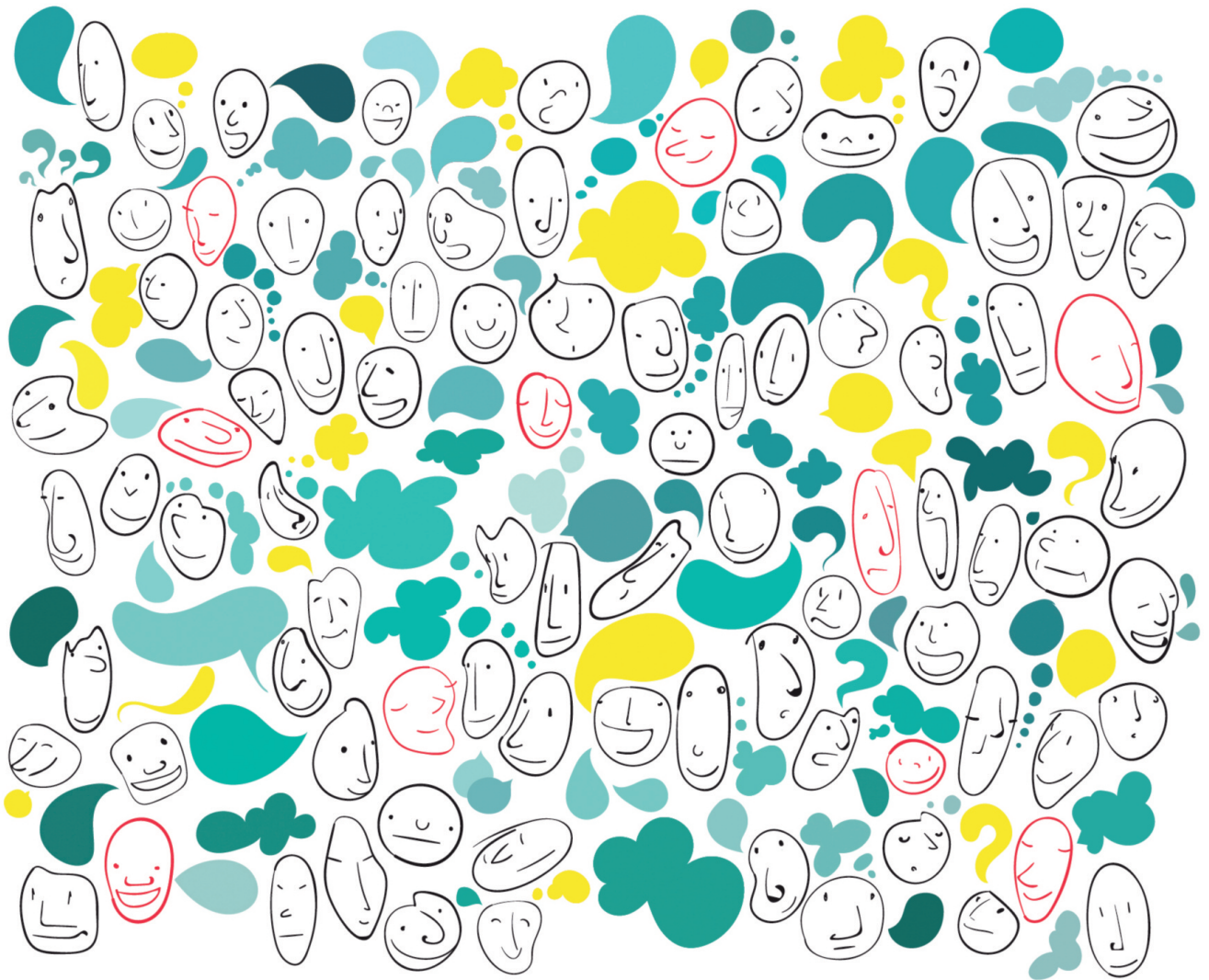


# MASSIVE CODESIGN

A Proposal for a Collaborative Design Framework

—  
Anna Meroni, Daniela Selloni, Martina Rossi



## DESIGN INTERNATIONAL SERIES

---

***Direction: Silvia Piardi***

***Scientific Board:***

**Alessandro Biamonti, Ezio Manzini, Carlo Martino,  
Francesca Tosi, Mario Piazza, Promil Pande**

Over the last few years the international design research network has become an important reality, which has facilitated the sharing of ideas and opinions, improved understanding of the subject and increased awareness of the potential of design in various socio-geographical contexts.

The current expansion of the educational network allows teachers, students, researchers and professionals to meet, both online and in person.

It would seem therefore that the time is now right to propose a new series of books on design, contributing the construction of the international design community, helping authors bring their work onto the world scene.

The Design International series is thus born as a cultural setting for the sharing of ideas and experiences from the different fields of design, a place in which you can discover the wealth and variety of design research, where different hypotheses and different answers present themselves, in an attempt to draw up a map of Italian design, though in a continuous comparison with the world scene.

Different areas of design will be investigated, such as for example: fashion, interior design, graphic design, communication design, product and industrial design, service and social innovation design, interaction design and emotional design.

Books published in this series are selected by the Scientific Board and submitted to two referees for peer-review.



Il presente volume è pubblicato in open access, ossia il file dell'intero lavoro è liberamente scaricabile dalla piattaforma **FrancoAngeli Open Access** (<http://bit.ly/francoangeli-oa>).

**FrancoAngeli Open Access** è la piattaforma per pubblicare articoli e monografie, rispettando gli standard etici e qualitativi e la messa a disposizione dei contenuti ad accesso aperto. Oltre a garantire il deposito nei maggiori archivi e repository internazionali OA, la sua integrazione con tutto il ricco catalogo di riviste e collane FrancoAngeli massimizza la visibilità, favorisce facilità di ricerca per l'utente e possibilità di impatto per l'autore.

Per saperne di più:

[http://www.francoangeli.it/come\\_publicare/publicare\\_19.asp](http://www.francoangeli.it/come_publicare/publicare_19.asp)

I lettori che desiderano informarsi sui libri e le riviste da noi pubblicati possono consultare il nostro sito Internet: [www.francoangeli.it](http://www.francoangeli.it) e iscriversi nella home page al servizio "Informatemi" per ricevere via e-mail le segnalazioni delle novità.

# MASSIVE CODESIGN

A Proposal for a Collaborative Design Framework



Anna Meroni, Daniela Selloni, Martina Rossi

Essays by: Stefana Broadbent, Christophe Gouache, François Jégou



Funded by the Horizon 2020  
Framework Programme of the  
European Union

ISBN 9788891767912

*Cover image:* Elahe Rajabiani

Copyright © 2018 by FrancoAngeli s.r.l., Milano, Italy.

