'Reflective drawing': Drawing as a tool for reflection in design research

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'Reflective drawing': Drawing as a tool for reflection in design research

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Abstract

This paper explores the role of 'reflective drawing' in a PhD research project that aims to analyse the value of co-design practices used to develop 'engagement tools' within community development. This PhD research is associated with 'Leapfrog', a three-year project funded by the Arts and Humanities Research Council (AHRC). The term 'reflective drawing' refers to the use of drawing as a means of expression during the reflection process. This research involves a close interrelationship between theory and practice - one informs the other and vice versa. Thus, reflection is a crucial element in understanding this relationship. As Creek (2007) reports, reflection is an intuitive process that enables the understanding of ourselves within a context of practice. Therefore, understanding the reflection process requires understanding the use of drawing. This paper reflects on my own development of 'reflective drawing' as a tool to facilitate the capturing of my reflections.

1. Introduction

This paper outlines a PhD research project which is part of Leapfrog, a three-year, £1.2 million, AHRC-funded project led by Lancaster University and co-hosted by The Glasgow School of Art, and a number of public sector and community partners. Focused on designing new approaches to public consultation, the Leapfrog project is enabling local people to make their voices heard on issues close to the heart of their communities - to trigger action in order to bring about social change. To do this, it uses co-design as a way to bring people together from different backgrounds and expertise to collectively dialogue and co-construct 'engagement tools' that will support the development of new approaches to citizenship participation. This doctoral research aims to analyse the role and value of community co-design practices. Hence, the research question is: How do designers go about researching the impact of co-design?

The aim of this paper is to discuss the role of drawing as a tool to support thinking and reflection from a design practitioner and researcher perspective. Hence, it seeks to illuminate the ways in which drawing can be used as a powerful method of supporting reflective learning in community co-design practices. According to Ledwith (2005), reflection leads to the development of a critical consciousness that helps to connect deeply personal stories with the structures of power; reflection is a key aspect for collective action. There are two key components in this PhD - theory and practice, both of which inform the other and vice versa. These components occur simultaneously in time and I argue that reflection has the means to build a bridge for establishing a two-way communication between them. This paper reflects on findings resulting from a pilot study conducted during a period of six months on the Isles of Mull and Iona, in the Highlands and Islands of Scotland, which adopted an ethnographic approach.

In order to explain the concept of reflective drawing, I first reflect on the concept of drawing (section 2) as a tool of human expression to understand the physical environment whose origins, according to anthropological expert speculation, could be traced back to a pre-modern human mind. Secondly, I will use autobiographical research in order to better understand my relationship with drawing (section 3) and finally I will present the pilot study (section 4) and how reflective drawing became a tool for supporting thinking and reflection, followed by a discussion (section 5).

2. What is drawing?

Humphrey (1998) chronicles a story about a five-year-old child who is asked about how she makes her drawings and the child replies: *well, first I have a think and then I draw my think.* This statement still surprises me due to the absoluteness of the child's definition of drawing, which easily interconnects thinking, intention and the action itself. Goethe adds, *"the hands want to see, the eyes want to caress"* (in Hodge, 1998:130).

Figure 1. Cave drawings from the Cave de Chauvet Pont d'Arc. Author: Paul Fallon (2014)

Humphrey (1998) compares the cave drawings made 30,000 years ago by our ancestors at the Chauvet cave with the drawings made by an autistic girl of about three years old called Nadia (see Selfe, 1977, 1983, 1985). He concludes that the similarities between both drawings, not only in style but also in content, can be interpreted as evidence that drawing is a human skill/ability that has its origins in a pre-modern mind – referring to a modern mind as the current concept of mind developed by psychologists, a developed mind able to generate sophisticated and complex emotional and symbolic configurations (Gonzalez, 2014). According to Frith and Happé (1994), the usual focus in autistic children is on sensory parts, yet they are not able to perceive the elements within a whole – the context. They call this feature 'weak central coherence'. This could explain the pattern of overlapping lines and silhouettes in both cases. In addition to this, Mithen (1996) suggests that, on the one hand, drawing originates – in such pre-modern minds - as a tool of human expression that emerges to mediate in the process of understanding the physical and natural environment. On the other hand, Mithen (1996) notes that language stems from the need to maintain interpersonal relationships (as Dunbar, 1996). Consequently, language was a social tool for naming other people - same kind - and drawing to express the context. The interest here draws on the idea of human beings interacting with the environment using different tools to express our psychological productions and therefore how we generate our realities.

Figure 2. Horses by Nadia, at 3 years 5 months. Taken from Humphrey (1998).

According to Humphrey (1998), in the evolution of the human mind, drawing was weakened at the expense of language. He expressed: "Maybe, in the end, the loss of naturalistic painting was the price that had to be paid for the

coming of poetry" (Humphrey, 1998:176). This subscribes to Newson's observations (1977) about how autistic children had reduced their natural ability to draw when they started acquiring even a limited vocabulary that enabled them to communicate. Could this insight be interpreted as the reason why, when we grow up, we lose the spontaneous act of drawing? To what extent does language learning intervene in its loss? I do not have the answer to these questions; however, I keep asking them as a way of reflecting on the nature of drawing, as an act, as a tool and as an object.

3. Reflective drawing in a reflective practice: Autobiographical research

Schön (1987) introduces the notion of reflective practice as the activity that enables practitioners to become aware of the learning and construction of knowledge, which flourishes from lived experience. He subscribes to Dewey's (1925) notion of a designer as one who is able to transform uncertain and complex situations into determined ones. He underlines the role of analysis and criticism as key aspects of the design process and adds that "designing is a web of projected moves and discovered consequences and implications, sometimes leading to reconstruction of the initial coherence - a reflective conversation with the materials of a situation" (Schön, 1987:42). The reflection is embedded in the designing process through the iterations of the things that are being designed. Schön (1987) states that architectural practice is a good example of an iterative process in which, by drawing and re-drawing, the project is being defined and redefined from initial sketches to construction details. If we agree with the idea that drawing emerged as a tool for understanding and expressing the physical environment, we can also see it, as it happens in architecture, as a tool for transforming our world.

In this PhD, reflection has become a fundamental method for me, as a researcher, to become aware about the insights arising from the theory and the practice. To do that, I am using drawing as a tool for capturing those insights. This made me reflect upon my relationship with drawing and I ended up researching into my biography. As Formenti (2014) reports, autobiographical research aims to analyse and give sense to our personal stories, which are shaped by social representations of our past, present and future. As she states:

"One story leads to another, and this is all we know. Our sense of identity, mental well-being, trust and creativity depends on them. Until we are able to compose a shape, a meaningful story, out of the fragments we have, we cannot keep on keeping on, at least in any meaningful way" (Formenti, 2014:139).

In this sense, I will use autobiographical research in the following subsections in order to shed light on the concept of reflective drawing.

