CONTEXTUALISING CITIZENS
Design-Led Approaches To Visualising Community Ecologies,
Building Interventions And Mobilising Citizen Participation

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ABSTRACT

This paper uses three cases of the authors' research working with rural communities in the Highlands and Islands of Scotland to reflect on the methods used to mediate between various groups and community members in citizen-engaged projects. We highlight the effects of making visible, with communities, the assets and relationships that exist in each context. Taking a combined ethnographic and participatory approach, we explain how in each of the cases we worked to contextualise a situation and collaboratively form a detailed picture of these community ecologies. In this we consider the question: by uncovering the context of communities with communities themselves, are designers more able to position themselves in the particular situation and account for their own agency? Through our reflections we discuss how our approach contributed to a deeper understanding of contextual issues including individuals, groups, roles, skills, and relationships. This allows us to propose a speculative frame to support designers to reflexively work with communities to collectively build representations of existing social networks, position themselves as active participants within these community ecologies and provide the foundations for together planning future interventions – approaches and activities that aim to enable positive change.

1. INTRODUCTION

As designers working with communities to identify opportunities for future developments, we aim to understand the environments in which design techniques can give form to intangible ideas, relationships, and aspirations. For the purposes of this research we term the relationships between the people and groups in a community as the *community ecology*. Applying our creative competencies in this domain we conceptualise particular community ecologies as a means of mobilising citizens towards participation. By doing so we are working with communities to illuminate the skills, strengths, resources, and assets that already exist, and the social relationships and influences that can inform successful, sustainable development. As part of these practices designers have a role to play in making visible with communities the ecology in which they are operating. This, in turn, can support them to work efficiently and empathetically, as well as developing productive relationships between designer and community. Ultimately this combination can lead to successful community-led development projects. In this way, designers are applying methods and approaches to help mediate between multiple actors with diverse agencies in particular situations.

In this paper we begin by defining our understanding of participatory design approaches and ethnographic practices. Paying particular attention to their synergies and divergences, we put forward the perspective that a more explicit apprehension of researcher reflexivity in participatory design can offer a means of communicating and understanding contextual issues with communities.

To unpack these notions, we then move on to present three cases from our design research within Leapfrog: transforming public sector engagement by design – a £1.2million Connected Communities project funded by the Arts and Humanities Research Council (AHRC). The Leapfrog project is working in close collaboration with public sector and community partners to design and evaluate new approaches to consultation (Leapfrog,

2016). Delivered through a partnership between ImaginationLancaster at Lancaster University and the Institute of Design Innovation at The Glasgow School of Art, the project is working initially with communities in Lancashire and the Highlands and Islands of Scotland and then more broadly across the UK to create and evaluate new tools and models of creative engagement.

In the Highlands and Islands communities are geographically dispersed and often located in remote, hard-to-reach areas, and as such are strongly motivated to innovate by the difficulties they face in terms of communications and access. Situating the cases across the Highlands and Islands region, we set out each project's context and aims, describe the design-led activity we developed and carried out, and reflect upon the insights gleaned from these pieces of fieldwork. Through synthesising our experiences of the three cases we go on to discuss the design-led techniques used to uncover the community ecology. Where appropriate we also highlight the ethnographic and participatory design methods and approaches used to help link the tangible activities of the research to the supporting theories.

In this paper we do not interrogate any empirical data, but rather we offer our contextual reflections of three projects from our own positions within these through the case studies. Proposing the development of a frame to support designers when working with communities, future work will present collaborative accounts of the process from multiple perspectives and discuss a wider range of visual and creative tools that contribute to our view of ethnographic approaches in design and the importance of reflexively establishing context together.

2. PARTICIPATORY DESIGN: WHAT IS AND WHAT COULD BE

Emerging during the 1960s, Participatory Design (PD) was born from a desire to address power imbalances and regain

human accountability in light of technological advancements. PD has since been adapted to explore wider social challenges with organisations and communities (DiSalvo et al., 2013). Designers and design researchers working in PD employ creative, generative, visual, and participatory methods including collaging, sketching, 3D modelling tasks, prototypes and design games as ways of engaging with participants and *telling, making, and enacting* to envisage the future (Brandt et al., 2013). Steen (2011) positions PD as a practice in which designers and researchers devise methods to engage with users and stakeholders, understand their experiences and consider how these can be enhanced. Such activities build on primary knowledge and expertise ('what is') to imagine preferable scenarios ('what could be') (Steen, 2011:50). Vaajakallio (2009) has evaluated the generative nature of co-design activities and proposed that this fundamentally social and embodied practice originates from the dialogue that emerges when participants enact and describe their existing experiences through creative, expressive methods. PD practices and activities can be seen to foster a non-hierarchical ethos that empowers citizens and communities to contribute to innovative concept development. The balance of agency between communities and designers in PD is thus an emergent matter of concern.