This work, and each part thereof, is protected by copyright law and is published in this digital version  
under the license *Creative Commons Attribuzione-Non opere derivate 3.0 Italia*  
(CC-BY-ND 3.0 IT)

*By downloading this work, the User accepts all the conditions of the license agreement for the work as  
stated and set out on the website*

<http://creativecommons.org/licenses/by-nd/3.0/it/legalcode>

# Contents

<b>Acknowledgements</b>	pag.	10
<b>Authors</b>	»	11
<b>Contributors</b>	»	12
<b>Introduction</b>	»	13
<b>PART 1: Scoping Codesign</b>	»	16
<b>1.1 Codesign Landscape Today</b>	»	17
Bibliographical References	»	22
<b>1.2 Anthropology, Ethnography and Massive Codesign for Complex Services</b> <i>by Stefana Broadbent</i>	»	24
1.2.1 Design Oriented Rapid Ethnography	»	24
1.2.2 Complexity and Ethnography	»	26
1.2.3 Producing Ethnography to Enable Discovery and Collaboration	»	27
1.2.4 Building an Ethnographic Body of Knowledge for Service Design Projects	»	28
1.2.5 Discovery, Ethnography and Codesign	»	30
Bibliographical References	»	31
<b>1.3 A Collaborative Design Framework</b>	»	33
1.3.1 Collaboration Within a Creative Process: the Design Subject Matter	»	33
1.3.2 Collaboration within a Creative Process: the Style of Guidance	»	35
1.3.3 A Framework	»	38
1.3.4 Infrastructuring Community Centred Design	»	40
Bibliographical References	»	41

<b>1.4 Setting the Stage</b>	pag.	43
1.4.1 Boundary Objects in Codesign: a Proposal for a Basic Glossary	»	43
1.4.2 The Case of Service Design and Strategic Design	»	44
1.4.3 Tools and Prototypes	»	46
Bibliographical References	»	48
<b>PART 2: Experimenting with Codesign</b>	»	50
<b>2.1 CIMULACT</b>	»	52
2.1.1 CIMULACT at a Glance	»	53
2.1.2 CIMULACT National Citizen Vision Workshop	»	56
2.1.3 CIMULACT Social Needs Clustering Workshop	»	64
2.1.4 CIMULACT Co-creation Workshop	»	70
2.1.5 CIMULACT Codesign Workshop	»	77
2.1.6 CIMULACT Caravan Process <i>by François Jégou and Christophe Gouache</i>	»	83
2.1.7 CIMULACT Online Consultation	»	92
Bibliographical References	»	97
<b>2.2 Creative Citizens</b>	»	98
2.2.1 Creative Citizens at a Glance	»	99
2.2.2 Creative Citizens Warm-up Session	»	103
2.2.3 Creative Citizens Generative Session	»	109
2.2.4 Creative Citizens Prototyping Session	»	115
Bibliographical References	»	121
<b>2.3 Feeding Milan – Nutrire Milano</b>	»	122
2.3.1 Feeding Milan at a Glance	»	123
2.3.2 Collaborative Farmers: Understanding Farmers’ Behaviours and Relations	»	125
2.3.3 Codesigning the Farmer’s Food Box	»	131
2.3.4 Codesigning a Local Distribution System	»	137
Bibliographical References	»	143
<b>2.4 SPREAD – Sustainable Lifestyles 2050</b>	»	144
2.4.1 SPREAD at a Glance	»	145
2.4.2 SPREAD Vision Workshop	»	146
Bibliographical References	»	153

<b>PART 3: Designing Codesign</b>	pag.	154
<b>3.1 What Collaboration Teaches: Quick Lessons Learnt from Practice</b>	»	155
3.1.1 The Process	»	155
3.1.2 The Experience	»	160
3.1.3 The Boundary Objects	»	165
<b>3.2 An Actionable Collaborative Design Framework</b>	»	170
3.2.1 General Considerations	»	170
3.2.2 Quadrant: Topic-Driven / Facilitating	»	173
3.2.3 Quadrant: Topic-Driven / Steering	»	175
3.2.4 Quadrant: Concept-Driven / Facilitating	»	176
3.2.5 Quadrant: Concept-Driven / Steering	»	177
3.2.6 Conclusions: From Experiments to a Standard Approach	»	178
Bibliographical References	»	179



## List of Figures and Tables

Fig. 1.1	The Double Diamond scheme elaborated with two polarities about the subject matter of design	pag.	35
Fig. 1.2	The Collaborative Design Framework	»	39
Fig. 1.3	The relationship between tools, topic, concepts and prototypes in codesign actions along a design process	»	47
Fig. 2.1	The Collaborative Design Framework with case studies	»	51
Fig. 2.2	CIMULACT National Citizen Vision Workshop / POLIMI DESIS Lab	»	62
Fig. 2.3	CIMULACT National Citizen Vision Workshop / POLIMI DESIS Lab	»	63
Fig. 2.4	Social Need Clustering Workshop / POLIMI DESIS Lab	»	68
Fig. 2.5	Social Need Clustering Workshop / POLIMI DESIS Lab	»	69
Fig. 2.6	CIMULACT Co-creation Workshop / Lab Immagine POLIMI	»	75
Fig. 2.7	CIMULACT Co-creation Workshop / Lab Immagine POLIMI	»	76
Fig. 2.8	CIMULACT Codesign Workshop / Lab Immagine POLIMI	»	81
Fig. 2.9	CIMULACT Codesign Workshop / POLIMI DESIS Lab	»	82
Fig. 2.10	CIMULACT Caravan Process / SDS	»	90
Fig. 2.11	CIMULACT Caravan Process / SDS	»	91
Fig. 2.12	CIMULACT Online Consultation	»	95
Fig. 2.13	CIMULACT Online Consultation	»	96
Tab. 2.1	An overview of the different codesign sessions within the 4 thematic cycles in the Creative Citizens project	»	101

Fig. 2.14 Creative Citizens Warm-up Session / POLIMI DESIS Lab	pag.	107
Fig. 2.15 Creative Citizens Warm-up Session / POLIMI DESIS Lab	»	108
Fig. 2.16 Creative Citizens Generative Session / POLIMI DESIS Lab	»	113
Fig. 2.17 Creative Citizens Generative Session / POLIMI DESIS Lab	»	114
Fig. 2.18 Creative Citizens Prototyping Session / POLIMI DESIS Lab	»	119
Fig. 2.19 Creative Citizens Prototyping Session / POLIMI DESIS Lab	»	120
Fig. 2.20 Collaborative Farmers / POLIMI DESIS Lab	»	129
Fig. 2.21 Collaborative Farmers / POLIMI DESIS Lab	»	130
Fig. 2.22 Farmer's Food Box / POLIMI DESIS Lab	»	135
Fig. 2.23 Codesigning the Farmer's Food Box / POLIMI DESIS Lab	»	136
Fig. 2.24 Local Distribution System / POLIMI DESIS Lab	»	141
Fig. 2.25 Local Distribution System / POLIMI DESIS Lab	»	142
Fig. 2.26 SPREAD Vision Workshop / POLIMI DESIS Lab	»	151
Fig. 2.27 SPREAD Vision Workshop / POLIMI DESIS Lab	»	152
Fig. 3.1 The Collaborative Design Framework	»	173

## Acknowledgements

This book is the result of years of activity and experimentation and therefore we like to express our gratitude to many friends and colleagues.