3.1. Developing as a reflective practitioner

My life has undergone many changes over the last decade. I was an architect and urban designer working between research and practice, shaping public spaces, and I firmly believed that the work I was engaged in would end up positively impacting on the lives of citizens. Over time I realised, however, that there was a distinct lack of public consultation in the whole process of designing public spaces. Hence I shifted my interest from understanding the relationship between the natural and the built environment to focusing on exploring the symbiotic relationship between environmental conditions and people. As Park (1967) states, the city is:

"... man's most consistent and on the whole, his most successful attempt to remake the world he lives in more after his heart's desire. But, if the city is the world which man created, it is the world in which he is henceforth condemned to live. Thus, indirectly, and without any clear sense of the nature of his task, in making the city man has remade himself". (Park, 1967:3)

This statement clearly presents a vision in which the interconnection between us, as social (human) beings, and the transformation of the natural world into a built environment defines our lifestyle, but also society and culture. In line with Gonzalez (2008), we have created an environmental system that is different from the natural one which we called culture. This system operates on symbolic and emotional levels. Culture here acquires movement; it evolves in a socio-historical context. The idea of transforming the environment that surrounds us could be seen as one of the basic motives which trigger us to make things (action-oriented) through a process of interacting with the material ecologies – observing and experiencing until we feel comfortable enough in the new environment. This aligns with Schön's (1987) concept of the designer as someone who makes things.

I am not the same person as I was ten years ago. This is the result of a lifelong learning process. As Bateson (1972) states: "The word *learning* undoubtedly denotes *change* of some kind. To *say what kind* of change is a delicate matter" (1972:287). About this, Alheit (2015) mentions that the sociocultural protocols that rule our context through lived experiences influence our development. Our personality is shaped by complex "interrelationships of influences that actually make up our lives" (Alheit, 2015:22). However, we keep the feeling that we are, to some extent, in control of our decisions despite the restrictions coming from social convention. This feeling relates directly with the way in which we, as subjective individuals, process our biographical knowledge – a knowledge emerging from the reflection about our experiences.

Without knowing it, I have been learning how to use drawing about my reflections as a way to consolidate knowledge, which emerges from practice

(as Bradbury, 2010). In tune with this, Creek (2007) states that reflection is an intuitive experience that enables understanding ourselves in the context of performing any activity. Over these ten years, my understanding of the world has shifted from a linear perspective into one in which everything is connected. As Gonzalez (2014) reports, my personality is in movement, being shaped in a never-ending process of emotional and symbolic configurations generated by myself. My personality emerges from my situated experiences - where I am in play, interweaved with people's lives and the setting. This aligns with the concept of being developed by Heidegger (1949). I am what I am within my context.

For Aristotle, *praxis* is action without an artefact-outcome, but it influences people. Nowadays it is understood as an agency, goal-directed to enhance citizenship life. However, "in order to be capable of thinking, we need to learn first" (Heidegger, 1968:4). For Heidegger (1968), we are still learning about the process of thinking. He adds, this is the consequence of the dominant scientific method, in which some areas of being such as art, history, law or nature are explored following deterministic approaches, which can close the options of understanding human beings (Gibbs & Angelides, 2004). Heidegger (1968) describes learning as the action of enabling learning to think. To do this, he avers, we must forget everything learned beforehand. This questions what reality is and what thinking means (Gibbs & Angelides, 2004).

3.2. Where I am coming from

As Flynn (2012) reports, the delimitations between public and private sector are blurred. In many cases, assets are transferred from the public to the private sector through a process of privatisation. However, in other cases, the practice of outsourcing entails that private companies become the suppliers of public services. In these cases, the limits between the public and the private are unclear. For instance, to a great extent, the urbanisation process lies in private hands, whereas it is a process that affects citizens. According to Castells (1977), the private sector needs the support of public goods in order to balance the social system. As he states, public goods are items of 'collective consumption', in other words, public services such as infrastructure, health care or public spaces. In keeping with Marrifield (2014), in the last decades 'collective consumption' has been privatised. This has led to transforming the relationship between citizens and the public realm, from one of collective action to one of privatised consumption (as Hoskyns, 2005). This has drawn a society which leans toward individual values and where a global economic model appears as the new centre around which governments spin, and crises arise surrounding the urbanisation process (Harvey, 2012). All these phenomena have modified the sociocultural scenario. In this context, we see how increasing numbers of grassroots and bottom-up movements emerge, seeking to solve societal issues and improve the quality of life.

3.3. Co-design and the shift in design disciplines

As Bannon and Ehn (2013) report, the vernacular concept of design stems from the experimental art school called *The Bauhaus* (1919-1933). The idea was to bring arts, architecture and design into the same space and stir up the artistic fields in which the tradition had adopted separate paths. The Bauhaus promoted the generation of a boundary space (see Engeström, 2001) based on the principle of interdisciplinary collaboration. These ideas were crafted in turbulent times under the influence of Soviet Russian intellectuals who perceived design as a tool for shaping their social utopia. However, this social engagement of design (called participatory design) was slowly transformed into an elitist practice for white-collar classes.

Since the early seventies there have been voices claiming other ways of designing (Sanders & Stappers, 2008). Traditional design approach, which relies mainly on the principle that only designers are creative, excludes people from any kind of creative process and therefore is unable to address the complexity of challenges faced in the modern era. These challenges have very different natures: shrinking budgets in the public sector, increasing gaps in social inequalities, growing requests for social services, capitalisation of education and health care, and the like (Silverman & Patterson, 2015). All of them act simultaneously in our everyday lives, constraining our possibilities to choose based on our needs. Cross (1972) proposes engaging people as active participants in the design process in order to redefine all the design disciplines. Subscribing to this, Jungk (1973) adds that participation should start at the idea-generation stage, not only in the moment of decision-making. He envisioned that this shift in design could draw a radically different future scenario for this domain.

Co-design – also known as co-creation (see Sanders & Stappers, 2008) - is defined as the creative process in which people are placed centre stage and become active participants. The notion of people includes all kinds of individuals who are, in one way or another, interested in the outcomes, whether they belong to an institution or not. It consists of locating people's needs and situations at the heart of designing (Bason, 2010). This shift in the design process becomes a powerful approach that generates insights which enable designers to co-construct with people (Sanders & Stappers, 2008; Halse et al., 2010). Subscribing to this, Sanders and Stappers state: "By co-design we indicate collective creativity as it is applied across the whole span of a design process" (2008:6). Here, the notion of co-design refers to the creativity that emerges from the collaboration between designers and participants who have no design training skills in the development of a design process, emphasising the different ways of thinking between designers and people. In relation to this Lee (2007) describes two spaces for working: the

abstract space, which refers to a design mind-set, and the concrete space, which describes people thinking outside design disciplines. Over six months I conducted a pilot study collaborating with several community members operating on the Isles of Mull and Iona in which I became a participant-observer around a community co-design process led by Leapfrog. One insight from this experience is that when facilitating co-design workshops, designers need to find strategies to create a boundary space – a concept introduced in Cultural-Historical Activity Theory (CHAT) by Engeström (2001) - a space of confluences in which the abstract and the concrete can be assembled in order to enable people to work collectively.