2.1. POSITIONING PARTICIPATION; POSITIONALITY THROUGH PARTICIPATION

The nature of interaction, the forms of participation, and the mechanisms by which control and power are distributed remain much contested issues in PD (Vines et al., 2013). Steen (2013) notes that the quality of participation 'can vary greatly, ranging from superficial "hand-holding" initiatives to organizing productive dialogue and intimate cooperation' (Steen, 2013: 949). Equally, the ethical dimensions of building positive and productive relationships with organisations and communities underlines the need for designers and researchers to carefully choreograph their integration of contexts, participants and methods (Brandt et al., 2013; Vines et al.,

2013). Misrepresentation, cultural sensitivity and the appropriateness of PD methods are amongst the barriers and hurdles awaiting designers and researchers (Robertson and Wagner, 2013). Exemplifying these challenges through their investigations of indigenous knowledge management systems with rural communities in Namibia, Winschiers-Theophilus, Bidwell and Blake (2012) advise that PD methods be tailored to meet the viewpoints and agendas of all stakeholders involved. They should be designed to accommodate deviation and adaptation in line with participants' experiences, opinions, and ideas.

Initially concerned with understanding the world as it is, participatory design can be thought of as a research-led orientation in which designers and researchers gain an insight into the multifaceted nature of each design context and the areas of opportunity for intervention (Steen, 2011). Following Dorst's *Frame Creation* model (2015), critical engagement with existing situations within the design context can illuminate both "significant influences on their behaviour and what strategies they currently employ", and "practices and scenarios that could become part of the solution" (Dorst, 2015, pp. 76). In developing notions of context-specific PD methods, there is a need for designers and researchers to immerse and embed themselves within the geographical setting in which their projects are situated, allowing them to develop rich and authentic understandings of the social, cultural, and political conditions that characterise each unique design context.

3. ETHNOGRAPHIC PRACTICES AND PERSPECTIVES IN PARTICIPATORY DESIGN

Ethnography, the act of writing about human beings, has long been of interest to PD practices (Hemmings and Crabtree, 2002), and has been applied in many nuanced ways across the wider discipline of design (Hughs et al., 1994). As a professional practice, ethnography arose within the discipline of anthropology (Dourish, 2006). The emergence

of the practice marked a shift from the status quo of anthropological study and gave primacy to a richer description of situations through observed experiences, rather than a documentary of what people do. Yet as observations are inherently imbued with layers of subjective interpretations, the position and actions of the observer are central to much debate within ethnographic discourse (Davies, 2008). As Dourish (2006) considers, ethnographic practices often comprise the work of sociologists, functioning as a tool to drill down into the world in front of us to uncover what is really happening in each individual situation or encounter.

The role of ethnography within design has traditionally supported the definition of new creations suitable to the environment and has been utilised to establish appropriate new products, services, systems and experiences. Within the field of systems design, for example, ethnography has well established applications due to the recognition that any development of technology will be reliant on the understanding of the particular environment into which the new developments will be launched (Hemmings and Crabtree, 2002). Establishing contexts where new objects, in a broad sense, will become realised in use is crucial to successful and sustainable designs. Adopting the fundamentals of ethnographic approaches can be seen as critical to a participatory design practice that is both socially inclusive, and responsive to local skills, strengths, resources, and assets.