Thus, our first thanks go to the colleagues of Politecnico and in particular to the Director of the Department of Design, Silvia Piardi, which has always kept the door open for free research and exploration, and to the dean of the School of Design of Politecnico di Milano, Luisa Collina, which has encouraged the introduction and flourishing of service design and codesign in the didactic programmes.

Then, we like to express gratitude to the closer (past and present) colleagues of the POLIMI DESIS Lab with whom we have worked on the projects described in this book and much more: Daria Cantù, Marta Carrera, Marta Corubolo, Davide Fassi, Laura Galluzzo, Chiara Galeazzi, Ana María Ospina Medina, Francesca Piredda, Liat Rogel, Daniela Sangiorgi, Giulia Simeone. Without them, things would be simply impossible...

A gigantic thanks goes to Ezio Manzini: our design “Maestro” and a never-ending source of inspiration and healthy self-criticism.

True gratitude goes also to François Jégou and Christophe Gouache, with whom we are sharing, since a long time, research “adventures” around the globe. They are so good friends that accepted to contribute to this book!

Thanks also to Stefana Broadbent, who since a few years is letting us understand the beauty and the complexity of using ethnography in design, providing us with some basic rules to avoid (too) big mistakes. Thank you also for having accepted to contribute to this publication.

To Anna Seravalli and Carlo Franzato, instead, goes our gratitude for the suggestions and inputs for the book.

Last, but not least, we need to thank the projects’ consortium partners with whom we have worked in the research projects presented in this book: first of all, the CIMULACT consortium partners that shared with us the challenge of working with more than 5000 people across Europe. Then, the SPREAD consortium partners, with whom we understood the complexity of designing for 2050. Finally, we like to thank the Feeding Milan project partners and the Creative Citizens group, which gave us the possibility to learn to talk and work with communities of enthusiast dreamers and to try contributing to the quality of life in the city of Milan.

This publication has received funding from the European Union’s Horizon 2020 research and innovation programme under the Grant Agreement No. 665948, 2015-2018.

## Authors

*Anna Meroni* is an architect, Ph.D in Design and Associate Professor of Design in the Department of Design at the Politecnico di Milano. Her research focus is on service and strategic design for sustainability to foster social innovation, participation and local development. Specific expertise has been developed in codesign methods and tools. She is the head of the international MSc program in Product Service System Design and coordinator of the POLIMI-DESIS Lab, the Milan based research lab of the DESIS-Design for Social Innovation and Sustainability Network.

*Daniela Selloni* is a Service Designer, Ph.D in Design, Research Fellow and Adjunct Professor in the Department of Design at the Politecnico di Milano. Her research interests cover service design and social innovation, focusing on citizen activism, sharing economy, methods and tools for codesign. She also acts in an advisory capacity for start-up incubation programmes and organisations from the private and third sectors. She is part of the POLIMI-DESIS Lab.

*Martina Rossi* is a Service Designer, Ph.D candidate and teaching assistant in the Department of Design at the Politecnico di Milano. Her research interests and professional activity deal with codesign processes, service design and design thinking, with a specific focus on the private sector. She is also active in engaging the service design community in a discussion about the discipline, therefore, she co-organizes the Service Design Drinks Milan. She is part of the POLIMI-DESIS Lab.

## Contributors

*Stefana Broadbent* is the cofounder of Cleanweb which uses digital media to fight climate change. She is visiting Professor at the Politecnico di Milano and Fellow of the Centre for Digital Anthropology at UCL London. Her research focuses on the evolution of digital practices in society. In recent years she has worked on digital communication, collective intelligence, health and sustainability.

*Christophe Gouache* is design project manager at Strategic Design Scenarios. His focus is on sustainable and social innovation, collaborative and participative scenario building, prospective visions (prospective scenarios of future sustainable ways of living) and service design. He is working on various projects of public policy design and public innovation with local and regional authorities as well as ministries, and finally action-research projects at EU level.

*François Jégou* is founder and head of Strategic Design Scenarios. He has 20 years of experience in strategic design, participative scenario building and definition of new product-services-policy systems. François is a professor of strategic design at La Cambre, Brussels and Design manager of the Laboratory of Usage and Innovative Practices at the Cité du Design in Saint-Etienne, France. He is the Lead expert of URBACT and founding member of the DESIS Design for Social Innovation and Sustainability network.

# Introduction

This book focuses on codesign, and, more specifically, on “massive codesign”: the idea that multiple and/or numerous participants having different voices collaborate in a design process broken down into different steps and formats and resulting in a relevant and diversified amount of data.

Services, strategies and scenarios are presented as the main field of application: these are complex items that demand complex processes be tackled, processes in which it is necessary to involve a variety of players who are largely interdependent and therefore who must collaborate in order to achieve any goal.

Moreover, the processes analysed in this book fall within the spheres of public participation and social innovation, two areas in which the most pressing challenges for codesign are currently arising, since they require collaboration both to practise a more extended idea of democracy and to develop solutions that correspond to collective social needs.

This book essentially makes two main contributions:

- a “Collaborative Design Framework” to identify and structure codesign activities, methods and tools within massive creative processes;
- a “set of quick lessons learnt” to provide guidance to the conception and organisation of other massive creative processes.

The whole book is oriented at practice: it discusses codesign activities from the designer’s point of view, detailing issues such as process from beginning to end, activity flow, manipulability of tools, roles and rules for participants and many others. It is intended as a support for designers dealing in massive codesign processes and aims towards improved results.

The book is divided into 3 main parts:

- “Scoping Codesign”
- “Experimenting with Codesign”
- “Designing Codesign.”

(1) The first section is devoted to outlining the notion of codesign from different perspectives. It initially provides a synthesis of the main challenges for codesign today, highlighting how the idea of codesign has extended and blurred its boundaries, focusing in particular on the areas of public participation and social innovation. We then discuss codesign, also touching on anthropology and ethnography as codesign employs a number of methods with bases in these two fields, often misinterpreting and simplifying them.