Indeed, concepts such as co-creation, co-design, participatory design, design thinking and design attitude are intertwined. They share the idea that creativity resides in everyone and therefore any creative process should include participants covering the social spectrum - business, non-profit organisations, public sector, other kinds of institutions and citizens. All these approaches have become key in the field of innovation studies (Bason, 2010; Boland & Collopy, 2004; Brown, 2009; Martin, 2009; Kimbell, 2010). According to Cruickshank et al. (2012), innovation is understood as a systemic process that requires collective and creative activities performed by interdisciplinary expertise, which emphasises the exchange of knowledge amongst disciplines.

3.4. The Concept of the tool

In concordance with CHAT - the overarching theoretical framework of this research – 'engagement tools' refer to the things that mediate between individuals and their objectives – in this case, aiming at engaging with community members in a public consultation. CHAT is a multidisciplinary and international framework that focuses on the study of human agency from both individual and social perspectives. It has its origins in the 1920s in Soviet Russia and individuals are always perceived in relation to other people and to their historical and sociocultural context. According to Vygotsky (1978), any human agency is mediated by the context in which it happens. In other words, a cultural mediation intervenes in the formation of high psychological configurations such as artistic activities. In keeping with Lektorsky (2009), communication between people is mediated by human-made 'tools' such as language signs and drawing. Kuutti (2001) adds that any activity, to some extent, implies interaction with tools. In this sense, the notion of the tool is taken across a broader spectrum, ranging from methods and procedures to physical objects. Kuutti (2001) and Er (2014) insist that tools have the ability to guide those who manipulate them throughout an activity. Additionally, they affect the manner in which individuals approach activities, as well as helping in decision-making. To a great extent, tools have the means to orient those who

are using them by empowering them and simultaneously, by restricting certain actions, focusing and producing efficacy in the process.

3.5. Drawing experience

Reflecting on my drawing experience, I went back to the period when I was an architectural student. In my drawing lessons at the School of Architecture I learnt that drawing is a tool for articulating thoughts. Drawing became a vehicle for learning how to see, to scrutinise the environment and develop insights from such close observations, unpicking hidden spatial dynamics and symbiotic relationships in between. This process is similar for painters or photographers. Drawing helps to penetrate the life that surrounds us. At that time, drawing became my means to empathise with the physical realm, observing simultaneously the details and the whole, in a process of reflective activity.
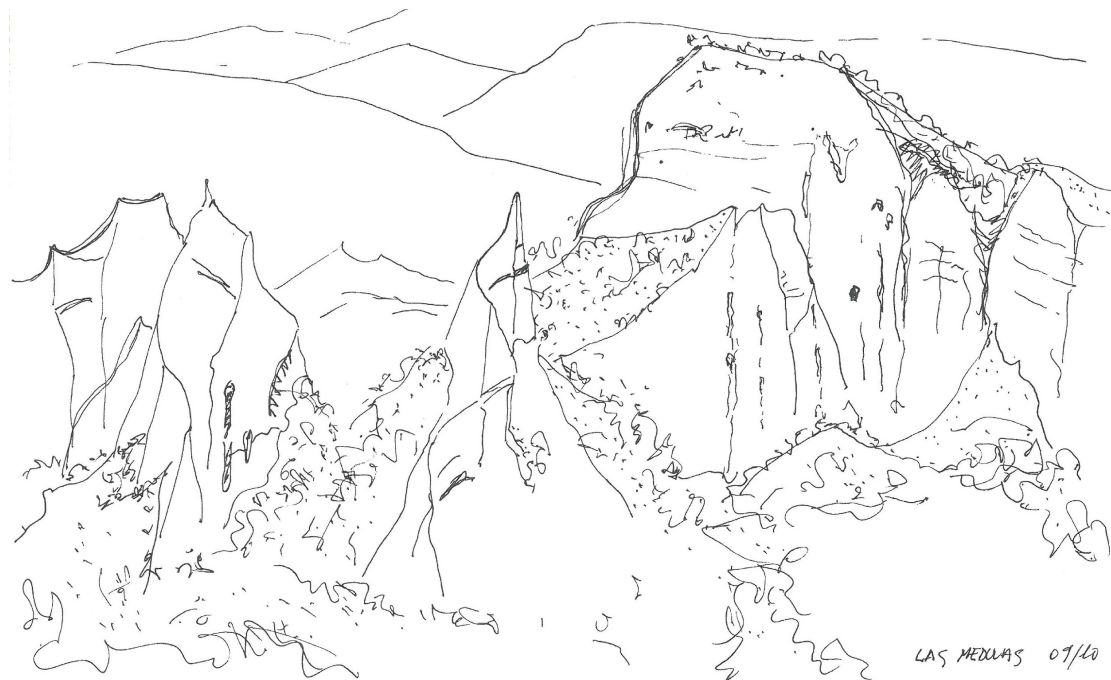

Figure 3. Las Medulas. Author (2006).

Drawing can be thought of as a universal tool for human expression and reflection. It is an object and an act in itself. It embodies the relationship between oneself and one's culture, between representation and imagination, and thus it places the object and the subject in relationship to one another (Robbins, 1994). However, one challenge identified is that, in general terms, when people grow up they no longer draw and feel uncomfortable about it, whereas in childhood drawing emerges naturally as a way of expression. Pablo Picasso stated: *"it took me four years to paint like Raphael, but a lifetime to paint like a child"* (in Erskine & Mattingly, 1998:73). In this sense, there is scope to experiment in which ways designers can facilitate and trigger people to feel

comfortable drawing again. Any assumption that designers can draw and participants cannot, can conceal power relations.


Figure 4. Travels. Author (2010).

My training as an architect helped me to develop the notion of 'reflective drawing'. I learned that drawing has many applications in the development of our practice, both artistic and design. Drawing is learning how to look, how to understand the world, paying attention to detail in its parts and simultaneously placing them in relation to the whole.