3.1. FROM ETHNOGRAPHIC METHODS TO ETHNOGRAPHIC MINDSETS

The techniques of ethnography applied to design, especially looking historically in the realm of human computer interaction (HCI) and the development of human work supportive systems, offer a means to capture the real world complexity of situations from the perspectives of end users' lived experiences (Dourish, 2006). Whereas previously ethnography in design was concerned with supporting effective product or systems design, now the design of social practices is

also in receipt of the benefits of understanding contextual factors, for instance when working in particular localities. As Crabtree and Rodden (2002) point out, there is potential for ethnographic practice in product design processes to be extended and developed beyond a technique to inform specification towards opportunities to extract, capture, and communicate rich description and allow for more abstract concepts to emerge. The challenge with ethnography, according to Crabtree and Rodden (2002), is linking detailed observations to the development and implementation of tangible new designs. Going beyond empowering designers to make decisions, the role of ethnographic techniques in PD must therefore support citizens to recognise their abilities to make positive contributions to society.

Halse and Boffi (2014) suggest that where ethnography is appropriated by design disciplines, the 'core ethnographic aspects of empathy, open-endedness, attentiveness to situatedness, have met with designerly competencies' (Halse and Boffi, 2014: 4). Various design toolkits and surrounding literature extensively advocate the use of ethnographic practices to gain an understanding of behaviours and situations. The IDEO Method Cards, for instance, feature 'rapid ethnography' as a tool for designers to engage with users in their natural environments (IDEO, 2002). Evoking concepts of cultural probes, self-documentation is explicated as a generic technique to learn about participants' lives by viewing their photographs, drawings and written notes, and to develop interpretative descriptions of behaviours and needs to inform and inspire design solutions (Gaver et al, 2003; Mattelmäki, 2006). At the same time, established techniques including user personas, scenarios, and stakeholder maps (Hanington, 2003; Hanington and Martin, 2012) aim to create visual and textual representations of the people within the design context; describe their experiences, needs and aspirations; and depict the nature of their interactions within existing and speculative social networks.

Discussing the application of in situ observation and interview in professional design fields, Halse and Boffi maintain that such methods are 'inescapably political, and always also re-creating the realities they set out to describe' (Halse and Boffi, 2014: 4). This critique is in line with Blomberg et al.'s (1993) landmark guiding principles for ethnography in design: the first-hand study of people in everyday settings; understanding behaviours by uncovering a holistic view of the local context; constructing descriptive accounts of observations and presenting accounts in ways that are meaningful for participants (Blomberg et al., 1993:125-126). Concurring with Blomberg and Karasti's (2012) assessments of the intersection of ethnography and PD, we maintain that rather than existing in the form of a concrete tool or replicable technique, ethnographic principles are 'deeply ingrained into the doing of design' (Blomberg and Karasti, 2012: 99), and are characterised by an open, exploratory, critical and reflexive mindset on the part of the designer.

3.2. ROLES, RESPONSIBILITIES, AND REFLEXIVITY

Whilst participatory methods can elicit information and influence the social nature of design research processes, there is an impetus on designers and researchers to demonstrate a reflexive awareness of their agency and impact in these contexts and articulate methodological and ethical decisions based on their prior knowledge, immersed experiences and participants' perspectives (Bødker, 2006; Steen, 2013). Developing this notion, Vines et al. (2013) raise concerns that the proliferation of PD methods has been accompanied by a lack of explicit acknowledgement of how designers and researchers 'configure multiple forms' of participation with organisations and communities (Vines et al, 2013:236). Foregrounding the ethnographer as an intrinsic and explicit element of the context, Davies (2008) defines reflexivity as expressing a personal 'awareness of their necessary connection to the research situation and hence their effects upon it'"(Davies, 2008:7).

Yet in encouraging designers 'to develop our own voices and learn to speak for ourselves' (Markussen, 1994:65), reflexivity cannot be put forward by "simply recommending people to be reflexive' (Steen, 2013:258), but by exposing and posing pertinent questions, communicating design decisions explicitly, stimulating thought and learning within PD relationships, and examining our own patterns of behavior and the effects of our practices (Broadley, 2013; Blomberg and Karasti, 2013). As we go on to discuss in the presentation of our three case studies, harnessing a reflexive awareness of our own experiences of each context was beneficial as a means of stimulating collective dialogue, mutual understanding, and idea development with our stakeholders.