More importantly, the first part introduces the Collaborative Design Framework which provides the structure for the analysis developed in the second part of the book. This framework, building upon the well-known Double Diamond design process, combines 2 polarities of concepts: one summarises the subject matter which drives design (between “topic-driven” and “concept-driven”); the other outlines the style of guidance by designers (between “facilitating” and “steering”). The result is a compass of 4 quadrants in which the various codesign activities may be positioned and highlight the evolution thereof from the initial stage of understanding a topic to the eventual development of a concept.

Finally, in order to understand what type of approaches and resources can be employed within this evolution, a basic glossary is provided defining key-notions such as boundary objects, tools and prototypes.

(2) The second part of the book analyses 4 applied-research activities according to the Collaborative Design Framework. They are:

- “CIMULACT”: a European research project involving citizens and a wide range of stakeholders in redefining the Research and Innovation Agenda for the Horizon 2020 programme;
- “Creative Citizens”: a codesign experiment devoted to developing services to improve the daily life of a Milanese neighbourhood, working with a group of citizens and multiple stakeholders;
- “Feeding Milan”: an action-research project funded by local institutions aiming at creating a network of services to connect farmers in the suburban area with consumers in the town;
- “SPREAD”: a European research project in which various societal stakeholders from business, research, policy and civil society

backgrounds participated in the collaborative development of a vision for sustainable lifestyles in Europe by 2050.

All these projects include a number of codesign activities that are analysed by describing aims, participants, guidance style, subject matter, Double Diamond stage, environmental set-up, duration, main phases, boundary objects and final output.

This comparative analysis allows us not only to better understand how these projects worked, but above all, to focus on how the Collaborative Design Framework can be interpreted and what its possible applications and extensions may be.

(3) Building upon the projects illustrated above, the third part of the book presents a more detailed elaboration of the Collaborative Design Framework, expanding it with a set of lessons learnt and actionable recommendations. They may only serve as a few examples, however they aim to provide insight for other designers performing similar activities.

The quick lessons learnt refer mainly to 3 cluster groups: process, experience and boundary objects, and they specify each area providing several focal points such as “engagement and recruitment”, “intensity and fun”, “relationships with participants”, “visual thinking”, etc.

The Collaborative Design Framework is detailed by characterising the activities of the 4 resulting quadrants: “discovering and exploring options”, “imagining options beyond the world as it is”, “expanding and consolidating options”, “creating, envisioning and developing options”. A set of recommendations is provided for each area in order to make the framework more concrete and applicable, and thus, to provide a practical guidance for undertaking massive codesign processes.

The book concludes with a prediction: massive codesign processes should become standard, especially within public participation and social innovation spheres. They may help to improve results and, hopefully, increase the level of transparency, accountability and democracy.



## **PART 1: Scoping Codesign**

The first part of the book looks at the notion of codesign. It opens with a reflection on the popularity that codesign has garnered in the last decade which has contributed in extending and blurring its boundaries. A brief history of codesign is then provided and the main current challenges are outlined, in particular highlighting those in the public participation and social innovation spheres.

To better complement this preparatory study, the relationship between codesign, anthropology and ethnography is clarified to avoid the recurrence of common misinterpretations and simplifications.

In particular, this first part introduces the framework used to structure our discourse on codesign throughout the whole book: it is the Collaborative Design Framework, adopted to analyse the case studies presented in the second part, to debate the various differences in terms of approaches, methods and tools and to provide suggestions and recommendations. Moreover, the outline is completed by a basic glossary that defines key-notions such as boundary objects, tools and prototypes.

## 1.1 Codesign Landscape Today

The last decade has seen the emergence of a great number of activities labelled as “codesign projects”, ranging over a variety of: technology, business, urban planning, community development and many others, encompassing private, public and third sectors.

There are a number of reasons behind the popularity of codesign: the most important one is that we currently live in an “era of participation” and “participatory culture” (Smith, Bossen and Kanstrup, 2017; Jenkins, 2006), in which people are able to contribute in new and unprecedented ways, sharing their interests and concerns thanks to the rise of the internet and Web 2.0 applications (Bannon and Ehn, 2012).

From public consultations, to codesign sessions, civic hackathons, and other forms of creative meetings or workshops: a great variety of participatory events and programmes are popping up all over the world, within companies, governments and organisations in general. This is also because the practice of collective creativity is considered promising in tackling the most pressing societal challenges: in order to solve complex problems it is necessary to include a multitude of diverse players.

The notion of codesign is precisely based on the idea that people having different voices should collaborate within a design process: this practice has been around for almost forty years under the label of participatory design, while the use of the expression “codesign” is a more recent conceptualisation.

In their studies, Sanders and Stappers (2008) attempted to connect codesign to the vast history of participatory practices by presenting it as the resulting convergence of 2 different approaches: the user-centred design approach, of American tradition, in which the user is considered an “object of study” and the participatory approach adopted by Scandinavian countries, characterised by a view of the user as a “partner”. In the first approach, designers use interviews as a method to observe and study users;

in the second one, users are considered “experts of their experience” and thus play a key role from idea generation to development, similar to the conceptualisation of “users as resources” suggested by Manzini (2015).

The notion of participatory design developed in Scandinavian countries mainly refers to the works by Ehn and his colleagues. In order to deal with the challenge posed by introducing new technologies in the work place during the Seventies, they assumed the simple standpoint that those affected by design should have a voice in the design process (Ehn, 1989). From the very beginning, this idea of participatory design was very political, because it was viewed not only as a way to enhance workers’ expertise but, above all, as a movement towards democratisation at work.

In a more recent article, Ehn describes how participatory design has evolved: he highlights a shift from participatory design aimed at working in companies to a participatory design devoted to enhancing processes of empowerment within communities (Ehn, 2008). He precisely defines this move as a shift from designing “things” (objects) to designing “Things” (socio-material assemblies of human and non-human elements), meaning that the object of design was changing - not only products, but more complex items, entering new environments that differ from companies in the private sector and also encompass everyday life and the public sphere.

In this book, we refer in particular to the codesign of complex items: services, strategies and scenarios. These require the participation of multiple and various actors from both the public and private spheres, and expert and non-expert domains that fall within a sort of “third” space.

According to Muller (2008), this “third space” is a fertile environment in which participants can combine diverse knowledge in new insights and action plans. Codesign was originally associated with the initial stages of a creative process, the “front end” activities of exploration and the generation of ideas (Sanders and Stappers 2008), but it is now increasingly valued as an opportunity to create a “third space” or “infrastructure” (Bjögvinsson, Ehn and Hillgren, 2012) that facilitate discourse and collaboration among diverse players involved in a creative process ranging from the initial ideas to actual implementation.

