression of scarcity, artificially driving up prices.[55] The aim of the levy is to induce behavioural change, optimize the productive use of city land, and reduce urban sprawl.[56]

Dublin City Council mapped "Vacant and underutilised sites" in a limited area enclosed by the city's canals to provide an evidence base for the levy, and to develop new techniques of mapping and monitoring the sites.[57] The map uses three categories that target sites that currently are not subject to any tax regime: a site that is totally clear of structures; vacant land with dilapidated buildings; a site comprising mainly of a dilapidated building or buildings that are likely to be incapable of occupation (Figure 3). The map was based on visual assessment in the field by planners who then collected information in relation to ownership, building condition, impediments to redevelopment etc.. This was then inputted into the Council's internal GIS system.

The process of vacant sites mapping can present significant challenges not least from the scale of areas involved[58] and the fluidity of data.[59] Dublin City Council experienced many challenges, particularly in relation to the accumulation, validation, maintenance and accessibility of data that McPhearson et al. suggest can often be addressed by local community participation.[60] This process of 'volunteered geographic information' (VGI) can reduce dependence on data from government, and provide more relevant and insightful information as local stakeholders will often have a more intimate knowledge of neighbourhood conditions than planners working with city government.[61]

The TURAS project is exploring these ideas through a web-GIS application called 'Reusing Dublin' that is based on an evolving map recording spaces that are not used at all (vacant spaces); are only partly in use (for example upper floors above shops); or that could accommodate additional uses (for example roofs, walls or grassed areas) such as energy creation or growing plants for biodiversity. The project therefore aims to obtain a finer grain of information by mapping 'underuse' as opposed to simply 'vacant' (Figure 4).

Underused spaces are identified through student research projects; existing datasets such as commercial property valuation records and the Planning Registry; and crowd-sourcing, drawing on the dispersed and often tacit knowledge within communities. Users can add markers to identify underused spaces they know of, discover and share information (such as photographs and historical or ecological data), and connect with others in relation to any particular space.