Through presenting the following case studies, we seek to position ethnography in our design research approach as an influencing ideology. As we have set out, this is based on a contemporary understanding of ethnography in design that is distinct from its roots in anthropology as a descriptive and interpretative practice, towards a socially engaged and reflexively aware approach concerned with mutual learning, discovery, and idea development. Establishing context in our work is, we propose, imperative to designing appropriate interventions. Working with communities to uncover the relationships between groups and individuals, and overlaying these with nuanced, and textured information about their characteristics (histories, skills, motivations, aspirations) is a valuable tool for our practice, and reflects the view that an ethnographer is not 'a walking tape recorder' (Forsyth, 1989:140). Rather than merely recording what we think we see, we use tools and approaches to explore situations, consider why a situation *is what it is*, and identify how people feel about it.

4. CASE STUDIES

The following section summarises three case study examples of the authors' work within three distinct Leapfrog projects, each

working with communities to develop ways to engage citizens in local area development. The projects took place in the Highlands and Islands of Scotland, a region consisting of many small remote and rural communities, a great many of which plan, execute, and administer community-led initiatives. The case studies focus primarily on the contextualisation stage in each project. In this, ethnographic study and participation from citizens combine with the input and interpretations of designers to plan the next stage of the project.

4.1 CASE 1: ENGAGING ISLAND COMMUNITIES

The first case deals with an intervention that aimed to work with a range of community-led local development initiatives in island communities in the Western Isles of Scotland. The aim of the intervention was to co-develop innovative methods for engaging with local residents about a range of potential development projects, facilitating their *buy in* and securing support so to help projects become more sustainable. Development projects ranged from a green transportation initiative on the islands to a community-owned land development initiative, a wildlife conservation project and a project to increasing access to affordable housing. Projects are managed and administered by a mix of employed development officers and volunteers with a vested interested in their community's development. As in many of the regions across Scotland, an overarching group of local stakeholders form a community development trust that leads on or is involved in many projects. The trust is a social enterprise that supports itself with a blend of income generated through commercial activities and project specific funding. The success of such projects relies heavily on both the financial capital investments from self and externally generated incomes, and equally on social capital investments from local citizens. Within each region there may be many projects and individual stakeholders, all with various types of relationships that makes for a challenging environment in which to work. Within this first project, our role was

to work with stakeholders to co-design new and creative methods for engaging with local residents through a series of workshops and contextual visits.

The project was characterised by three major stages, each corresponding with distinct objectives. The first of these took the form of an initial scoping stage where we worked with a closed group of stakeholders to map out the current landscape of issues facing the community and opportunities to engage people in local area development. This was followed by a contextualisation stage where we immersed ourselves in the community, speaking with different representatives from community projects and working in collaboration with a broad group of stakeholders to map the community ecology. In this, ethnographic study was positioned as an approach to both inform the designer and citizens about the ecology and to situate the designer in that ecology as an active part of the project. Thirdly, we embarked on a stage of co-design, where we collaborated with stakeholders to develop approaches to engaging with citizens and actively involving them local development plans.

In the initial scoping stage of the project there were two phases: identifying salient issues and setting success criteria. Visually mapping the community ecology in the subsequent contextualisation stage, we worked with stakeholders to unpack perceptions of different kinds of relationships that exist within the local area. These were categorised as individuals and individuals; individuals and groups; groups and groups. The maps were created using a combination of individual and group interviews, and a workshop that used design-led approaches and creative techniques including probes and drawing.

Figure 1 is taken from a workshop in which we used an *Individual Mapping Tool* to explore how community members related to various groups and the nature of the relationships. The aim of our project was to work with stakeholders to design engagement tools that they themselves could go on to use in

future local area development projects. The mapping activity supported us in making visible the components comprising the community ecology and helped develop our understandings of individuals and groups to engage with through these in the future, possible topics or themes for community engagement in relation to local issues, and the kinds of engagements that had happened before. This activity encouraged us to reflect on stakeholders that may be involved in the next stage of the project, and our own roles and agency as designers within the ecology itself and potential future interventions aiming to instigate positive change. In this case, we became aware of many committees, clubs, and individuals with an interest in local area development. Often individuals were part of multiple groups and played many roles in the community. Inspired by this insight, the Individual Mapping Tool allowed us to physically break down the community into discrete parts (individual citizens) and then visualise how the discrete elements connected. Carrying out the activity with a range of individual stakeholders and combining their maps to create a composite picture of the community ecology, the mapping activity helped us to open up a space for interrogating the current situation together, and identify opportunities for transformation.