In this book we consider codesign as an activity generating services, strategies and scenarios conducted across the entire span of the creative process and, thus, not only in the moment of the exploration and generation of ideas, but also during the decision and deliberation processes. This is also related to a current stream of research into more extensive models of participation, especially in the public sector, encompassing codesign, co-

decision, co-production and co-evaluation, and, as a result, co-governing (Pollitt, Bouckaert and Löffler, 2006).

Today, therefore, the label “codesign” covers various forms of participation that, in a way, have contributed to expanding its semantic field, increasing its popularity and framing new challenges.

Bannon and Ehn (2012) attempted to outline these challenges that stress how codesign is blurring its boundaries.

They refer to them as participatory productions and they include:

- open innovation and Living Labs,
- peer-production and maker spaces;
- public participation and social innovation.

We will briefly discuss these areas, with special emphasis on the latter, as all the case studies analysed in this book fall under the sphere of public participation and social innovation.

Closed models of innovation are currently considered as having been overcome by more open models in which diverse contributions can be acquired wherever they are found (Chesbrough, 2003). This challenge of open innovation is closely linked to the establishment of more collaborative environments in which it is possible to co-create value with users and other players (Prahalad and Krishnan, 2008; Von Hippel, 2005), and, thus, to fruitfully make use of codesign methods and tools.

In this sense, the appearance of Living Labs in western countries may be seen as an attempt to create spaces for open innovation, highlighting the importance of engaging end-users and various stakeholders at all stages of development. This was the same for the emergence of what Binder (2007) calls design labs, in which the authorship of the design work is shared between the lab partners and stakeholders.

This discourse could also be applied to some Fab Labs and maker spaces: having sprung up around the world very rapidly over the past years, only a few of them, show a shift from “do-it-yourself” to “do-it-together” (Seravalli, 2011). Here, by adopting a codesign approach we can also facilitate the creation of networks that can then support peer-to-peer production and generate innovation.

Another of the main current challenges for codesign lies in public participation: in recent years, we have observed an increase in public consultations to improve the efficiency and transparency of public involvement in large-scale projects and, above all, to allow people to

participate in decision-making processes and practise a more extended idea of democracy.

The use of public consultations has increased at different levels of governance, ranging from transnational to national, regional and local levels. In particular, the European Commission has launched numerous public consultations (EC - European Commission, 2017), concerning a diverse range of issues: one of these, CIMULACT (Citizen and Multi-Actor Consultation on Horizon 2020) will be studied further in the second part of this book. More specifically, our challenge lies in integrating codesign methods and tools in public consultations, attempting to improve the actual participation of citizens and stakeholders by enabling people to contribute better to transforming their needs into proposals for the future.

This reflection on codesign and public consultation is closely linked to the more extensive notion of public participation, in which different engagement mechanisms are defined. The most well-known framework for identifying the different levels of public participation is “Arnstein's ladder” (Arnstein, 1969), which has been repeatedly re-elaborated. One of the most significant is the classification developed by the International Association for Public Participation (IAP2, 2007), in which public participation is analysed for the different goals and from the point of view of the nation state. As such, it covers a wide spectrum of activities: information, consultation, involvement, collaboration and empowerment.

Here, we see a great challenge for codesign: how to facilitate a move from simple consultations to actual collaboration, in which “those who are consulted”, become, in a way, the artificers of “contents”, ranging from simple feed-back to more articulated contributions. In particular, the main issue for codesign is to overcome yes or no answers, facilitating the emergence of complex ideas, combining not only opinions, but also visions and proposals.

We believe that a greater reflection on public participation and codesign is needed. This is relevant not only for the theories, methods and profession of design, but above all to imagine new forms of democracy, in a moment in which the crisis of democracy has reached an all-time high all over the planet (Freedomhouse, 2018).

The final challenge for codesign that we wish to highlight is connected to social innovation, which is also the main field of investigation of our research group POLIMI DESIS Lab.

Social innovation can be many different things: a product, a process or a technology, but also a principle, a piece of legislation, a social movement, or a combination of the above (Phills *et al.*, 2008).

They are new ideas that emerge for corresponding social needs (Murray *et al.*, 2010) and they often include a variety of players such as end-users, technicians and entrepreneurs, local institutions and civil society organisations.

In this scenario, as Manzini (2015) suggests, designers must use their skills to sustain promising cases of social innovation to make them more visible by designing their products, services and communication programmes, and thus supporting the upscaling thereof. Manzini defines this set of design approaches, sensibilities and tools as a design for social innovation: it is not a brand new discipline, but a combination of product, communication, service and strategic design.

In particular, when dealing with social innovation, codesign appears to be crucial as it must provide space for the perspectives and active participation of a number of different players.

Codesign is a complex, contradictory, sometimes antagonistic process, in which different stakeholders (design experts included) propose their specific skills and culture. It is a social conversation in which everybody is allowed to bring ideas and take action, even though these ideas and actions could, at times, generate problems and tensions (Manzini, 2016, p. 58).

Here, Manzini outlines a codesign space which is the same area in which social innovation can occur: an arena open to debate and proposals from other cultural worlds, where shared experimentation and comparison of experiences across diverse sectors lead participants to confront real-life situations, combining different ideas and knowledge into a new design, that, hopefully, may generate social innovation.

Within this perspective, the term codesign refers to the organizing of open and social innovation processes that may provide solutions to the most pressing societal challenges. It is no coincidence that Selloni (2017), in the conclusion of her book on codesigning services, outlines a set of emerging features for codesign in the social and public spheres. To name but a few, they illustrate codesign as a form of citizen empowerment, as a precondition to co-production, as a public service and key competence for the public sector, and as a form of citizen participation and democracy.

By analysing a number of codesign activities carried out in 4 applied research projects in the areas of public participation and social innovation we will hereby attempt to structure codesign activities, methods and tools within a Collaborative Design Framework that will act as a guide in the organisation of “massive” creative processes. That is, processes that involve multiple and/or numerous participants in different steps and

formats, and produce a relevant and diversified amount of data. Processes that, thus, reflect the increasing complexity of service design, dealing with complex service systems, value constellations and service ecosystems characterised by multi-player networks, largely interdependent but collaborating out of need (Sangiorgi *et al.*, 2017).

We define these as “massive codesign processes” which are likely to become the new standard in improving results and which will, hopefully, increase the level of transparency, accountability and democracy of today’s design projects.