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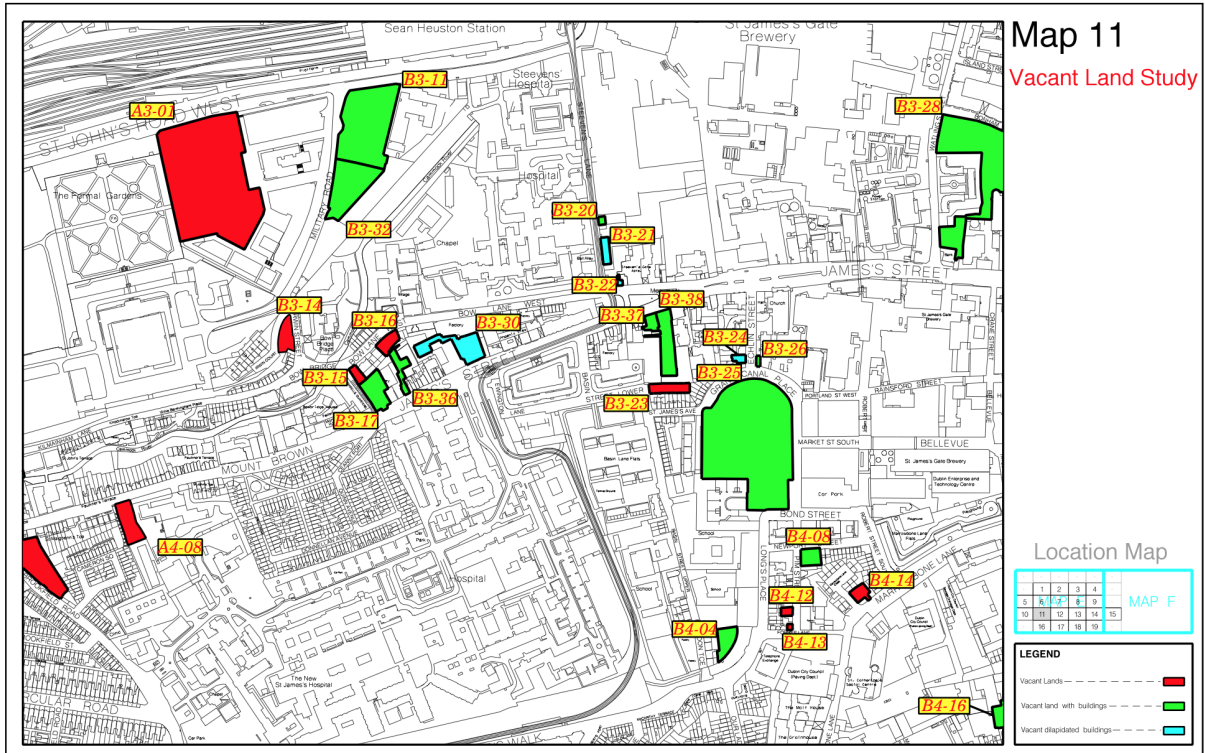
FIGURE 3 Map 11 from the Vacant Land Study. Report of the Strategic Policy Committee, Planning and International Relations. Dublin City Council, 03 March 2015.
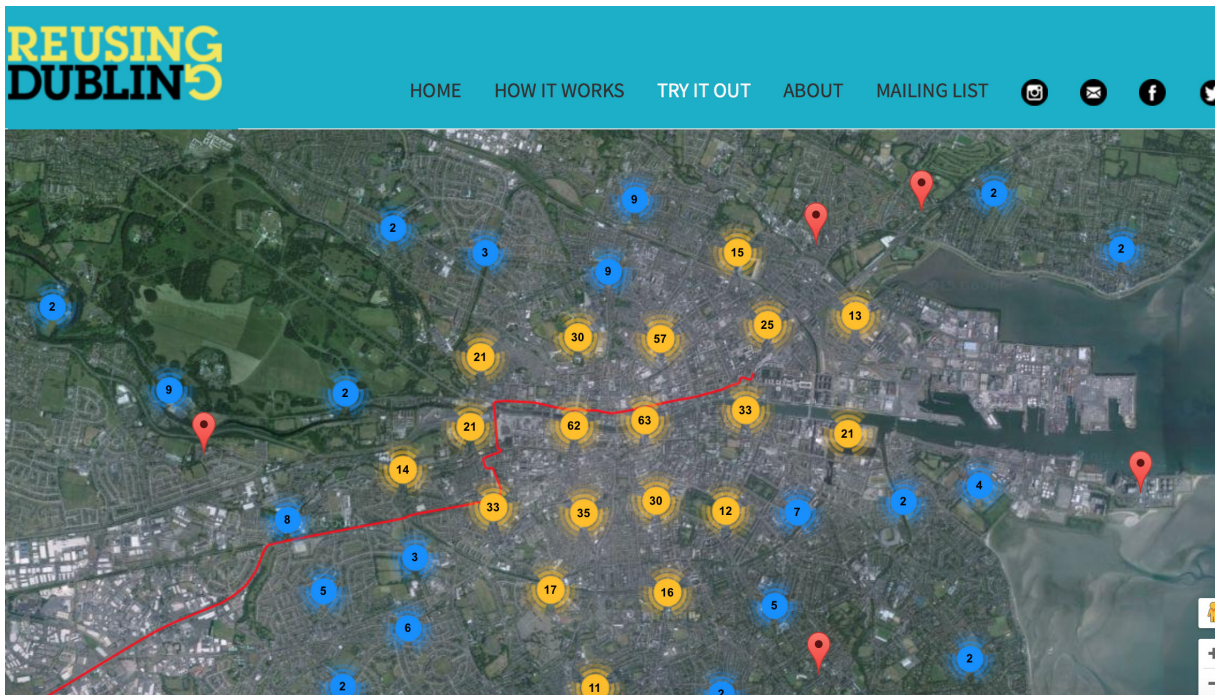

FIGURE 4 Screenshot of www.reusingdublin.ie, 09 July 2015.

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Reusing Dublin therefore aims to engage citizens with their place and one another through local community participation and geographical local knowledge. It is hoped that a network of underused spaces is revealed that forms an opportunity landscape for a broad range of actions that might be related to community uses, ecosystems services, food systems, energy systems, or intensification of use.

Early results indicate that Reusing Dublin has tapped into the considerable interest around underused spaces for temporary or more permanent cultural and ecological uses in the city. This is primarily evident in activity on social media such as facebook, twitter and instagram.[62] Events such as a re-'cycling' tour of underused spaces and a 'site of the week' have generated interest and successfully engaged stakeholders related to particular sites. However, active crowd sourced engagement such as adding sites or information is still very limited. At the time of writing only about 10% of the 660 identified sites have been crowd-sourced. There is evidently a requirement for resources to curate and manage the website and associated social media, and to engage directly and actively with stakeholders and citizens.