The final stage of the project was centred around the planning, development, and delivery of a series of co-design sessions. Throughout all the activity we carefully developed and designed tools and approaches to support the objectives of each stage.

4.2 CASE 2: BUILDING COMMUNITY BRIDGES

The second case deals with an intervention involving two rural communities striving to develop shared community-led initiatives covering a major infrastructure project and the development of a community asset into a shared resource. The governance of community-led initiatives across two

communities is organised into a shared development trust, two local village hall committees, and a range of community committees for individual clubs, associations, and projects. Our role in this project was to work with representatives from the two communities and the overarching community trust to develop creative ways to connect the many community stakeholders who would be affected by local area development projects.

Mapping the local landscape and scoping future work together, we worked with community members to envisage various social networks. Figure 2 illustrates the *Network Mapping Tool* we used to visualise the different groups that exists in the two areas. In this activity small groups of local stakeholders are asked to use pins to intuitively position local clubs, committees, trusts, and boards, before attaching annotated tags to identify them. The stakeholders were then asked to connect related groups by tagging the connecting threads and annotating these to describe the nature of these relationships, for example, an individual who links two projects. As in the first case, this activity was repeated with different groups, and individual maps were combined and discussed.

We found that certain hierarchies were evident within this community ecology. For the multiple groups responsible for individual clubs, projects and initiatives (base groups), there exists a layer of intermediary groups – village hall committees and shared project committees – that are connected with the base groups but also connected to another group, a layer abstracted from them represented by the community trust and community council. Many groups share individuals and some individuals are part of more than one group, painting a dynamic and complex picture of how degrees of agency are distributed throughout the communities. By establishing the landscape of the different groups and the nature of their relationships, we were able to distinguish the different interactions between them and situate any work at the nexus of these interactions. In establishing the community ecology, the Network Mapping Tool also supported us to
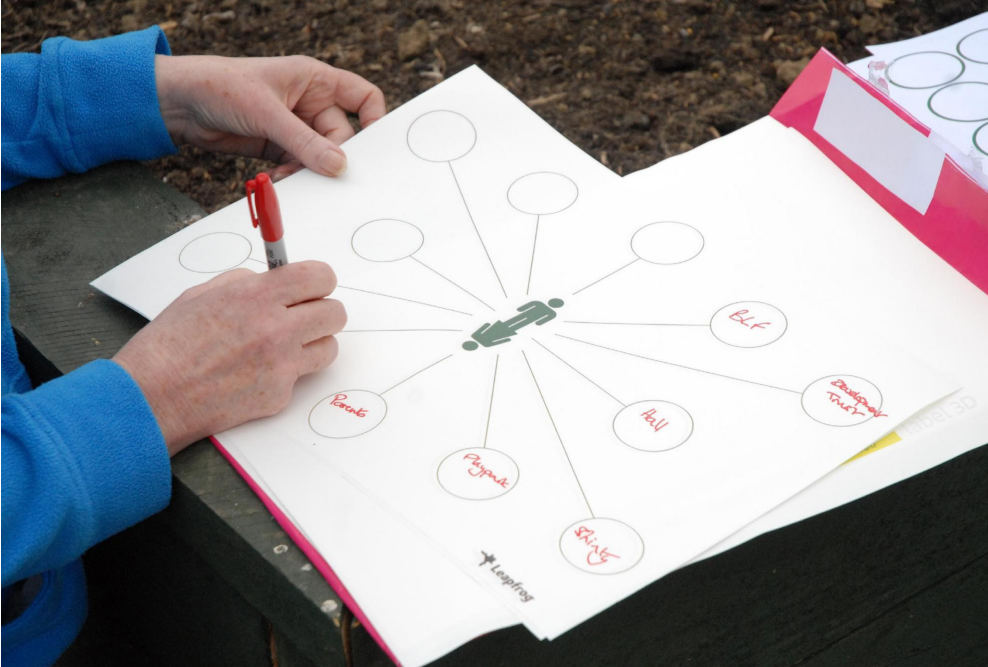
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Figure 1: Individual Mapping Tool: exploring connections between people and communities

Figure 2: Network Mapping Tool: visually mapping community ecology linkages

plan for future interventions by highlighting key individuals, their level of current activity in the community, and their perceived importance.