## Bibliographical References

- Arnstein, S. R. (1969), *A ladder of citizen participation*. Journal of the American Institute of Planners 35(4): 216-24.
- Bannon, L. J. and Ehn, P. (2012), “Design: Design Matters in Participatory Design”, in Simonsen, J. and Robertsen, T. (eds.) *Routledge International Handbook of Participatory Design*. New York, NY.: Routledge, pp. 37-63.
- Binder, T. (2007), “Why design: labs?”, in *Design Inquiries*, Nordes Conference, Stockholm.
- Bjögvinsson, E., Ehn, P. and Hillgren, P.A. (2012), “Design Things and Design Thinking: Contemporary Participatory Design Challenges”, *Design Issues*, 28(3), 101-116.
- Chesbrough, H. (2003), *Open Innovation: The New Imperative for Creating and Profiting from Technology*, Harvard, MA: Harvard Business School Press.
- EC European Commission (2017), *Your voice in Europe, Consultation*, on line resource, available at: [http://ec.europa.eu/yourvoice/consultations/2016/index\\_en.htm](http://ec.europa.eu/yourvoice/consultations/2016/index_en.htm), accessed on 04/03/2018.
- Ehn, P. (2008), *Participation in design things*. In Proceedings of the 10th Anniversary Conference on Participatory Design. New York: ACM.
- Ehn, P. (1988), *Work-Oriented Design of Computer Artefacts*. Arbetslivscentrum, Lawrence Erlbaum Associates, Hillsdale, NJ.
- Freedomhouse (2018), *Democracy in Crisis: Freedom House Releases Freedom in the World 2018*, on line resource, available at: <https://freedomhouse.org/article/democracy-crisis-freedom-house-releases-freedom-world-2018>, accessed on 04/03/ 2018.
- IAP2 - International Association for Public Participation (2007), *Spectrum of public participation. Consultation*, on line resource, available at: [http://www.fgc.edu/Provost/files/IAP\\_Public\\_Participation\\_Spectrum.pdf](http://www.fgc.edu/Provost/files/IAP_Public_Participation_Spectrum.pdf), accessed on 04/03/2018.
- Manzini, E. (2016), “Design Culture and Dialogic Design”, *Design Issues*, Vol. 32, 1: 52-59.
- Manzini, E. (2015), *Design, When Everybody Design*. Cambridge, MA: MIT Press.

- Muller, M. J. (2002), "Participatory design: the third space in HCI", in Sears, J.A. *The human-computer interaction handbook* (pp. 1051-1068). Hillsdale, NJ, USA: L. Erlbaum Associates Inc.
- Murray, R., Caulier-Grice, J. and Mulgan, G. (2010), *The Open Book of Social Innovation*. London: The Young Foundation, Nesta.
- Phills, J.A., Deiglmeier, K. and Miller, D.T. (2008), *Rediscovering Social Innovation*. Stanford Social Innovation Review - Fall 2008.
- Pollitt, C., Bouckaert, G. and Löffler, E. (2006), *Making quality sustainable: codesign, codesign, co-produce and co-evaluate*. Scientific Rapporteurs, 4QZ conference.
- Prahalad, C. K. and Krishnan, M. S. (2008), *The New Age of Innovation: Driving Co-created Value through Global Networks*, New York: McGraw-Hill.
- Sanders, E.B.N. and Stappers, P.J. (2008), "Co-creation and the New Landscapes of Design", *CoDesign International Journal of CoCreation in Design and the Arts*, Vol. 4, 1 - Design Participation(-s): 5-18.
- Sangiorgi, D., Patricio, L. and Fisk, R. (2017), "Designing for Interdependence, Participation and Emergence in Complex Service Systems", in Sangiorgi, D. and Prendiville, A., edited by, *Designing for Service: Key Issues and New Directions*, London: Bloomsbury Press, pp. 49-64.
- Selloni, D. (2017), *CoDesign for Public Interest Services*, Springer International Publishing.
- Seravalli, A. (2011), *Democratizing production: challenges in codesigning enabling platforms for social innovation*, paper presented at "The Tao of Sustainability", an international conference on sustainable design strategies in a globalisation contest, Beijing, 27-29 October.
- Smith, R.C., Bossen, C. and Kanstrup, A.M. (2017), *Participatory design in an era of participation*. *CoDesign Journal*, 13:2, 65-69.
- von Hippel, E. (2005), *Democratizing Innovation*, Cambridge, MA: MIT Press.



## **1.2 Anthropology, Ethnography and Massive Codesign for Complex Services**

*By Stefana Broadbent*

Anthropologists have a tense relationship with rapid design-oriented ethnography. Although applied ethnography has extracted anthropology from the enclosure of a purely academic discipline and projected it at the forefront of practically all digital development and service design, anthropologists often feel there is an undue reduction of methods and theory leading to an extreme simplification of the social sphere. This tension is often discussed (Baba, 2005; Ingold, 2017) and is an undercurrent of much of the bridging work done by associations such as EPIC (the Ethnographic Praxis in Industry Conference).

### **1.2.1 Design Oriented Rapid Ethnography**

The causes for contention are multiple, the principal one being the difference in time spent in the field, a question of days in design ethnography and months or years in anthropology. However there are also issues regarding the topics investigated, the explanatory frameworks invoked to interpret observations, and even questions of ethics in regards to the instrumental relation with informants.

Anthropologists often accuse design ethnographers of ignoring the all important topic of power for instance or lacking a critical outlook and of being focused on description rather than interpretation. All of these questions have been amply debated (Halse *et al.*, 2010; Venkatesh, 2013; Hjorth, 2016) and have led progressively to the creation of distinct disciplines such as user centred design, user research or design ethnography, each with their own conceptual framework, methodology, training and evaluation. It must be noted that design is not the only field in which ethnography has been adopted as a method of enquiry; sociology as

well is increasingly engaged in micro-sociology to enrich or substitute more standard quantitative methods. Policy making, communication and market research also engage in ethnography in an attempt to capture the insights that a contextualised investigation of people's practices can bring.

The critiques waged by anthropologists against ethnography practitioners should not be brushed aside lightly because they point to a crucial characteristic of the investigation into social groups that is relevant to the design process. Anthropologists need time in the field to be able to create a rapport with the social groups they are investigating, to be able to develop a different gaze, extracting themselves from a point of observation determined by their own worldview, but most importantly to embrace the complexity of the environments they are investigating. In order to engage with the multiplicity of viewpoints, social relations, artefacts and practices they are studying, anthropologists rightly feel that time is at issue.

Participant observation therefore is not just a methodology to become engaged in the relations and activities of the people being researched, it is a way to embrace the complexity of the situations being studied. Becoming proficient in the culture of any social group is a long process. This means understanding the legal system, overt and implicit, the economic ties and ecosystems, the spatial and geographical relations, the moral values and attitudes, mastering artefacts and processes.

This type of understanding is not just a requirement of research in traditional post-colonial field sites but also in digital environments. When Boelstorff (2008) spent 2 years in Second Life he had to learn to construct a virtual world, acquire currency to do some transactions, build relationships, learn a language, engage with the developers and players. Similarly Wallis in her study of young Chinese migrant women's use of the mobile phone (Wallis, 2013), needed a few years to master the context in which the mobile was used by rural migrants to enable the integration into new forms of modernity.