As Pallasmaa (2012) points out, the contact between the self and the environment begins and ends at the boundary line which depicts the specialised parts of our haptic sense. In relation to this idea, Jorge Luis Borges notes:

"The taste of the apple (...) lies in the contact of the fruit with the palate, not in the fruit itself; in a similar way (...) poetry lies in the meeting of poem and reader, not in the lines of symbols printed on the pages of a book. What is essential is the

aesthetic act, the thrill, the almost physical emotion that comes with each reading."
(in Thurell, 1989:2)
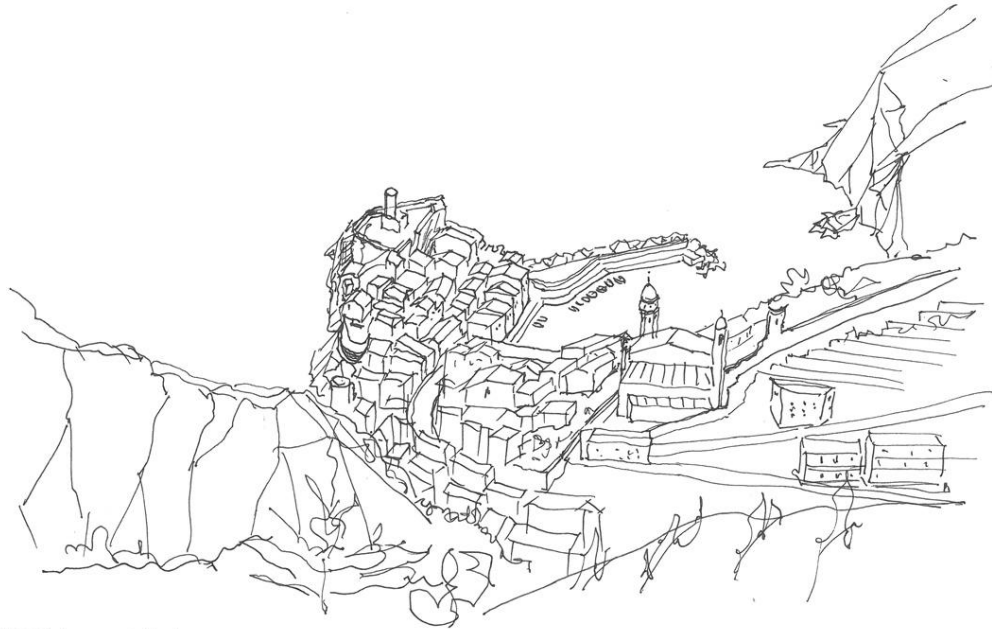
Figure 5. Vernazza. Author (2006).

4. The pilot study: Reflective drawing as a tool for reflection

The pilot study consisted of the introduction of co-design practices to develop 'engagement tools' with community members of several non-profit organisations operating on the Isles of Mull and Iona, in the Highlands and Islands of Scotland, over six months with a total of five visits including a forthcoming visit at the end of November 2016. The fieldwork adopted a design ethnography approach. This enabled me to take a role of insider-outsider, immersing myself within the human dynamics around a community co-design process. Design ethnography is based on traditional ethnography. Yet it lasts a shorter period of time - enough time to grasp the context for building empathy and insight (Hammersley & Atkinson, 1995). This approach to the fieldwork was combined with Grounded Theory in order to enable the context to emerge and provides practical knowledge. According to Corbin and Strauss (1990), Grounded Theory relies on the principles that everything is continually changing and therefore nothing can be predetermined because people have the means to respond to the changing contextual factors.

In my first visit, I arrived to participate in two co-design workshops as a participant-observer. Participant-observation is an ethnographic method that enabled me adopting an insider-outsider position. According to Corbin Dwyer and Buckle (2009), such position can be understood "as a dwelling place for

people (…), a third space, a space between, a space of paradox, ambiguity, and ambivalence, as well as conjunction and disjunction" (2009:60). As they point out, as a qualitative researcher, I will never be a complete insider because my perspective is being shaped by my lived experience and by my position in the research. This includes both the activities I undertake with the participants and my theoretical exploration about the research subject. The first workshop was about bringing people from different communities on the island to co-negotiate the intended objective of the 'engagement tools'. Focused on improving community engagement, the second workshop consisted of collectively –working in groups of two or three people with one facilitator each one - co-designing ideas-generation of possible engagement tools that will potentially enhance public consultation.

My second visit consisted of an ethnographic trip around the island, which lasted two days, in which I adopted a role of tourist-researcher. In some ways, I was bringing methods used in urban planning to the fieldwork such as the development of maps and landscape drawings.

In the third visit I went with the Leapfrog team again to attend to the 'engagement tool' delivery event. In this case, the designers brought the tools with them. They wanted the community to take the tools, adapt them and own them. That was the objective of the session. This time, I adopted a passive observation role because I had already identified themes. I wanted to gather information about personal and collective motivations, informal learning and the division of roles. To gather the data I used field notes, reflective drawings and I recorded the session. I also conducted interviews with participants before and after the workshop in order to corroborate my impressions. In this visit I was also able to 'shadow' one of the participants in a community event in which she conducted public consultation. 'Shadowing is an ethnographic technique that enabled me to gather a contextualised data which provided enrich and comprehensive insights about what people do instead of what they say they do. This technique enabled me to holistically observe her moods, body language, her pace and the way she interacted with other people.

My last visit consisted of an invitation to shadow Participant 4. She is actively involved in her community, which is one of the most rural areas. The community has around 110 inhabitants spread over a coastline of 12 miles. We went to see all the developing community projects and she introduced me to some members of the community. One of them used to be deeply involved in the community but at some point left. I realised that the issue was not one of engaging people; it was more about re-engaging them.

4.1. Reflective drawing

After participating in the first co-design workshop, I undertook my reflective session. I noticed that real-life is highly complex and unpredictable. In my previous engagement with CHAT, I observed that in the unit of analysis (see Engeström, 1991) all the components – individual, community and the objectives - were clearly interconnected and the relationship among them mediated by tools, rules and division of labour. CHAT states that humans are social beings and therefore their consciousness has a social nature. The community exerts its influence through the application of rules, which intervene at an individual level, compelling a person to adhere to them. Ryder (2013) observes that human activities are governed by cultural standards that society establishes. These standards function as regulators of individual behaviour in many situations. Rules can be implicit and explicit. Explicit rules are those contained in codes of practice, such as dress codes at a social event. However, implicit rules are presented in the background. As Bateson (1972) notes, people learn them unconsciously. For example, we learn how to become students along with learning the lesson. These rules are embedded in human contexts. Engeström, Miettinen and Punamäki (1999) modified Vygotsky's unit of analysis including the community, their rules and the division of labour. In this model, tools mediate between the subject and the object, rules mediate between the subject and the community, and the division of labour mediates between the community and the object. The community is described as the organisation in which the individual lives and interacts; the division of labour illustrates the division of roles, power and dynamics between stakeholders. Yet being in real-life, it was difficult to understand the dynamics at play. CHAT became the lenses to re-living the experience, and drawing the way to capture the connection between them. With the combination of CHAT and ethnography, I could build a holistic approach for studying co-design activities by choosing a few individuals, shadowing them, and afterwards interpreting the whole system through their eyes, gathering an enriched and descriptive account of their context. I had sketched the plan of the room with the location of participants, designers and myself during the workshop (see figure 6). I looked at it and suddenly my memories rose up. I took my pen and notebook and began to draw.
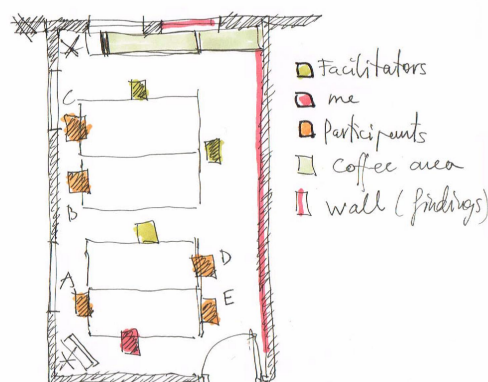

Figure 6. Co-design workshops on Mull (1). Author (2016).