4.3 CASE 3: BALANCING AND BLENDING PROFESSIONAL AND CITIZEN VOICES

The third case deals with an intervention working with a group of stakeholders aiming to actively involve citizens in the development of a national park development strategy. Specifically, the group sought to engage with young families in the national park about future developments and social programs by synthesising, balancing, and blending the voices of citizens using the park and the voices of experts who advise on its development strategy from a pragmatic and professional perspective. Setting this case apart from the previous two, our objective here was to examine working practices and how they fit into a current working ecology – an ecology that involves a core team, panels of expert stakeholders and citizen participants, all playing a role in area development planning. The project partners recognised that the development plan should respond to the needs of key groups of people living in and visiting the park, whilst aligning with expert recommendations and the needs implementers of the strategy. This would require coordinated participation from multiple stakeholders and thus a very clear focus from the start. In turn, our project's core aim was to co-design a suite of engagement tools that could be used to connect with citizens and provide them with a space for sharing their experiences, insights and ideas for the park's future.

Through our initial scoping stage we spent time as a team visiting and speaking informally with various people responsible for developing and delivering the area plan. Our objective with these visits and interviews was to begin to understand some of the working practices of the core team ultimately responsible for creating and delivering the park strategy. In this, we paid particular attention to their relationships with other stakeholders with an explicit role in developing the plan. Equally important was establishing the relationships with stakeholders who were known or perceived as important but, where not explicitly involved in the plan's development. These people were often termed the *unusual suspects* – individuals and groups that the team aspired to connect with. During this stage of the project we conducted exploratory site visits and semi-structured interviews to form an initial picture of pertinent issues and stakeholders. This was important for us to establish the project's focus, frame the scope of our work in its subsequent stages and anticipate our own roles and agency as designers in planning and delivering interventions.

Through a series of workshops we brought together people with various roles in the area development strategy to explore and articulate the broader landscape of actors involved in the national park plan. As the core contextual stage of the project, here we used visual and participatory design-led techniques to engage stakeholders in mapping activities in which we encouraged them to collectively expose the *status quo* of the situation, and express their opinions of this picture as it emerged. During one of the workshops we used simple sketching techniques to represent the ecology that we would be working in, before layering this with stakeholders' individual perceptions of what we were mapping. This technique served to map out the breadth of the project; uncover the basis for stakeholder's perceptions of the current situation; position the project, and ourselves as designers, within the ecology itself and locate key areas and groups to focus on as we progressed through the project. It created a holistic picture of how development plans are created and opened up dialogue around understanding such procedures and identifying gaps within current approaches. Ultimately it led to identifying a key issue with the current practice and a main focus for the project. As a result of this stage, young families' involvement in the park's future was directly linked to its sustainability, positioning them as a pivotal node within

the community ecology, yet past attempts to actively engage with them had proved challenging.

In creating this *work ecology* we recognised the need to foreground the development plan's professional advisors and citizens with a geographical connection to the park as two sub-groups based on their expert knowledge and experiences of living in and using the park. The core group responsible for delivering the plan operates externally to these groups and interacts with each (and their sub groups) independently. The core does not mediate between the other groups, nor do the other groups have any contact with each other. Crucially for us, by establishing this picture with the stakeholders and in a way that was sympathetic to the potential political nature of the situation, we managed to establish a common ground and shared motivation to collaborate together to extend the reach of the park and engage with a wider range of local communities. Establishing a basic picture of a complex situation and mapping relationships in that picture, the initial stage allowed us to identify the notional focus for the future of our project. It helped us to build relationships of our own between designers and the various stakeholders and began to build a common understanding and a shared direction. By bringing more perspectives into the process through the contextual stage and collectively adding detail to the initial picture we managed to co-develop a shared reality of the situation and a shared focus for the project. Working this way helped to add us to the picture as active participants and not simply observers.

5. REFLECTIONS ON DESIGN-LED APPROACHES TO VISUALISING COMMUNITY ECOLOGIES, BUILDING INTERVENTIONS, AND MOBILISING CITIZEN PARTICIPATION

Where ethnography's historical role was to learn and impart knowledge, design gave form to ideas (Crabtree and Rodden, 2002). Halse (2008) advances distinctions of collaboration and participation in design

by affirming that socially situated, culturally specific design inquiry is embodied by past, present, and future experiences. Through performing design activities in the liminal spaces between people and artefacts, everyday practices function as a springboard for innovation. Understanding the spaces in which interventions will take place is seen as critical to a successful design-led approach to participatory community development and is a strategy that we have adopted and developed through the cases we have discussed. Working with stakeholders to build up a contextual picture using visual methods in the first case made us aware of a complex web of affinities and divergences amongst the individuals and groups forming the community. Through this we noted that over time many personal social relationships had become professional in nature as individuals coalesced to form groups and manage discrete projects, with these project groups often overlapping.