Furthermore, anthropologists rely on other anthropological studies to complete the picture of the social environments they are engaging with, building on existing bodies of knowledge. Boelstorff's analysis of the economic relations in Second Life invokes an American culture of liberalism to apprehend the viewpoint of the participants who engage in the acquisition of virtual property. Wallis also could rely on a wide body of research on rural to urban migration in China. The possibility of building on other research, other fields and other observations is a crucial element to tackle complex social systems.

## 1.2.2 Complexity and Ethnography

The issue of complexity is particularly relevant when thinking about massive codesign in which the effort of bringing together a large number of stakeholders and participants corresponds to an attempt to broaden the number of viewpoints taken into consideration. Here the objective is to involve a diversity of citizens and experts because the projects are more elaborate and involve a range of social publics and social actors. For instance, services that are aimed at transforming fundamental administrative processes for a whole city, region or country will inevitably need to take into account a multiplicity of voices, expectations and practices. This type of service design is particularly complex also because numerous elements are being concurrently redesigned: from artefacts, to regulations, from economic transactions, to behaviours and actions, from information to social roles and interactions.

A textbook example of such efforts has been the work done by GDS in the UK for GOV.UK to transform government services, tools and standards. The objective of the Government Digital Services is to transform how government operates, transform the services offered to citizens, modify bureaucratic processes, offer digital versions for all of the forms and procedures, involve citizens in order to be user centred. The work therefore is multifold and attempts to bridge the cultures of civil service, of specific departments, of diverse citizens, of technology developers, etc. But GOV.UK is not unique, and increasingly service design projects are addressing very broad publics, which are diverse in expertise, experience, cultural and social background. In fact service design can be characterised as a design approach that by definition has to handle complexity (Sangiorgi *et al.*, 2017).

The challenge for ethnography is therefore to be able to provide the insights and indications that can inform the design process without drowning it in information but also without reducing the complex to the trivial (Gunn *et al.*, 2013). In the Double Diamond model (Design Council, 2014) the role for ethnography in the early phases of discovery is to help designers frame the scope but also provide a first moment of dialogue in which collaboration is established.

Creating a space for collaboration means finding points of exchange in which groups that have extremely different experiences can agree and focus on issues that are relevant to all (Kleinsman *et al.*, 2008). The process of codesign with the accent put on the co-creation of artefacts, be they prototypes or any other support to discussion, makes a huge step into the

direction of creating joint spaces of attention and meaning. However the initial phases of familiarisation and discovery still rely on an exploration of the social realities and practices of the groups that will be the actors of the transformation. Delimiting the scope, setting the scene and context for collaboration still means apprehending the range of experiences and constraints under which the different actors operate. This means that we are back in the camp of ethnography, anthropology and social enquiry.

### **1.2.3 Producing Ethnography to Enable Discovery and Collaboration**

Too often in design processes the question underlying the first phase of enquiry is to uncover the “needs” of the stakeholders and citizens. Interviews and contextual observations are organised to discover the “real needs” in order to avoid imposing on users preconceived ideas on what will be the benefits of the new services. While this systematic inclusion of citizens in the design process has been achieved with great effort after decades in which the designer/developer knew what was good for the user, framing the investigation around needs inevitably restricts our understanding of the social sphere.

Social groups and individuals are adaptive by definition and therefore even in front of highly dysfunctional situations tend to elaborate solutions and practices that work for them. This means that although potentially sub-optimal, adapted strategies exist and function. In turn this implies that the expression of needs rarely touches the core of experiences because needs have been addressed in the elaboration of the existing practices. This again is the reason why designers are so important in devising alternative scenarios which can improve significantly on existing situations.

But if “need” is not the primary object of inquiry, what is? We would argue that it is “practice”. In anthropology «social practices are bodily and mental routines» (Reckwitzc, 2002) or as Postill says «sets of activities that humans perform with varying degrees of commitment, competence and flair» (Postill, 2012, p.12). Since the late 70s social sciences have increasingly put the accent on practice to study human activity in daily life.

The interest of “practice” is that it includes all those elements that are crucial for service design: the interactions with people, artefacts, norms and institutions. Practice is in fact the true object of transformation by service design. When a new service redefines how a social group has access to medical records, pays taxes or rents bicycles, what is being modified are

the set of actions and interactions with which these activities are habitually performed. Practices are by definition dynamic and in constant evolution as people adapt their actions to a multiplicity of factors: the constraints of the physical, social, regulatory and economic environment. In this sense they are open to transformations and redesigns.

To study practices means to understand those habitual activities that people perform within their cultural sphere. Describing human activities provides a powerful insight into cultural environments and social norms. Actions are constrained by contextual fields and therefore they allow us to delve into social, institutional and physical environments. Investigating practices thus requires multiple sources of data because actions are performed in these different settings and researchers need to capture them all. This means observing activities, recording places, interactions, gestures, looking at artefacts, understanding processes and rules. It is a challenging and work intensive task.

#### **1.2.4 Building an Ethnographic Body of Knowledge for Service Design Projects**

Anthropology as a discipline has built a body of knowledge over time, both in terms of theoretical systems and in terms of the accumulated research of specific populations and social groups. Similarly, large design projects should aim at progressively accumulating insights in structured formats. Too often each design project is approached as a tabula rasa, a new frontier to explore afresh. Time constraints then mean that the new inquiry can only scratch the surface and interviews are preferred to the analysis of practices.

The only solution for complex massive codesign projects is, in our view, to construct a body of observations and analysis on practices that can constitute a basic repository of reference. If one wanted to make the analogy it would be a “Github” or repository of ethnographic data. Github is the largest host for source code in the world with 57 million repositories of open-source software projects and 20 million users. Coders can use code they find in the repositories for their own projects and add their own code to existing projects. Just as coding is always a process of combining pieces of existing code, so design ethnography for complex systems should build on pieces of ethnographic knowledge. An example of such an approach was the Swisscom Observatory of Digital Life.

Between 2004 and 2008 the Social Science research group at Swisscom Innovation, the R&D department of Swisscom the Swiss national Telecom operator built an Observatory of Digital Life (Broadbent *et al.*, 2008). With a group of 12 social scientists we systematically researched the daily practices of Swiss citizens with all digital media: communication channels, internet services, television and video, radio and music, gaming and photography. The User Observatory also started collecting data on digital practices at work. The research was done either diachronically with regular studies being repeated identically across different populations every so many months, or longitudinally in which 50 households for a total of 160 people were followed for 4 years. In all cases, the methodology, tools and data format collected was as similar to make it possible to build up a coherent and consistent body of knowledge. These tools included communication diaries in which participants wrote down their exchanges, maps of homes with indications of where and how devices were being used, timelines of the day of each member of a household, transcripts of interviews, detailed descriptions of online activities, photos, etc. Combined together these elements provided a complete overview of the daily digital practices of the participants. Occasionally, certain studies focused on additional topics such as gaming, music, video viewing or information gathering. Regardless of the topic, however, there was always a baseline of data that was being collected on the patterns of daily life, communication and internet usage.