DISCUSSION

Geddesian theory and practice have been shown to relate to the emerging discourse on urban resilience. It is suggested here that Geddes's practice of mapping underused spaces is an example of urban resilience in practice and that a re-examination of the Dublin Inquiry Map (1914) provides a number of insights for the contemporary mapping of vacant sites in Dublin, as the 2013 map falls short of the more generous and imaginative social-ecological ideas espoused by Geddes. For example, to Geddes such a map was not simply an inventory for tax collection but a strategic tool to manage a severe housing crisis. Building development was not the sole aim as the sites were considered opportunities for addressing multiple challenges that in the present day could be related to food and energy systems, biodiversity, and ecosystems services, in addition to housing. The civic survey was not a remote exercise by planning officials but an open and participatory process where data is continuously gathered by citizens. And critically, the 1914 map is not restricted to a central area and integrates multiple layers of survey information to provide a synoptic view. In systems thinking, a synoptic approach facilitates an understanding of whole systems and their component and interrelated parts, providing a basis for considering effective and creative change.[63]

Reusing Dublin attempts to address these deficiencies and can be seen to reflect Geddesian thinking in a number of ways. The website engages citizens with local issues that can connect them with their place and one another, and through systems thinking, with global issues. The aggregation of data on underused spaces reveals an opportunity landscape for the remediation of the city in much the same way as the civic survey was a pre-requisite to future planning. In addition, the aim of helping citizens self-organise reflects Geddes's observation that communities should be given agency to look after their own local environment.

Both Geddesian thinking and Reusing Dublin represent a move away from the heroic modernist masterplanner to a future where decision-makers and planners facilitate citizens in making direct contributions to data collection in a variety of areas[64] in a 'bottom-up advocacy process' that can support environmental recovery in an uncertain future.[65] Parallels can be drawn with many aspects of social ecological resilience thinking, such as combining different types of knowledge for learning, experimentation, assuming change and uncertainty, and creating opportunities for self-organisation.[66]

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CONCLUSIONS

The re-examination of the work of Patrick Geddes illustrates that many of today's challenges, conditions and solutions are not entirely new, and that Geddesian thinking can provide insights for contemporary practice. The mapping of underused spaces is an adaptive and flexible approach to urban planning and governance. Information can be presented in a synoptic view and with other relevant layers of information in order to reveal connections and empower citizens to identify opportunities and self-organise, building adaptive capacity to change in an uncertain future. Geddesian thinking has been shown to have influenced the development of a crowd-sourced webmapping application, Reusing Dublin, that aims to address many of the challenges of mapping underused spaces through an open and participatory process that respects local knowledge and engages citizens with local issues. The resulting map of underused spaces can provide a template for change within which communities can precipitate social-ecological innovation, and therefore contribute to the transition to urban resilience and sustainability. The mapping of underused spaces provides an explicit example of what urban resilience means in practice.

Disclosure Statement

I confirm that this manuscript has not been published elsewhere. There is no potential conflict of interest with this submission.

Notes on contributor

Philip Crowe is an architect, urban designer and PhD candidate in University College Dublin, School of Architecture, Planning and Environmental Policy. Philip's PhD research is funded by the EU FP7 TURAS project (Transitioning towards Urban Resilience and Sustainability) and examines the theories and output of Patrick Geddes (1854-1932), particularly in relation to Dublin, as a setting out point for considering the potential impact of social-ecological resilience thinking on the city today.

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Image Sources

Figure 1 - Map of derelict sites in Edinburgh, 1910. University of Edinburgh, Centre for Research Collections: Patrick Geddes Collection, Volume II, A2.

Figure 2 - The Dublin Inquiry Map. Report of the Dept. Committee appointed 'to Inquiry into the Housing Conditions of the Working Class in the City of Dublin, Cd.7317, Dublin, 1914, between 324 and 325.

Figure 3 - Map 11 from the Vacant Land Study. Report of the Strategic Policy Committee, Planning and International Relations. Dublin City Council, 03 March 2015.

Figure 4 - Screenshot of www.reusingdublin.ie, 05 April 2016.

Endnotes

1   Hanna Erixon, Sara Borgstrom and Erik Andersson, "Challenging Dichotomies – Exploring Resilience as an Integrative and Operative Conceptual Framework for Large-Scale Urban Green Structures.". *Planning Theory and Practice* 14, no. 3 (2013): 349-72.

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10   Volker M. Welter, *Biopolis: Patrick Geddes and the City of Life,* (Cambridge Massachusetts: MIT Press, 2002), 11.

11   Ibid.

12   Patrick Geddes, *Cities in Evolution.* 3rd ed. (1968) (London: Williams and Norgate, 1915), 264

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