Enacting a form of participatory stakeholder mapping to visualise these relationships helped to establish an understanding of the context in which we would work, the challenges and opportunities we might face, and develop a level of trust and parity between ourselves as designers and the community. Gradually becoming attuned to these contextual factors and sharing our interpretations openly with the community through visual techniques helped us in the subsequent stage of the project to co-design engagement tools as design interventions that were appropriate, responsive, and applicable to the distributed nature of the Western Isles and addressed the need to connect a broader range of communities that were geographically dispersed across the land and the sea. Concerned with change, design-led interventions can be seen as opportunities for designers to harness the knowledge gleaned from their immersion in the context, analyse stakeholder aims and aspirations, identify patterns and characteristics, and develop and test potential alternative products, services, and systems (Bødker and Iversen, 2002: Crabtree, 1998). As Halse and Boffi (2014)

articulate, interventions are research methods deployed 'not to test a prefigured solution to a defined problem, but to enable new forms of experience, dialogue and awareness about the problematic to emerge' (Halse and Boffi, 2014:2).

Building collective representations of a community's particular ecology at systemic and individual levels can lead to a level of understanding and trust between community members and designers that allows for more productive relationships, and contextually-appropriate design interventions. Drawing from Blomberg et al. (1993), Simonsen and Kensing (1998) discuss how ethnographic principles have proliferated PD to contribute a means of uncovering rich insights surrounding the design context. Harnessing conceptions of contextual design (Simonsen and Kensing, 1997; Beyer and Holzblatt, 1997; Steen, 2011), the use of ethnographic practices seeks to support designers in building reciprocal relationships with stakeholder participants, establishing confidence and credibility in the design approach, and negotiating mutual project goals (Blomberg and Karasti, 2012; Simonsen and Kensing, 1998). Co-creating the Network Mapping Tools in the second case resulted in a collection of artefacts that helped us to unpack differences in individuals' perspectives and the subjective nature of their versions of the reality. This activity was key to building a sense of trust between designer and community, and allowed us to work with the community rather than for them. Crucially, and in terms of accounting for our level of agency in the project, this approach situated us as designers within the collaborative space that we sought to make, and defined a place in the community ecology in which collaborative work would take place. Here we learned about various distinct groups: how their purposes and aims often overlap, how they interface and interact, and the relational factors that would need to be negotiated. Developing this particular contextual picture uncovered the boundaries we would be working across and the people we would most likely interact with. Our approach was again to work with

community members to visually map their community and in particular the nature of the linkages between them. It is important to note that the structure we made visible is viewed through the lens of community development and so a certain bias towards mapping elements relevant to the situation was embedded within it. There were many personal and historic relationships at play in the communities we worked with, and we see this texture of particular community ecologies as an imperative element to acknowledge and unpack when working with communities.

Recalling distinctions of understanding what is in order to speculate what could be (Steen, 2011), Suchmann et al. (1999) maintain that shared insight and awareness of the design context provides the impetus to inspire meaningful change. It can be argued that the amalgamation of designers, researchers, and local stakeholders' concrete experience and abstract knowledge constitutes the route towards design knowledge (Kensing et al, 1998:12; Simonsen and Kensing, 1998: 25). In the third stage of the project detailed in the third case we continued to work with the same group to co-design creative ways of gathering, synthesising and balancing the multiple voices and agencies of the various stakeholders. Drawing from our experience of the previous cases, we applied a range of visual and participatory design-led mapping activities to mobilise various fragments of local knowledge and materialise the linkages between groups and individuals. In particular, we chose to use sketching as an expressive, informal, and interpretative technique to describe and capture our collective descriptions of the situation as it stood. This supported us in building a shared understanding of the points within the network where we would locate our work, to identify the boundaries we would be spanning, and crucially, to suggest opportunities for future interventions. Whilst Dourish (2006:541) points out that 'ethnography is seen as an approach to field investigation that can generate requirements for systems development', Blomberg and Karasti (2012: 96) recognise concerns that

such arguably superficial applications limit the potential of ethnography to render deep conceptual and theoretical design knowledge tangible and accessible. Ethnography constitutes an inherently aggregated portrayal of reality constructed from multiple perspectives: not only is the perspective that of the observer, and determined by their personal experiences and prior knowledge but it is also of the observed. The results of a study – the ethnography itself – are the interpretation by the ethnographer of the experiences of the unit of study (Dourish, 2006: 544). In this way it is a collaborative process of realising *collective realities*.