In the following two drawings (figure 7) we can appreciate how the designer is introducing the workshop and we can easily get the sense that participants are fully focused on listening to the facilitator. This revealed a collective behaviour in which participants perceived designers as experts. They came to learn how better to engage and they were behaving as students. In this situation, designers have all the power in that conversation. One insight from this reflection is that designers need to stay back and redistribute the power amongst participants in order to create a boundary space (Engeström, 2001) where ideally all voices can be heard.
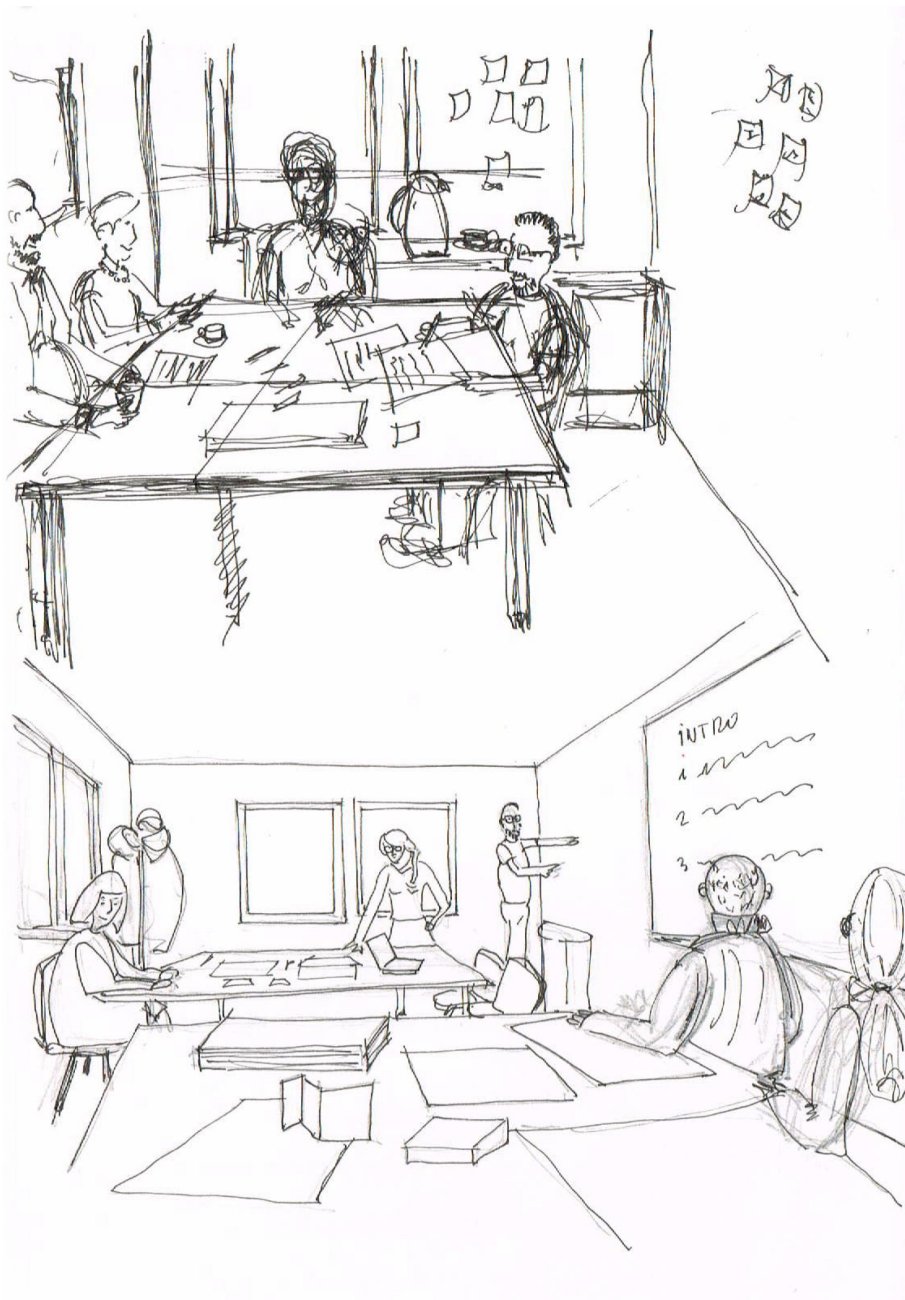

Figure 7. Co-design workshops on Mull (2). Author (2016).

On the second day, participants came into the workshop more cheerful than on the previous day, even though it was snowing. They engaged in more informal conversations (see figure 8). When we arrived in the room where the workshop was being held, one new participant, surprisingly, was already there, with a smile, ready to start. She started talking with one of the designers while the facilitator was presenting the activities of the day. She was an enthusiastic and self-motivated person (see figure 9).
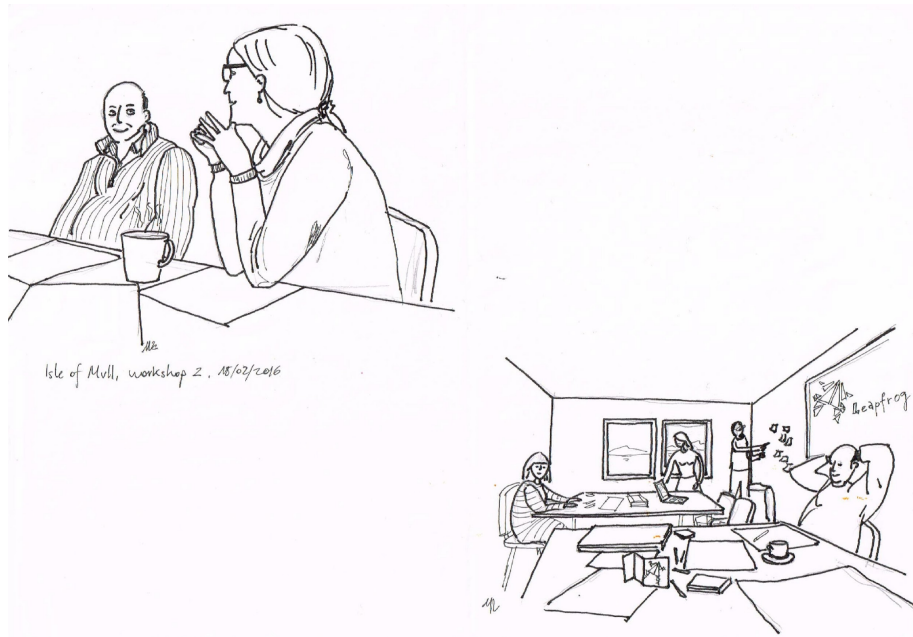

Figure 8. Co-design workshops on Mull (3). Author (2016).