Over a period of a few years the Observatory managed to collect hundreds of descriptions, interviews and observations of Swiss daily life at home and how it was being enacted in the digital sphere.

The data was coded, tagged and collected in a centralised open system that was easily searchable. Researchers could easily find all the households in which certain activities were being performed, or compare behaviours over time. This wealth of information and data allowed the group to be always up to date with insights on the more fundamental aspects of Swiss digital culture and capable of complementing this understanding with rapid on demand studies on specific issues that arose from the service and product departments of the organisation. Complementing this research there was also the comparison of ethnographic data with massive quantitative data coming from the data mining of the telecom network. Observations could be substantiated by statistically significant results.

In terms of the design process, the insights that could be provided by the Observatory were wide ranging and attempted to explain why certain

practices were emerging or disappearing in Swiss society. We were particularly attentive to understand what were the obstacles and triggers to adoption. We could give indications to why some practices were more likely to change and other not. For instance concerning communication practices, by studying hundreds of communication diaries, we identified the role of mutual attention in the choice of communication channel. It emerged that people preferred asynchronous channels such as texting or email over synchronous ones like voice calls. This was to avoid asking for immediate attention from people that were not part of a very close set of relations. We found out that asking for attention is a social process that involves issues of status that people find difficult to negotiate (e.g. it is awkward to interrupt and ask for immediate attention from someone with a higher status so most people tend to anticipate a voice call with an email or text). The implications of this finding for the specification of text-based communication services was very significant and oriented a number of design choices.

### **1.2.5 Discovery, Ethnography and Codesign**

Building a repository of ethnographic research on the daily practices of citizens is not an impossible task. As we saw above, it requires consistency in the data collection process in order to progressively accumulate comparable results. There are many data formats that can be used in a systematic way across different studies: daily diaries, journey maps, relationship graphs, timelines and spatial maps, recordings and semi-structured interviews. The real issue, however, is to make methodological choices that can last over time and that are not project specific but that on the contrary can be generalised and repeated. What we are aiming for is a level of description and understanding that can be transferred between different domains.

For instance, when we study the experiences of patients with hospitals and medical institutions and track their journeys across the spectrum of medical services, we are learning about a wide range of activities and interactions. An ethnography can convey the role of the family and of support systems during an illness; how information is acquired and circulated, the numerous touchpoints with the medical profession etc. etc. This type of understanding can be generalised to think about the redesign of medical records just as easily as the redesign of a system of hospices for terminally ill patients.

But to conclude, how does such a background knowledge enable and facilitate the process of codesign? Starting from a vantage point in which there is extensive understanding of the basic processes and experiences citizens live on a daily basis, means that the dialogue can be engaged any of the specific topics, which pertain to the project. With a shared context it is possible to elevate the discussion to a level that can address the fundamentals of practices and services. Rather than recording complaints or details of all that is not functioning, as is often the case when people are asked to express their needs, designers can engage on motivations, flows, relational dynamics and make proposals at the level of complexity they are hoping to intervene. This level of discourse has the advantage of being much more effective to enable strategic decisions and it can be confronted with quantitative data coming from other sources. It also enables stakeholders to engage on high level issues. Finally, the codesign process can become iterative and more frequent as the discovery phase is permanently ongoing and a dialogue is always open with citizens and stakeholders.

## Bibliographical References

- Baba, M. (2005), *To the End of the Theory-practice Apartheid: Encountering the World. EPIC 2005*, pp. 205-217.
- Boellstorff, T. (2008), *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human*, Princeton University Press, Princeton, NJ.
- Broadbent, S. (2012), "Issues in Personal Communication", in Horst, H. and Miller, D., eds. *Digital Anthropology*, Berg, London, pp. 127-145.
- Broadbent, S. and Bauwens, V. (2008), "Understanding Convergence", *Interactions*, ACM Vol. 15, 1: 29-37.
- Design Council (2014), *The Design Process: What is the Double Diamond?*, on line resource, available at: <https://www.designcouncil.org.uk/news-opinion/design-process-what-double-diamond>, accessed on 01/03/2018.
- Gunn, W. O. and Smith, R. C. eds. (2013), *Design Anthropology: Theory and Practice*, Bloomsbury Academic, London.
- Halse, J., Brandt, E., Clark, B. and Binder, T. (2010), *Rehearsing the Future*, Danish Design School Press, Copenhagen.
- Hjorth, L., Horst, H., Galloway, A. and Bell, G. eds. (2016), *The Routledge Companion to Digital Ethnography*, Routledge, London New York.
- Ingold, T. (2017), "Anthropology Contra Ethnography", *Journal of Ethnographic Theory*, Vol. 7, 1: 21-26.
- Kleinsmann, M. and Valkenburg, R. (2008), "Barriers and Enablers for Creating Shared Understanding in Co-Design Projects", *Design Studies*, Vol. 29: 369-386.



- Pink, S. (2013), *Doing Visual Ethnography*. Sage publications.
- Postill, J. (2010), "Introduction: Theorising media and practice", in Bräuchler, B. and Postill, J., eds. *Theorising Media and Practice*, Berghahn, Oxford and New York, pp.1-27.
- Reckwitz, A. (2002), "Toward a Theory of Social Practices. A Development in Culturalist Theorizing", *European Journal of Social Theory*, Vol. 5: 243-63.
- Sangiorgi, D., Patricio, L. and Fisk, R. (2017), "Designing for Interdependence, Participation and Emergence in Complex Service Systems", in Sangiorgi, D. and Prendiville, A., edited by, *Designing for Service: Key Issues and New Directions*, Bloomsbury Press, London, pp. 49-64.
- Star, S. L. and Ruhleder, K. (1994), "Steps Towards an Ecology of Infrastructure: Complex Problems in Design and Access for Large-Scale Collaborative Systems", in *Proceedings of the 1994 ACM conference on Computer supported cooperative work (CSCW '94)*. ACM, New York, NY, USA, pp. 253-264.
- Venkatesh, S. A., (2013), "The reflexive turn: the rise of first-person ethnography", *The Sociological Quarterly*, Vol. 54, 1: 3-8.
- Wallis, C. (2013), *Technomobility in China: Young Migrant Women and Mobile Phones*, New York University Press, New York.
- Wieber, B. E., Hughes, T. P., and Pinch, T. J. (1987), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, MIT Press, Cambridge, MA.