Opening up spaces for interrogating current situations and broadening the scope for change, "ethnographic techniques are a helpful supplement to the designer's repertoire for action" (Simonsen and Kensing, 1998: 24). The design-led mapping techniques we developed and applied in each case enriched our understandings of community ecologies and supported us to envisage where and how future interventions would take place. We deem mapping community ecologies an important method for managing expectations for all stakeholders involved in collaborative projects by setting the boundaries of interventions and identifying realistic goals for what the work will do. This is crucial in balancing aspirational ideas of what futures might look like and the pragmatic path of realising shared future visions. We believe that adopting an approach that blends an ethnographic ethos with participatory design methods can help to make relationships in communities visible and tangible, set the scene for the collaborative development of strategic approaches for citizen participation, and maximise the potential within community ecologies to enable positive change.

5.1 FUTURE RESEARCH: PROPOSING A FRAME FOR DESIGNING REFLEXIVELY WITH COMMUNITIES

The model followed in the three cases presented follows a structure of engage,

participate, synthesise, and design. As designed interventions, collections of locally responsive engagement tools were the primary outcome of applying this model, in so far as the contextual factors uncovered by the ethnographic approach. As an output, the ethnography itself, which can include written text, drawing, mapping, and other communicative forms, is a symbolic representation of our collective understanding of a situation. Created through a collaborative process, this emphasises a shared perspective and a reality constructed through the mutual interests of designers and communities. The initial approach we present in this paper has been a valuable tool for articulating our insights gleaned from the three case studies, and our reflections on how this has supported our work. Starting with the project's scoping stage, we begin to grasp the foundations of the ecology in which we will be working and crucially begin to immerse and integrate ourselves into the picture. It is not always easy for individuals to visualise the relationships in their ecology, and often more difficult to express the nature of many intertwined relationships from their insider perspectives. Having sight of the picture does not immediately reveal where issues and opportunities lie, but as we have found It is the deeper understanding of why a community ecology is the way it is and how it is perceived by the people within it that paints a more detailed picture and allows designers, citizens, and communities to focus on important opportunities for future interventions.

As a result of this research we propose a speculative frame to support designers to account for their own agency and reflexively work with communities (Broadley, 2013; Blomberg and Karasti, 2013) to develop shared understandings of community assets, social relations, group interactions and the power relationships in existing community ecologies; build trust and share goals, and to inclusively co-design interventions. Extracting these imperatives from our reflections to form its struts, we suggest that such a frame can guide how we define our interactions with

94

communities and ensure that project aims are co-developed in response to local issues. To uncover these factors, we advocate the responsive development and use of design and ethnographic methods (Halse and Boffi, 2014) within the frame. Upon becoming attuned to contextual factors and how these underpin relationships, the frame then encourages designers and communities to collectively build representations of social networks that exist within a particular setting and position themselves as active participants in these community ecologies. Further work will develop and expand upon the frame, reflecting on its value in phases of co-design and the use of creative tools for community engagement.

6 CONCLUSION

In this paper we have reflected on how gaining a deep understanding of contextual issues in communities, and doing this in collaboration with members of the community, provide the foundations for joint planning of successful future interventions. We have illustrated how blending methods and mindsets from PD and ethnography can offer a means for designers to reflexively interrogate the geographical, environmental, cultural, social and political context of their work and their potential impact upon that setting; engage with networks of individuals in dialogue and collectively unpack and make visible the groups, skills, and relationships that characterise each situation, and underpin an equitable distribution of agency between themselves and the communities they work with. Building productive collaborative relationships and providing the foundations for successfully planning interventions, we propose that such a frame can support designers to establish contextual understandings of the place of communities.

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