Figure 9. Co-design workshops on Mull (4). Author (2016).

On my first visit, I knew nothing about the sociocultural and historical context of the island, its people or what it was like to live there. So, in my reflections after the fieldwork I drew the landscape (figure 10), and the ferry harbour at Craignure (see figure 11), using my imagination and memories. The ferry gate is a crucial touch point on the island. Both residents and tourists have to pass through this gate. Furthermore, it is the main entry point for the supplies and resources which support human life.

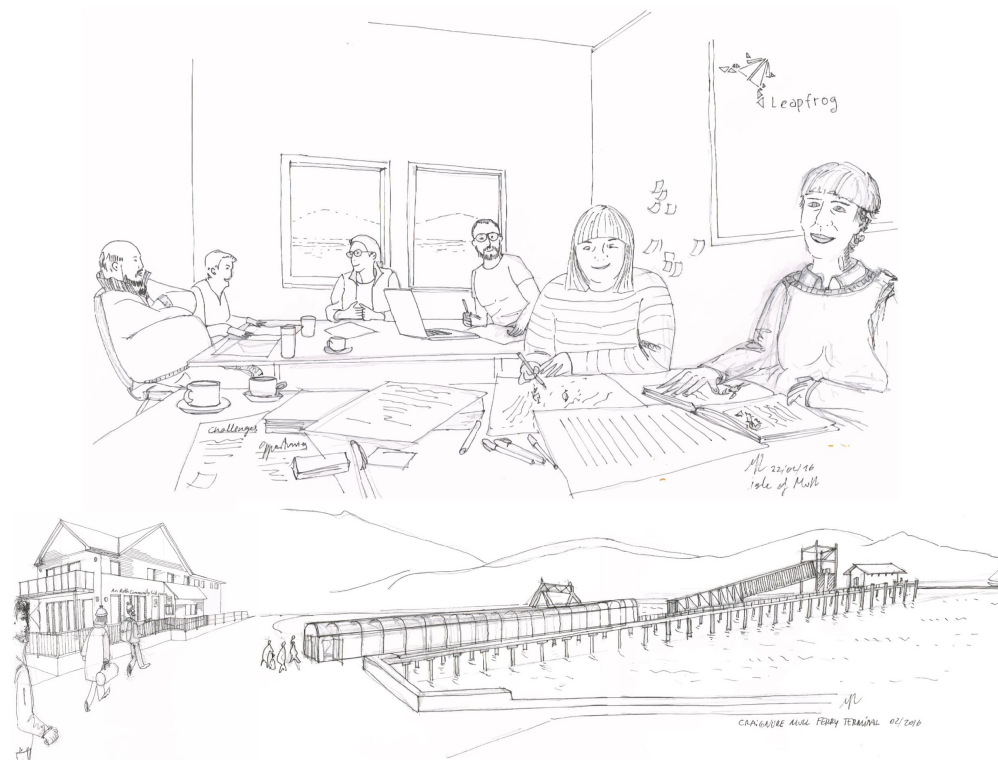Figure 10. Tobermory. Author (2016).

Figure 11. My role in the research. Author (20106).

Over my subsequent reflections, I started including myself in the picture (see figure 11). I thought: what am I doing in this project? What if I am in the picture? What will I see? Indeed, the history of art has a large tradition of including artists in their artworks, from paint to films. For instance, in *Las Meninas* (1656), Velázquez drew himself in one instance before painting on the big canvas thinking, showing that artistic activity is the result of higher intellect rather than hand skills. In my case, I was questioning my role. The intention was about positioning myself in the research, both theoretically and as a practitioner. In consonance with Gonzalez (2008) I am an active player in these activities who has the means to generate emotional and symbolic productions in real time, while the activity is happening. These productions shape and are shaped, simultaneously, by the other people at play. The designer is someone who immerses herself in the process. Human processes are non-linear and they occur immediately. Therefore, designers need to accompany their actions according to the community process and be active, in order to prevent dominant forms of power in the community co-design.

As can be appreciated, 'reflective drawing' became a tool for me to self-generate awareness of my viewpoint, and at the same time to espouse my beliefs and understandings. This helped me to identify patterns, contradictions and power relations. Particularly, it helped me to establish a thread of empathy with participants. Empathy is part of the emotional intelligence that allows me to connect in a deeper and more emotional state with others (Calvo, Sclater & Smith, 2016). In this sense, drawing consists of observing in-depth the details and immediately connecting with a gesture the parts and the whole. Thus, by drawing participants, I could to some extent get into their emotional state through the detailed observation of their emotions reflected in their facial expressions, gestures and body language (see figure 9).
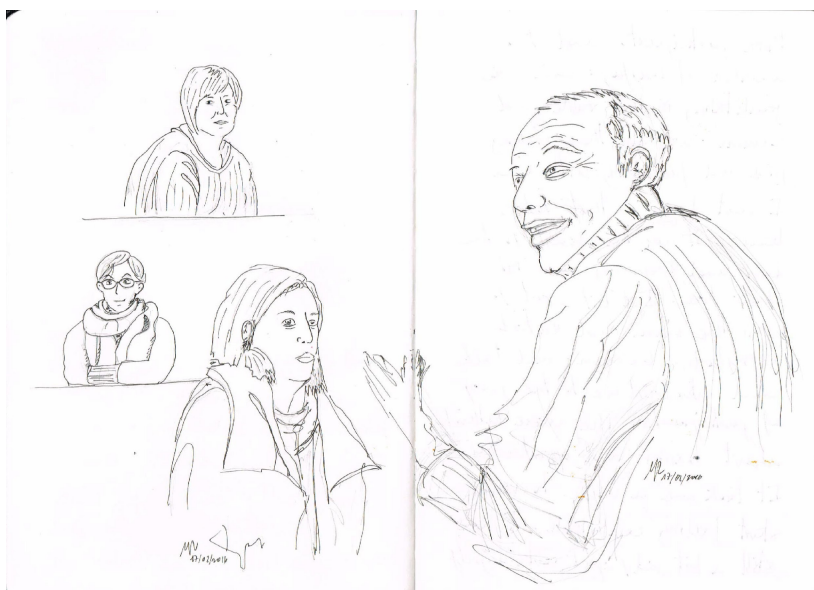

Figure 12. Empathic connection. Author (2016).

In the introduction of 'reflective drawing' and in the methodology, we can find two types of drawing. On the one hand, drawing performed during the observations, and on the other, drawing developed afterwards. In the latter, reflective drawing involves re-living emotions and experiences to articulate what occurred, and why, and hence distilling the informal learning from the experience. As a result of drawing, new knowledge arises from learning that has been already processed by our psyche –it is not the first learning coming from the experience. Indeed, it is a subjective knowledge (see Gonzalez, 2014) that, in keeping with Knight (1985), needs to be shared with others in order to be considered successful - in other words, accepted by the community.
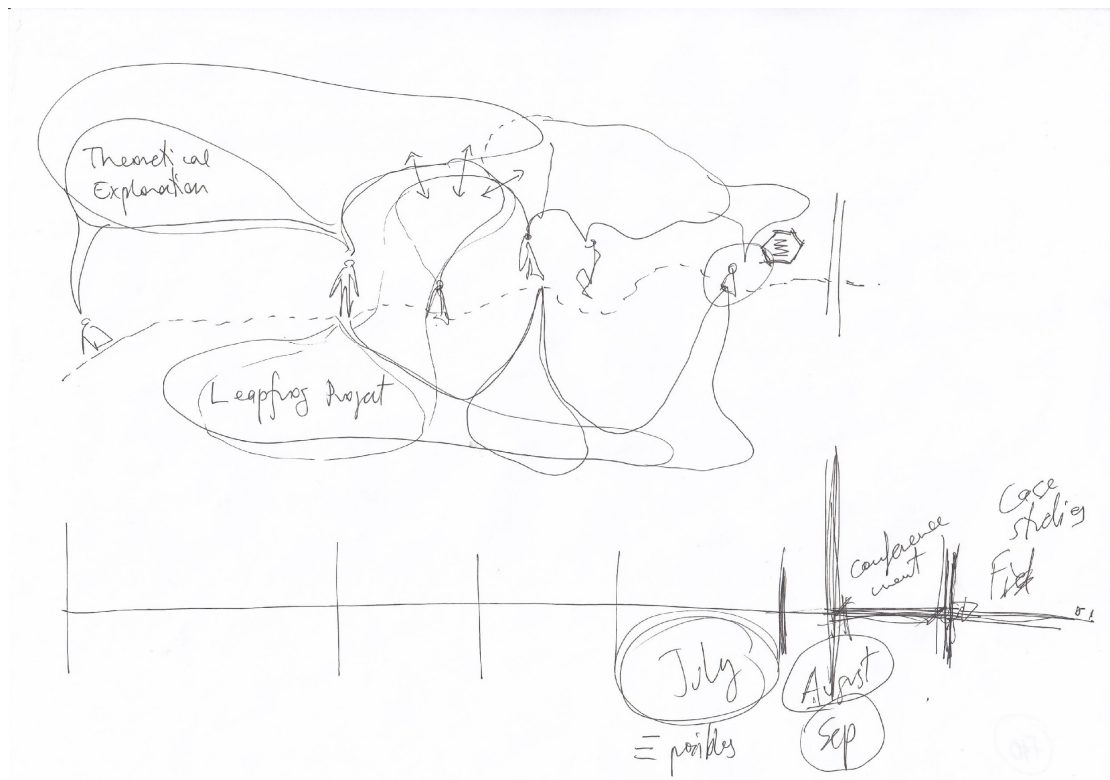

Figure 13. PhD Process diagram 1. Author (2016).

Figure 11 depicts reflective drawing made afterwards. It represents how I perceive the process of my PhD in my first year. The person is myself walking along a winding line, trying to cope with the obstacles that I found or I might find on my path. In the drawing, there is a sense of future, about how I see myself at the end of the year. There is also a visualisation of the indivisible interaction between theory and practice, which occurs simultaneously. So, understanding that I can produce new knowledge through the multidimensional interaction with the theories of others and my own experience was one insight emerging from this diagram. Some of these sketches are iterated and redrawn digitally (see figure 14).
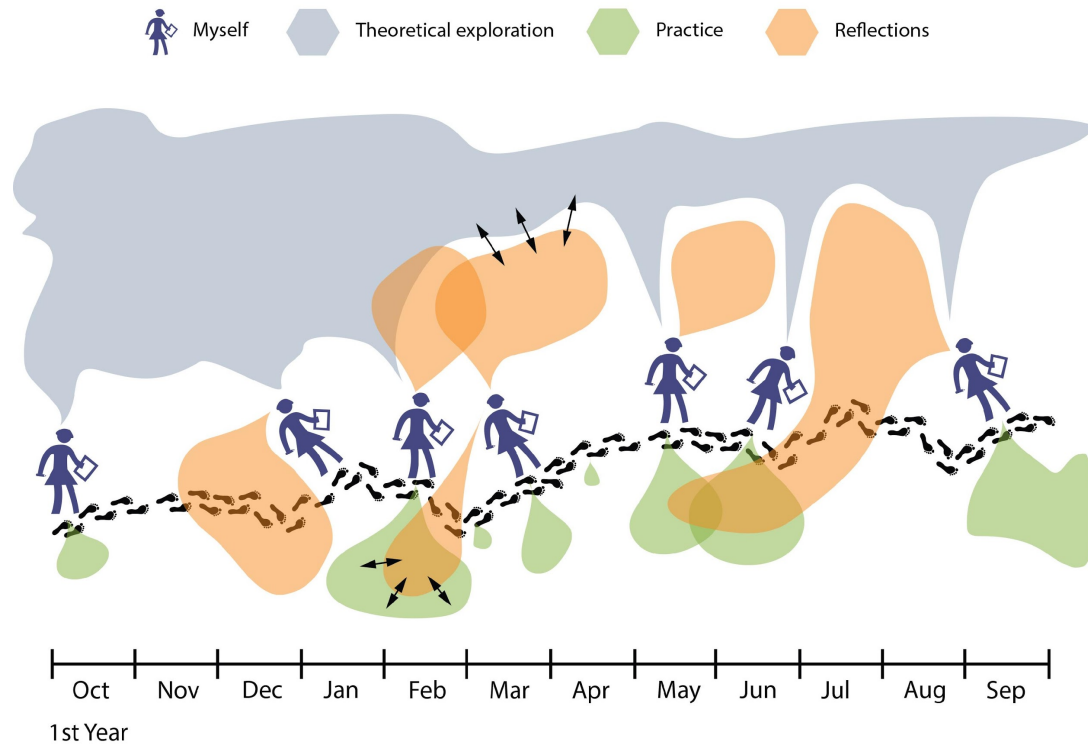
Figure 14. PhD Process 2. Author (2016).

Another insight from the fieldwork was to realise that in a rural setting such as the Isle of Mull, it is crucial to understand the geography and territory where the different communities live. Therefore, my second visit consisted of a trip around the island. Unconsciously I was bringing techniques of knowing from my background in urban planning. The trip lasted two days in which I could experience at first-hand the isolation amongst communities. About this, participant 3 mentioned:

"There is the Argyll and Bute Council. The administrative centre is Lochgilphead. It includes a big area: Oban, Lochgilphead and a bunch of islands such as Bute and Jura. So, we are a small island. They give priority primarily to more urban council area. Our roads are terrible because money gets prioritised in other areas in the council. Our services are get cut because other areas of the council and other geographical and department areas of the council prioritise them. We have a community council just for Mull. They don't have much power and then there are all these community groups and organisations which do the job."

I sensed how the distinctive characteristics of the local geography affected the residents' lifestyle. In this context, it is difficult to build infrastructures such as roads or broadband networks. I noted how residents had developed a strong

bond with the place where they live, as can be appreciated from the words of participant 10:

"I think the difference is that you rely on each other more, you know, in areas like this. You know, the winter is quite hard; you feel you can be quite cut off on the mainland, particularly in the winter where the boats are running. There is a real community sense that together we will be alright, you know, we need to look after each other, whereas in a city I think it is more... people tend to look after themselves. It is not the same taking care of your neighbours than here where it is more remote."

In my reflections, drawing a map of the isles enabled me to connect deep personal stories with a higher geographic perspective. I realised that the conversations at the workshops were referencing a specific physical setting. People on Mull know their territory and therefore, the map became a tool for me to know better their sociocultural contexts (see figure 12).
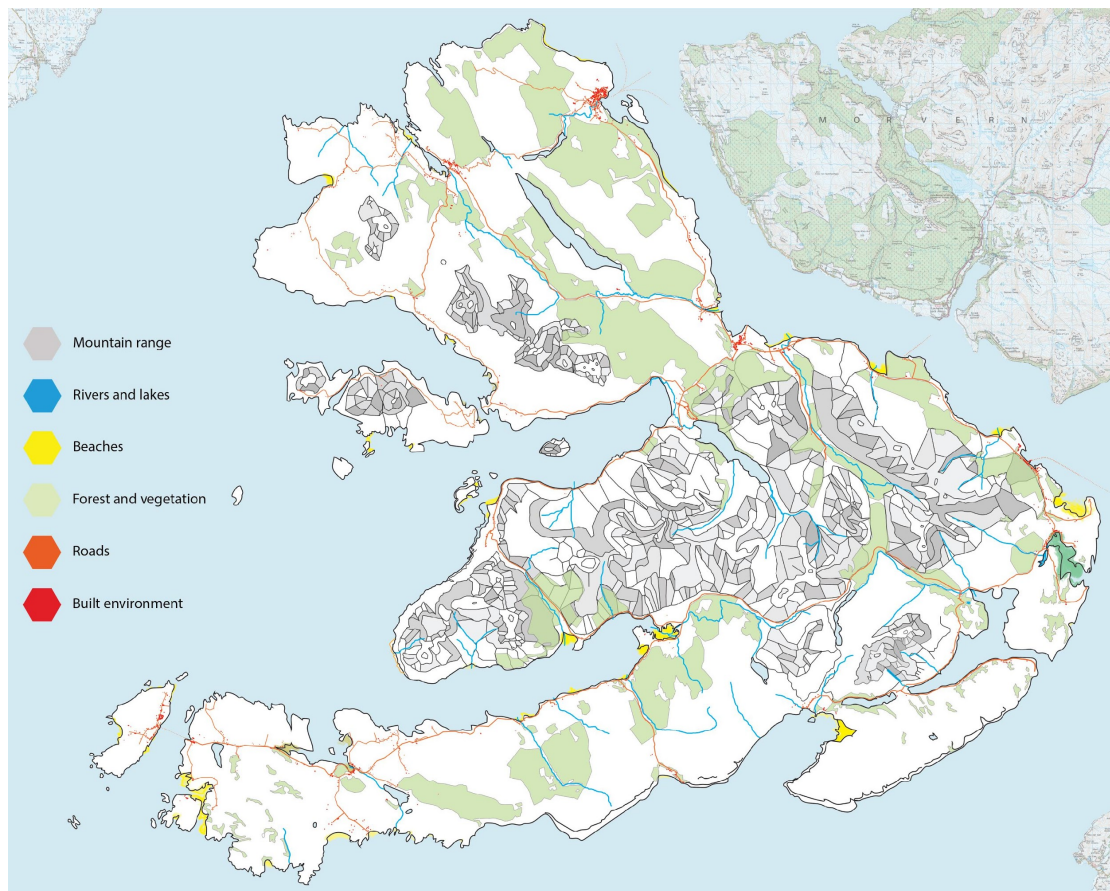

Figure 15. Isle of Mull. Author (2016).

5. Discussions

This paper outlines an ongoing process of understanding the nature of a PhD design research and exploring the role I am playing in it as a researcher. What is presented here is a reflection about how to embed a reflective practice in this process. On the one hand, the insights illustrated here suggest that reflection can be thought of as a tool for connecting reflective personal narratives with a higher scale of interaction in which the structures of power interweave with societal issues that affect personal everyday life - as Ledwith (2005) reports.

Another reflection is that any design process implies the use of iteration as a mechanism to redefine ideas and help in the process of materialisation into things – where things are understood as *assemblies* about 'matters of concern' (see Boradkav, 2010; Latour, 2008). According to Stadil and Tanggaard (2014), creativity is in everyone's nature and it comes to fruition when we are able to create a social environment that supports it. They add that creativity happens at the edges of different landscapes of practices (see Wenger et al., 2015) and it requires practice and the development of habits, opposing the dominant view that sees creativity as an instance of genious. They also emphasise that creativity and empathy are indivisible, one cannot exist without the other. In this sense, I argue that reflective drawing can be considered a suitable tool that is able to fuse the iteration and the reflection processes into one. As a result, reflective drawing can help designers to interconnect the micro and the macro, and thus help to gather a deeper understanding of the context, from a cultural-historical standpoint, as well as helping in the building of empathic relationships, which allows designers to put their creative skills to the service of participants and promote creative knowledge exchange.

The next step will be to think about how to draw together. This is the aim in the new case study, which is about to commence. It consists of a five-month-long, community-led initiative which will involve myself as a researcher working alongside community members of a non-profit organisation. In this project participants will be introduced to co-design practices through participating in the development of 'reflective tools' aimed at improving the evaluation of health services in the Highlands and Islands of Scotland. As Latour (2008) reports, drawing can become a powerful tool that could be put into play to foster innovative ways of co-constructing knowledge. His argument relies on the fact that drawing collectively can open up untapped ways of communication in participatory design approaches by focusing on the conflicts and differences of interests.   About this, Bannon and Ehn (2013) suggest exploring the strategy of "*design-after-design,* - designing for a continuous appropriation and redesign where *infrastructuring* work becomes the main activity" (2013:57). In this context, infrastructure is understood as a continuous process that aligns different contexts (Star & Ruhleder, 1996),

interdisciplinary practices and several technologies, where contradictions can also converge. Here is outlined the iteration aspect of any creative process. My aim in the following case study will be to focus attention on how to introduce activities in which we all can draw together. Here, I argue that 'collective reflective drawing' can support participants towards expressing their views about the co-design process, triggering them to reflect on the experience. It can also help in the gathering of data that emerges from their eyes, rather than relying on designers to draw insight from the conversations.

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